



The Will is the Way:

BUILDING COMMUNITY CLIMATE RESILIENCY

Manitoba Eco-Network

June 2020



ACKNOWLEDGEMENTS

The Manitoba Eco Network would like to acknowledge that our organization exists on Treaty 1 Territory in Manitoba. This land is the traditional territory of the Anishinaabe, Cree, Ojibwe, Dakota, and Dene people. It is also the homeland of the Metis people. Winnipeg's drinking water is sourced from Shoal Lake 40 First Nation. We would also like to highlight that land acknowledgements are only one part of a much greater process of reconciliation. We must be moving toward true and respectful partnerships that heal the injustices of colonialism and protect the ecosystem we all depend on.

The Manitoba Eco Network is pleased to be able to contribute to a better understanding of climate change resiliency in Manitoba. This project could not have happened without the many groups and individuals we've connected with along the way. We would like to thank those who participated in planning and supporting the process, including Laurie Ringaert, Stephanie Whitehouse, Kemlin Nembhard, Matthew Carreau, Alan Diduck, Marika Olynyk, Laura Tyler, Gaile Whelan Enns, Emma Smith, Pam Lucenkiw, and Kathryn Dompierre. We are grateful for the insights of our webinar speakers, Martha Barwinsky, Lindsay Mierau, Duane Nichol, Michelle Paetkau, and Jeff Zukiwsky.

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EXECUTIVE SUMMARY

This report summarizes the first phase of the Building Community Climate Resiliency project undertaken by the Manitoba Eco-Network, with collaboration from the City of Winnipeg and local community organizations. The goal of Phase 1 was to identify gaps in community climate resiliency work in Winnipeg. These gaps are identifiable as a lack of knowledge about climate resiliency, as well as low levels of satisfaction with current work being done. The Manitoba Eco-Network gathered this information by first holding an informative webinar for an invited group of organizations. This webinar was followed by a survey to gather opinions and impressions of the current state of community climate resiliency in Winnipeg.

The results of the survey revealed that while there are clear and consistent ideas about what needs to be done to address climate resiliency, there is low clarity and satisfaction with how it is being done. In particular, the inclusion of Indigenous perspectives is perceived as being well behind what it should be. Further, survey results point to specific barriers that constrain the day-to-day work of climate resiliency. From the point of view of the respondents, the most significant barriers to climate change resiliency in Winnipeg are inadequate funding and inadequate political support.

By calling this report “The Will is the Way”, we invoke not only the existing enthusiasm for climate resiliency, but also the missing step to real change. Out of many possible solutions to the identified barriers, the core tasks are to develop political support, increase advocacy, and to collaborate more widely among all types of groups. The second phase of Building Community Climate Resiliency must be dedicated to developing resources that support both advocacy and collaboration. The second phase of the work should be actively guided by Indigenous perspectives, in keeping with the need for meaningful reconciliation. Collaboration and connection are persistent themes throughout our findings.

BACKGROUND & OBJECTIVES

In the spring of 2020, the Manitoba Eco Network undertook a project with the goal of identifying gaps in current knowledge of community climate resiliency as it relates to the city of Winnipeg. This project was spurred by a series of directives and previous projects aimed at addressing climate change preparedness. First, the [United Nations Sustainable Development Goals](#) provide description and direction toward building sustainability for human settlements. In particular, [Goal #11](#) specifies that we must “make cities and human settlements inclusive, safe, resilient and sustainable”. This goal features the need to upgrade and repair cities on physical, environmental, cultural, economic, and political levels, with an eye toward protecting vulnerable residents. Environmental protections and development are woven into this goal in various ways.

- Goal 11.5 addresses protection from the *negative effects of disasters*.
- Goal 11.6 addresses *reducing the per-capita environmental impact of cities*, especially with regard to solid waste and air pollution management.
- Goal 11.7 addresses *safe and inclusive green spaces within cities*.
- Goal 11.A calls for *regional planning* efforts to ensure positive economic, social, and environmental links.
- Goal 11.B highlights the urgent need for cities to *integrate policy and planning* “towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement...holistic disaster risk management at all levels “

[Goal #13](#) states that human settlements must “take urgent action to combat climate change and its impacts.” All targets describe specific ways to increase awareness, capacity, and policies to address climate change resiliency.

- Goal 13.1 calls for *increased resilience and adaptive capacity* to climate-related and natural disasters.
- Goal 13.2 calls for *integrating climate resiliency measures into all national plans, strategies, and policies*, both for resilience against and mitigation of climate impacts.
- Goal 13.3 highlights *capacity-building measures*, with a focus on education and awareness, throughout the institutional and political culture.

Our second directive flows from the federal government. Canada’s House of Commons passed a [motion](#) in June 2019 to declare a climate emergency in Canada. This motion identifies that:

(a) “climate change is a real and urgent crisis, driven by human activity, that impacts the environment, biodiversity, Canadians' health, and the Canadian economy;

(b) Canadians are feeling the impacts of climate change today, from flooding, wildfires, heat waves and other extreme weather events which are projected to intensify in the future;

(c) climate change impacts communities across Canada, with coastal, northern and Indigenous communities particularly vulnerable to its effects; and

(d) action to support clean growth and meaningfully reduce greenhouse gas emissions in all parts of the economy are necessary to ensure a safer, healthier, cleaner and more prosperous future for our children and grandchildren”³.

The Province of Manitoba has produced several documents to guide a response to climate change. Manitoba has a [Climate Change and Green Economy Plan](#) (2015), as well as a [Made-in-Manitoba Climate and Green Plan](#) (2017). Additionally, the City of Winnipeg has developed a [Climate Action Plan](#), published in 2018. This document complements the [A Sustainable Winnipeg](#) plan of 2011, the [Transportation Master Plan](#) of 2011, the [Garbage and Recycling Master Plan](#) of 2011, and [Winnipeg's 2011 Community Greenhouse Gas Inventory and Forecast](#) of 2015.

The Climate Action Plan for the City of Winnipeg is comprised of seven (7) Strategic Opportunities. Opportunity #7 focuses on climate resiliency and stipulates that actions must be taken within a 5-year period from 2018 to 2022. The main points of the strategy are centred on *implementing opportunities to improve Winnipeg's resilience and adaptability to the effects of a changing climate; and increasing and preserving tree canopy.*

In addition to the 2018 Climate Action Plan, the [Climate and Green Act](#) was introduced in Manitoba in 2018 to direct goals, actions, and evaluation for climate action in Manitoba. Finally, an Expert Advisory Committee was established to [report](#) to the Minister of Conservation and Climate. A Carbon Savings Account plan is one of the actions developed to assist Manitoba to track and reduce carbon emissions.

The City has also implemented annual reviewing and reporting to monitor progress for reaching the plan targets. The current [Annual Report](#) from October 2019 examines several areas of climate resiliency work, such as transportation, buildings, land use, waste management, strategic opportunities, and corporate leadership. Many short-term goals have been reached but medium and long-term goals are not on target to be met. The Annual Report has identified several areas where funding and progress is still below target rates. Increased funding is a key part of the recommendations toward meeting targets sufficiently and on time.

PREPLANNING

The preplanning for this project took place over the summer and autumn of 2019 (August 22, October 23, and November 12). On these dates, pre-consultation sessions were held with a group of 14 non-profit organizations. The purpose of these meetings was to determine the level of interest in a collaborative project intended to guide Winnipeg toward stronger climate resiliency. The pre-consultations were also valuable for determining the best format for the project. The following guiding principles were used to direct the consultation sessions:

- Inclusion of a wide range of perspectives at the planning stage (ie. poverty advocates, Indigenous peoples, engineers, landscape architects, academics, civil service, labour representatives, ecologists, naturalists, etc.)
- Identification of the themes to cover (ie. food sovereignty, water/watersheds, buildings, built and natural environments, other. Cross cutting themes, ie. planning, climate resilience, systems literacy, legal/law, advocacy, etc.)
- Define clearly why we want to have this conference/event and identify possible big picture outcomes (ie. a Declaration/Statement, a Winnipeg Environmental working group, other?)
- Ensure that the conference/event is structured in an exciting and un-conference format (ie. interactive, well facilitated, inclusionary, accessible, etc.)

At the conclusion of these three pre-consultations, it was decided that Phase 1 should be to reach out to a wide variety of community interests. The purpose of this outreach would be to gather feedback and identify gaps in the current state of knowledge of the City of Winnipeg's Climate Action Plan. Additionally, the community would be asked to identify community climate resiliency actions that need to be undertaken in Winnipeg as a whole. This information will be used to direct resources to strengthen relationships and collaboration between a variety of organizations, disciplines, and perspectives. We will then be able to begin Phase 2, which is to build helpful resources and forge effective partnerships toward fulfilling Winnipeg's Climate Action Plan.

PHASE 1

The Manitoba Eco Network's initial plan for the Building Community Climate Resiliency Project was to hold an engagement workshop in the spring of 2020 for a group of invited organizations. A combination of informational speakers and workshop activities were to be used to gather perspectives on the current state of climate resiliency in Winnipeg. However, the rise of the COVID-19 pandemic crisis meant that plans for an in-person gathering had to be changed. The Manitoba Eco-Network developed an alternative plan, which centred on inviting participants to a webinar about climate change resiliency in Winnipeg and across the prairie region. This webinar would be preceded by a short, informal survey and followed by a larger survey to understand the current state of knowledge about climate change resiliency.

PRE-WEBINAR SURVEY

In the weeks prior to the webinar taking place on Wednesday, April 29, 2020, we conducted a brief pre-webinar survey. The goal of this pre-webinar survey was to gather information from our webinar invitees about how they think about climate change resiliency. The survey was intended to be informal and to function as a thought exercise, as well as to understand the baseline for participants' understanding of climate resiliency. We created a link to the survey hosted on Survey Monkey, and included the link with the webinar registration emails. No compensation was offered to complete the survey. Specifically, we asked three open-ended questions:

- 1) What is climate resilience?
- 2) What does climate resilience mean to you personally?
- 3) What does climate resilience mean for your community?

We received 24 responses between April 2, 2020 and April 29, 2020. The open-ended answers were put through a keyword extraction program, and the results were used to make word clouds. At the start of the webinar on April 29, 2020, the word clouds were presented and interpreted for attendees. In all the word clouds, both climate and change are the largest words, but we chose to focus on other sizes of words that appeared among the responses.

WEBINAR - WEDNESDAY, APRIL 29, 2020

Because of the COVID-19 crisis, the Manitoba Eco-Network designed a webinar to engage local organizations. The goal of the webinar was to provide information on current trends of climate change resiliency planning in western Canada. The webinar was made available to over 90 organizations. The selection of invitees were chosen to represent groups with interests in Indigenous communities and social conditions, conservation, public health, the green construction industry, neighbourhood development and municipal issues, energy efficiency, hydro, local universities, and non-profit fundraisers. Most participants were located in Winnipeg and Manitoba, but a few identified themselves as being based in other provinces (Saskatchewan, Alberta, and British Columbia). On the day of the webinar, 55 people had registered, and 41 unique viewers were recorded as having attended.

A recording of the webinar can be found on Youtube at <https://youtu.be/7o42upt7BAC>

INTRODUCTION

Introductory remarks and MC duties were provided by Emily Halldorson, resource manager of the Manitoba Eco-Network. Glen Koroluk, executive director of Manitoba Eco-Network, then spoke about the organization's mission and work. Alexandra Caporale, researcher for Manitoba Eco-Network, provided the results of the pre-webinar survey. Alexandra interpreted the results by showing the word clouds and highlighting popular responses, as well as providing some direct quotes from respondents.

ALL ONE SKY

The webinar then moved forward to the invited speakers. The first speaker was Jeff Zukiwsky, director of climate and community resilience at the All One Sky Foundation. The All One Sky Foundation is based out of Alberta and British Columbia, and provides guidance on climate resilience, energy poverty, and economic impacts of climate change. Jeff spoke about the overall meaning of adaptation, which consists of both climate change mitigation and climate change resilience. He explained the nuances of determining *climate risk*, which is a combination of climate hazards, exposure, and vulnerability, and spoke about the growing field of climate resilience

planning. In recent years, many guidebooks and strategies have become available to provide guidance on climate resiliency.

Jeff ran a few live polls to see if the participant organizations were doing climate change resiliency planning. The results of this poll showed that 39% of attendees said that they were engaged in climate resiliency planning, while 42% said no, and 19% were unsure. Jeff's second poll asked attendees to choose their top climate change risk for Manitoba. Of the choices given, 36% cited drought as their top concern, followed by flood at 31%, ecosystem destruction at 14%, heat waves at 11%, tornado at 6%, and water quality degradation at 3%. No one identified fire as a concern, although this may be a greater concern in other areas of Manitoba not represented by attendees.

Jeff then showed an approach for climate resilience planning. The four-part plan is an iterative process that cycles through (1) defining context, (2) assessing risks, (3) formulating actions, and (4) implementation. He went into greater depth with each of the four parts of the planning process, and provided helpful suggestions. Jeff encouraged resiliency planners to use resources such as the Prairie Climate Atlas (developed by Prairie Climate Centre, University of Winnipeg), which is an interactive, prairie-specific data-sharing resource. Jeff showed how to use tools such as a risk-assessment matrix to prioritize possible events and their level of risk to the community. He also encouraged using a similar matrix to explore possible benefits of climate change, such as a longer growing season.

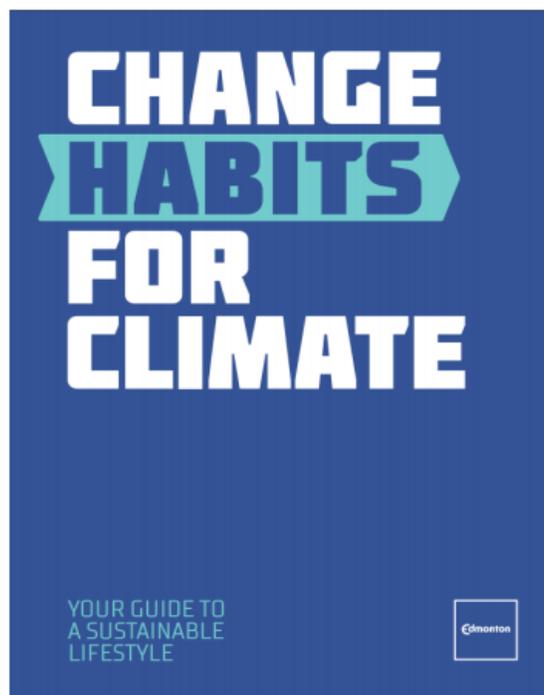
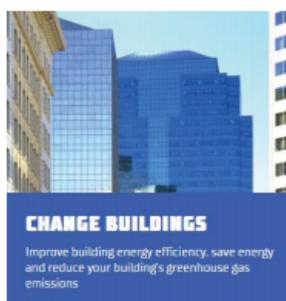
Climate Risk Assessment

CONSEQUENCE	Extreme					
	High					
	Moderate					
	Low					
	None					
		Rare	Unlikely	Possible	Likely	Almost certain
LIKELIHOOD						

All One Sky: Climate risk assessment matrix.

Jeff next touched upon action formulation, and listed many tools and strategies, ranging from research and education to operations, management, and updated infrastructure. Like the previous assessment stage, Jeff emphasized that it is also important to evaluate the effectiveness of various resiliency actions. When moving into the stage of implementation, Jeff used the City of Edmonton as an example. Edmonton created a guide for resiliency with an eye toward developing awareness, behavioural change, and capacity building. Online tools provide ideas for upgrading housing, and there is also a certificate-granting educational program for residents. Additionally, Edmonton has developed a plan to update city infrastructure to adapt to flood and drought risks.

Implementation - City of Edmonton



Source: change4climate.ca

All One Sky

All One Sky: City of Edmonton's climate resiliency guide.

CITY OF SELKIRK

The next speaker was Duane Nichol, CAO for the City of Selkirk. Duane shared some highlights of Selkirk's climate resiliency planning process. The City of Selkirk is located 30 kilometers north of Winnipeg. The city is home to 10,000 people, and anchors a larger regional community of 35,000. Selkirk has experienced rapid population growth in recent years, and is therefore working to update city infrastructure, taking resiliency into account. Selkirk's 2016 climate change resiliency plan is intended to provide a corporate target to reduce greenhouse gas (GHG) emissions and to improve municipal operations and management to be more efficient and more resilient. The City also participated in the Federation of Canadian Municipalities' (FCM) Climate Management Network in 2018, and was the only municipality from Manitoba to be selected.

With funding from FCM and data from Prairie Climate Centre, Selkirk created a new plan tailored to the city's needs for climate resiliency. Selkirk held a series of workshops to carry out a

climate adaptation planning framework. An organized list of tactics was developed from the workshop feedback, which will be a valuable resource to guide climate resiliency practices in the future. The plan includes budgeting, which strengthens its action-ability. As a final point, Duane identified that cultural change is an important key to successful implementation. He described several ways in which the plan's directives will be incorporated into routine operations.



City of Selkirk: Areas to develop climate resiliency.

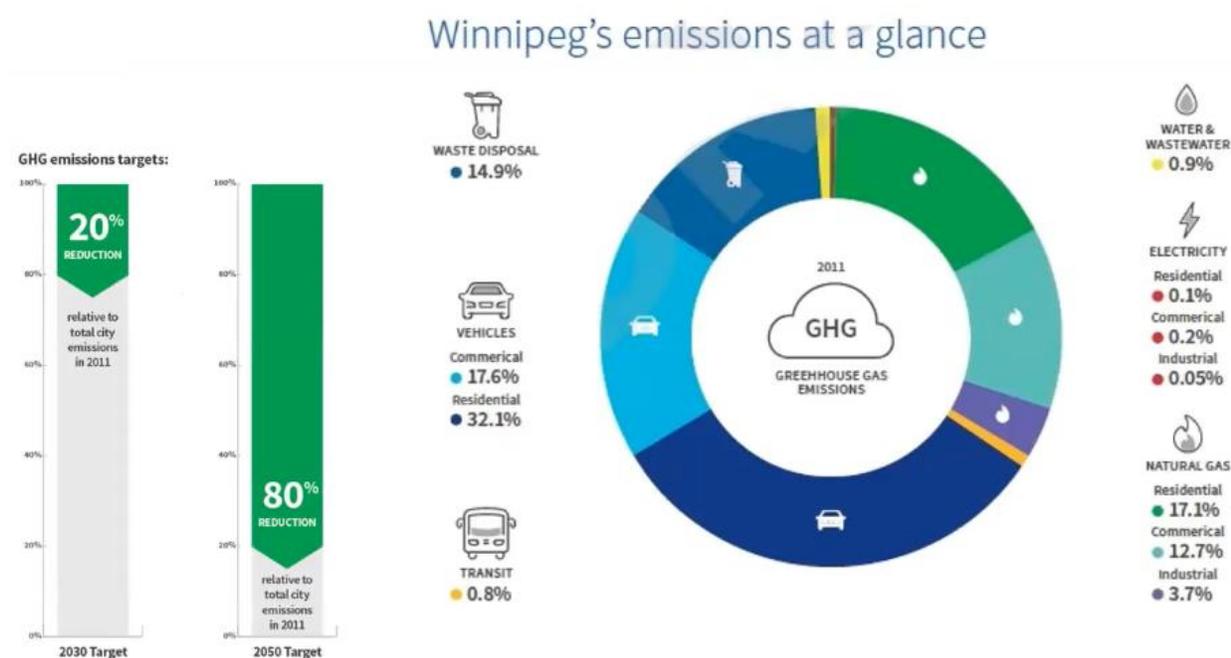
CITY OF WINNIPEG

The third part of the webinar was dedicated to speakers from the City of Winnipeg. Lindsay Mierau, manager of the Office of Sustainability, Martha Barwinsky, City Forester, and Michelle

Paetkau, City Wastewater Engineer each had a segment to present information about the City of Winnipeg's latest efforts to build resiliency.

OFFICE OF SUSTAINABILITY

Lindsay Mierau discussed Winnipeg's climate resiliency planning efforts dating back to 1998, when the City joined the FCM Partners for Climate Action. In 2018, Council approved the Winnipeg Climate Action Plan, which was developed with enthusiastic public input. The Climate Action Plan includes a GHG Inventory, which identifies the top three GHG sources as transportation, building heating from natural gas, and waste disposal. The Plan sets time-based goals for emission reductions and seven areas of climate plan implementation. The seventh of these implementation areas focuses on climate resiliency and adaptation.



City of Winnipeg: Greenhouse gas (GHG) emission inventory.

Lindsay explained the need for robust, Winnipeg-specific climate data to illustrate the threats posed to people and the environment, including built environments. Lindsay explained that climate action strategies for the City of Winnipeg are sorted by short-term, medium-term, and long-term timelines. Short-term actions include recommendations for increased resources and staff, LiDAR heat mapping, and developing healthier urban canopy, parkland, and wetland assets.

URBAN FORESTRY

As the City Forester, Martha Barwinsky talked about the benefits of urban trees and green spaces, as well as climate change-based threats to urban trees and green spaces. Trees offset climate change by mitigating heat, absorbing emissions, and improving community health. Winnipeg's urban identity includes its American elm forest, which is the largest of its kind in North America. However, this urban forest has low diversity of mostly elm and ash species, and therefore faces increased risk of disease and pest infestation. Winnipeg is responding to the threats to its trees by doing a tree inventory, managing pests, pruning programs, and tree protection and preservation. Winnipeg has also developed a project called the One Million Trees Challenge. The objective is to plant one million new trees before the city population reaches one million.

Through a partnership with University of Winnipeg, the City is developing an asset analysis to understand the multifaceted values of urban trees. Winnipeg is fortunately close to the national recommendation of 25% urban canopy coverage, with a rate of 23% coverage. However, Winnipeg's trees continue to endure threats such as extreme weather, Dutch elm disease, and emerald ash borer. Reforestation efforts have been developed over the years, and have seen enthusiasm from neighbourhood and resident groups. Both the One Million Trees Challenge and the ReLeaf Program encourage new tree plantings to support city canopy preservation.



City of Winnipeg: Two urban reforestation strategies.

WATER AND WASTE DEPARTMENT

Michelle Paetkau, of Winnipeg's Water and Waste Department (WWD), explained three major plans from her department intended to build climate resilience. First, the new plan to address the hazards of combined sewer overflows (CSOs) includes increased reliance on green infrastructure to absorb and slow the flow of stormwater. An example given was John Hirsch Place in the Exchange District, which has strata cells embedded in the roadbed. This illustrates a way to sequester stormwater and provide water to trees during dry periods.



Strata cells store stormwater and make it available to trees in downtown environments, as seen on John Hirsh Place

City of Winnipeg: Rainwater management on John Hirsch Place, Exchange District.

A second program is designed to process the City's sewage into a biosolid fertilizer, which is valuable to farmers, redirects it from the landfill, sequesters carbon, and helps soil to hold more water. Local agricultural operations have placed a great demand on the biosolid product, resulting in a waitlist. A related project is landfill protection. Biosolids will be used to create soil to protect the clay cap over a landfill, allowing native plant species to be grown on the top of the cap. This intervention serves to increase natural habitat and to protect the sealed landfill.



Pre application at Brady



Post application at Brady

City of Winnipeg: Using biosolids to build soil protection on Brady Landfill.

QUESTION AND ANSWER PERIOD

The webinar ended with a question-and-answer period. In addition to speakers, three City of Winnipeg staff members: Rod Penner (City Naturalist), Kendall Thiessen (Riverbank Management Engineer), and Dave Domke (Manager of Parks and Open Spaces), joined the webinar to answer questions.

The first question asked if there would be canopy cover mapping by income level. Martha Barwinsky mentioned that although canopy cover is thickest in the city core where many lower income people live, there are other low-income areas that could be analyzed to better understand current conditions. A second question was asked to the City of Winnipeg about whether green building standards for new and retrofit projects would be included on future projects. Lindsay Mierau, manager of the Office of Sustainability, mentioned that the 2011 OurWinnipeg Sustainability plan lays the groundwork for such programs. Duane Nichol of City of Selkirk stated that part of the cultural change toward resiliency includes assuming that all new buildings will be as low-carbon as possible. In addition, Duane Nichol stated that a new residential development project in Selkirk may include district heating. Overall, Selkirk is pushing most of its climate resiliency objectives through corporate measures. Selkirk's small size is a limiting factor in its ability to execute its projects or challenge marketplace norms, so the municipality is hoping for more provincial leadership to support its goals.

Another audience question was asked about phosphorus pollution affecting Lake Winnipeg. Michelle Paetkau stated that Water and Waste has begun action on a few plans regarding water treatment. The City is in the midst of a 2008 plan to upgrade all three local water treatment facilities to remove phosphorus, starting with the smallest plant. The medium-sized plant is currently being upgraded, set for completion in 2022. The largest plant in the North End has also begun Phase 1 of its upgrade process, which will cost a total of \$1.8 billion. Water and Waste also has representation on advisory committees with IISD and the province to continue developing plans for water treatment upgrades. A January 2020 plan was designed for water quality testing, but due to the COVID crisis, this plan is on hold while the University of Manitoba is closed. Duane Nichol added that Selkirk's newest water treatment plant meets or exceeds requirements for phosphorus removal.

The next audience queries addressed funding issues. The first question sought to understand if and how the City of Winnipeg will prioritize financial assistance for homeowners, especially low-income individuals, to cover housing upgrades. Lindsay Mierau began by acknowledging that the 2018 Climate Action Plan does try to address social equity issues, and there is a greater move toward considering equity when developing resilience plans. The City of Winnipeg and several climate resilience groups have jointly sought grant funding for energy poverty alleviation, and have now received funding through the FCM. The City has since been working with local non-profits to gather data on energy poverty issues in different Winnipeg neighbourhoods. There may also be a small levy applied to energy bills to cover upgrade costs.

Another question was directed at the City of Selkirk and addressed the costs and implementation of sustainability projects. Duane Nichol stated that their projects do not require new funding, but instead reallocate the usual funding to a better purpose. To not do so would be negligent to future generations. For new capital projects, Selkirk City Council has been supportive. The City has developed a system to track lifecycle costs of projects, which will enable clearer communication with the public on the value of a seemingly expensive project. Beyond these interventions, the City of Selkirk has a team to seek out new funding sources from other levels of government as well as grants. Jeff Zukiwsky added that many interventions need not be expensive. The key is to always consider climate change with every capital project, which means imagining the full lifespan of a project. RFPs for contractors must always include this forward thinking.

The final question asked for further clarification on the urban forest strategy plan, including protection for trees in cemeteries, golf courses, river areas, and private land. Martha Barwinsky

mentioned that there will be canopy targets for land use types, and all of the aforementioned tree types will be included. The City will be looking for public input into this document, which will be a high-level plan to provide direction for more targeted plans.

Emily concluded the webinar by thanking the speakers for sharing their knowledge. She also thanked the generous support from the City of Winnipeg, the Province of Manitoba, the Winnipeg Foundation, the RBC Foundation, and Eco Canada.

POST-WEBINAR SURVEY

The post-webinar survey was developed with the intention to discover gaps in the level of understanding and awareness among webinar invitees about climate change resiliency planning. The key to knowledge gap analysis is to understand the current state of knowledge and compare it to ideal or best practices. Both open-ended and closed-ended questions were provided in the 36-question survey. The bulk of the survey questions asked respondents to rate their levels of awareness or satisfaction on diverse areas of climate change resiliency. Additionally, respondents were also asked about the biggest barriers to climate resiliency, as well as to identify the most helpful interventions. This feedback complements the information shared by the webinar speakers about current resiliency actions. This way, we can identify areas of low awareness or low support, and prioritize interventions in response.

The post-webinar survey was released to the invitees on Monday, May 4th, 2020 through the platform Survey Monkey, and was closed on May 21, 2020. Approximately 90 groups were invited to complete the survey, with the option to watch a recording of the webinar if an invitee had not attended live on April 29. The survey was intended for the webinar invitees only and not the general public, because these invitees are thought of as knowledge holders in the Winnipeg, Manitoba, and Western Canada context. There were no required questions, so some respondents skipped questions. No compensation was provided to the respondents. Respondents were given opportunities in the survey to identify the organization they work for and to provide an email to be notified of future MB Eco-Network events. However, self-identification was not required.

The survey was developed after a period of careful research on planning documents from Winnipeg and other Canadian cities. Many of these sources came from the initial background document that introduced this project, ranging from the UN Sustainable Development Goals, IISD reports, Winnipeg's documents, and documents from other Canadian and American cities. In addition, a report from Beardy's/Okemasis Cree Nation was identified.

A primary objective of survey development research was to identify as many areas of resiliency planning as possible. It was important that the survey cover a broad spectrum of contemporary resiliency strategies, with many examples drawn from current actions in several North American cities. In total, 51 areas of climate resiliency intervention were identified:

- Diversity/redundancy,
- Ecosystem services,
- Asset management,
- Natural areas,
- Canopy,
- Parks,
- Landscaping,
- Food security,
- Waste/compost,
- Energy,
- Carbon-neutral,
- Water/sewer,
- Air quality,
- Wind,
- Freeze-thaw cycles,
- Rain/snow,
- Flood,
- Forest fires,
- Extreme temperatures,
- Weather emergencies,
- Early warning systems,
- Displacement/evacuees,
- Pests,
- Illness/allergy,
- Density/complete communities,
- District planning,
- Transportation/transit,
- Active transportation,
- Fire department,
- Infrastructure/durability,
- Risk management,

- Buildings,
- Urban heat island effect,
- Construction,
- Community,
- Capacity/staffing,
- Social disparity,
- Vulnerable populations,
- Indigenous Peoples,
- Lifestyle change,
- Outreach/education,
- Partnerships,
- Economy,
- Pricing,
- Self-sufficiency,
- Technology,
- Circular economy,
- Govt./policy,
- Research/monitoring,
- Implementation, and
- Evaluation.

These points were then condensed into 16 key topic areas for the survey:

- Ecosystem management,
- Weather and emergency preparedness,
- Land use and transportation,
- Infrastructure,
- Waste management,
- Social and cultural change,
- Education and outreach,
- Indigenous peoples and reconciliation,

- Equity for vulnerable groups,
- Economic implications,
- Strategies, policies, and tools,
- Government and governance,
- Research,
- Operations and management,
- Redundancy planning, and
- Asset management.

The 36-question survey included the following general areas of inquiry:

- respondent identification,
- general impressions of climate change resiliency activity in Winnipeg,
- city-specific climate change resiliency activity,
- non-governmental (NGO), non-profit (NPO), and community-specific resiliency activity,
- social issues and climate resiliency
- barriers to action, and
- open-ended questions about ideas for future actions, including Eco-Network events.

Overall, the subject matter of the survey was divided between assessing government efforts and the efforts of community groups, non-governmental (NGOs), and/or non-profits (NPOs). The category of community groups, NGOs, and NPOs will be referred to collectively as NGOs. This division enables us to understand the ways that government and NGOs compare in capability and perception.

A full breakdown of responses of each survey question is attached as Appendix D – Survey Breakdown.

ANALYSIS

As stated above, the goal of this survey was to identify gaps in climate change resiliency knowledge. Gaps in knowledge are indicated by respondents choosing a low level of familiarity

and/or a low level of satisfaction with a given type of resiliency work. This is an opportunity to closely examine if there is either minimal knowledge, minimal action, or minimal outreach/awareness-raising on the part of government bodies, community groups, NGOs, and NPOs. We analyzed respondents as a group to develop conclusions and next steps.

There are some limitations on the survey analysis. Despite outreach efforts, only 21 surveys were filled out, out of the 90+ invitees and 41 webinar attendees. Additionally, only one representative of the government sector participated in the survey. Thirdly, the identification category of “Other” caused some respondents to place themselves there when their identification would have been more accurate in the “community group, NGO, and NPO” category. Finally, some respondents skipped questions.

DEFINING GAPS

When trying to understand the nature of a knowledge gap, we chose to look at responses in the categories of “slightly familiar,” “not familiar,” and “not sure.” While we do not expect everyone to fall into the category of “very familiar,” we instead believe that “moderately familiar” indicates an ongoing awareness of the topic, if not through work, then through the media or the common culture. A high level of “not familiar” or “not sure” is a strong signal that more work needs to be done on a given topic. We were especially attuned to instances where “slightly familiar,” “not familiar,” or “not sure” responses outnumbered “moderately familiar” or “very familiar.”

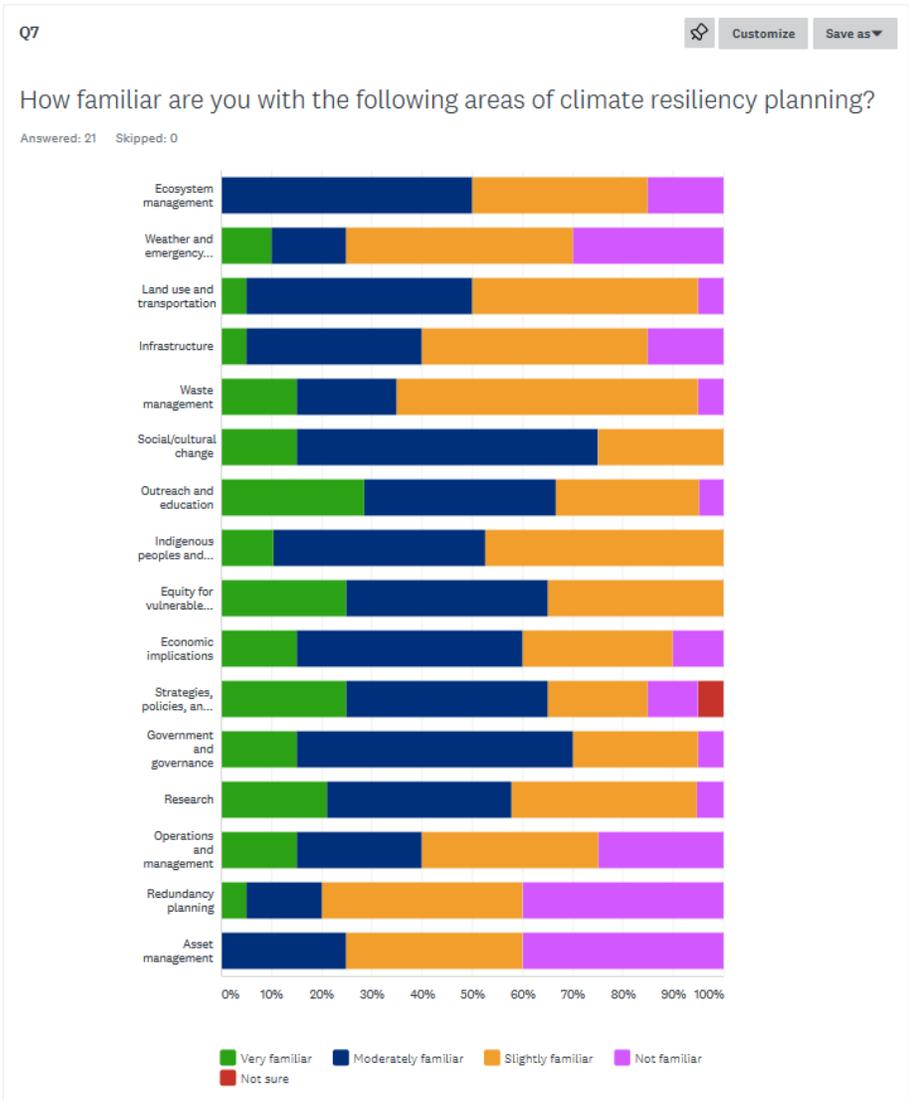
In a similar fashion, we also tried to understand gaps by looking at the categories of “moderately dissatisfied”, “very dissatisfied”, and “not sure”. These responses suggest that there is some kind of deficit in the ability to meet a need or solve a problem. We paid close attention to topics where the combined levels of dissatisfaction and uncertainty outweighed any levels of satisfaction.

Finally, the survey asked the respondents to identify the barriers and the resources that are most needed to achieve climate resiliency. These answers are helpful to get specific ideas about what constitutes a gap, as well as what is needed to close the gap.

GENERAL IMPRESSIONS OF CLIMATE CHANGE RESILIENCY IN WINNIPEG

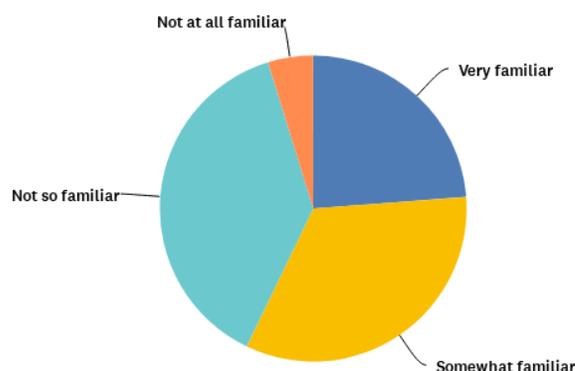
The core inquiry about community climate resiliency planning begins with *Question 7*, which asks, “How familiar are you with the following areas of climate resiliency planning?” Overall, survey respondents showed noticeable gaps in their knowledge of many of the 16 areas they were asked to evaluate. The most significant gaps were noted in their understanding of ecosystem management, weather and emergency preparedness, land use transportation, infrastructure, waste management, operations and management, asset management, and redundancy planning.

Moderate gaps in knowledge were found regarding Indigenous peoples and reconciliation, equity for vulnerable groups, economic implications, and research work. Respondents indicated that they had a stronger familiarity of social/cultural change, outreach and education, strategies, policies, plans, as well as government and governance. These gaps must be addressed through education and gaining clarity on the direction of current and future plans. Fortunately, the mechanisms of education, outreach, policy, and government/governance efforts are well-established as familiar tools.



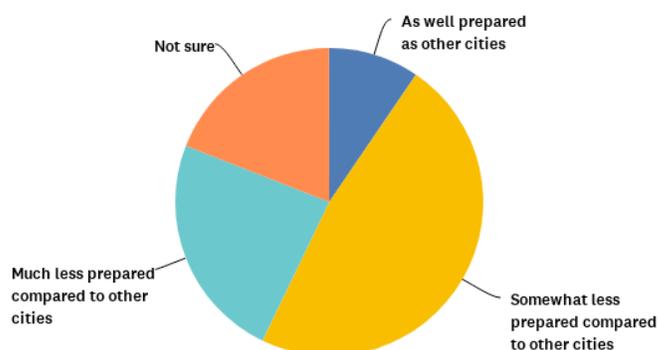
Question 8, which assessed the familiarity with Winnipeg’s Climate Action Plan, also revealed a significant gap in knowledge. A total of 76.19% of respondents said they were somewhat familiar, not so familiar, or not at all familiar with the plan. This suggests that there needs to be more outreach about Winnipeg’s most recent Climate Action Plan.

Q8 How familiar are you with Winnipeg's Climate Action Plan goals and commitments?



Question 9, which asks about Winnipeg's climate resiliency preparedness compared to other cities, showed significant gaps in confidence. Only 9.52% thought that Winnipeg was as well-prepared as other cities, while no one indicated that Winnipeg is better-prepared than other cities. Instead, 71.43% feel that Winnipeg's preparedness is somewhat less or much less than other cities, while another 19.05% were not sure how to evaluate the level of preparedness. This is a serious gap in stakeholders' perception of Winnipeg. Not only does this reality indicate low confidence in the City's work, but it shows that residents are vulnerable and lack the tools to be resilient against climate change effects.

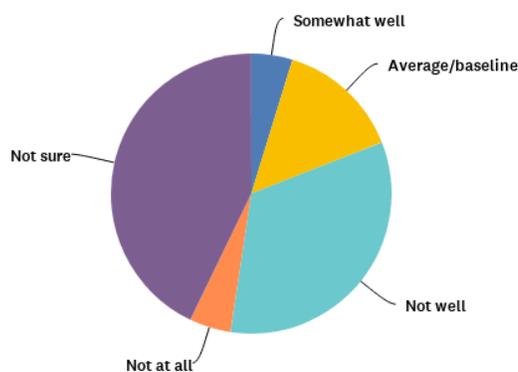
Q9 Overall, how does Winnipeg compare to other Canadian cities for adaptation, resilience, and preparedness against the consequences of climate change?



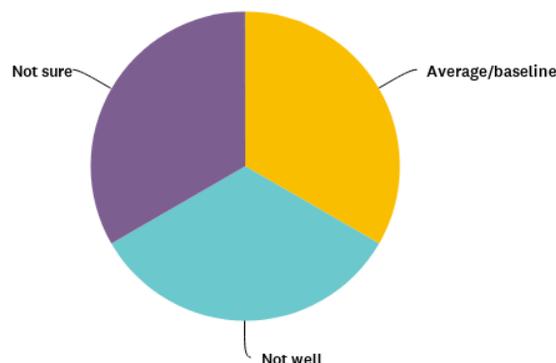
Questions 10 and 11 bring to light some very serious gaps around the inclusion of Indigenous knowledges and concerns in climate change resiliency plans. When asked if Indigenous knowledges and concerns are adequately included in both City and NGO plans for climate resiliency, respondents overwhelmingly said that these matters are included at a baseline or poor level. 47.62% said that the City did a baseline or poor job at inclusion, while 66.66% felt that community groups, NGOs, and NPOs were doing a baseline or poor job at inclusion. In addition, 42.86% were not sure how to evaluate the City's efforts, while 33.33% were not sure how to evaluate community groups, NGOs, and NPOs on Indigenous inclusion.

This gap is a serious matter, both in light of the need to develop meaningful reconciliation between Indigenous and non-Indigenous peoples as well as the need to address the vulnerability caused by settler colonialism. Any group working toward climate change resiliency must consider reconciliation and decolonization a top priority. Indigenous peoples' close ties to the land, mean that climate change resiliency cannot happen without giving priority to Indigenous worldviews.

Q10 Do you feel that Indigenous knowledges and concerns are adequately included in the City of Winnipeg's climate change resilience planning?



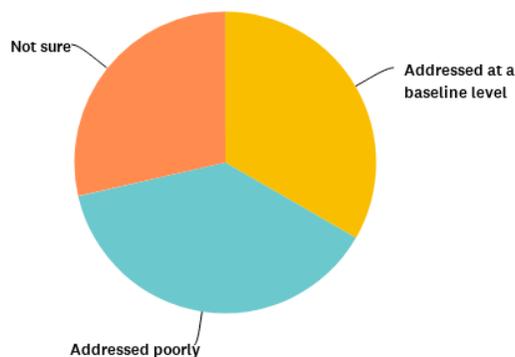
Q11 Do you feel that Indigenous knowledges and concerns are adequately included in community group, NGO, and NPO climate change resiliency planning?



CITY-SPECIFIC CLIMATE CHANGE RESILIENCY

Question 12 asked respondents to give their impression on whether climate change resiliency is addressed adequately in the City of Winnipeg’s policies. No respondents indicated that resiliency is addressed either “very well” or “moderately well.” Instead, a three-way split of responses shows that respondents think climate resiliency is addressed at a baseline level, a poor level, or a level they cannot easily evaluate. These responses reveal low confidence in the work being done, as well as inadequate information about work being done. To remedy this gap, the City of Winnipeg needs to immediately work toward real, significant, and lasting change based on the most up-to-date climate data and recommendations. As discussed in the April 29 webinar, Manitoba-specific resources and examples from other cities are readily available. The City therefore needs to make a concerted effort to integrate this information into the policies that guide short and long-term planning for resiliency.

Q12 Do you feel that climate change resiliency is adequately addressed in the policies of the City of Winnipeg?



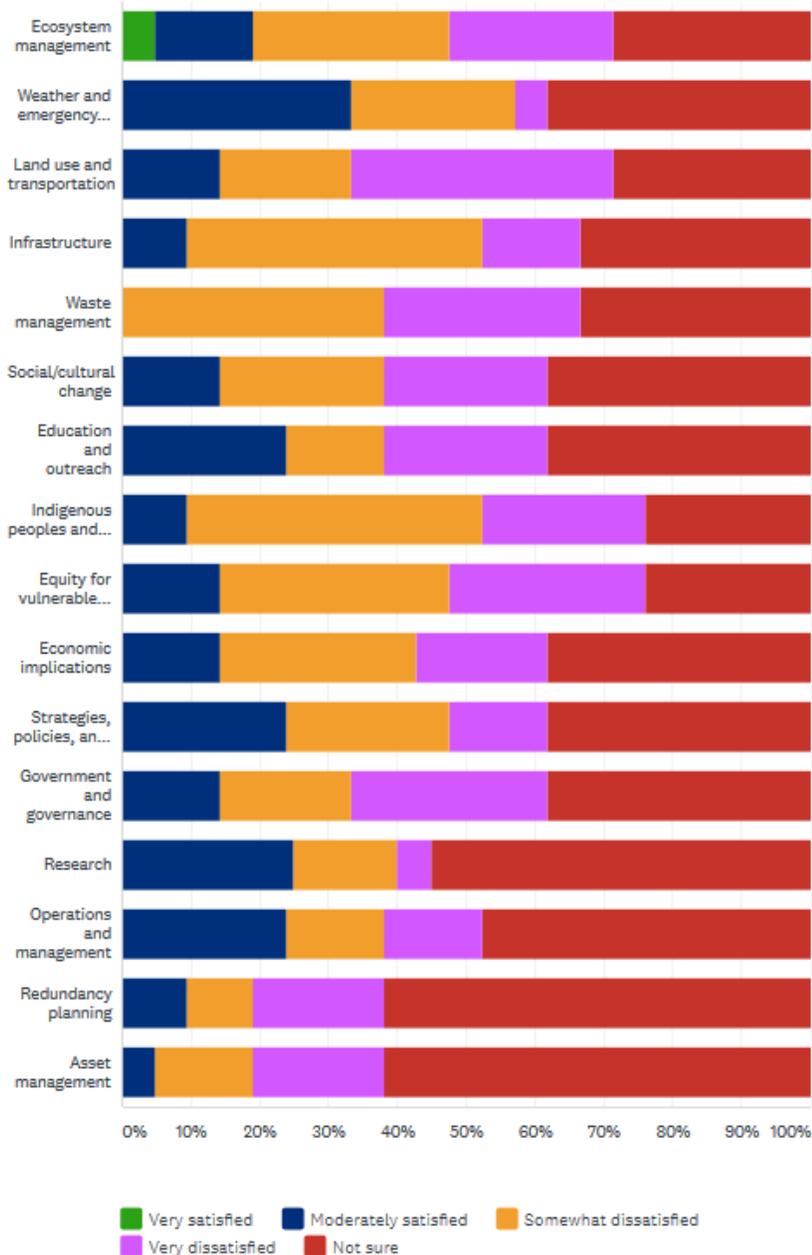
In a finer-grained inquiry in **Question 13**, respondents were asked about their satisfaction with Winnipeg's action and follow-through on the 16 areas of resiliency. All areas showed significant dissatisfaction and low levels of moderate satisfaction. Additionally, there were high levels of respondents feeling unsure of how to evaluate an area of resiliency. In particular, the highest levels of dissatisfaction and uncertainty were regarding Indigenous peoples and reconciliation, redundancy planning, asset management, and waste management.

It is especially concerning that no respondent indicated any level of positive satisfaction with waste management practices, an area indicated to be a major source of greenhouse gas (GHG) emissions in other sustainability documents from the City. Immediate action is needed to take climate resiliency seriously by closely examining the gaps in different areas of work. More ideas on how to address these gaps are discussed under *Conclusions and Next Steps*.

Q13

Rate the following areas on how satisfied you are on the action and follow-through on climate resiliency matters from the City of Winnipeg.

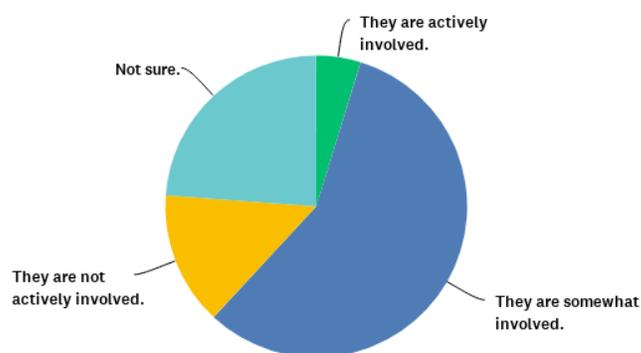
Answered: 21 Skipped: 0



COMMUNITY GROUPS, NGOS, NPOs AND CLIMATE RESILIENCY

Question 14 and Question 15 aim to understand how the involvement of community groups, NGOs, and NPOs are perceived with regard to climate change resiliency. **Question 14** asked respondents to choose how they perceived the involvement of NGOs. Over 57% of respondents noted that these groups are somewhat involved, while 14.29% felt that these groups are not actively involved. 23.81% were not sure of how to evaluate the level of involvement.

Q14 How would you describe the level of involvement of community groups, NGOs, and NPOs in climate resiliency planning for Winnipeg?

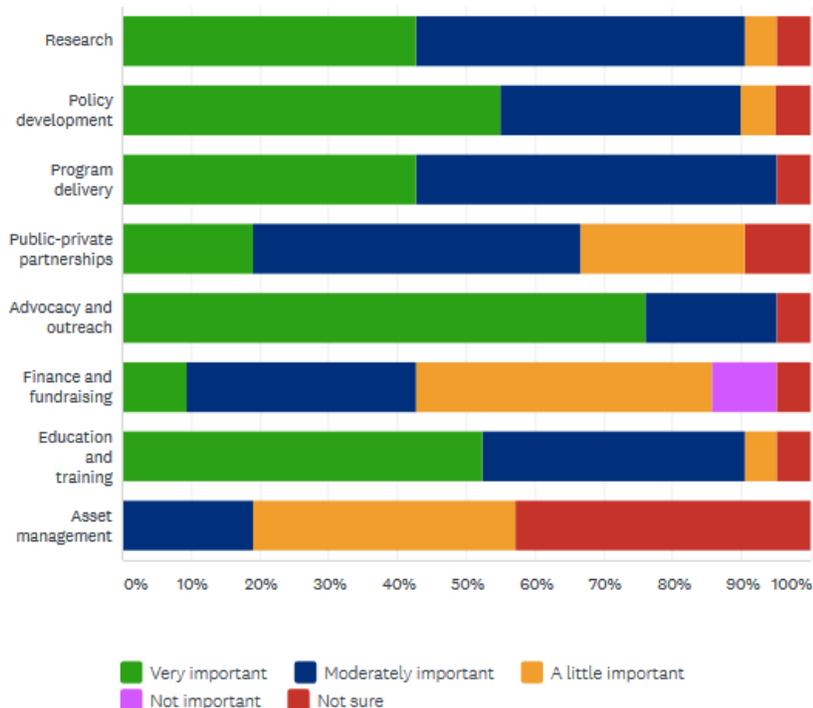


Question 15 sought to understand the importance of NGOs in more specific areas, including research, policy development, program delivery, public-private partnerships, advocacy and outreach, finance and fundraising, education and training, and asset management. For most of these areas, respondents thought that these groups have clear importance, especially with advocacy and outreach work. The most uncertainty about the roles of these groups was with asset management. This may be linked to the persistent uncertainty or lack of knowledge about this field that was exhibited across the survey. Another area of mixed responses was related to finance and fundraising, possibly because these groups frequently face uncertain funding. The lesson from these questions is that community groups, NGOs, and NPOs have much to offer in terms of building climate resiliency, and need more opportunities to increase their involvement.

Q15

What is the level of importance that community groups, NGOs, and NPOs play in the following areas of climate resiliency planning?

Answered: 21 Skipped: 0



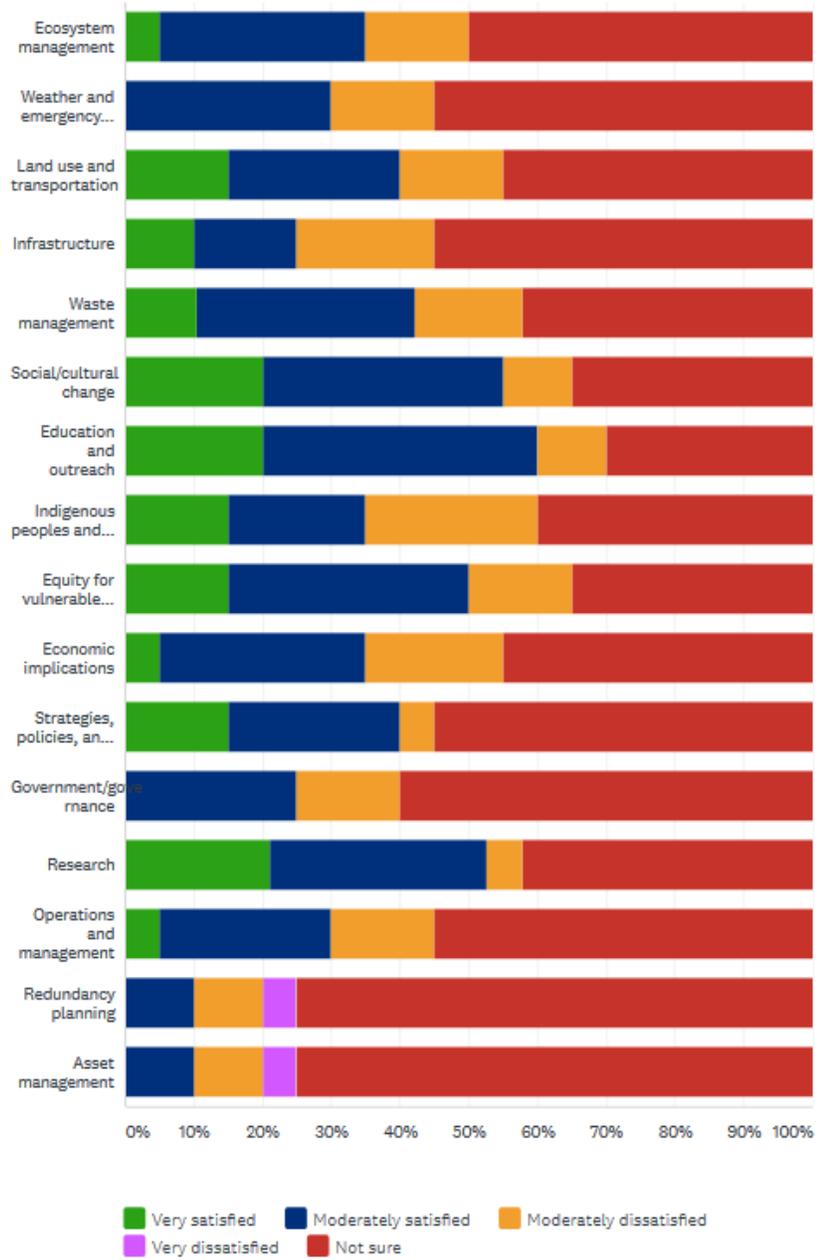
Question 16 asked respondents to rate their impressions of the action and follow-through of community groups, NGOs, and NPOs on the 16 areas of climate change resiliency. When compared to Question 13, which focused on City action, the respondents reported greater satisfaction overall. Respondents also mentioned “very dissatisfied” only twice, while mentioning “moderately dissatisfied” less often than with Question 13. However, respondents also showed much greater uncertainty about resiliency efforts, especially related to redundancy planning and asset management. All 16 areas of climate change resiliency would benefit from better communication and collaboration due to this uncertainty.

Of the 16 areas of climate change resiliency planning, the highest number of respondents stated they were “moderately dissatisfied” with the way community groups, NGOs, and NPOs work toward reconciliation with Indigenous peoples. This reflects the results of Question 10 and 11. The importance of working with Indigenous peoples throughout all climate change resiliency planning

cannot be overstated. This is an area in urgent need of action and attention, and must be prioritized in a meaningful way.

Q16
Rate the following areas on how satisfied you are on the action and follow-through on climate resiliency matters from community groups, NGOs, and NPOs in Winnipeg.

Answered: 20 Skipped: 1



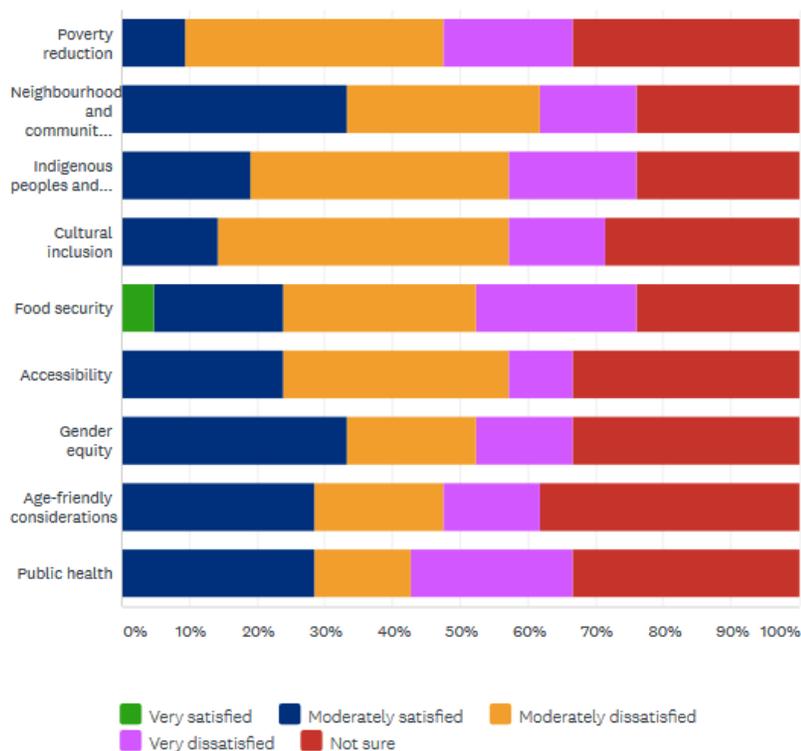
SOCIAL ISSUES AND CLIMATE RESILIENCY

Questions 17 and **18** then focused specifically on how the City and NGOs each address social concerns. These categories of social concerns include poverty reduction, neighbourhood and community development, Indigenous peoples and reconciliation, cultural inclusion, food security, accessibility, gender equality, age-friendly considerations, and public health. For both the City and NGOs, respondents rated their level of satisfaction on how well these concerns are addressed. Respondents were overall more satisfied with the NGOs' actions than they were of the City's actions. Dissatisfaction was also lower for the NGOs, with no respondents saying they were "very dissatisfied", and fewer instances of "moderately dissatisfied". Both questions had fairly high levels of "not sure". However, rates of "not sure" were higher for NGOs. To address these gaps, the City needs to improve the manner in which it addresses social concerns. To address the uncertainty, there needs to be more support for communication, both among these different groups and with the public.

Q17

How satisfied are you with the way the City of Winnipeg addresses the following social concerns when developing a climate resiliency strategy for Winnipeg?

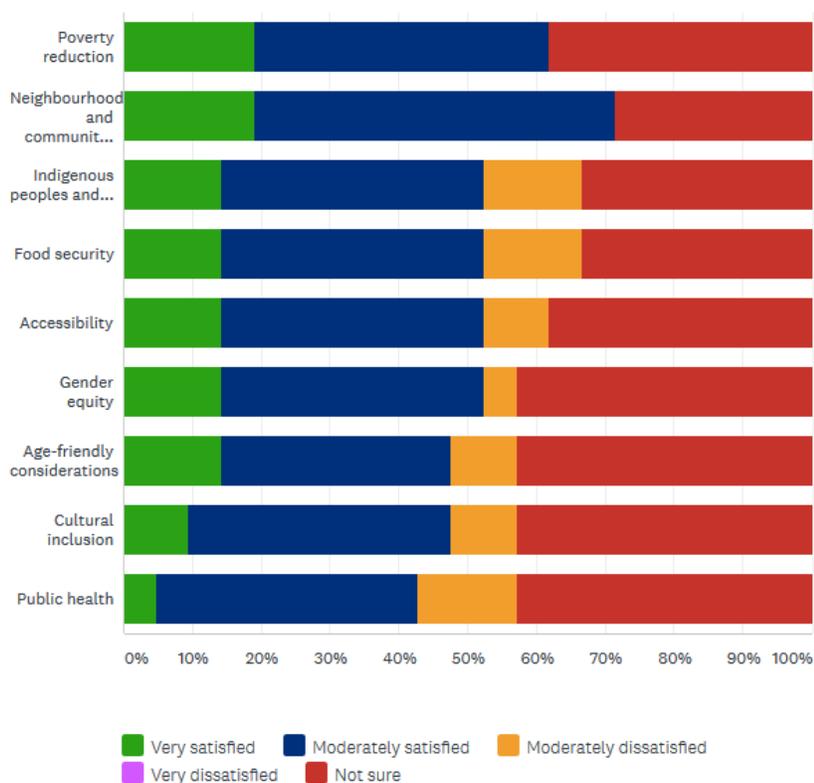
Answered: 21 Skipped: 0



Q18

How satisfied are you with the way community groups, NGOs, and NPOs address the following social concerns when developing a climate resiliency strategy for Winnipeg?

Answered: 21 Skipped: 0



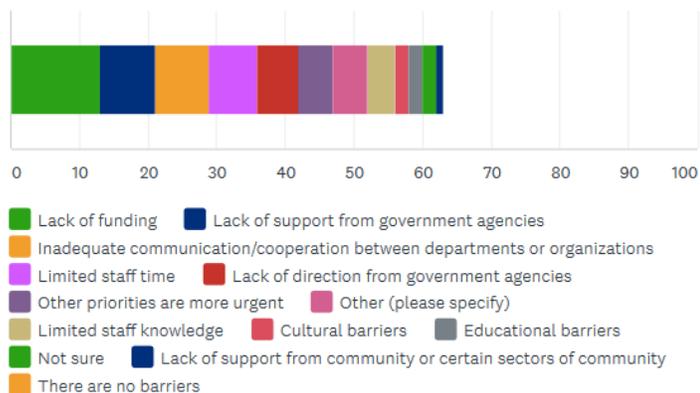
BARRIERS AND ASSISTANCE TO CLIMATE RESILIENCY

Questions 19 and 20 then asked the respondents to choose their top three barriers to community climate resiliency, both for the City of Winnipeg and non-governmental groups. The choices were lack of funding, lack of support from government agencies, inadequate communication/cooperation between departments or organizations, limited staff time, lack of direction from government agencies, other priorities are more urgent, other (please specify), limited staff knowledge, cultural barriers, educational barriers, not sure, lack of support from community or certain sectors of the community, or there are no barriers.

Q19

What do you think are the top three barriers for Winnipeg's government to achieving community climate resiliency?

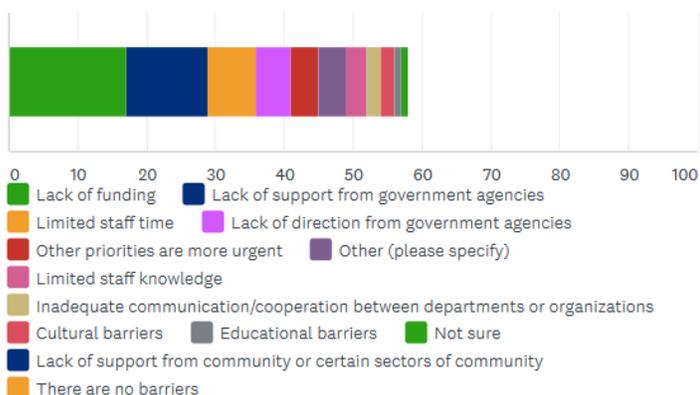
Answered: 21 Skipped: 0



Q20

What do you think are the top three barriers for Winnipeg's community groups, NGOs, and NPOs to achieving community climate resiliency?

Answered: 21 Skipped: 0



For both the City and non-governmental groups, the majority considered funding to be the top barrier, though it was cited more often for non-governmental groups. For both, this was followed by lack of support from government agencies. Some respondents left comments referring to the City barriers, and this lack of support was reiterated. Respondents felt that climate resiliency was not prioritized by City Council, and were discouraged by an overall lack of political will. The third barrier for the City was inadequate communication/cooperation between departments or

organizations, while the third barrier for non-government groups was limited staff time. In comments left for the non-governmental barriers, communication and knowledge deficits were highlighted. These comments ranged from noting an overly-insular approach, a lack of opportunities to engage with city staff, to a lack of knowledge about climate resiliency.

Following the top three barriers for the City and NGOs, the most critical barriers can be characterized as a lack of time, support, and information to adequately address climate resiliency. The message is that funding is the core resource needed, and may help overcome many of the other barriers listed. The other critical resource is political support. Going forward, solving these two issues needs to be a top priority.

Question 21 asked respondents if their work involved climate change resiliency, and if so, the nature of that work. Several respondents said they participated in various strategies consistent with the climate resiliency planning described in the webinar and in the research for this project. These include fundraising, policy discussion, program evaluation, education, poverty alleviation, advocacy, food security, ecological restoration, social enterprise, and research. A few other respondents stated that they did not currently do climate resiliency work, but were eager to get involved. One respondent stated that they were looking for opportunities to partner with local organizations to work on public health issues related to climate change. This question supports the information gathered from Questions 14 and 15. Together, they show that this work is active in diverse areas of climate change resiliency. There is also room to grow towards doing more, and many organizations would benefit from support.

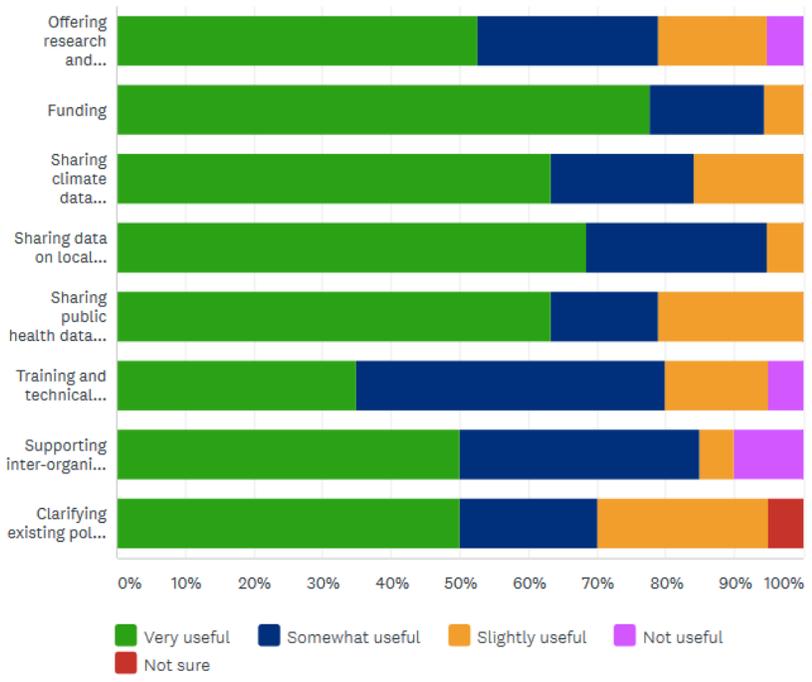
Questions 22 and 23 explored more detail about the best ways to assist the respondent's organization with climate resiliency work. Each question asked about assistance from either the three levels of government or the NGO sector. Of the options listed for rating in both questions, all had a majority rating of "very useful", with secondary high ratings of "moderately useful". In terms of assistance from non-governmental groups, there was somewhat greater uncertainty about the value of these types of assistance. The greatest uncertainty focused on the value of clarifying existing policy documents about climate change resiliency. Additionally, there was less certainty about the value of funding coming from non-governmental groups. This may reflect the previous finding that non-governmental groups seem more likely to struggle with a need for basic funding. By contrast, government funding was listed as the most popular "very helpful" form of assistance. Regardless of these details, the main finding of these two questions is that there are diverse types of intervention from both the government and the non-government sectors that would be valuable for

community climate resiliency.

Q22

What would be the most helpful ways for all levels of government to assist your organization in advancing climate resiliency planning, implementation, and evaluation?

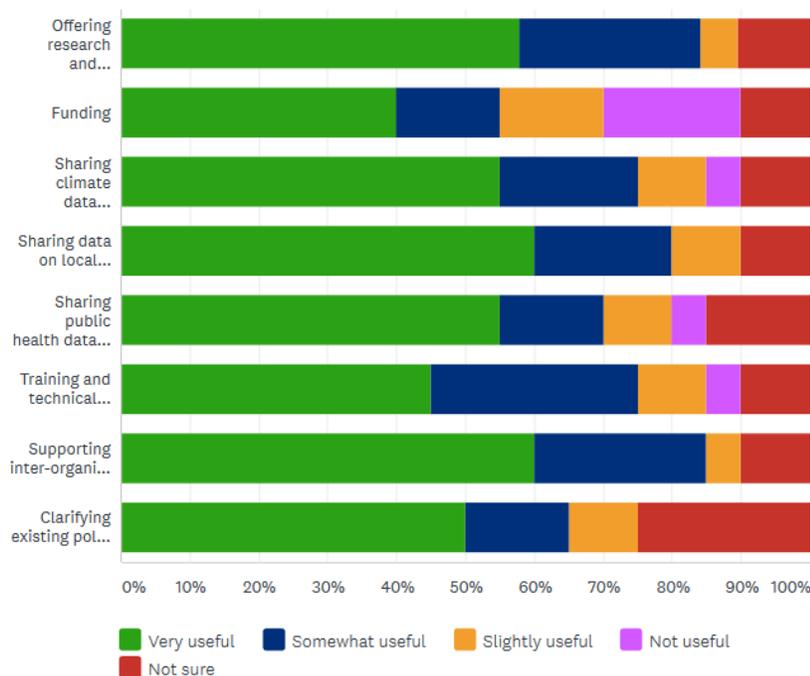
Answered: 20 Skipped: 1



Q23

What would be the most helpful ways for community groups, NGOs, and NPOs to assist your organization in advancing climate resiliency planning, implementation, and evaluation?

Answered: 20 Skipped: 1



Each question also received one open ended comment from the respondents. The comment regarding government support emphasized that prioritization was of key importance for the whole government approach, and that it must be communicated clearly to the public and stakeholders. The comment regarding the support from NGOs called for greater collaboration at every step. These sentiments speak to the crucial need for action. Those in places of political power must take action, and those outside the governmental sector must pool their action and resources to further develop their leverage to advocate.

Question 24 then asked respondents if there are ways that private businesses could assist in advancing climate resiliency planning, implementation, and evaluation. These responses fell into three general categories: funding, cultural change/education, and advocacy. For funding, respondents called for financing, partnerships, and fair taxation. Suggestions for cultural change included incentivizing development of mitigation-related products, greener product generation,

providing consultation services around climate resiliency planning, and adoption of environmental management systems/corporate responsibility. Finally, suggestions for advocacy focused on the need to have businesses “add their voices” to push the government to increase the sense of priority. As a result of this feedback, next steps in climate resiliency should include attention to develop opportunities for private businesses to assist in impactful climate resiliency work.

Question 25 then asked respondents to describe the kinds of collaboration they would like to see to build climate resiliency. The overwhelming impression is that collaboration is needed both broadly and intricately. Collaboration is called for between both government and NGOs, as well as between groups well-versed in climate resiliency and those with less awareness. The response to this question emphasizes that collaboration itself functions as a valuable resource for advancing climate change resiliency.

Question 26 asked respondents to name strategies that the City of Winnipeg might be overlooking in climate resiliency work. Many answers to this question centered on environmental and social needs. These two categories of needs each have their unique details, but the respondents make it clear that these needs are interconnected. The respondents named everything from providing safe and affordable housing for Winnipeggers to creating healthy natural habitats for pollinators. One respondent captured a deeper issue at play by stating that the City “relies too much on piecemeal activity.” The respondent provided a number of suggestions for the City, including the need for a holistic Greenspace Master Plan, as well as stronger regional planning. This respondent’s suggestions all shared the theme of connectivity.

The theme of accountability also came up. One respondent suggested that the City of Winnipeg could join an international initiative, such as Global C40 Cities, which would create public accountability and access to more resources. It may be wise for Winnipeg to revisit the 1998 FCM Partners for Climate Action, and to reevaluate the commitment to that initiative.

Unfortunately, some respondents again identified a concerning lack of political will, funding, and staffing as a serious barrier to climate resiliency. In total, the answers to this question show that respondents feel there are many strong ideas available, but that top-level policymakers have failed to make this work a priority. Without this sense of priority, the most-needed resources are blocked, progress remains slow, and accountability suffers. Instead, the City should see climate change resiliency as one of its most important investments. Action on climate change resiliency should be a leading principle of doing business, as is outlined in Winnipeg’s Climate Action Plan.

Question 27 asked respondents to name overlooked strategies among NGOs. Several answered that they were unsure or did not know enough to comment. Some of the remaining suggestions highlight the importance of advocacy. This reflects the other mentions of low political will that are found elsewhere in the survey. Additionally, collaboration between groups was highlighted. Finally, a respondent suggested investing in fuel cell technology, which would make use of Manitoba's hydro resources.

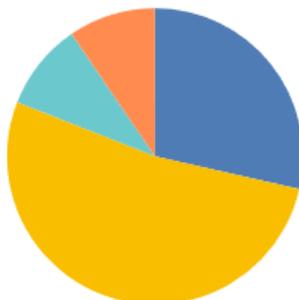
Question 28 sought concrete examples of projects for climate resiliency that respondents would like to see for their communities over the next five years. Like many other questions in the survey, the answers cover both environmental and social equity projects. The respondents asked for the following types of projects: comprehensive and electrified public transit, affordable housing, green building and construction, local food security, local manufacturing, an end to natural gas being used for heating, protection of natural areas, developing emergency response capacity, incentives to use electric cars, support for marginalized groups, and cleaning/protection of Lake Winnipeg. These suggestions reiterate well-known types of environmental and social equity work already going on, and show that there are still unmet needs. Again, ideas for change are readily available from stakeholders. However, gaps remain that make progress difficult. No matter the project, funding and political support are indispensable to making it possible and successful.

ASSESSING NEW UNDERSTANDINGS OF CLIMATE RESILIENCY

Questions 29 and 30 then asked respondents to reflect on whether their definition of community climate resilience had changed. Over 52% of respondents said that it had not changed, but another 28.57% said it had changed moderately. An even split either was not sure, or had not attended the webinar. For those who had experienced a change in their definition, they said that they had gained a more nuanced and broadened understanding of what is needed to achieve resiliency. One respondent cited a new awareness of Indigenous perspectives on climate resiliency. Respondents also appreciated learning about the work done in other cities, especially in the neighbouring City of Selkirk. The fact that most respondents did not experience a change in their understanding of climate resiliency may be another indicator that viable ideas are already well-known and easy to find. The only thing that remains is political will and action.

Q29 Has your definition of climate change resilience changed after this webinar?

Answered: 21 Skipped: 0



■ It has changed dramatically. ■ It has changed moderately. ■ It has not changed at all.
■ Not sure. ■ Did not attend the webinar.

NEXT STEPS & CONCLUSION

The end result of Phase 1 suggests that the next step is to focus on Indigenous peoples and reconciliation, advocacy, cultivating political will, better distribution of existing resources, and better collaboration across groups and sectors. In many ways, valuable resources are already available, including recent climate action policies, emerging and established organizations, reliable local data and case studies, and growing public concern. Yet survey respondents tell us that there is still much uncertainty and dissatisfaction with work currently being done for climate resiliency. Phase 2 of this project needs to build community and political capacity to turn the dissatisfaction into satisfaction, and unfamiliarity into familiarity. This is how meaningful work is integrated into up-to-date, effective climate resiliency work.

Phase 2 first needs to set the pattern for closing the reconciliation gap. Going forward, resiliency work is not complete without greater Indigenous leadership. All stakeholders need to prioritize reconciliation in order to serve the unique needs of Indigenous peoples and communities, Winnipeg, Manitoba, and Canada as a whole. Prioritizing Indigenous peoples and Indigenous knowledges requires an ongoing, intentional shift in all areas of community climate resiliency planning. It requires recognizing the important relationship that the modern city of Winnipeg shares with the land that it is on, and in turn, the land's relationship with the Anishinaabeg, Cree, Oji-Cree, Dakota, Dene, and Metis people. Indigenous peoples need to have meaningful roles in climate resiliency work, not as a separate category, but throughout the whole.

This survey confirms another common theme for stakeholders: that economic barriers are significant. Allocation of funding is how value is translated. Referring to the questions about top barriers, we see that political support and political will seem to be a secondary problem to funding. However, it is important to realize that political will is closely linked with funding, whether it comes from a public or a private source. Political will guides values-based decision-making, which then guides allocation of funds and other types of support. For any organization, inadequate funding creates barriers to appropriate staffing, allocation of time to various projects, and other tools necessary to climate resiliency work.

To respond to the issue of funding, community groups, NGOs, and NPOs need to prioritize advocacy. The City of Winnipeg, in turn, needs to prioritize the policies that support climate resiliency. Supporting comprehensive climate resiliency is a very cost-effective choice because it supports many other matters that need attention, such as environmental protection and social equity. These are the priorities required by the UN's Sustainable Development Goals, the Manitoba

Climate and Green Act, and Winnipeg's numerous policy documents about sustainability. The guidance is available, but the choices continue to go unmade.

The interconnected nature of environmental protection, social equity, and climate resiliency planning demonstrate the other key survey takeaway: the importance of connection, communication, and collaboration. The theme of connection needs to be recognized as an inherent quality of climate resiliency work, which was stated as early on as in the feedback gathered during the pre-webinar survey. Following this theme, without good communication and shared capacity, important work remains stagnant and the status quo continues. Strong, diverse, and repeated connections are the most basic form of resiliency.

Phase 2 of this project must close these disconnections by building bridges. Again, there must be a strong commitment to including Indigenous peoples in all decision-making. There is a need for community groups, NGOs, and NPOs to persistently ask for a seat at the table with government and other powerful decision-makers. But most importantly, Phase 2 must enable as many types of interorganizational connection as possible. Finally, a regional element needs to be included in these activities. This reflects the reality of the natural environment as well as the habits of its people.

In closing, climate resiliency work focuses on a community's ability to confront crises, adapt, and thrive. It requires the ability to learn from real-world difficulties and apply those lessons without delay. True resiliency is best addressed through ongoing, highly intentional action. It takes lessons from nature, which demonstrates redundancy, diversity, and abundant connections. Most of all, resiliency requires the will and desire to move forward. Phase 1 of *Building Community Climate Resiliency* has produced clear directions for Phase 2 moving forward.

APPENDIX A – BACKGROUNDER DOCUMENT

Project Title

Building Community Climate Resiliency Project

Background

The United Nations Sustainable Development [Goal #11](#) calls for cities and human settlements to be inclusive, safe, resilient and sustainable. Specific targets include reducing the adverse per capita environmental impact of cities (11.6), and increasing the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, climate change adaptation and mitigation, and disaster resiliency (11.B)¹.

[Goal # 13](#) urges us to take action to combat climate change and its impacts. Specific targets include strengthening resilience and adaptive capacity to climate-related hazards and natural disasters (13.1), integrating climate change measures into policies, strategies and planning (13.2), and improving education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning (13.3)².

In June 2019, the House of Commons passed a [motion](#) to declare a climate emergency in Canada. The motion recognizes that “(a) climate change is a real and urgent crisis, driven by human activity, that impacts the environment, biodiversity, Canadians' health, and the Canadian economy; (b) Canadians are feeling the impacts of climate change today, from flooding, wildfires, heat waves and other extreme weather events which are projected to intensify in the future; (c) climate change impacts communities across Canada, with coastal, northern and Indigenous communities particularly vulnerable to its effects; and (d) action to support clean growth and meaningfully reduce greenhouse gas emissions in all parts of the economy are necessary to ensure a safer, healthier, cleaner and more prosperous future for our children and grandchildren”³.

In 2016, the Office of the Auditor General conducted a [review of Manitoba’s Climate Change Plan](#)⁴. At that time, the Auditor General identified very little work done on climate adaptation activity by the province. A major finding was that there were weak management processes for adapting to climate change impacts, comprehensive and coordinated planning was not in place and there was little progress on assessing risks and developing a provincial adaptation plan.

The current provincial government has introduced a [Climate and Green Plan](#)⁵, a [Climate and Green Plan Act](#)⁶ (which calls for *a plan to reduce greenhouse gas emissions and address the effects of climate*

¹ United Nations (no date). *Goal 11: Sustainable Cities and Communities*.

<https://www.un.org/sustainabledevelopment/cities/>

² United Nations (no date). *Goal 13: Climate Action*. <https://www.un.org/sustainabledevelopment/climate-change/>

³ 42nd Parliament 1st Session, June 17, 2019 <https://www.ourcommons.ca/Parliamentarians/en/votes/42/1/1366/>

⁴ Office of the Auditor General - Manitoba (2017). *Managing Climate Change*. <https://www.oag.mb.ca/wp-content/uploads/2017/10/Managing-Climate-Change-Web-Version-October-2017.pdf>

⁵ Government of Manitoba (2017). *A Made-in-Manitoba Climate and Green Plan*.

https://www.gov.mb.ca/asset_library/en/climatechange/climategreenplandiscussionpaper.pdf

⁶ Government of Manitoba (2018). The Climate and Green Plan Act. (C.C.S.M. c. C134)

<https://web2.gov.mb.ca/laws/statutes/ccsm/c134e.php>

change) and an Expert Advisory Committee to the Minister of Conservation and Climate, who recently released as advice to the Minister, a [Carbon Savings Account for Manitoba](#)⁷.

The City of Winnipeg approved their first [Climate Action Plan](#)⁸ in October 2018. Strategic Opportunity #7 identifies community climate resiliency actions to be undertaken in the short term (2018 to 2022). These broad actions include, *implementing opportunities to improve Winnipeg's resilience and adaptability to the effects of a changing climate; and increasing and preserving tree canopy*. The City also intends to develop a Climate Resiliency Strategy.

The Manitoba Eco-Network, in collaboration with community organizations in Winnipeg and interested individuals, is embarking on a project designed to support the implementation of the City of Winnipeg's Climate Action Plan, by identifying knowledge gaps and creating new resources and recommendations to support climate adaptation and resiliency in the development of Winnipeg's Climate Resiliency Strategy.

Project Objectives

1) Identify and address gaps in the current state of knowledge in regard to Winnipeg's Climate Action Plan strategic opportunity #7 and UN Sustainable Development Goal #11, with a focus on urban ecology.

Urban ecology is the study of the relationships of human and nonhuman organisms in urban areas, the interactions of these organisms with the native and built physical environment, and the effects of these relationships on the fluxes of energy, materials, and information within individual urban systems and between urban and nonurban systems. Urban ecology applies the methods and concepts of the biological science of ecology to urban areas, but requires and integrates with the concerns, concepts, and approaches of social sciences to produce a hybrid discipline⁹.

2) Enhance collaboration and strengthen relationships between various organizations, disciplines and perspectives, ensuring a broad and diverse collective of voices are engaged.

3) Create new resources, actions and recommendations and share this knowledge with leaders, decision-makers, civil society organizations and the general public. (Possible outcomes: creation of a framework for developing neighbourhood climate resilience plans; development of a toolkit of best practices; development of a collective vision, declaration and/or statement; building capacity to create new community-based stewardship organizations and/or partnerships working to make Winnipeg more resilient to climate change)

⁷ Government of Manitoba (2019). *Report of the Expert Advisory Council to the Minister of Sustainable Development: A Carbon Savings Account for Manitoba*. https://www.gov.mb.ca/asset_library/en/eac/eac_carbon_savings_report2019.pdf

⁸ City of Winnipeg (2018). *Winnipeg's Climate Action Plan*. <https://winnipeg.ca/sustainability/PublicEngagement/ClimateActionPlan/pdfs/WinnipegsClimateActionPlan.pdf>

⁹ Pickett S.T.A., Cadenasso M.L. (2012). *Urban Ecology*. In: Meyers R.A. (eds) *Encyclopedia of Sustainability Science and Technology*. Springer, New York, NY

Resources

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<https://endhomelessnesswinnipeg.ca/wp-content/uploads/2019/11/Extreme-Cold-Weather-Response-Plan-2019-20.pdf>

End Homelessness Winnipeg (2019). *Extreme Heat Response Plan: A homeless-centered guide to keep Winnipeggers safe during extreme heat*. <https://endhomelessnesswinnipeg.ca/wp-content/uploads/2019/05/Extreme-Heat-Response-Plan-2019.pdf>

<https://endhomelessnesswinnipeg.ca/wp-content/uploads/2019/05/Extreme-Heat-Response-Plan-2019.pdf>

Prairie Climate Centre. <http://prairieclimatecentre.ca/publications/>

Prairie Regional Adaptation Collaborative. <https://www.prairiesrac.com/>

APPENDIX B – INVITE LETTER – EVENT

March 10, 2020

Dear (Organization Name),

The Manitoba Eco-Network is hosting “Building Community Climate Resiliency” on Wednesday April 1st. This event will bring together key organizations and individuals across a range of sectors to discuss the issue of community climate resiliency in the city of Winnipeg. Your organization has been identified as a key stakeholder and a source of important knowledge. **We are inviting you, or another member of your organization, to join us for one of two sessions:**

11 AM – 2:30 PM

10:30 AM - doors open/networking

5 – 8:30 PM

4:30 PM – doors open/networking

A facilitator will guide us through a series of exercises designed to identify gaps in knowledge and action on climate resiliency in our city, and to build relationships across our organizations.

- Welcome & Introductions
- What is Community Climate Resiliency? (facilitated exercise)
- City of Winnipeg Presentation
- Understanding the Landscape & Identifying Gaps (facilitated exercise)
- Collaboration & Next Steps (facilitated exercise)

A comprehensive report will be produced and shared with all participants. The information gathered will determine the direction for Phase 2 of this project, which will work to address the gaps identified. The information will also be used in the development of the City of Winnipeg’s Resiliency Strategy.

The venue for this event is **Sport Manitoba, located at 145 Pacific Ave in Winnipeg**. The facility is fully accessible and located near several major bus routes. There is also a parkade (\$2 per hour).

A meal will be served at the event. If you have any specific dietary concerns, let us know.

RSVP by March 25th and let us know which of the two sessions you will be attending. We ask that you send one person from your organization, as our space is limited. That person should review the attached project backgrounder before the event.

Looking forward to seeing you!

Sincerely,



Emily Halldorson
Resource Coordinator

Glen Koroluk
Executive Director

PS: An invite list is attached. If you know of a group that we have missed but that should be invited, please let us know.



Invite List

- Aboriginal Council of Winnipeg
- Aboriginal Youth Opportunities
- Assembly of Manitoba Chiefs
- Assiniboine Credit Union
- Assiniboine River Basin Initiative
- Association of Manitoba Municipalities
- Canada Green Building Council
- Canadian Association of Physicians for the Environment
- Canadian Centre for Policy Alternatives
- Canadian Community Economic Development Network
- Canada Mortgage and Housing Corporation
- Canadian Water Resources Association
- Central Neighbourhoods (Centennial – West Alexander – Central Park)
- Centre for Indigenous Environmental Resources
- Chalmers Neighbourhood Renewal Corporation
- City of Selkirk
- City of Winnipeg (Office of Sustainability, Parks and Open Space, Councillors Allard, Orlikow, Gilroy and Chambers)
- Climate Change Connection
- CMU Centre for Resilience

- Council of Canadians
- Crown-Indigenous Relations and Northern Affairs Canada
- Daniel McIntyre / St. Matthews Community Association
- Downtown BIZ Association
- Efficiency Manitoba
- End Homelessness Winnipeg
- Food Matters Manitoba
- Green Action Centre
- Institute of Urban Studies
- Insurance Council of Manitoba
- International Institute for Sustainable Development
- Kani Kanichihk
- Manitoba Association of Architects
- Manitoba Chamber of Commerce
- Manitoba Conservation Districts Association
- Manitoba Council for International Cooperation
- Manitoba Energy Justice Coalition
- Manitoba Environmental Industries Association
- Manitoba Federation of Labour
- Manitoba Home Builders Association
- Manitoba Hydro
- Manitoba Metis Federation
- Manitoba Non-Profit Housing Association
- Manitoba Professional Planners Institute
- Manitoba Public Health Association
- Manitoba Wildlands
- Manitoba Youth for Climate Action
- Mennonite Central Committee
- Nature Manitoba
- North End Community Renewal Corporation
- OURS Winnipeg
- Peg
- Prairie Climate Centre
- Province of Manitoba (Agriculture, Climate and Green Plan Office, Disabilities Office, Municipal Relations)
- Red Cross
- Red River Basin Commission
- Save Our Seine
- Social Planning Council of Winnipeg
- Southern Chiefs Organization
- Spence Neighbourhood Association
- Sustainable Building Manitoba
- Sustainable South Osborne
- Trees Winnipeg
- United Way
- Urban Development Institute
- Urban Ecology Winnipeg

- University of Manitoba (Architecture, City Planning, Office of Sustainability)
- University of Winnipeg (Environmental Studies, Urban and Inner City Studies, Sustainability Office)
- West Broadway Community Organization
- Winnipeg Boldness Project
- Winnipeg Chamber of Commerce
- Winnipeg Food Policy Council
- Winnipeg Foundation
- Winnipeg Housing
- Winnipeg Labour Council
- Winnipeg Metropolitan Region
- Winnipeg Regional Health Authority
- Winnipeg Rental Network
- World Trade Centres Association
- YIMBY Winnipeg

APPENDIX C – INVITE LETTER - WEBINAR

April 7, 2020

Dear Building Community Climate Resiliency Invitees,

As you know, The Manitoba Eco-Network was going to host “Building Community Climate Resiliency” early this month. Due to the ongoing public health crisis, **we have redesigned this event and are now inviting you to register for our online event on Wednesday April 29th from 10:00 – 11:30 AM.** This event will bring together key organizations and individuals across a range of sectors to learn and share about community climate resiliency in the city of Winnipeg. Your organization has been identified as a key stakeholder and a source of important knowledge. The schedule for the event is as follows:

- **Manitoba Eco-Network** – Introductions & audience definitions of ‘Climate Resilience’ based on pre-webinar survey
- **All One Sky Foundation** – An overview of adaptation and resiliency planning and examples from other jurisdictions
- **City of Selkirk** - Highlights of the Climate Change Adaptation Strategy planning process and strategies for implementation.
- **City of Winnipeg** – Highlights of current initiatives supporting the Winnipeg Climate Action Plan’s Strategic Opportunity #7: Community Climate Resiliency
- **Q & A** – Presenters will answer questions from the audience
- **Manitoba Eco-Network** – Wrap-up and details about the post-webinar survey and next steps

After the event, we will be asking you to complete a post-webinar survey. Since the original event was designed to engage you in a discussion about the future of climate resiliency in our city, it’s important that we get your feedback. This will enable us to produce a comprehensive report to share with you. The information gathered will also determine the direction for Phase 2 of this project, which will work to address the gaps identified.

Please register here: https://zoom.us/webinar/register/WN_HQiwshf_S06OrsVs6Y4khg

We are also requesting that you fill out this brief pre-webinar survey by Friday April 24th:
<https://www.surveymonkey.com/r/NY7X8N6>

Sincerely,



Emily Halldorson
Resource Coordinator

Glen Koroluk
Executive Director

PS: An invite list is attached. If you know of a group that we have missed but that should be invited, please let us know.



Invite List

- Aboriginal Council of Winnipeg
- Aboriginal Youth Opportunities
- All One Sky Foundation
- Assembly of Manitoba Chiefs
- Assiniboine Credit Union
- Assiniboine River Basin Initiative
- Association of Manitoba Municipalities
- Canada Green Building Council
- Canadian Association of Physicians for the Environment
- Canadian Centre for Policy Alternatives
- Canadian Community Economic Development Network
- Canadian Mental Health Association
- Canada Mortgage and Housing Corporation
- Canadian Water Resources Association
- Central Neighbourhoods (Centennial – West Alexander – Central Park)
- Centre for Indigenous Environmental Resources
- Chalmers Neighbourhood Renewal Corporation
- City of Selkirk
- City of Winnipeg (Office of Sustainability, Parks and Open Space)
- Climate Change Connection

- CMU Centre for Resilience
- Council of Canadians
- Creating Healthy & Sustainable Environments
- Crown-Indigenous Relations and Northern Affairs Canada
- Daniel McIntyre / St. Matthews Community Association
- Downtown BIZ Association
- Eco-West
- Efficiency Manitoba
- End Homelessness Winnipeg
- Food Matters Manitoba
- Forks North Portage Corporation
- Green Action Centre
- Institute of Urban Studies
- Insurance Council of Manitoba
- International Institute for Sustainable Development
- Kani Kanichihk
- Manitoba Association of Architects
- Manitoba Chamber of Commerce
- Manitoba Conservation Districts Association
- Manitoba Council for International Cooperation
- Manitoba Energy Justice Coalition
- Manitoba Environmental Industries Association
- Manitoba Federation of Labour
- Manitoba Forestry Association
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- Manitoba Hydro
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- Manitoba Sustainable Energy Association
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- Manitoba Youth for Climate Action
- Mennonite Central Committee
- Mood Disorders Association of Manitoba
- Nature Conservancy Canada
- Nature Manitoba
- North End Community Renewal Corporation
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- Peg
- Prairie Climate Centre
- Province of Manitoba (Agriculture, Climate and Green Plan Office, Disabilities Office, Municipal Relations)
- Red Cross
- Red River Basin Commission
- Red River College (Sustainability Office)
- Save Our Seine
- Social Planning Council of Winnipeg
- Southern Chiefs Organization
- Spence Neighbourhood Association

- Sustainable Building Manitoba
- Sustainable South Osborne
- Trees Winnipeg
- United Way
- Urban Development Institute
- Urban Ecology Winnipeg
- University of Manitoba (Architecture, City Planning, Office of Sustainability)
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- Winnipeg Chamber of Commerce
- Winnipeg Food Policy Council
- Winnipeg Foundation
- Winnipeg Housing
- Winnipeg Labour Council
- Winnipeg Metropolitan Region
- Winnipeg Regional Health Authority
- Winnipeg Rental Network
- World Trade Centres Association
- YIMBY Winnipeg

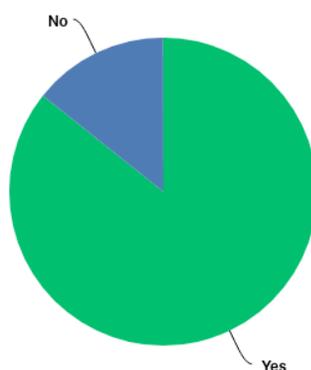
APPENDIX D – SURVEY BREAKDOWN

This section will discuss the results of each question in the survey. The survey ran from Monday, May 4, 2020 and was closed on Thursday, May 21, 2020. After the survey was sent out to nearly 100 webinar invitees, several follow-up emails and personalized notes were sent to encourage survey completion. In the end, 21 surveys were collected.

RESPONDENT IDENTIFICATION

Question 1 asked whether the respondent had viewed the webinar. Eighteen (18) respondents (85.71%) said “yes”. Three (3) respondents (14.29%) said “no”.

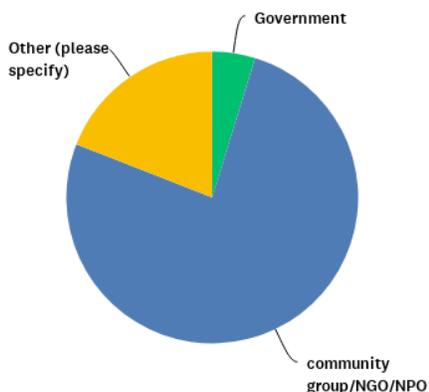
Q1 Were you able to view the webinar held on Wednesday, April 29, 2020?



Question 2 asked, “For this survey, do you represent a government organization or a community group/non-government/non-profit organization (NGO/NPO)?” The majority, 16 respondents (76.19%), were from NGOs. One respondent (4.76%) identified as working for a government organization. Four (4) respondents (19.05%) described themselves as “Other.” Their open-ended responses were as follows:

- Citizen Advisory Committee of municipal government
- Community advocacy group
- Financial Co-operative
- University

Q2 For this survey, do you represent a government organization or a community group/non-government/non-profit organization (NGO/NPO)?



Question 3 asked, “What is the name of your organization?” and provided an open-ended answer field. Examples of answers include:

- University of Winnipeg
- CCED-Net
- Winnipeg Food Council
- Assiniboine Credit Union
- World Trade Centre Winnipeg
- Assiniboine River Basin Committee

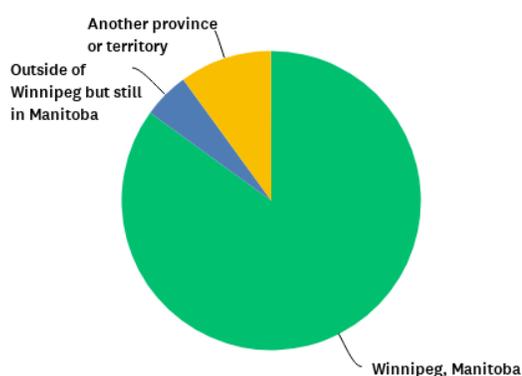
Question 4 asked, “What is your position at your group or organization?” A range of multiple-choice answers were provided, including board member, executive, manager, team lead, team member, consultant, intern, volunteer, or other (please specify). Two respondents (10%) reported being board members. Six (6) respondents, as a majority of 30%, identified as executives. Five (5) respondents (25%) identified as managers. One (1) person (5%) chose team lead, while 3 respondents (15%) were team members. No one chose consultant, intern, or volunteer. Three (3) respondents (15%) chose the “other” response and provided the following descriptions:

- Coordinator - paid staff
- Co-chair

- Professor

Question 5 asked, “Where do you do most of your work or volunteering for your organization?” The possible choices to answer for this question included Winnipeg, outside of Winnipeg but within Manitoba, another province or territory, or outside of Canada. A majority of 17 respondents (85%) work in Winnipeg. One (1) respondent (5%) identified as working elsewhere within Manitoba. Two (2) respondents (10%) hail from another province or territory. There were no international participants.

Q5 Where do you do most of your work or volunteering for your organization?



Question 6 sought more specific location identification outside of Winnipeg with an open-ended answer field. Three people answered this question:

- Alberta/BC
- Hi...you are missing an option in #5: CHASE works across Canada.
- Cover Manitoba, Saskatchewan and North Dakota

These answers indicate that future surveys should allow for the possibility that respondents work in multiple locations at different times for the same job.

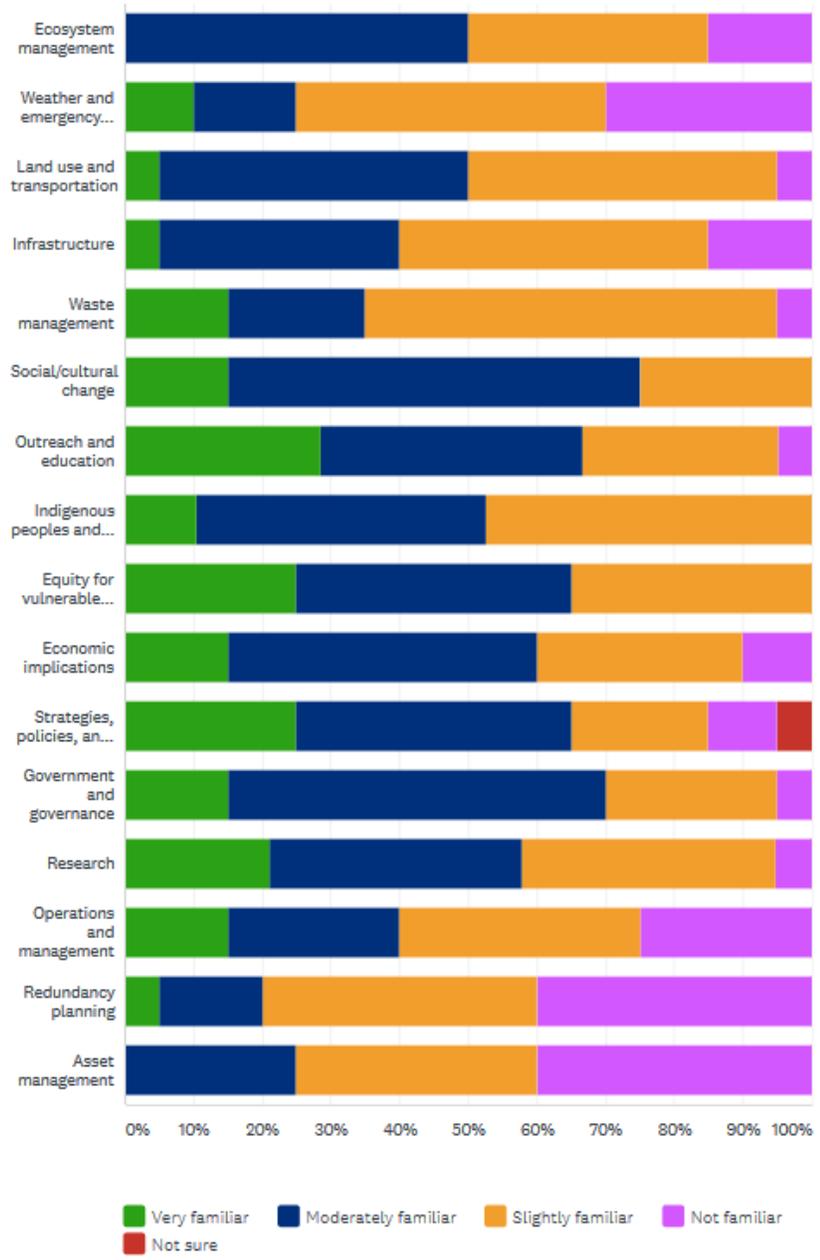
GENERAL IMPRESSIONS OF CLIMATE CHANGE RESILIENCY IN WINNIPEG

Question 7 asked, “How familiar are you with the following areas of climate resiliency planning?” This question provided the 16 resiliency topics, and a range of familiarity levels for rating: very familiar, moderately familiar, slightly familiar, not familiar, and not sure.

Q7

How familiar are you with the following areas of climate resiliency planning?

Answered: 21 Skipped: 0



For the topic of *ecosystem management*, 10 respondents (50%) were moderately familiar. Seven (7) respondents (35%) were slightly familiar. Three (3) respondents (15%) were not familiar.

For the topic of *weather and emergency preparedness*, 9 people (45%) were slightly familiar, while 6 (30%) were not familiar. Two (2) respondents (10%) were very familiar, and 3 respondents (15%) were moderately familiar.

For the topic of *land use and transportation*, 9 respondents (45%) were moderately familiar and another 9 respondents (45%) were slightly familiar. Only one respondent (5%) was very familiar. Additionally, only 1 person (5%) was not familiar with land use and transportation.

For the topic of *infrastructure*, 9 respondents (45%) were slightly familiar with infrastructure, while 7 respondents (35%) were moderately familiar. Three (3) respondents (15%) were not familiar, and 1 respondent was very familiar (5%).

For the topic of *waste management*, a majority of 12 respondents (60%) were slightly familiar, and 4 respondents (20%) were moderately familiar. Three (3) respondents (15%) were very familiar. Only 1 respondent (5%) was unfamiliar.

For the topic of *social/cultural change*, 12 respondents (60%) were moderately familiar. Five (5) were slightly familiar (25%), while 3 respondents (15%) were very familiar.

For the topic of *Indigenous peoples and reconciliation*, 9 respondents (47.37%) were slightly familiar, and 8 respondents (42.11%) were moderately familiar. Two (2) respondents (10.53%) said they were very familiar.

For the topic of *equity for vulnerable groups*, 8 respondents were moderately familiar (40%), and 7 identified as slightly familiar (35%). Five (5) respondents (25%) were very familiar.

For the topic of *economic implications*, a majority of 9 respondents (45%) were moderately familiar, while 6 respondents (30%) were slightly familiar. Three (3) respondents (15%) were very familiar, and 2 respondents (10%) were not familiar.

For the topic of *strategies, policies, and tools*, a majority of 8 respondents (40%) were moderately familiar, and 5 respondents (25%) were very familiar. 4 respondents (20%) were slightly familiar. Two (2) respondents (10%) were not familiar, and 1 respondent (5%) was not sure.

For the topic of *government and governance*, 11 respondents (55%) were moderately familiar. Five (5) respondents (25%) were slightly familiar, and 3 respondents (15%) were very familiar, while 1 respondent (5%) was not familiar.

For the topic of *research*, 7 respondents (36.84%) were moderately familiar. Another 7 respondents (36.84%) were slightly familiar. Four (4) respondents (21.05%) were very familiar, and 1 respondent (5.26%) was not familiar.

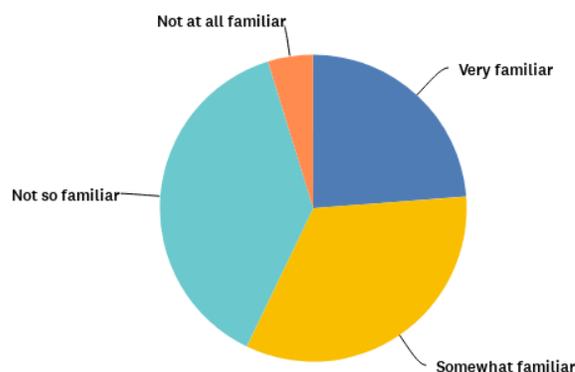
For the topic of *operations and management*, 7 respondents (35%) were slightly familiar. Five (5) respondents (25%) were moderately familiar, and another 5 respondents (25%) were not familiar. 3 respondents (15%) were very familiar.

For the topic of *redundancy planning*, 8 respondents (40%) were slightly familiar. Another 8 respondents (40%) were not familiar with redundancy planning. Three (3) respondents (15%) were moderately familiar, while 1 respondent (5%) was very familiar.

Finally, for the topic of *asset management*, 8 respondents (40%) were not familiar with asset management, while 7 respondents (35%) were only slightly familiar.. 5 respondents (25%) were moderately familiar.

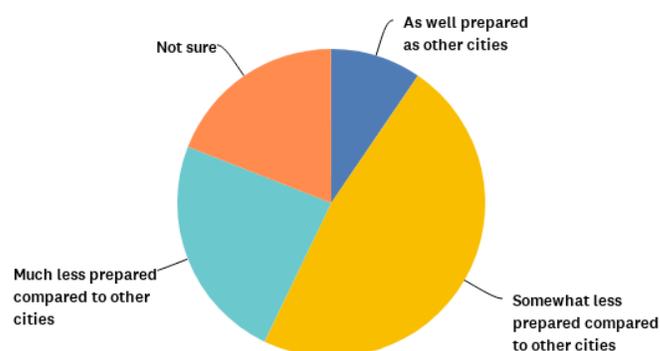
Question 8 asked, “How familiar are you with Winnipeg’s Climate Action Plan goals and commitments?” The answer choices were extremely familiar, very familiar, somewhat familiar, not so familiar, and not at all familiar. Five (5) respondents (23.81%) said they were very familiar. Seven (7) respondents (33.33%) were somewhat familiar. Eight (8) respondents (38.1%) were not so familiar, while 1 respondent (4.76%) were not at all familiar.

Q8 How familiar are you with Winnipeg's Climate Action Plan goals and commitments?



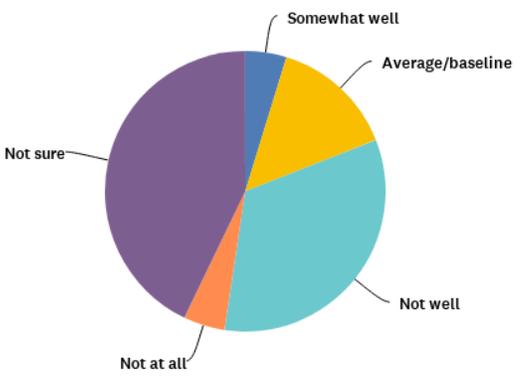
Question 9 asked, “Overall, how does Winnipeg compare to other Canadian cities for adaptation, resilience, and preparedness against the consequences of climate change?” Five answer choices ranged from “better prepared than most cities”, “as well prepared as other cities,” “somewhat less prepared compared to other cities,” “much less prepared compared to other cities,” and “not sure.” A majority of 10 respondents (47.62%) thought that Winnipeg was somewhat less prepared compared to other cities. Five (5) respondents (23.81%) thought that Winnipeg was much less prepared compared to other cities. Four (4) respondents (19.05%) were not sure. Only 2 respondents (9.52%) thought Winnipeg was as well prepared as other cities. No one expressed that Winnipeg was better prepared than most cities.

Q9 Overall, how does Winnipeg compare to other Canadian cities for adaptation, resilience, and preparedness against the consequences of climate change?



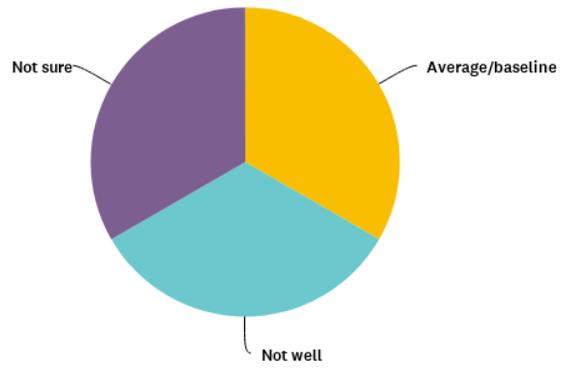
Question 10 asked, “Do you feel that Indigenous knowledges and concerns are adequately included in the City of Winnipeg’s climate change resilience planning?” The choices offered were, “very well”, “somewhat well”, “average/baseline”, “not at all”, and “not sure”. A majority of 9 respondents (42.86%) were not sure about how the City might be including Indigenous knowledges and concerns in its climate change resiliency planning. Following this, 7 respondents (33.33%) thought this was not well included. Three (3) respondents felt inclusion of Indigenous knowledges and concerns was average or baseline. One (1) respondent (4.76%) felt Indigenous knowledges and concerns were included moderately well, while another single respondent felt the inclusion amounted to not at all.

Q10 Do you feel that Indigenous knowledges and concerns are adequately included in the City of Winnipeg’s climate change resilience planning?



Question 11, as a companion to the previous question, asked, “Do you feel that Indigenous knowledges and concerns are adequately included in community group, NGO, and NPO climate change resiliency planning?” An even three-way split (7 respondents each, or 33.33%), fell into the categories of “average/baseline,” “not at all,” and “not sure.”

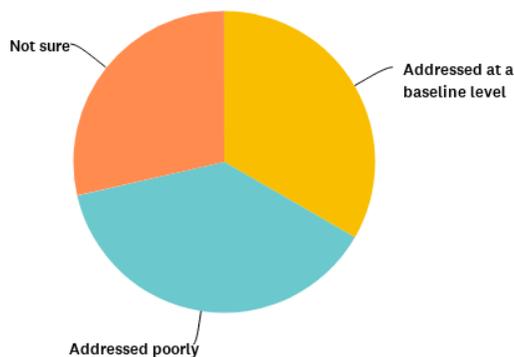
Q11 Do you feel that Indigenous knowledges and concerns are adequately included in community group, NGO, and NPO climate change resiliency planning?



CITY-SPECIFIC CLIMATE CHANGE RESILIENCY

Question 12 began a section in the survey focused on the City of Winnipeg's climate resiliency activities. This question asked, "Do you feel that climate change resiliency is adequately addressed in the policies of the City of Winnipeg?" The range of answers provided were "addressed very well," "addressed moderately well," "addressed at a baseline level," "addressed poorly," and "not sure." A majority of 8 respondents (38.10%) felt that climate change resiliency is addressed poorly. Another 7 respondents (33.33%) felt that it is addressed at a baseline level. Finally, 6 respondents (28.57%) felt unsure.

Q12 Do you feel that climate change resiliency is adequately addressed in the policies of the City of Winnipeg?

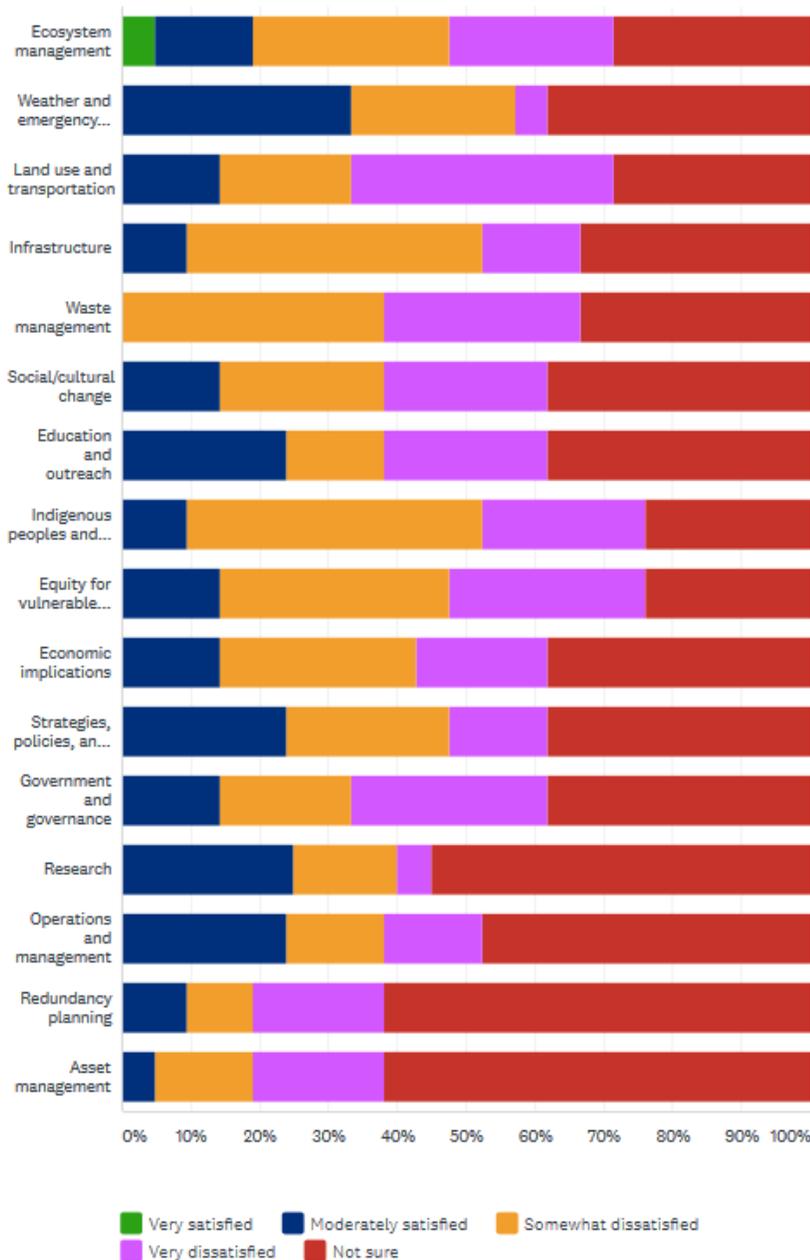


Question 13 asked respondents to rate their satisfaction on the 16 areas of climate resiliency as addressed by the City of Winnipeg.

Q13

Rate the following areas on how satisfied you are on the action and follow-through on climate resiliency matters from the City of Winnipeg.

Answered: 21 Skipped: 0



The first topic, *ecosystem management*, had 6 respondents (23.81%) stating they were somewhat dissatisfied with the City's response. Another 6 respondents (23.81%) were not sure how to respond. Five (5) respondents (23.81%) were very dissatisfied. Three (3) respondents (14.29%) were moderately satisfied, while 1 (4.76%) respondent was very satisfied.

For the topic of *weather and emergency preparedness*, a majority of 8 respondents (38.10%) were not sure about Winnipeg's approach. Following this, 7 respondents (33.33%) were moderately satisfied with Winnipeg's approach. Five (5) respondents (23.81%) were somewhat dissatisfied, and 1 (4.76%) was very dissatisfied.

For the topic of *land use and transportation*, a majority of 8 respondents (38.01%) were very dissatisfied with Winnipeg's approach. Another 6 respondents (28.57%) were not sure. Four (4) respondents (19.05%) were somewhat dissatisfied, while 3 respondents (14.29%) were moderately satisfied.

For the topic of *infrastructure*, 9 respondents (42.86%) said they were somewhat dissatisfied with Winnipeg's work in this area. Seven respondents (33.33%) were not sure. Three (3) respondents (14.29%) were very dissatisfied, and 2 respondents (9.52%) were moderately satisfied.

For the topic of *waste management*, 8 respondents (38.10%) were moderately dissatisfied. Seven (7) respondents (33.33%) were not sure. Finally, 6 respondents (28.57%) were very dissatisfied with Winnipeg's efforts. None were satisfied to any extent.

For the topic of *social/cultural change*, a majority of 8 respondents (38.10%) were not sure about Winnipeg's efforts. Two groups of 5 respondents (23.81% each) were either somewhat dissatisfied or very dissatisfied. Only 3 respondents (14.29%) were moderately satisfied.

For the topic of *education and outreach*, the sentiments were similar to the previous topic. Eight (8) respondents (38.10%) were not sure how to evaluate Winnipeg's work in this area. Five (5) respondents (23.81%) were very dissatisfied, but another 5 respondents (23.81%) were moderately satisfied. Three (3) respondents (14.29%) were somewhat dissatisfied.

For the topic of *Indigenous peoples and reconciliation*, 9 respondents (42.86%) were somewhat dissatisfied. Five (5) respondents (23.81%) were very dissatisfied, and another 5 were not sure. Only 2 respondents (9.52%) were moderately satisfied.

For the topic of *equity for vulnerable groups*, a majority of 7 respondents (33.33%) were somewhat dissatisfied, followed by 6 respondents (28.57%) were very dissatisfied. Five (5) respondents (23.81%) were not sure how to evaluate Winnipeg's work on social equity, and 3 respondents (14.29%) were moderately satisfied.

For the topic of *economic implications*, a majority of 8 respondents (38.10%) were not sure of Winnipeg's work in this area. Another 6 respondents (28.57%) were somewhat dissatisfied. Four (4) respondents (19.05%) were very dissatisfied, and 3 respondents (14.29%) were moderately satisfied.

For the topic of *strategies, policies, and tools*, 8 respondents (38.10%) were unsure of how to evaluate Winnipeg's efforts. Two groups of 5 respondents (23.81%) were moderately satisfied and somewhat dissatisfied, respectively. Three (3) respondents (14.29%) were very dissatisfied.

For the topic of *government and governance*, 8 respondents (38.10%) were unsure, while 6 respondents (28.57%) were very dissatisfied. Four (4) respondents (19.05%) were somewhat dissatisfied, and 3 respondents (14.29%) were moderately satisfied.

For the topic of *research*, 11 respondents (55%) were not sure of what Winnipeg is doing. However, 5 respondents (25%) were moderately satisfied. Three (3) respondents (15%) were somewhat dissatisfied, and 1 respondent (5%) was very dissatisfied.

For the topic of *operations and management*, 10 respondents (47.62%) were unsure of Winnipeg's actions, while 5 respondents (23.81%) were moderately satisfied. Two groups of 3 respondents (14.29% each) were somewhat dissatisfied and very dissatisfied, respectively.

For the topic of *operations and management*, 10 respondents (47.62%) were unsure of Winnipeg's work in this area. Five (5) respondents (23.81%) were moderately satisfied. Two groups of three respondents (14.29%) were each somewhat dissatisfied or very dissatisfied.

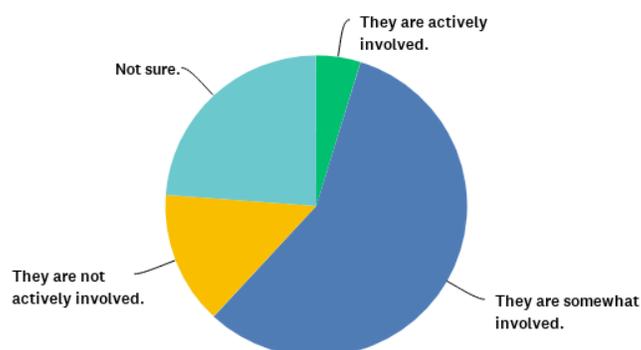
For the topic of *redundancy planning*, 13 respondents (61.9%) were unsure about Winnipeg's efforts. Four (4) respondents (19.05%) were very dissatisfied. Two (2) respondents (9.52%) were somewhat dissatisfied, and another 2 were moderately satisfied.

Finally, for the topic of *asset management*, 13 respondents (61.9%) were unsure about Winnipeg's work. Four (4) respondents (19.05%) were very dissatisfied, 3 respondents (14.29%) were somewhat dissatisfied, while 1 respondent (4.76%) was moderately satisfied.

COMMUNITY GROUPS, NGOS, NPOs AND CLIMATE RESILIENCY

Like the previous query, **Question 14** asked “How would you describe the level of involvement of community groups, NGOs, and NPOs in climate resiliency planning for Winnipeg?” The answer choices given were, “They are actively involved,” “They are somewhat involved,” “They are not actively involved,” and “Not sure.” Twelve (12) respondents (57.14%) felt that they were somewhat involved. Another 5 respondents (23.81%) were not sure. Three (3) respondents (14.29%) felt that these groups are not actively involved. Finally, 1 respondent (4.76%) believed that these groups are actively involved.

Q14 How would you describe the level of involvement of community groups, NGOs, and NPOs in climate resiliency planning for Winnipeg?

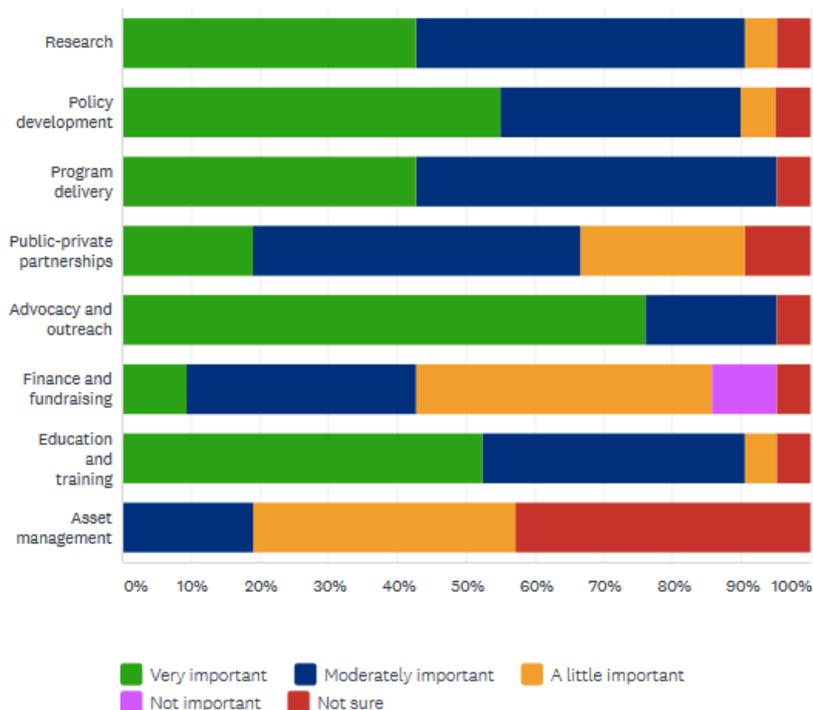


Question 15 asked, “What is the level of importance that community groups, NGOs, and NPOs play in the following areas of climate resiliency planning?” Eight areas were identified for resiliency planning: research, policy development, program delivery, public-private partnerships, advocacy and outreach, finance and fundraising, education and training, and asset management. The choices offered were, “Very important,” “Moderately important,” “A little important,” “Not important,” and “Not sure.”

Q15

What is the level of importance that community groups, NGOs, and NPOs play in the following areas of climate resiliency planning?

Answered: 21 Skipped: 0



The first topic, *research*, shows that 10 respondents (47.62%) find that research is moderately important for these groups, and 9 participants (42.86%) feel that research is very important. One (1) participant (4.76%) thought that research is a little important, and another single participant was not sure.

The second topic, *policy development*, netted a majority from 11 respondents (55%) who find this to be a very important area for NGOs. Another 7 respondents (35%), find it moderately important. One (1) respondent felt it is a little important, and another single respondent was not sure.

The third topic, *program delivery*, was moderately important to 11 respondents (52.38%), and very important to 9 respondents (42.86%). One respondent (4.76%) was not sure.

The fourth topic, *public-private partnerships*, seemed moderately important to 10 respondents (47.62%). Five (5) respondents (23.81%) found this to be a little important, and 4 respondents (19.05%) thought it was very important. Two (2) respondents (9.52%) were not sure.

The fifth topic, *advocacy and outreach*, was strongly important to 16 respondents (76.19%), and moderately important to 4 respondents (19.05%). One (1) respondent (4.76%) was unsure.

The sixth topic, *finance and fundraising*, was only a little important to a majority of 9 respondents (42.86%), and moderately important to 7 respondents (33.33%). Two (2) respondents (9.52%) thought it was very important, while another 2 thought it was not important. One (1) respondent (4.76%) was unsure.

The seventh topic, *education and training*, was very important to 11 respondents (52.38%), while it was moderately important to 8 respondents (38.10%). One (1) respondent (4.76%) felt this was only a little important, and another single respondent was not sure.

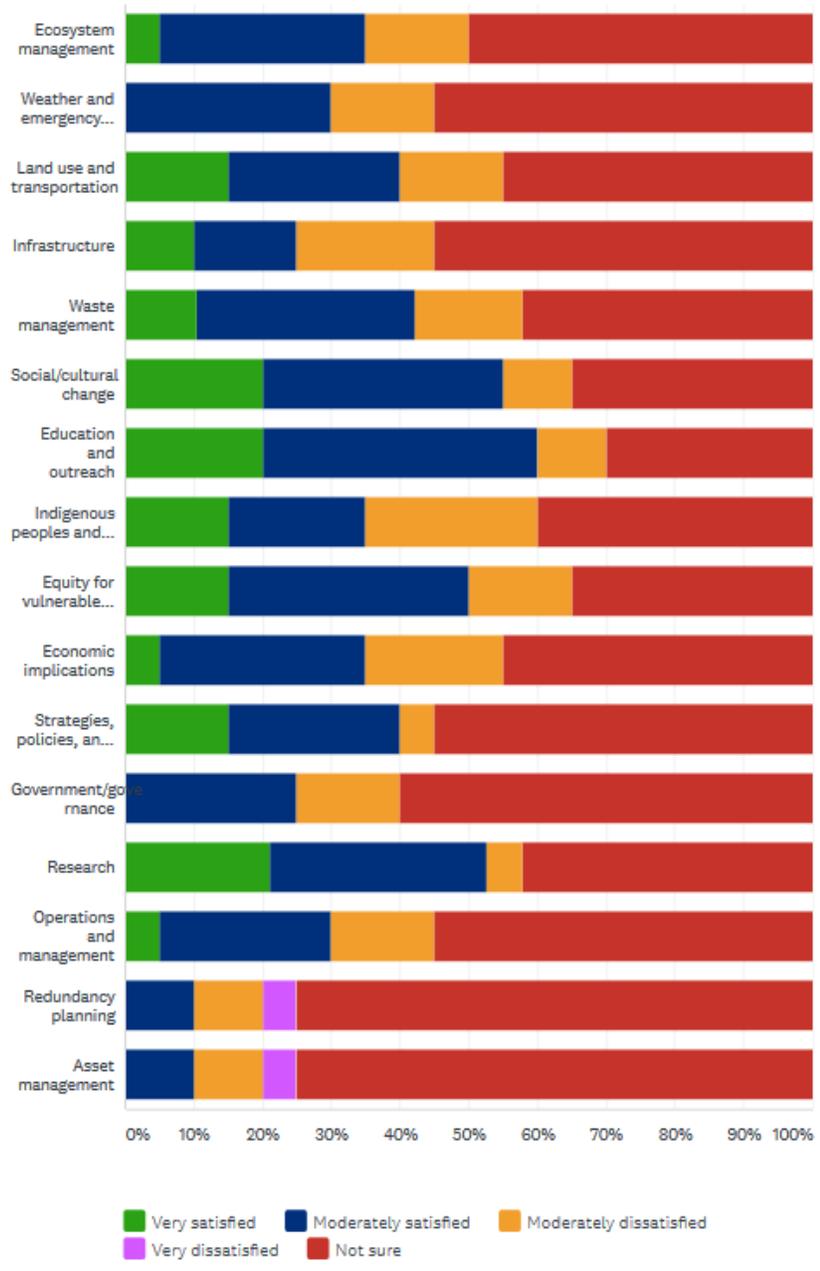
The eighth topic, *asset management*, was of unsure importance to 9 respondents (42.86%), and a little important to 8 respondents (38.10%). Only 4 respondents (19.05%) thought it was moderately important.

Question 16 asked the respondent to, “Rate the following areas on how satisfied you are on the action and follow-through on climate resiliency matters from community groups, NGOs, and NPOs in Winnipeg.” This question also explored the 16 areas of climate resiliency identified for our research.

Q16

Rate the following areas on how satisfied you are on the action and follow-through on climate resiliency matters from community groups, NGOs, and NPOs in Winnipeg.

Answered: 20 Skipped: 1



For the topic of *ecosystem management*, 10 respondents (50%) were unsure about the efforts of NGOs. However, 6 participants (30%) were moderately satisfied. Three (3) respondents (15%) were moderately dissatisfied, and 1 respondent was very satisfied.

For the topic of weather *and emergency preparedness*, 10 respondents (50%) were unsure. Six (6) respondents (30%) were moderately satisfied, and 3 respondents (15%) were moderately dissatisfied. One (1) respondent was very satisfied with the actions of these groups.

For the topic of *land use and transportation*, 9 respondents (45%) were unsure of the work done by NGOs. Five (5) respondents (25%) were moderately satisfied. Two groups of 3 respondents (15%) were either very satisfied or moderately dissatisfied with this work.

For the topic of *infrastructure*, 11 respondents (55%) were unsure about work being done by NGOs. Four (4) respondents (20%) were moderately dissatisfied, 3 respondents (15%) were moderately satisfied, and 2 respondents (10%) were very satisfied.

For the topic of *waste management*, 8 respondents (42.11%) were unsure about the work done by NGOs. Six (6) respondents (31.58%) were moderately satisfied. Three (3) respondents (15.79%) were moderately dissatisfied, while 2 respondents (10.53%) were very satisfied.

For the topic *social/cultural change*, two groups of 7 respondents (35%) were either moderately satisfied or not sure about the work done by NGOs. For 4 respondents (20%), they felt very satisfied by this work, while 2 respondents (10%) were moderately dissatisfied.

For the topic of *education and outreach*, 8 respondents (40%) were moderately satisfied. Six (6) respondents (30%) were not sure. Four (4) respondents (20%) were very satisfied, and 2 (10%) were moderately dissatisfied.

For the topic of *Indigenous peoples and reconciliation*, 8 respondents (40%) were not sure. Five (5) respondents (25%) were moderately dissatisfied, and 4 respondents (20%) were moderately satisfied. Three (3) respondents (15%) were very satisfied.

For the topic of *equity for vulnerable groups*, two groups of 7 respondents (35%) were either moderately satisfied or unsure. Two groups of 3 respondents (15%) were either very satisfied or moderately dissatisfied.

For the topic of *economic implications*, 9 respondents (45%) were not sure about this work being done by NGOs. For 6 respondents (30%), they were moderately satisfied, and 4 respondents (20%) were moderately dissatisfied. Only 1 respondent (5%) were very satisfied.

For the topic of *strategies, policies, and tools*, 11 respondents (55%) were not sure. Five (5) respondents (25%) were moderately satisfied, while 3 respondents (15%) were very satisfied. One (1) respondent (5%) was moderately dissatisfied.

For the topic of *government and governance*, 12 respondents (60%) were not sure. Five (5) respondents (25%) were moderately satisfied, 3 respondents (15%) were very satisfied, and 1 respondent (5%) was moderately dissatisfied.

For the topic of *research*, 8 respondents (42.11%) were unsure, and 6 respondents (31.58%) were moderately satisfied. Four (4) respondents (21.05%) were very satisfied, and 1 respondent (5.26%) was moderately dissatisfied.

For the topic of *operation and management*, 11 respondents (55%) were unsure, while 5 respondents (25%) were moderately satisfied and 3 respondents (15%) were moderately dissatisfied. One (1) respondent (5%) was very satisfied.

For the topic of *redundancy planning*, 15 respondents (75%) were not sure about this work. Two (2) respondents (10%) were moderately satisfied, and another 2 respondents were moderately dissatisfied. One (1) respondent (5%) was very dissatisfied.

Finally, for the topic *asset management*, 15 respondents (75%) were not sure about this work. Two (2) respondents (10%) were moderately satisfied, and another 2 respondents were moderately dissatisfied. One (1) respondent (5%) was very dissatisfied.

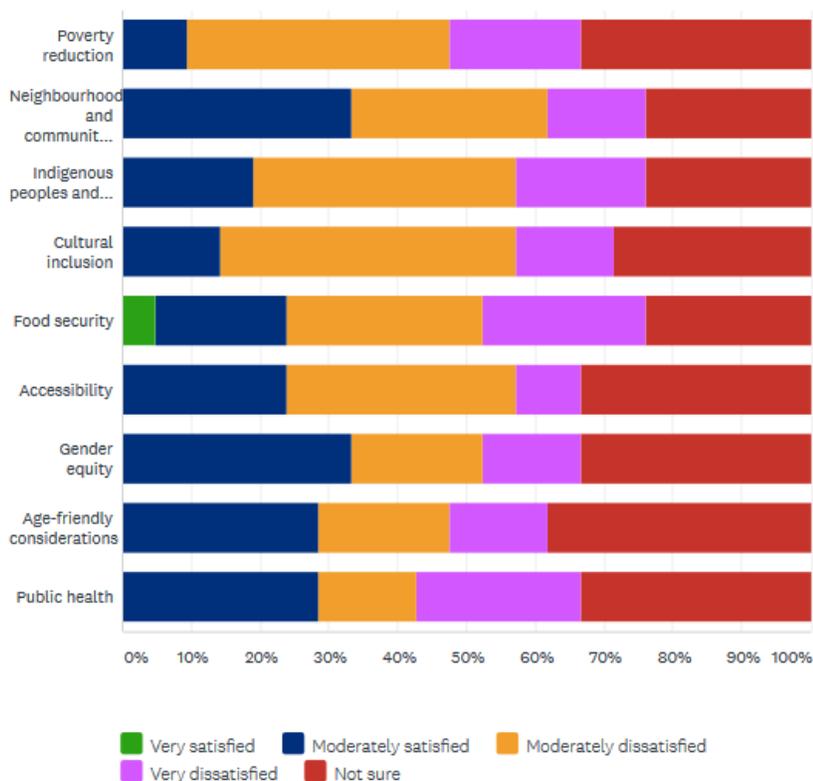
SOCIAL ISSUES AND CLIMATE RESILIENCY

The next two questions addressed social issues and climate change resiliency. **Question 17** asked, “How satisfied are you with the way the City of Winnipeg addresses the following social concerns when developing a climate resiliency strategy for Winnipeg?” We chose 9 areas of social equity to evaluate: poverty reduction, neighbourhood and community development, Indigenous peoples and reconciliation, cultural inclusion, food security, accessibility, gender equity, age-friendly considerations, and public health.

Q17

How satisfied are you with the way the City of Winnipeg addresses the following social concerns when developing a climate resiliency strategy for Winnipeg?

Answered: 21 Skipped: 0



For the topic of *poverty reduction*, 8 respondents (38.10%) said they were moderately dissatisfied with the City of Winnipeg's approach to poverty reduction. Seven (7) respondents (33.33%) were not sure about the City's response, while 4 respondents (19.05%) were very dissatisfied. Two (2) respondents (9.52%) were moderately satisfied.

For the topic of *neighbourhood and community development*, 7 respondents (33.33%) were moderately satisfied, and 6 respondents (28.57%) were moderately dissatisfied. Five (5) respondents (23.81%) were not sure about the City's work in this area, while 3 respondents (14.29%) were very dissatisfied.

For the topic of *Indigenous peoples and reconciliation*, 8 respondents (38.10%) were moderately dissatisfied. Five (5) respondents (23.81%) were not sure about the City's work with

Indigenous peoples and reconciliation. Four (4) respondents (19.05%) were moderately satisfied, while another 4 were very dissatisfied.

For the topic of *cultural inclusion*, 9 respondents (42.86%) were moderately dissatisfied. Six (6) respondents (28.57%) were not sure. Two groups of 3 respondents (14.29%) were moderately satisfied and very dissatisfied, respectively.

For the topic of *food security*, 6 respondents (28.57%) were moderately dissatisfied. Two groups of 5 (23.81%) were either very dissatisfied or not sure. Four (4) respondents (19.05%) were moderately satisfied. One (1) respondent (4.76%) was very satisfied with the City's work on food security.

For the topic of *accessibility*, two groups of 7 respondents (33.33%) were moderately dissatisfied or not sure about the City's action on accessibility in relation to climate resiliency. Five (5) respondents (23.81%) were moderately satisfied. Two (2) respondents (9.52%) were very dissatisfied.

For the topic of *gender equity*, two groups of 7 respondents (33.33%) were either moderately satisfied or not sure. Four (4) respondents were moderately dissatisfied, and 3 respondents (14.29%) were very dissatisfied.

For the topic of *age-friendly considerations*, 8 respondents (38.10%) were not sure about the City's work in this area. Six (6) respondents (28.57%) were moderately satisfied, 4 respondents (19.05%), and 3 respondents (14.29%) were very dissatisfied.

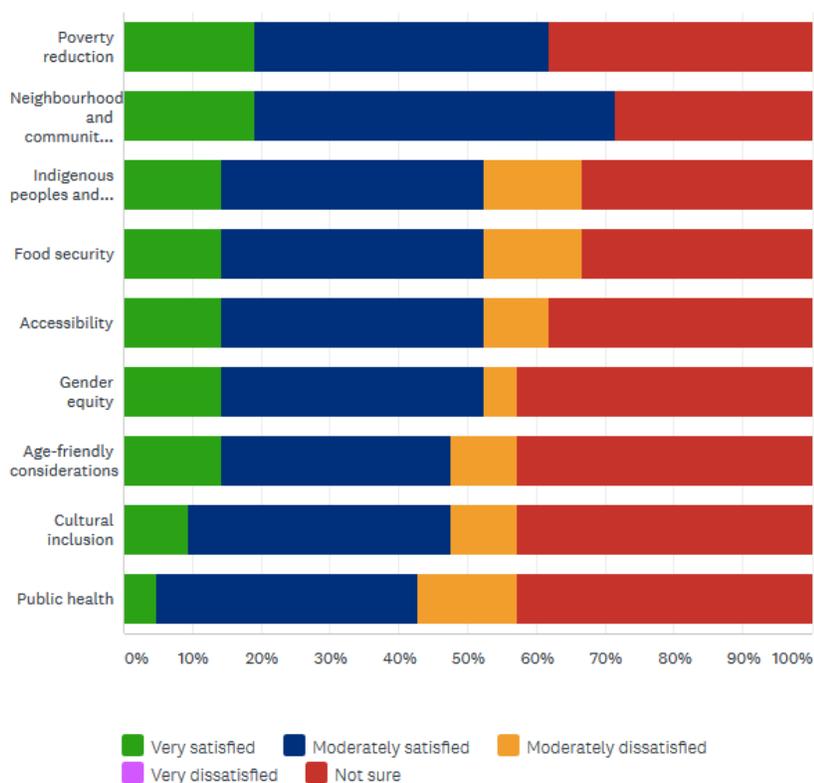
Finally, for the topic of *public health*, 7 respondents (33.33%) were not sure of the City's work, while 6 respondents (28.57%) were moderately satisfied. For 5 respondents (23.81%), they were very dissatisfied, and 3 respondents (14.29%) were moderately dissatisfied.

Question 18 asked, "How satisfied are you with the way community groups, NGOs, and NPOs address the following social concerns when developing a climate resiliency strategy for Winnipeg?" Like Question 17, this inquired about the 9 areas of social equity described above.

Q18

How satisfied are you with the way community groups, NGOs, and NPOs address the following social concerns when developing a climate resiliency strategy for Winnipeg?

Answered: 21 Skipped: 0



For the topic of *poverty reduction*, 9 respondents (42.86%) said they were moderately satisfied. However, 8 respondents (38.10%) were not sure. Additionally, 4 respondents (19.05%) were very satisfied by the work of community groups, NGOs, and NPOs on poverty reduction.

For the topic of *neighbourhood and community development*, a majority of 11 respondents (52.38%) were moderately satisfied. Another 6 respondents (28.57%) were not sure. Finally, 4 respondents (14.29%) were very satisfied by the neighbourhood and community development happening with community groups, NGOs, and NPOs.

For the topic of *Indigenous peoples and reconciliation*, a majority of 8 respondents (38.10%) were moderately satisfied with the work being done. Another 7 respondents (33.33%) were not

sure how to evaluate this. Three (3) respondents (14.29%) were very satisfied, while another 3 respondents were moderately dissatisfied.

For the topic of *cultural inclusion*, a majority of 9 respondents (42.86%) were not sure how to evaluate this effort. Eight (8) respondents (38.10%) were moderately satisfied. Two (2) respondents (9.52%) were very satisfied, while another 2 were moderately dissatisfied with cultural inclusion efforts from community groups, NGOs, and NPOs.

For the topic of *food security*, 8 respondents (38.10%) were moderately satisfied with efforts from community groups, NGOs, and NPOs. Seven (7) respondents (33.33%) were not sure about the actions in this area, while 3 respondents (14.29%) were very satisfied. Another 3 respondents (14.29%) were moderately dissatisfied.

For the topic of *gender equity*, 9 respondents (42.86%) were not sure how to evaluate these efforts. However, 8 respondents (38.10%) were moderately satisfied, while 3 respondents (14.29%) were very satisfied. One (1) respondent (4.76%) was moderately dissatisfied.

For the topic of *age-friendly considerations*, 9 respondents (42.86%) were not sure, while 7 respondents (33.33%) were moderately satisfied. Three (3) respondents (14.29%) were very satisfied, but 2 respondents (9.52%) were moderately dissatisfied.

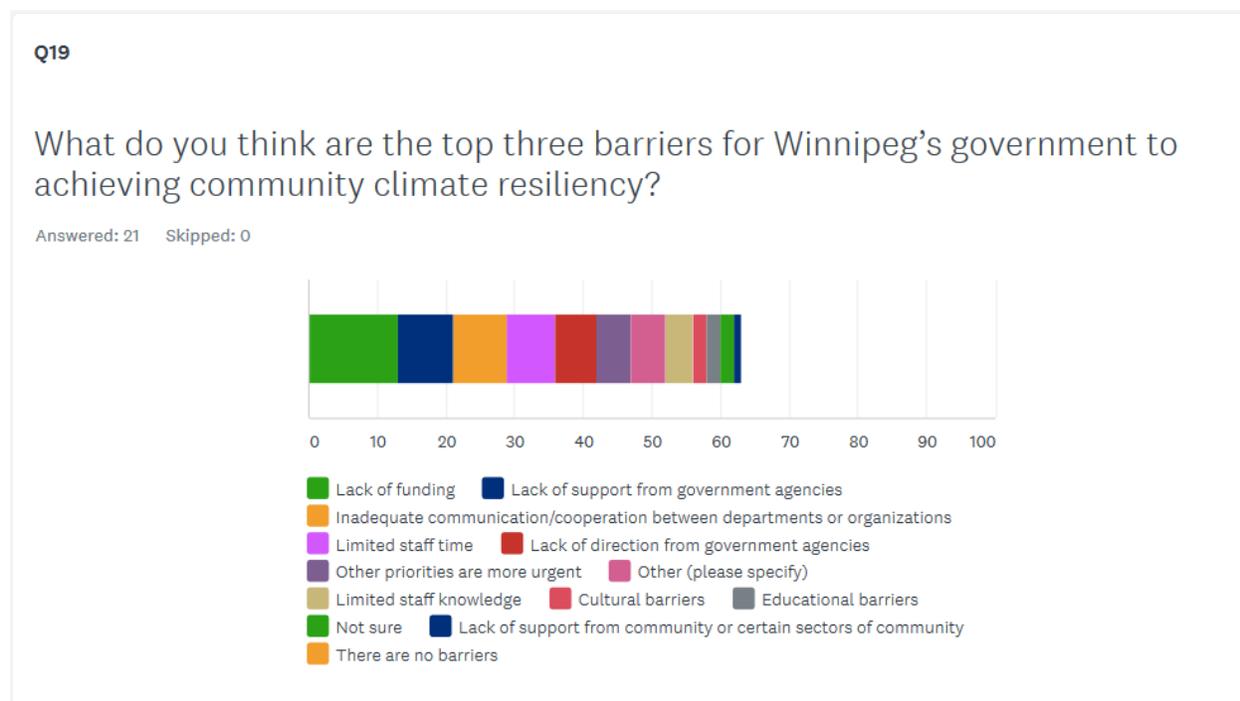
Finally, for the topic of *public health*, 9 respondents (42.86%) were not sure how to evaluate this area, but 8 respondents (38.10%) were moderately satisfied. Three (3) respondents (14.29%) were moderately dissatisfied, and 1 respondent (4.76%) was very satisfied.

BARRIERS AND ASSISTANCE TO CLIMATE RESILIENCY

Questions 19 and 20 sought to understand barriers to climate change resiliency, first for the City of Winnipeg and then for community groups, NGOs, and NPOs. Respondents were asked to select the top three barriers for each sector.

Question 19 focused on the City. “Lack of funding” was cited as the top barrier at 61.9%. Tied for second at 38.1% each were “lack of support from government agencies” and “inadequate communication/cooperation between departments or organizations.” Next, at 33.33%, was “limited staff time.” Following, at 28.57%, was “lack of direction from government agencies.” At 23.81% was both “other priorities are more urgent” and the open-ended answer “other,” which will be discussed below. At 19.05%, “limited staff knowledge” was cited as another barrier. A few other barriers to

climate resiliency for the City of Winnipeg include “cultural barriers” (9.52%), “educational barriers” (9.52%), “lack of support from community or certain sectors of community” (4.76%), and “not sure” (9.52%). No one thought that there were “no barriers.”



The open-ended answers for Question 19 were as follows:

- I don't have enough information to make an informed opinion.
- Lack of prioritization by city council of this issue.
- Has to be seen as a top priority by leadership first
- Lack of political will

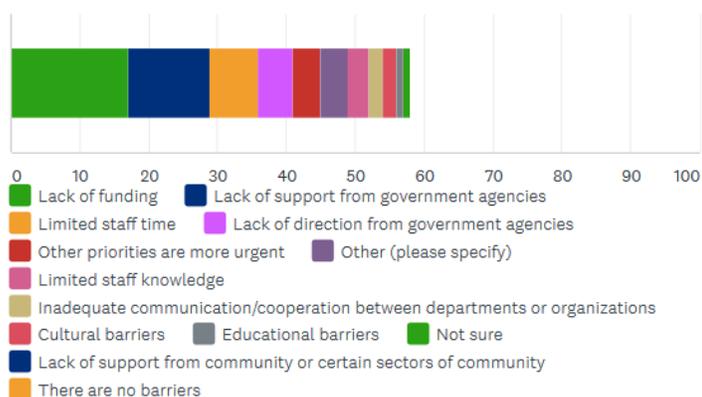
Question 20 explored barriers to NGOs. “Lack of funding,” at 80.95%, was cited as a significant barrier. “Lack of support from government agencies” was a second significant barrier at 57.14%, followed by “limited staff time” at 33.33%. “Lack of direction from government agencies” was another barrier at 23.81%, and “other priorities are more urgent” were seen as a barrier for 19.05% of respondents. Open-ended responses for “other” were also a barrier at 19.05% and will be discussed below. “Limited staff knowledge” was cited as a barrier for 14.29%. Other barriers for NGOs were “inadequate communication and cooperation between departments or organizations” (9.52%), “cultural barriers” (9.52%), “educational barriers” (4.76%), and “not sure” (4.76%). No

respondents identified “lack of support from community or certain sectors of community” as a barrier, nor did anyone think there were “no barriers.”

Q20

What do you think are the top three barriers for Winnipeg’s community groups, NGOs, and NPOs to achieving community climate resiliency?

Answered: 21 Skipped: 0



The open-ended responses describing barriers to climate resilience for NGOs were described as follows:

- Unable to comment
- too insular in their approach, need to reach across the spectrum to engage other viewpoints.
- lack of opportunities to engage with City staff
- Lack of knowledge on the topic

The next questions asked respondents to reflect on the needs of the organizations they represent. More of these questions were open-ended, but there was also an opportunity for respondents to rate the value of specific types of assistance toward climate change resiliency.

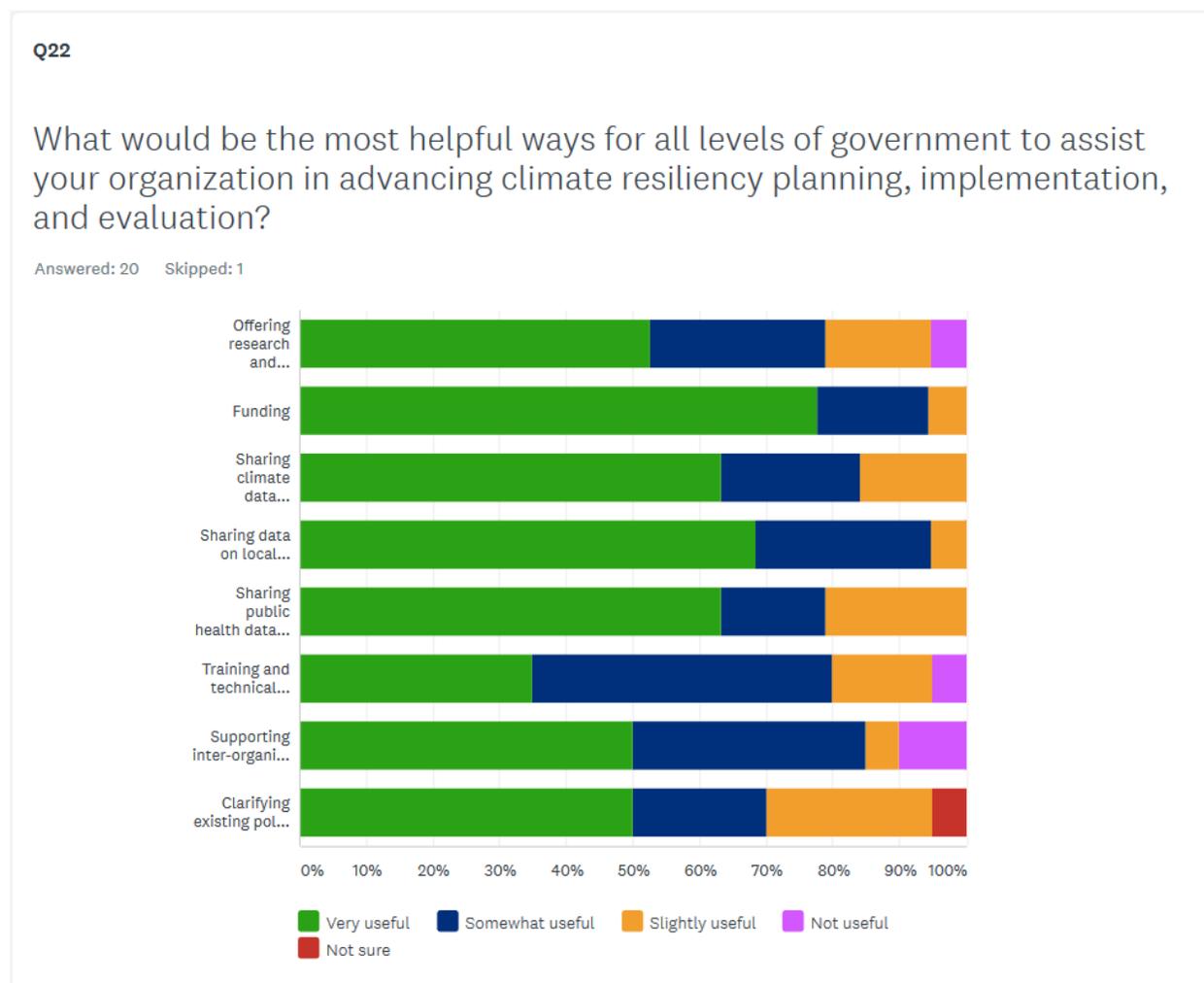
Question 21 asked, “Does your organization engage in climate change resiliency in Winnipeg? If yes, how so?” Following are some of the answers that were provided:

- Yes. Funding the work in community. Evaluating internal processes and vulnerabilities.

- No, we do not operate within the city.
- Curious and interested in ways we could become involved.
- Working to advise business owners and CEOs on the need to incorporate climate change into their business planning strategy and to equip them with tools to do so.
- We support local poverty-reduction and equity initiatives, especially in this case for Indigenous people. We also engage in some advocacy campaigns. Otherwise, our engagement has been quite limited to date.
- We would like to work with organizations in Winnipeg to ensure that the health impacts of climate change and the health co-benefits of climate solutions are woven into climate change planning.
- not per se, but we would be interested in learning more on how we could be doing this
- Promoting sustainable land management through food growing, promoting local food options with shorter supply chains and often using more ecologically aligned production practices.
- We do some ecological restoration.
- Advocate for preservation and enhancement of green space, natural areas and river corridors. Make linkages from land use and planning, care of natural assets to climate change resilience
- yes, policy discussions
- Some researchers at the university, e.g., Prairie Climate Centre staff and faculty, likely engage with this and related topics.
- Supporting social economy enterprises with triple bottom line (social, economic, and environmental missions)

Question 22 asked, “What would be the most helpful ways for all levels of government to assist your organization in advancing climate resiliency planning, implementation, and evaluation?” Eight types of assistance were identified: offering research and guidance, funding, sharing climate data and climate trends, sharing data on local climate impacts, sharing public health data related to climate change, training and technical support, supporting inter-organizational communication, and clarifying existing policy documents from higher authorities about climate resiliency. Options for

rating included “very useful”, “somewhat useful”, slightly useful”, “not useful”, and “not sure”.



For the first topic, *offering research and guidance*, 10 respondents (52.63%) felt this would be very useful, and 5 respondents (26.32%) thought it would be somewhat useful. Three (3) respondents (15.79%) said this would be slightly useful, and 1 respondent (5.56%) did not think it would be useful.

For the second topic, *funding*, 14 respondents (77.78%) thought this would be very useful, and 3 respondents (16.67%) thought this would be somewhat useful. Only 1 respondent (5.56%) thought this would be slightly useful.

For the third topic, *sharing climate data and climate trends*, 12 respondents (63.16%) said this would be very useful. Four (4) respondents (21.05%) thought this would be somewhat useful and 3 respondents (15.79%) said this would be slightly useful.

For the topic *sharing data on local climate change impacts*, 13 respondents (68.42%) said this would be very useful. Five (5) respondents (26.32%) said this would be somewhat useful, and 1 respondent (5.26%) said it would be slightly useful.

For the topic *sharing public health data related to climate change impacts*, 12 respondents (63.16%) said this would be very useful. Four (4) respondents said this would be slightly useful, and 3 respondents (15.79%) said this would be somewhat useful.

For the topic *training and technical support*, 9 respondents (45%) thought this would be somewhat useful, and 7 respondents (50%) thought it would be very useful. Three (3) respondents (15%) said it would be slightly useful, while 1 respondent (5%) thought it would not be useful.

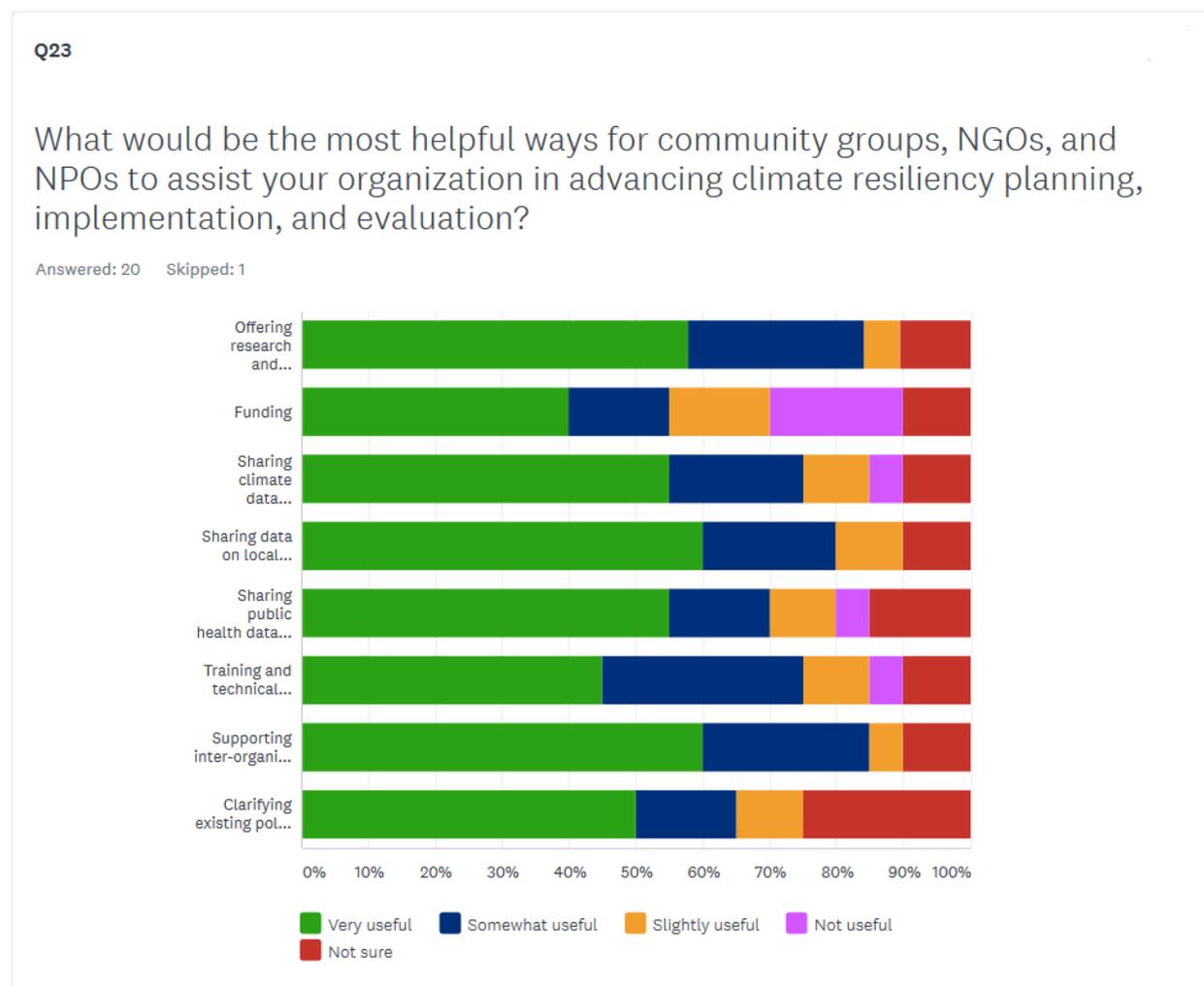
For the topic *supporting inter-organizational communication*, 10 respondents (50%) thought it would be very useful, and 7 respondents (35%) thought this would only be somewhat useful. Two (2) respondents (10%) said this would not be useful, and 1 respondent (5%) said it would be only slightly useful.

Finally, for the topic *clarifying existing policy documents from higher authorities about climate resiliency*, 10 respondents (50%) felt this would be very useful, and 5 respondents (25%) said it would be slightly useful. Four (4) respondents (20%) said it would be somewhat useful, and 1 respondent (5%) indicated they were not sure.

Additionally, a comment was left, stating the following: "Making it a much higher priority in a whole of government approach and communicating this to the public, business community and other stakeholders."

Question 23 was similar to the previous query, asking, "What would be the most helpful ways for community groups, NGOs, and NPOs to assist your organization in advancing climate resiliency planning, implementation, and evaluation?" The same topics and rating scheme were

offered for the respondents to assess the usefulness of each option.



For the topic of *offering research and guidance*, 11 respondents (57.89%) thought this would be very useful, and 5 respondents (26.32%) thought this would be somewhat useful. Two (2) respondents (10.53%) were not sure, and 1 respondent (5.26%) said this would be slightly useful.

For the topic of *funding*, 8 respondents (40%) felt this would be very useful, while 4 respondents (20%) thought this would not be useful. Three (3) respondents (15%) said this would be slightly useful, and another 3 respondents said it would be slightly useful. A remaining 2 respondent (10%) were not sure.

For the topic of *sharing climate data and climate trends*, 11 respondents (55%) felt this would be very useful, while 4 respondents (20%) thought this would be somewhat useful. Two (2) respondents (10%) felt it would be slightly useful and another 2 respondents were not sure. One (1) respondent said it would not be useful.

For the topic of *sharing data on local climate change impacts*, 12 respondents (60%) said this would be very useful. Four (4) respondents said this would be somewhat useful, while 2 respondents (10%) said it would be slightly useful. Another 2 respondents (10%) were not sure.

For the topic of *sharing public health data related to climate change*, 11 respondents (55%) said this would be very helpful. Three (3) respondents felt this would be somewhat useful, and another 3 respondents were not sure. Two (2) respondents (10%) said this would be slightly useful, and 1 respondent thought this would not be useful.

For the topic of *training and technical support*, 9 respondents (45%) said this would be very useful, while 6 respondents (30%) said it would be somewhat useful. Two (2) respondents said this would be slightly useful, and another 2 were not sure. One (1) respondent (5%) said this would not be useful.

For the topic of *supporting inter-organizational communication*, 12 respondents (60%) said this would be very useful, and 5 respondents (25%) said this would be somewhat useful. Two (2) respondents were not sure, and 1 respondent (5%) said it would be slightly useful.

Finally, for the topic of *clarifying existing policy documents from higher authorities about climate resiliency*, 10 respondents (50%) said this would be very helpful, but 5 respondents (25%) were unsure. Three (3) respondents (15%) thought this would be somewhat useful, and 2 respondents (10%) felt it would be slightly useful.

In addition, a respondent left a comment, identifying, “Collaboration on advocacy, planning and implementation,” as a helpful intervention.

The next several questions were open-ended in nature. **Question 24** asked, “Are there ways that private businesses could assist in advancing climate resiliency planning, implementation, and evaluation?” Fourteen (14) responses include:

- Greening business - sustainable packaging of products, environmentally friendly product production including farming practices, working collaboratively with government and climate action groups to adjust and change to sustainable business practices, reduce - reuse - recycle - reclaim
- Yes. There are many companies who can directly help with planning and implementation. Broadly, though, we need companies to engage in advocating for policies that will support a commitment to climate change resilience and adaptation. This needs to become a higher

priority at all levels of government. We need businesses to start adding their voices to call for this.

- money and promotion
- I think if there were incentives for small and medium-sized businesses to produce mitigation-related products and to make available products that would prepare individual family units, yes there is role.
- The private sector needs to play an active role in the implementation of climate resiliency planning, implementation and evaluation. Broadly speaking, they can do this in their role as financiers of adaptation action, by increasing the resiliency of their own operations, and by delivering services that support resiliency building.
- Yes. Partner on projects
- Providing funds and support for projects, particularly on or around their property.
- They could become more informed about the benefits and so more receptive to advancing climate resiliency planning. Developers in Winnipeg could learn that there are benefits for our city.
- provide financial resources to community groups
- Adopt nature-based solutions and LEED principles and technologies when building or renovating facilities; Adopt EMSs that attend to climate resiliency; Develop CSR policies and programs that help reduce vulnerability and enhance resilience for their "stakeholders"
- Paying their fair share of taxes
- Absolutely. They should be consulted when developing policies and processes.

Question 25 asked, "Where would you most like to see collaboration on future climate resiliency planning?" Fourteen (14) respondents shared their ideas, including:

- Between levels of government and with the charitable sector.
- Government and Climate Action Groups and Business - small and large - we all need to work together to END a growth economy and focus on long term sustainability /greening all business/not for profit and gov't practices
- Lots of coordination between NGOs. Find new ways to engage with sectors that are not "already there"
- packaged asks
- For us the most useful could be strategies for actively adapting a moderate NGO to be more climate resilient, as well as information related to supporting lower-income and Indigenous communities (in the city and across the province) in resiliency planning.
- collaboration between public health staff, public health association, municipal staff, NGOs, academics, indigenous populations

- Current
- Building on existing initiatives, focus on advocacy with decision makers.
- between NGO's, government and business
- Around climate resilient food systems and their importance for municipalities
- IISD and Prairie Climate Centre, City of Winnipeg, the public, university faculty and students, there are so many more contributors.
- Winnipeg and Province dialogue
- Multi-sectoral partnerships involve the public, private and community sectors with an emphasis on addressing risks for highly vulnerable people and communities
- Government co-creating strategies with community. CCEDNet has a co-creation policy with details of how government, including the City, can work with community.
- Indigenous leaders with Government and with community groups, NGOs, and NPOs.

Question 26 then asked, “Are there strategies that the City of Winnipeg is overlooking?” Eleven (11) respondents made suggestions, including the following:

- YES - affordable housing/supports for poor neighborhoods including food sustainability/income assist/ transportation and mental health/addictions care and supports - a stable and equitable city means we can all actively address climate action! Sustainability is important as well as care for marginalized groups -
- Should look to join the Global C40 Cities initiative to publicly raise its climate commitments, benefit from international best practices, and also help position Winnipeg from a competitiveness standpoint.
- Ensuring equitable resource distribution, adequate housing and affordable low-carbon transportation will be one of the most valuable ways to avoid devastating impacts when more significant impacts are felt. Much more could be done with electrification and agricultural methods that reduce carbon emission. Particularly, electrification of transportation and space heating could be seen as resilience as much as mitigation when the oil infrastructure eventually winds down (hopefully sooner than later). Also invest in fertilizer decarbonization.
- health equity issues - how climate change might affect the health and well-being of some neighbourhoods more than others - and some populations more than others.
- Until the City of Winnipeg has a dedicated person focused on building its climate resiliency, it will not be able to make substantive progress.
- Actioning their food system related climate strategies
- Electrification of Winnipeg Transit has been very slow and late. Providing/enhancing habitat for pollinators.
- lots of ideas, no money or staffing or political will

Similarly, **Question 27** asked, “Are there strategies that Winnipeg’s community groups, NGOs, and NPOs are overlooking?” Eight (8) respondents weighed in with comments, including:

- Advocacy - changing the political landscape in order to ensure political adherence and buy-in
- Look to the most effective climate communications strategies - better ways to tell the story and sell the mainstream on the positive vision and benefits of climate resiliency planning... no more doom and gloom message or too much data
- Significant investment in Hydrogen/fuel cell technology, especially given surplus in Hydro.
- More collaboration with schools and universities, naturalist groups

Question 28 then asked, “Over the next five years, what types of climate resiliency projects would you like to see considered for your community?” Eleven (11) respondents shared their ideas, including:

- Encouraging affordable public mass transportation with electric buses and much better accessibility across the city, and rural areas! Tree planting and drainage infrastructure/ ending urban sprawl and creating affordable housing across the city/ ending single use plastics, green building construction, small scale farming encouraged as well as small/local business supports for production and manufacturing,
- energy - smart grids and distributed generation through renewable Increase local food production through sustainable ag practices
- get off natural gas
- Ensuring equitable resource distribution, adequate housing and affordable low-carbon transportation. Incentives for private vehicle electrification. Significant investment in Hydrogen/fuel cell technology, especially given surplus in Hydro.
- City involvement in building climate resilient food systems
- Enabling people to grow their own food, particularly through indoor hydroponics for year-round supply of fresh local produce. More support for pollinators.
- Update city bylaws as Selkirk did to build in climate resilience. Can be used to protect greenspace and natural areas and river corridors and their ability to provide climate resilience. Preserve more natural areas. (Winnipeg has about 2% remaining). Less costly to maintain, contribute to biodiversity, good for human and wildlife health. Make a plan for impervious surfaces as Vancouver has done. More impervious surface area along river corridors contributes to purifying water and retaining storm water. Look at golf courses and all parks as impervious surfaces that contribute to storm water retention and heat reduction. Naturalization of waterways and greenspace, preservation and enhancement of tree canopy. More greenways such as Bishop Grandin Greenway.

- Continued implementation of nature-based solutions for mitigating flood risks, heat island effects, and other climate change impacts; Continued development of emergency response capacity in the public and community sectors
- Projects that consider equity, employment for groups who have faced oppression or marginalization.
- Lake Winnipeg climate planning and clean-up; greening existing infrastructure in Winnipeg.

ASSESSING NEW UNDERSTANDING OF CLIMATE RESILIENCY

The final two significant questions of the survey (the remainder asked about opinions specific to future Manitoba Eco-Network programming), sought to evaluate if webinar attendees had experienced a change in their understanding of climate change resiliency. **Question 29** was a multiple choice question that asked, “Has your definition of climate change resilience changed after this webinar?” Eleven respondents (52.38%) said their definition had not changed at all, while 6 respondents (28.57%) said that their definition had changed moderately. Two (2) respondents (9.52%) said they were not sure, and another 2 had not attended the webinar.

Question 30 then invited the respondents to share what had changed about their definition of climate change resilience. Five (5) respondents said the following:

- I have a considerably more nuanced sense of what is meant by resiliency and was impressed by what the municipalities are already doing, particularly Selkirk.
- Better understanding of indigenous perspectives on resiliency in Manitoba
- I was able to hear about various strategies that governments were taking for instance. This was excellent: should be broadcast more because it was an invited group only.
- More broad.
- Further clarification and information.