

Effective Strategies for SDG Localization in Canadian Communities:  
A Case Study of Peterborough, Ontario

A thesis submitted to the School of Graduate Studies in Partial Fulfillment of the Requirements  
of the Degree of Master of Arts in the Faculty of Arts and Sciences

Trent University

Peterborough, Ontario

© Copyright by Mohammad. M. Alazraq 2022

Sustainability Studies M. A. Graduate Program  
January 2023

## **Abstract**

### **Effective Strategies Localization in Canadian Communities: A Case Study of Peterborough, Ontario**

**Mohammad. M. Alazraq**

This research aimed to capture the experiences of cities that have endeavored to localize the SDGs in their areas. Literature review and one-on-one interviews with SDG practitioners have been conducted to glean best practices and effective strategies to develop recommendations for how cities in Canada should plan to localize the SDGs in their areas. The research uncovered themes in relation to building on existing initiatives, stakeholder management, data management, and the role of personal rapport and connections in professional settings. This research also revealed an important tension between the top-down approach of adopting a unified federally devised framework and a bottom-up community indicator approach. Finally, the research uncovered opportunities to increase support for local organizations and city governments embarking on localizing the SDGs through engagement with academia and partnering with faculty and graduate students at the local university to incorporate graduate research into SDG localization efforts and tap into funding opportunities. The research also resulted in a flow chart that is gleaned from interviews and the literature review to describe a step-by-step process that cities and communities could deploy to localize SDG targets and indicators.

**Keywords:** Sustainable Development Goals (SDGs), Agenda 2030, SDG localization, Voluntary Local Review, Voluntary National Review, strategy, processes, tracking progress, indicators, targets, goals, data, sustainability, municipal government, Canadian Indicator Framework, SDG Data Hub.

## Acknowledgments

*To my loving parents, Mahmoud and Shefa, from whom I learned to be curious about the world around me.*

*To my siblings, Osama, Marwan, Ghassan, and Mariam, for loving and supporting me every step of the way.*

*To my supervisor, Dr. Asaf Zohar, for being a wonderful mentor and advisor, both academically and in life.*

*To Trish O'Connor, my research committee member, for her thoughtful feedback and support.*

*To James Byrne at the City of Peterborough for supporting my research, helping me connect with staff at the city government, and giving thoughtful feedback on my research findings.*

*To Jon Beale from SDSN Canada and Laura Schnurr from the Tamarack Institute for starting and coordinating the Community of Practice for SDG Localization in North America, which became an amazing sounding board for my research ideas.*

*To Sarah Switzer from the Centre for Community-based Research for her thoughtful remarks on my research findings.*

*And lest I forget, the Peterborough community and everyone who participated in my research.*

*Thank you from the very bottom of my heart.*

# Table of Contents

<i>Abstract</i> .....	<i>ii</i>
<b>List of Abbreviations</b> .....	<b>vii</b>
<b>Glossary</b> .....	<b>ix</b>
<i>Research Overview</i> .....	<i>1</i>
<i>Researcher’s Positionality Statement</i> .....	<i>3</i>
<i>Research Question</i> .....	<i>10</i>
<i>Thesis narrative</i> .....	<i>10</i>
<b>Chapter 2. Literature Review</b> .....	<b>13</b>
<i>History of Sustainable Development in the UN Framework</i> .....	<i>14</i>
<i>Voluntary National Review (VNR) and Voluntary Local Review (VLR):</i> .....	<i>23</i>
<i>The Case for SDG Localization and Voluntary Local Review</i> .....	<i>25</i>
<i>Canada and the Sustainable Development Goals</i> .....	<i>27</i>
<i>Canada’s 2030 Agenda and Voluntary National Review</i> .....	<i>29</i>
<i>SDG Localization Methodologies</i> .....	<i>35</i>
<i>VLR Case Study Examples</i> .....	<i>40</i>
<i>Asker, Norway</i> .....	<i>40</i>
<i>Shimokawa, Japan</i> .....	<i>42</i>
<i>Kelowna, BC, Canada</i> .....	<i>43</i>
<i>Winnipeg, MB, Canada</i> .....	<i>46</i>
<i>London, Ontario’s Innovative Approach to SDG Localization</i> .....	<i>47</i>
<i>Kitchener, Ontario and Quebec City’s SDG Strategic Plan Alignment</i> .....	<i>51</i>
<i>Peterborough and the SDGs</i> .....	<i>52</i>
<i>City Profile Overview</i> .....	<i>52</i>
<i>History of Sustainable Development in Peterborough</i> .....	<i>53</i>
<i>Stakeholder Analysis: Spheres of Control and Influence</i> .....	<i>57</i>
<i>Peterborough Community Forum and the SDGs</i> .....	<i>64</i>
<i>Literature Review Summary and Conclusion</i> .....	<i>70</i>
<b>Chapter 3. Research Design and Methodology</b> .....	<b>74</b>
<i>Ethical Considerations</i> .....	<i>76</i>
<i>Data Transcriptions and Storage and Privacy Considerations</i> .....	<i>77</i>

<i>Knowledge and Transcription of the Data</i> .....	79
<i>Summary of Research Design and Methodology</i> .....	80
<b>Chapter 4. Findings and Analysis</b> .....	<b>81</b>
<i>Introduction</i> .....	81
<i>Thematic categories</i> .....	84
<i>Major themes and sub-themes</i> .....	86
<i>Theme 1: Building on existing initiatives</i> .....	88
<i>Theme 2: Stakeholder Management</i> .....	95
<i>Engaging with Indigenous groups</i> .....	97
<i>Engaging with local/regional businesses and the local/regional economic development agency</i>	101
<i>Engaging with the city government, mayor and city council</i> .....	103
<i>Engaging with nonprofit organizations</i> .....	108
<i>Engaging with Academic Institutions</i> .....	110
<i>Engaging with regional authorities and upper levels of government, provincial and federal</i> .....	115
<i>Theme 3: Data Management</i> .....	116
<i>Data Challenges</i> .....	118
<i>Data Workarounds</i> .....	120
<i>Data Opportunities</i> .....	124
<i>Findings and Analysis Summary and Conclusion</i> .....	129
<b>Chapter 5. Discussion, Recommendations and Conclusion</b> .....	<b>131</b>
<i>Discussion of Results</i> .....	131
<i>Initiating</i> .....	131
<i>Planning</i> .....	132
<i>Monitoring and Controlling</i> .....	134
<i>Closing</i> .....	136
<i>Recommendations</i> .....	137
<i>Research Limitations</i> .....	143
<i>Areas of Further Research</i> .....	144
<i>Conclusion</i> .....	145
<b>Bibliography</b> .....	<b>147</b>
<b>Appendices</b> .....	<b>156</b>

## **List of Figures**

Figure 1: The rise in VLRs produced 2016 – 2021

Figure 2: Case study: Summary of Canada's status on domestic SDG indicators conducted by the Brookings Institution in 2019

Figure 3: Thematic Analysis Diagram

Figure 4: SDG localization Stakeholder Engagement in the Canadian Context

## **List of Abbreviations**

UN – United Nations

SDG – Sustainable Development Goals

MDG – Millennium Development Goals

VLR – Voluntary Local Review

VNR – Voluntary National Review

COP – Conference of the Parties

COP – Community of Practice

UNU/ILI – United Nations University/International Leadership Institute

SDSN – Sustainable Development Solutions Network

KWIC – Kawartha World Issues Centre

UN-DESA – United Nations Department of Economic and Social Affairs

UNEP – United Nations Environment Program

UCLG – United Cities and Local Governments

U4SSC – United for Smart Sustainable Cities

IISD – Institute of International Sustainable Development

PKED – Peterborough and the Kawarthas Economic Development

IPCC – Intergovernmental Panel on Climate Change

UNFCCC – United Nations Framework Convention on Climate Change

BCCIC – British Columbia Council for International Cooperation

ISC – International Science Council

CIS – Community Indicator System

CIF – Canadian Indicator Framework

UNHLPF – United Nations High-Level Political Forum

GECCO – Global Empowerment Coalition of the Central Okanagan

KPI – Key Performance Indicators

NGO – Nongovernmental Organization

ILAT – Indigenous Leadership Action Team

CANCEA – Canadian Centre for Economic Analysis

CD – Census Division

CSD – Census Sub-division

DA – Dissemination Area

BSAT – Basic Sustainability Assessment Tool

LPRC – London Poverty Research Centre

ESG – Environmental, Social, and Governance

NCGC – Northern Council for Global Cooperation

HEEP – Home Energy Efficiency Program

TMP – Transportation Master Plan

CMP – Cycling Master Plan

PMI – Project Management Institute

PMBOK – Project Management Body of Knowledge



## **Glossary**

*Sustainable Development Goals* – A Set of 17 goals and 169 targets, and 231 indicators that the UN adopted in 2015 to be achieved by 2030 as a framework for the UN 2030 Agenda

*SDG Localization* – The process of contextualization of SDG targets and indicators to fit into the local and regional context.

*Voluntary Local Review* – A report that documents the performance of local or subnational jurisdiction in relation to a localized set of SDG targets and indicators.

*Voluntary National Review* – A report that documents the performance of a country or a sovereign jurisdiction in relation to a nationally-relevant set of SDG targets and indicators.

*SDG Localization Guidebook/Handbook* – A guidebook that provides strategic and tactical guidance for local SDG practitioners on how to endeavor in their SDG localization projects.

*Arms-length Approach* – An SDG localization approach whereby a community organization assesses how a community performs in relation to the SDG at an arm's length from the city or regional government.

*Stakeholder* – An individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program, or portfolio.

*Stakeholder Management* – The process of engaging with all identified stakeholders for the purpose of incorporating their input and understanding and meeting their expectations.

*Project* – A temporary endeavor undertaken to create a unique product, service or result.

*Project Management* – The application of knowledge, skills, tools and techniques to project activities to meet the project requirements.

*Project Manager* – The person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.

## Project

*Project Lead* – A person who helps the project team to achieve the project objectives, typically by orchestrating the work of the project.

# Chapter 1. Introduction

## Research Overview

This research explores effective strategies for the localization of the United Nations Sustainable Development Goals (SDG)<sup>1</sup> (UN, 2015) in Canadian cities with a special focus on advising the City of Peterborough as it endeavors in this effort. It attempts to glean best practices and lessons learned from the experiences of cities in Canada and a few European cases to propose a roadmap for developing a system of measuring and tracking progress on SDG indicators at the local level. This localized SDG tracking system could culminate in a Voluntary Local Review (VLR)<sup>2</sup>, a report that takes stock of how a local jurisdiction has performed on various development metrics (economic, social, and environmental) articulated through SDG indicators (UN, 2022).

Measuring performance and assessing progress on development indicators has become increasingly relevant to nonprofit organizations, local governments, and private businesses. Many funding proposals are tied to alignment with frameworks such as the SDGs (Government of Canada, 2018). Since the adoption of the SDGs by the United Nations in September 2015, countries worldwide have started to develop national strategies and plans for achieving this set of 17 interconnected goals and their associated 169 targets by 2030. Governments have attempted to measure indicators and assess their performance in relation to the UN goals and targets. The

---

<sup>1</sup> <https://sdgs.un.org>

<sup>2</sup> <https://sdgs.un.org/topics/voluntary-local-reviews>

UN and its member states have realized that to do this effectively, these SDG targets and indicators needed to be localized, measured, assessed, and monitored at the local city or regional level, depending on the appropriate context. UN bodies (UN-Habitat & UCLG, 2020) and regional governance entities like the European Commission, among others, have released guidelines and guidebooks (European Commission, 2020) to help cities develop effective strategies and plans for measuring and tracking progress on SDG indicators in their jurisdiction. This increased interest suggests that, in the coming years, more and more attention will be given to localizing, measuring, and reporting progress on the SDGs and their associated targets and indicators (Government of Canada, 2021).

Recent research by the Brookings Institution has underscored the relevance of the SDG framework to advanced economies such as Canada (McArthur & Rasmussen, 2017). This has called for diligent planning and rigorous data collection and analysis on the part of local governments, civil society organizations, academia, and the private sector, which will prove essential for successful monitoring, implementation, and assessment in this endeavor (Shnurr, 2021). Effective and broad engagement and securing buy-in are integral to the success of SDG localization initiatives, a recent report by the Tamarack Institute at the University of Waterloo has concluded (Shnurr, 2021).

This research critically examined the development of SDG localization initiatives in eight municipalities across Canada. Each of these municipalities is in various stages of planning for the SDGs. Some are still in the early scoping and fielding information for community engagement, while others have successfully published voluntary local reviews of their progress.

The research examines the various challenges and opportunities that these cities and communities encountered in their efforts to engage stakeholders and effectively localize the SDGs.

Additionally, the findings of this research were aimed at advising the City of Peterborough and local practitioners on how to effectively get started on their SDG localization journey, anticipate challenges and take advantage of opportunities to help them avoid pitfalls and maximize the efficiency of their human and material resources.

## **Researcher's Positionality Statement**

In 2005, as a volunteer student at the United Nations University/International Leadership Institute (UNU/ILI) in Amman, Jordan, I helped organize an international summer school on the UN Millennium Development Goals (MDGs), where 35 university students from 17 countries gathered to learn about the eight goals that the United Nations had adopted in its Millennium Declaration in 2000 and their 21 associated targets (UN, 2000). The MDGs were the predecessors to the SDGs, which are the main topic of this thesis.

That summer course marked the beginning of my journey with sustainable development and the UN frameworks. In that first encounter, I was exposed to various development gaps that exist between the developing and developed worlds. I learned about the challenges of collecting meaningful and actionable data that would guide decision-making about development plans and policies that aimed at bridging that development gap between developed and developing nations. This experience sparked my interest and fascination with data and its role in how we measure

social, economic, and environmental processes in our societies. I became an avid follower of the work of the late Swedish data scientist and physician Hans Rosling, who used data to practically demonstrate the impact of development aid on eradicating diseases and reducing infant mortality rates (Rosling, 2013). I also became influenced by the management philosophy of the late Peter Drucker, who was once quoted as saying: *“If you can’t measure it, you can’t manage it”* (Patrinos, 2014).

After graduating with an undergraduate degree in electrical engineering from the University of Jordan, I worked as an engineer for about three years, where I was part of a team that designed and implemented low-current safety and security systems (fire alarms and monitoring and access control) in large commercial establishments such shopping malls and schools. That experience, while very useful in honing my technical engineering skills, made me realize that I had my heart calling elsewhere. I would often describe that experience as “good for the time that I had it.” I wanted to be part of initiatives where I could see social improvements as an outcome of my work, but I also wanted to combine my technical knowledge and social interests. In 2009, I was selected to participate in a cultural dialogue program in Copenhagen, Denmark. This program was around the same time that the Conference of the Parties (COP) convened its 15th conference, COP 15<sup>3</sup>.

Upon returning from Copenhagen to Amman, where I was living at the time, I began to take more interest in climate change issues; read data from the Intergovernmental Panel on Climate Change (IPCC)’s reports, and understand metrics that define climate scenarios like

---

<sup>3</sup> <https://unfccc.int/process/conferences/pastconferences/copenhagen-climate-change-conference-december-2009/statements-and-resources/outcome-of-the-copenhagen-conference>

carbon dioxide concentration in parts per million (ppm) and changes in surface temperature from pre-industrial levels, year-over-year. My growing interest in the nexus between the environment, climate change, and socioeconomic well-being led to my joining a research project at the Arava Institute of Environmental Studies in Israel, where I co-authored a research paper assessing the potential for renewable energy generation in the Palestinian areas (Abu Hamed et al., 2012)

When the SDGs were adopted in September 2015, I was working as a senior officer at the American University in Cairo, managing a program on philanthropy and social investing in the Arab World. In that work, I continued to grapple with the persistent challenges of accessing reliable and decision-useful data in social and sustainable investing trends across the Arab region. In my next job at the Arab Foundations Forum in Tunis, I began to explore the possibilities for aligning Arab institutional philanthropy and social investing with the goals and targets of the SDGs. I facilitated awareness-raising sessions, roundtable discussions, and training workshops on the SDGs in Abu Dhabi, Beirut, and Riyadh. At the start of the COVID-19 pandemic, I was in Amman visiting my parents and was stuck there for nine months. I further realized how important data was to guide us through the storm. Rates of infection, hospitalization and death, testing, and contact tracing, among others, became household terms in Amman, Beirut, London, DC, New York, and Toronto. I found myself checking the Johns Hopkins University's Coronavirus Resource Center<sup>4</sup> daily to understand how the pandemic was behaving.

I started the Master of Arts in Sustainability Studies at Trent University in the middle of the pandemic. While waiting on my Canadian visa, I began to learn more about Canada's

---

<sup>4</sup> <https://coronavirus.jhu.edu/map.html>

sustainability challenges and Peterborough, Ontario, in particular. I subscribed to the local newspaper, the Peterborough Examiner, and followed journalists, local politicians, and activists on Twitter. I watched documentaries about Canadian history<sup>5</sup> and read a book about Canada's environmental and Indigenous movements<sup>6</sup>. As I began to research and read more about the culture, politics, and economy of the city I would move to live and study in, I came across the Peterborough and the Kawartha Economic Development (PKED), a nonprofit organization that is tasked with creating and improving economic opportunities in the Greater Peterborough Area (PKED, 2020). PKED had developed a strategic plan entitled: Future Ready 2020 – 2024, which declared a vision for the region “to be the most sustainable community and economy in Ontario” (PKED, 2020, p.5). This vision was a starting point for my deliberation of this research as a case study. I began to ponder how the city, as a center for the region, could practically measure its sustainability performance and gauge where it needs improvement to achieve this vision. I asked how the city could compare itself with other jurisdictions in the Province of Ontario through a reliable framework. It was through this process of reflection and the ensuing discussions with my supervisor, Dr. Asaf Zohar, that I honed my research questions and decided on the appropriate methodology to carry out this research project.

Since arriving in Canada in January 2021 and continuing my studies, I have become more engaged in local sustainability work in Peterborough. I participated in the Peterborough 2021 Community Forum on the SDGs and helped take notes and summarize results and recommendations that came out of the forum. Participating in the Forum helped shape my

---

<sup>5</sup> Canada: The Story of Us (2017) [CBC]: <https://www.cbc.ca/2017/canadathestoryofus/canada-the-story-of-us-1.4005217>

<sup>6</sup> Klein, N. (2019). *On Fire: The Burning Case for a Green New Deal*. Simon & Schuster



positionality in this research project. Initially, while I was still in Jordan, I viewed myself as an outsider, bringing a fresh set of eyes to look at the strategies for SDG localization in an unfamiliar context. Since my involvement in the forum, I have developed more connections to this place, its community, and those working on sustainable development within it that I shifted to seeing myself as an “insider-outsider”. An insider through my living in the community and engaging in its issues head-on, and an outsider through my still-evolving perspective on the opportunities and challenges that the community here faces socially, economically, and environmentally.

My interest in this research stemmed from my desire to explore how data can inform the decision-making process in sustainability planning. As Peter Drucker noted, “*If you can’t measure it, you can’t manage it,*” I believe that cities and communities need to develop rigorous ways to measure and assess how they perform on vital community-wellbeing metrics, including housing, transportation, employment, educational attainment, and access to health and social services. As the region of Peterborough and the Kawarthas aspire to become the most sustainable community in Ontario (PKED, 2020), it will need a recognizable framework through which to assess its performance on key sustainability indicators and compare its results with other regions in the Province of Ontario. The UN Sustainable Development Goals (SDGs) provide such a suitable framework. The SDGs are internationally recognized and adopted by all UN member states. They are also endorsed by the Government of Canada in its Agenda 2030 for Sustainable Development (Government of Canada, 2018), through which the Government of Canada assigned a designated ministry to be in charge of implementing the 2030 Agenda, released an

indicator framework, and a data hub to help practitioners and researchers in communities across the country engage in the SDG localization process (Government of Canada, 2021).

My ontological approach to this research is relativist (Easterby, Thrope & Jackson, 2012). While facts about indicators and data may be singular, there can be many approaches to how best to capture and interpret this data. There is not a single way or one effective strategy for measuring, assessing, and reporting on a community's well-being and performance in relation to SDG indicators. The relativist approach is most fitting to the context of this research since it is not about the data itself but rather about the strategies and tactics utilized to acquire and interpret the data within the context of a specific community setting. Thus, a relativist ontological approach allows truths and facts for best practices to vary based on the perspective of the practitioners.

I am approaching this research through an epistemological social constructivist lens (Burr, 2019). Reality in this context is a social construct. It is not independent of those who shape it. The strategies and tactics that may be used to realize SDG localization initiatives will vary based on the context, worldviews, mental models, and belief systems of those who carry them out. This also applies to me as a researcher. I do not believe that in the context of a social study, one could view reality through a purely positivist objective lens that is devoid of any subjective interpretation. In conducting this research, I have naturally drawn upon my 15-year-plus experience in sustainable development policies and indicators, from my early days as a volunteer undergraduate student at the United Nations University/International Leadership

Institute (UNU/ILI) to this day, where I am writing this thesis as part of my MA in Sustainability Studies.

These prior experiences frame the interpretation of input from this research and the formulation of its recommendations and conclusion. To reduce my personal biases, I have, whenever suitable, brought the voices of the human subjects through direct quotes to highlight their unfiltered opinions throughout this thesis. I have linked these quotes to material in the literature and compared and contrasted input from the literature review to what I heard from practitioners in these interviews. I have chosen a qualitative approach for this research because it is, in my opinion, the best way possible to capture effective strategies and best practices in managing projects like SDG localization. Quantitative data analysis is a tool for SDG localization but not a strategy; it does not tell how a particular locale managed to effectively localize, measure, report, or improve on SDG indicators. For instance, a city might see a reduction in unemployment from six percent to three percent in a five-year period. These numbers are useful in showing us the improvement in labor conditions in this case, but they hardly tell us anything about how the city managed to spur employment and affect this change. Qualitative interviews with city economists, business owners, managers, nonprofit workers, and academics can potentially enable researchers to glean the strategies and tactics used by economic policy planners to effectively reduce unemployment in the city. The primary and secondary research questions, which will be discussed in subsequent paragraphs of this chapter, guided all aspects of the research design, from its ontology, epistemology, approach, and methodology.

## **Research Question**

Since, in its essence, this is strategy research, the natural way to form the research question was by asking how. In this research, I attempted to uncover “how” cities in Canada, with a focus on the City of Peterborough, can successfully manage their SDG localization initiatives and what best practices and effective strategies they could adapt to their contexts from other cities that have managed similar initiatives in Canada as well as few other examples from Europe. The following are my primary and secondary research questions, which helped guide this research project:

- How can Peterborough, ~~as a case study~~, develop an effective SDG localization initiative to measure, assess and report on SDG indicators?
- How can the City of Peterborough align its development plans with SDG targets and Canada’s 2030 Agenda for Sustainable Development?
- What lessons and best practices can communities such as Peterborough learn from other comparable communities in Ontario, Canada, and globally in developing capacity for locally advancing the SDGs?

## **Thesis narrative**

This thesis document is divided into five chapters and is structured based on my journey in the research process, guided by the development of both the primary and secondary research questions.

In this first chapter, I have provided a research overview of the topic being studied, the UN Sustainable Development Goals, and their application in the local context in a developed economy. I followed that by positioning myself in the research project and discussing the experiences, worldviews, and ontological and epistemological paradigms that have shaped the ways in which I approached the research questions and this research project more broadly. I then presented my primary and secondary research questions and explained the underlying reasons behind the formulation of the research question and how they guide the approach and methodology used in conducting this research. I ended this chapter by detailing the thesis narrative and explaining the content of subsequent chapters.

Chapter 2 entails a literature review for this research, including a historical overview of sustainable development in the UN framework leading up to the adoption of the Sustainable Development Goals (SDGs) in 2015. In this chapter, I introduce the main concepts and ideas in this research, such as the Voluntary National Review and the Voluntary Local Review, including a review of the main VLR guidelines in Canada as well as globally. I discuss Canada's Agenda 2030 and its strategy for implementing the agenda and achieving progress on the SDGs by 2030. I also discuss the Government of Canada's efforts to help communities and cities in their effort to localize the SDG and measure and track their progress in relation to the national agenda, the release of the SDG Data Hub, and the Canadian Indicators Framework in 2021. Finally, I review a selection of voluntary local reviews (VLR'S) published by cities in Canada and Europe that share similarities with the focus city in this research, the City of Peterborough.

In Chapter 3, I discuss my research design and methodology. I have chosen an inductive thematic analysis approach to this study as articulated by Virginia Braun and Victoria Clarke in their paper entitled: “*Using Thematic Analysis in Psychology.*” (Braun, V. & Clarke, V., 2006). In this chapter, I explain the rationale behind my choice of methodology and its suitability in the context of this research. Next, I introduce interview samples and discuss data organization and analysis. I also address consent and anonymity, data privacy, and storage, including interview recordings, transcriptions, and other relevant ethical considerations per Trent University Research Ethics Board’s research guidelines. Finally, I end this chapter by summarizing my research design, including all the steps I took throughout the process chronologically.

In Chapter 4, I perform my analysis and introduce the thematic categories, discussing the salient themes in this study in-depth through an analytical narrative that brings the voices of interview subjects directly to the reader. Furthermore, I analyze the roles of the various stakeholders in the SDG localization process; city government, nonprofit organizations, academic institutions, economic development corporations, the private sector, and Indigenous communities. In Chapter 5, I discuss my findings and analysis and relate that back to the reviewed literature, and develop a set of concrete, actionable recommendations for every stakeholder on how to engage in the process moving forward.

## Chapter 2. Literature Review

The purpose of this chapter is to take stock of the literature published on localizing the Sustainable Development Goals (SDGs) and their respective targets and indicators at the municipal level to make a case for the research questions and chosen methodology that will follow in the next chapter.

In this chapter, I provide a comprehensive overview of the evolution of the concept of sustainable development within the United Nations framework leading up to the adoption of Sustainable Development Goals (SDGs) and the ratification of the 2030 Agenda for Sustainable Development by the UN General Assembly in September 2015 (UN, 2015). I then present reviewed research on Sustainable Development Goals and explain the interconnectedness among their targets. Following that, I address how national governments have addressed the UN agenda and the Sustainable Development Goals through Voluntary National Reviews (VNR) and how cities have attempted to localize these 17 goals and their associated 169 targets and 232 indicators through Voluntary Local Reviews (UN, 2015). The SDGs are presented in detail in Appendix I.

Next, I provide a review of the Government of Canada's efforts to advance the SDGs and Agenda 2030 at the national level, addressing the various levers of pressure as well as opportunities for progress on the sustainability agenda. I follow that by presenting the case for SDG localization in cities and communities across the country that should support the national efforts. I present a review of key Voluntary Local Review guiding documents in which I

highlight the gaps in the literature that justify the research questions, scope, and purpose of this project.

Following that, I focus on my chosen case study, the City of Peterborough, where I provide a situational overview of the city, a historical overview of sustainable development efforts in the community, and a stakeholder map of efforts to date in Peterborough and the key players behind them. I then provide summaries of SDG localization reports published by five small-to-medium-size cities relevant to the case study, the City of Peterborough. Three of these cities are in Canada, London, Ontario, Kelowna, BC, and Winnipeg, MB. The two others are one in Europe, the City of Asker, Norway, and Shimokawa, Japan. The three Canadian cities are the only to date to have published Voluntary Local Reviews or an SDG localization document that could be reviewed in the context of this research project. The two other international cities were chosen based on their relative situational similarities to the case study for this research: small, semi-rural cities of about 100,000 residents or less.

I conclude this chapter by summarizing the main themes in my literature review, restating the case for my research question and methodology, and highlighting some considerations about the literature review process.

## **History of Sustainable Development in the UN Framework**

Sustainable Development as a concept can be traced back to the publication of American biologist Rachel Carson's book, "Silent Spring," in 1962, which is considered the seminal moment giving birth to the modern environmental movement by many environmentalists (Paull, 2013; Egleston, 2014). Carson's book gained popularity and became widely circulated and cited



among scholars and activists interested in environmental conservation in the second half of the 20th century, and helped shape the modern environmental movement (Paull, 2013).

### ***The Santa Barbara Oil Spill and the first Earth Day, 1969***

Seven years after the publication of *Silent Spring*, the world was shocked by the unprecedented Santa Barbara oil spill, which remains the third largest spill in history after the 1989 Exxon Valdez and the 2010 Deepwater Horizon spills. Devastation from the spill highlighted the need for a global movement to protect, conserve, and preserve the natural environment. American activists and politicians organized a day for the earth, later called Earth Day, one year after the spill. Some 20 million people from across the United States gathered to raise awareness and educate people about the importance of environmental protection and preservation. The resounding success of the event catalyzed the international organization of Earth Day events and sparked the formation of green political parties and environmental non-governmental organizations (NGOs) (Peterson, 2020).

### ***The United Nations Conference on the Human Environment (the Stockholm Conference), 1972***

The first Earth Day brought attention to the need for global deliberation on the state of the human environment and to develop a balance between the desire for economic growth and the need for environmental protection, especially in the context of human settlements (Egelston, 2012). In 1972, the United Nations held its first conference on the human environment, known as the Stockholm Conference, in Stockholm, Sweden (UN, 1972). Though the terms “sustainability” and “sustainable development” were not used at the time, the conference marked the first attempt to tackle the challenge between economic growth policies and the urgent call to

protect the human environment and notably referred to the paramount importance of renewable resources (UN, 1972, p.4). Discussions yielded a declaration of 26 principles and 109 recommendations focused on more rigorous environmental assessment and management procedures such as evaluation and review, research, monitoring and information exchange, goal setting and planning, and international consultation and agreements. The conference also recommended the establishment of a UN intergovernmental body to protect the environment, giving birth to the United Nations Environment Programme (UNEP) and continuing to host UN conventions on the human environment (UN, 1972).

### ***The Brundtland Commission,(1983 – 1987) and the Earth Summit 1992***

The rise of economic neoliberalism and continued strain on natural resources in the ten years following the Stockholm Declaration made it clear that more work was needed to address the many environmental challenges facing the globe. The United Nations created the Brundtland Commission to come up with unifying definitions for these common global challenges, and propose practical solutions for the future (Borowy, 2014). The commission worked for over four years to engage with world governments, civil society, political parties, and the private sector to come up with a definition for sustainable development and to present recommendations for the way forward (Borowy, 2014). In its report, published in 1987, the Brundtland Commission defined sustainable development as: “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1988)

Though “sustainable development” had been used in the literature previously, the Brundtland definition garnered international attention and became the official global definition at the 1992 UN Earth Summit in Rio de Janeiro (Borowy, 2014). There, with a properly defined

concept, the UN developed the United Nations Framework Convention on Climate Change (UNFCCC) for advancing sustainable development through various mechanisms and conventions, which will be further discussed in this chapter (Borowy, 2014).

### ***Conference of the Parties (COP) and the Millennium Development Goals (MDGs), 2000***

The decade of the 1990s witnessed many world conferences, conventions, and frameworks to tackle sustainable development and emerging concerns about climate change (Sneddon et al., 2006). Following the Earth Summit, the UNFCCC held its first Conference of the Parties (COP) in Berlin in 1995. At COP 3 in Kyoto in 1997, the UN adopted the Kyoto Protocol, which was the first framework aimed at regulating greenhouse gas emissions to curb climate change (UNFCCC, 1998).

The Millennium Declaration was announced three years after the adoption of the Kyoto Protocol in 2000. This was the UN's first attempt at creating a framework to set broad sustainable development targets and indicators that addressed peace, security and disarmament, development and poverty eradication, protecting our common environment, human rights, democracy, and good governance, and protecting the vulnerable, giving special attention to Africa's development needs (UN, 2000).

Within this framework, the UN developed the Millennium Development Goals (MDGs), a set of eight goals and 21 associated targets aimed at bridging the development gaps between the developed and developing worlds in the aforementioned area (Fehling et al., 2013). Appendix II shows a list of MDG goals and associated targets. Notably, while each MDG goal had associated targets and a fact sheet that explained its scope, the MDGs lacked clear and measurable indicators for each target.

### ***United Nations Conference on Sustainable Development (Rio + 20), 2012***

The UN convened the Rio+20 conference on sustainable development on the 20<sup>th</sup> anniversary of the Earth Summit in 2012 to take stock of the world's progress on the Millennium Development Goals and their associated targets. The assessment demonstrated a need for a broader and more encompassing set of goals and targets that could be used by developed and developing countries alike (UN, 2012). The process of developing the Sustainable Development Goals (SDGs) was launched to address the lack of access to meaningful and decision-useful indicators, a major challenge of the MDGs (Sachs, 2012).

### ***The 2030 Agenda and the Sustainable Development Goals (SDGs)***

The Sustainable Development Goals DGs are a globally endorsed framework that guides practitioners in developing and implementing sustainable development strategies nationally and locally (International Science Council, 2017). Due to their interconnected and mutually reinforcing nature, research suggests that progress on one goal and its associated targets would likely enforce progress on multiple other goals (International Science Council, 2017)).

The SDGs were developed as a guiding framework, not an operational one. The SDGs are not a blueprint for development plans but the frame within which various local, regional and national plans could be drawn, assessed, and updated. (City of Asker, 2021).

Researchers at the International Science Council (ISC) analyzed four specific SDGs and their associated targets. They developed a seven-point scale to describe the target-level interactions that take place when making efforts to achieve progress on a goal and its associated targets. (International Science Council, 2017).

## *Negotiating the SDGs and the Post – 2015 Agenda*

The development process of the SDGs took three years and involved ten million people and hundreds of meetings, conferences, and consultations worldwide (Ghorbani, 2020). The SDGs were developed as a framework for implementing the UN Agenda 2030 for Sustainable Development and adopted in September 2015 (UN, 2015). The SDGs are much broader in their scope than their predecessors, including 17 goals, 169 associated targets, and 231 indicators (UN, 2015). Appendix I lists the 17 SDGs and the aim of each goal to be achieved by 2030.

Developing and universally ratifying the SDGs was complex and challenging, involving myriad stakeholders in national governments, civil society, academia, and the private sector (Dodds et al., 2016). It began when Brazilian President Luiz Inácio Lula da Silva proposed a global summit to be hosted again in Rio de Janeiro 20 years after the first Earth Summit took place there in 1992, to be dubbed Rio +20. Lula Da Silva's aim was to recenter the focus on global sustainable development after setbacks caused by cataclysmic global events in the first decade of the 21st century, mainly the September 11, 2001 attacks in the United States and the Great Recession and ensuing global financial crisis that shifted the attention away from sustainability efforts, globally. (Dodds et al., 2016).

Colombia, Guatemala, Peru, and the United Arab Emirates teamed up to push for a universally applicable framework to both developing and developed economies (Dodds et al., 2016). In preparation for the Rio +20 Summit, between 2009 and 2012, Colombia led the efforts to universalize the sustainable development agenda. It endeavored to convince other countries to support this motion. However, these efforts were initially opposed notably by developing and developed countries alike. Developing countries wanted the focus to remain on bridging the

development gaps between developing and developed countries. Developed countries, on the other hand, were comfortable with the development programs they had in place, including international assistance, which they were reluctant to change (Dodds et al., 2016). In many cases, countries questioned the rationale behind coming up with new development goals when the world had yet to adequately achieve the then-current development goals, the MDGs (Dodds et al., 2016). In the end, Colombia's advocacy efforts bore fruits. At Rio +20 in 2012, the world agreed to launch the process to develop the Sustainable Development Goals and the UN development agenda for the post-2015 world (Dodds et al., 2016).

At Rio +20, the UN announced the creation of the Open Working Group (OWG), which would take charge of developing drafts of the SDGs and the 2030 Agenda and lead consultations with various stakeholders to ensure greater participation in the process (Dodds et al., 2016). The OWG was initially supposed to have 30 government representatives from each of the five UN regions<sup>7</sup>. However, there were more countries wanting to participate than there were seats in the OWG, so an unusual, creative solution was created. The UN still wanted 30 voices on the committee but allowed countries to form teams and come in as one voice, thus allowing 70 countries to engage directly in the drafting of the goals (Dodds et al., 2016). Canada, for instance, joined efforts with the United States and Israel as one team on the OWG (Dodds et al., 2016, p. 31). Of course, these representatives needed to consult with their relevant regional groups; the European Union and the G77<sup>8</sup>, among others, to ensure broader and more inclusive engagement (Dodds et al., 2016).

---

<sup>7</sup> <https://ask.un.org/faq/14521>

<sup>8</sup> <https://www.g77.org>

Over the following 18 months, the OWG held a series of consultations that resulted in the development of 11 themes of economic, environmental, social, and political development (Dodds et al., 2016). Countries hosted various UN teams that worked to develop the goals, targets and indicators pertaining to each theme. Canada hosted the thematic consultation on education. Mexico, Norway, and Tanzania hosted deliberations on Energy, while Jordan, the Netherlands, and others took on the development of water targets in the agenda (Dodds et al., 2016, p. 49).

The UN also created the Sustainable Development Solutions Network (SDSN) in 2012 to be “an *innovative way to draw upon worldwide expertise in the campuses, universities, scientific research centers and business technology divisions around the world.*” (Dodds et al., 2016, p. 46). The main objective of the SDSN was to aid in engagement with stakeholders in the development phase of the SDGs and later in the implementation phase from 2015 – 2030 (Dodds et al., 2016).

In tandem, the UN used its Global Compact program to host consultations with private enterprises in the discussion and development of themes, targets and indicators pertaining to international trade and economic development (Dodds et al., 2016, p. 51).

Additionally, the UN administered a global survey to gauge citizens’ development priorities entitled “*My World Survey*” (Dodds et al., 2016). In this survey, the UN asked participants to rank 16 sustainable development priorities (Dodds et al., 2016, p. 49). Seven million people participated in this survey up until the end of 2014 (Dodds et al., 2016, p. 51). However, according to Felix Dodds, David Donoghue, and Jemina Leiva Roesch, authors of the book, entitled: *Negotiating the Sustainable Development Goals*, published in 2016, there were

serious representation issues in this survey, as “70 percent of those responding had come from only five countries.” (Dodds et al., 2016, p.51).

The least effective aspect of engagement was national consultation. According to the authors of the book cited above, “*the timelines [of national consultations] did not work to ensure effective input to the thematic consultations and then into the High-Level Panel.*” (Dodds et al., 2016, p. 49). About 100 countries hosted national consultations with support from the UN Development Program (UNDP)’s national offices in these countries (Dodds et al., 2016, p. 49). These consultations involved universities, civil society organizations, government offices, and private sector entities. Still, the authors asserted that the benefits of these wide-reaching engagements could manifest in the implementation phase of the SDGs (2015 – 2030), despite not being as useful in the development phase (2012 – 2015) (Dodds et al., 2016).

Eventually, the OWG gathered input from these various thematic teams and presented its first findings to the UN General Assembly in September 2014. The OWG further revised the first draft and produced its final document, which included the 17 Goals, 196 targets and 231 indicators adopted in September 2015 (Dodds et al., 2016).

It’s noteworthy that this was the first time that the UN engaged in these types of wide-reaching consultations to develop a framework. The MDGs, for instance, were developed by the UNDP, the World Bank, and the OECD without much consultation with national actors prior to their adoption in 2000 (Dodds et al., 2016, p. 6).



## **Voluntary National Review (VNR) and Voluntary Local Review (VLR):**

Since the adoption of the 2030 Agenda and the SDG framework at the UN, world governments, including Canada's, have embarked on their own missions to develop and implement their national Agenda 2030 and frameworks to measure and assess SDG progress within their countries and according to their relevant context. The Voluntary National Review (VNR) was proposed as a way for the national government to communicate its status on implementing the Agenda 2030 for Sustainable Development to the UN and other countries. According to the UN's High-level Political Forum (HLPF):

“The Voluntary National Reviews (VNRs) aim to facilitate the sharing of experiences, including successes, challenges, and lessons learned, with a view to accelerating the implementation of the 2030 Agenda. The VNRs also seek to strengthen policies and institutions of governments and to mobilize multi-stakeholder support and partnerships for the implementation of the Sustainable Development Goals.” (UNHLPF, 2022)

To date, according to the HLPF website, 44 countries have submitted Voluntary National Reviews (VNRs) to communicate their progress on implementing their 2030 Agenda strategies (HLPF, 2022).

However, for national governments to be able to effectively monitor progress on the SDGs and their targets and indicators and also be able to devise policies and plans that would improve performance to aid the implementation of the national agenda, they needed to gather information and data at the sub-national, regional, and community levels within their national borders. In order to paint an accurate picture of the national story, disaggregated development data from regions, communities, and cities needed to be gathered and analyzed and then

aggregated to create a cohesive narrative within a national review of a country's performance. This need for disaggregated information and data at the community level presented an opportunity for Voluntary Local Reviews that would be conducted in cities, communities, or regions and feed into the national efforts to measure and assess the performance of national SDG-relevant goals, targets, and indicators that are specific to a country's need and context (Okitasari et al., 2019).

According to both the UN Voluntary Local Review portal and United Cities and Local Governments, a global network of cities and local, regional, and metropolitan governments and their associations, as of July 27, 2022, there have been 103 Voluntary Local Reviews published, the vast majority of which were developed and published by municipal or regional governments (UN, 2022; UN-Habitat & UCLG, 2021). Only two have been published in Canada, one for Winnipeg in Manitoba<sup>9</sup> and the other for Kelowna in British Columbia. Both Canadian VLRs were nonprofit-led. In the case of Kelowna, the first Canadian city to have published a VLR in April 2021<sup>10</sup>, the effort to produce the VLR report was coordinated by the British Columbia Council for International Cooperation (BCCI) and the Global Empowerment Coalition of the Central Okanagan (GECCO). In Winnipeg, the VLR process and the production of the report were co-managed by the International Institute for Sustainable Development (IISD) and United Way Winnipeg. In both cases, respective city governments, nonprofit organizations, and universities in the area played varying supportive roles in the culmination of the effort (Shnurr, 2021).

---

<sup>9</sup> <https://www.mypeg.ca/winnipeg-sdgs-voluntary-local-review-2021/>

<sup>10</sup> <https://www.bccic.ca/kelowna-sdg-voluntary-local-review/>

## ***The Case for SDG Localization and Voluntary Local Review***

Given that not all SDG targets and indicators are relevant to local contexts, research conducted by the Sustainable Development Solutions Network (SDSN) concluded that achieving 65% of the SDG's 169 associated targets is dependent on effective coordination and collaboration with local and regional stakeholders, especially municipal governments (SDSN, 2015). A report by SDSN and Telos Center in Europe asserts that *“achieving the SDGs will require, at the local level, deep transformations in transportation, energy and urban planning and new approaches to address poverty and inequalities in access to key public services including health and education.”* (SDSN & Telos, 2019, p.9). These conclusions are consistent with the findings of the UN-Habitat research that one-third of all SDG indicators require local or regional action to achieve progress nationally (UN-Habitat & UCLG, 2021), as well as with the findings of the 2017 Brookings Institution's report on Canada's SDG domestic priorities, reviewed earlier in this chapter. Additionally, the study conducted by UN-Habitat and the UCLG also showed that between 2016 - 2021, there has been an eight-fold increase in the number of VLRs produced every year (UN-Habitat & UCLG, 2021, p. 12). This global surge and attention suggest that as the world inches closer to 2030, more and more cities will begin to take an interest in measuring SDG indicators and assessing their own municipal development plans against SDG targets furthering the integration of the SDG framework into city planning and development.

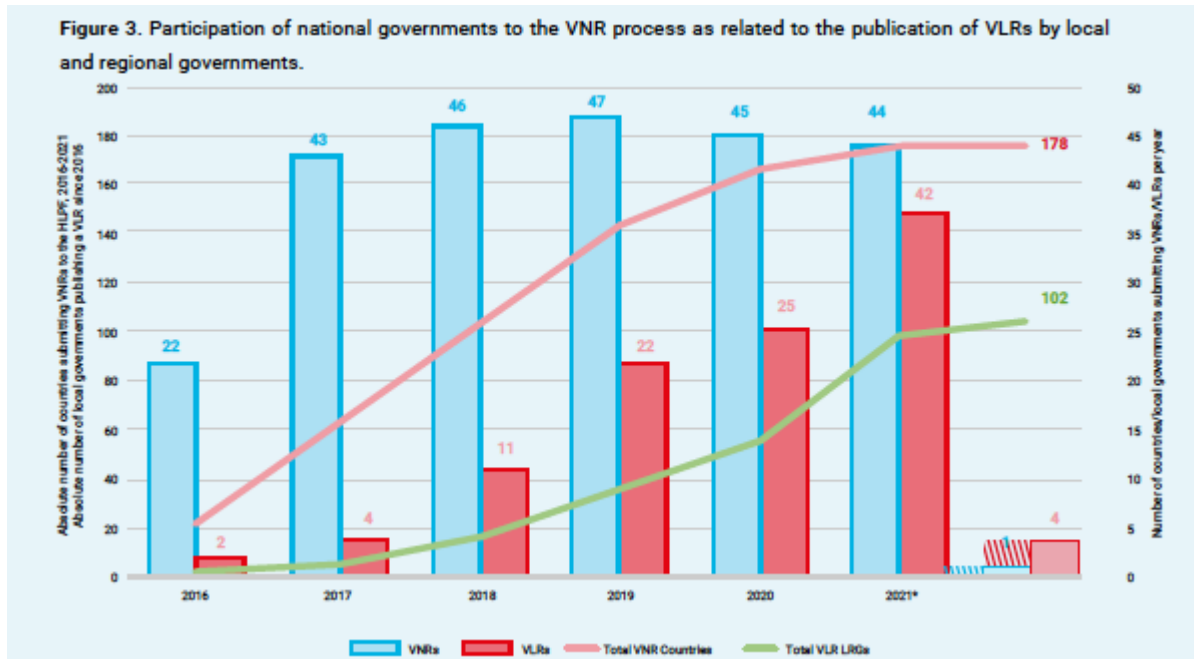


Figure 1: The rise in VLRs produced 2016 - 2021<sup>11</sup>

### *The Rationale and Value Proposition for the Voluntary Local Review*

The motivations to start a VLR process have varied. In Europe, the European Commission has played a key role in promoting the VLR mechanism through the publication of a comprehensive handbook on carrying out the VLR process and ensuing engagement events it hosted to explain the content to practitioners throughout the continent (Siragusa et al., 2020). In some cases, like in Norway, it was in response to a national mandate to align municipal planning and development with SDG targets and indicators (City of Asker, 2021). In Canada, while the federal government has been promoting the SDGs nationally through various initiatives since 2018 (Government of Canada, 2018), the VLR processes launched thus far have been entirely locally developed initiatives (BCICC, 2021; & IISD & United Way, Winnipeg, 2021).

<sup>11</sup> Source: <https://unhabitat.org/guidelines-for-voluntary-local-reviews-volume-2-towards-a-new-generation-of-vlrs-exploring-the>

The value proposition that a VLR presents lies primarily in measuring and communicating key development and performance indicators that cities and communities could use to communicate the outcome of their work to decision-makers and constituents. The universality of the SDGs makes them a very useful framework for communicating outputs and outcomes of current and previous plans and aligning the targets of future plans and strategies with national ambitions (IISD, 2021; City of Asker, 2021).

## **Canada and the Sustainable Development Goals**

The earliest assessment of SDG target and indicator relevance to the Canadian context was published by the Brookings Institute in 2017. This report was “the first study to present a detailed national and subnational assessment of SDG status within a G-7 economy” (Brookings, 2019). Researchers analyzed the 169 SDG targets and their 232 associated indicators for their relevance to Canada’s domestic development challenges and the availability of adequate measurement of relevant indicators, finding that only 78 out of 169 targets were applicable in the Canadian context (McArthur, J & Rasmussen, K, 2017).

Out of those 78 targets, 37 were directly quantifiable, and 41 needed a proxy target to become measurable. The researchers were able to identify suitable data for 61 targets using 78 indicators (McArthur, J & Rasmussen, K, 2017). In a revised study published in 2019, the authors explained their choice for Canada as their case study, citing that it is “an economy not commonly examined in the context of global goals” (McArthur, J & Rasmussen, K, 2019). The researchers also modified and refined their earlier findings, concluding that 35 targets are

quantifiable and measurable at a country level, and 43 targets required proxies to become measurable (McArthur, J & Rasmussen, K, 2019).

In their study, the researchers concluded that Canada was fully on track to achieve only one of the 16 SDGs (SDG 1 -16) they examined, SDG 1: No Poverty. On all other 15 SDGs, Figure 2 details their findings. They argued that the human scale of SDG shortfalls could be estimated and that Canada had approximately 54,000 lives at stake (McArthur, J & Rasmussen, K, 2019).

The researchers concluded their study by emphasizing the relevance of the SDGs to a developed economy such as Canada. They reiterated that conclusions should not be interpreted as predictions or suggestions that Canada was unable to achieve the Sustainable Development Goals but that attention must be given to the lives that could be impacted when the country pursues its social, economic, and environmental agenda (McArthur, J & Rasmussen, K, 2019).

**Table 1**  
Case study: Summary of Canada's status on domestic SDG indicators.

	Sustainable Development Goal	Moving backwards	Breakthrough needed	Acceleration needed	On track
1	Poverty				●●●○
2	Hunger & food systems	●●○	●		
3	Good health & well-being		●●●●	●●○	●●○
4	Quality education	●	●●		●●●
5	Gender equality		●●●○○○		
6	Clean water & sanitation	●●	●○○		○
7	Affordable & clean energy	○	●	○	●
8	Decent work & economic growth		○○○		○
9	Industry, innovation & infrastructure	○	○○		
10	Reduced inequalities			○	●
11	Sustainable cities & communities	○	○○		○
12	Responsible consumption & production		●○○		
13	Climate action		○		
14	Life below water			●●	●
15	Life on land		○○○		○
16	Peace, justice & strong institutions	●○○	○○		●
	<b>Total</b>	<b>12</b>	<b>33</b>	<b>7</b>	<b>18</b>

● Denotes indicator for SDG target that is quantified and directly measurable as written.

○ Denotes indicator for SDG target assessed by proxy measure.

Source: Authors' calculations using Centre for Research on the Epidemiology of Disasters, 2017; Cotter, 2015; Environment and Climate Change Canada, 2018a, 2018b, 2018c, 2018d, 2019a, 2019b, 2019c, 2019d; Global Burden of Disease Collaborative Network, 2018; Gooch et al., 2019; Kaufmann & Kraay, 2018; National Energy Board, 2017; Natural Resources Canada, 2018; Organisation for Economic Cooperation and Development, 2019a, 2019b, 2019c, 2019d, 2019e; Public Safety Canada, 2019; Roberts, 2004; Statistics Canada, 2013, 2017, 2019a, 2019b, 2019c, 2019d, 2019e, 2019f, 2019g, 2019h, 2019i; UNESCO Institute for Statistics, 2017; United Nations Statistics Division, 2019; World Bank, 2019; World Data Lab, 2019.

Figure 2: Case study: Summary of Canada’s status on domestic SDG indicators conducted by the Brookings Institution in 2019<sup>12</sup>

*Canada’s 2030 Agenda and Voluntary National Review*

Following the adoption and ratification of the UN Agenda 2030 and the SDGs in 2015, the Government of Canada developed its own national agenda for achieving the Sustainable Development Goals (Government of Canada, 2018). In 2018, the Government of Canada also released its first Voluntary National Review of its progress in achieving the Sustainable Development Goals. In that report, the Government of Canada highlighted a number of themes it deemed critical for Canada’s sustainable development agenda, such as: leaving no one behind, eliminating poverty, reconciliation with Indigenous Peoples, growth that works for everyone, gender equality and the empowerment of all women and girls, and climate, clean energy and oceans (Government of Canada, 2018). The report also took stock of where the country stood in relation to each of the 17 SDGs with aggregated data from sources such as Statistics Canada, the Community Health Survey, and the Canadian Mortgage and Housing Corporation.

The Government also reiterated its targets for advancing climate action of then achieving an 80% percent reduction in the country’s greenhouse gas emissions from 2005 levels by 2050, consistent with the Paris Agreement, and also meeting its interim target of reducing emissions by 45% by 2030 (Government of Canada, 2018). Canada also highlighted that its Pan-Canadian Framework “*will not only allow Canada to meet its 2030 target in full, but will also position Canada to set and achieve deeper reductions beyond 2030*” (Government of Canada, 2018,

---

<sup>12</sup> Source: <https://www.brookings.edu/research/who-and-what-gets-left-behind-assessing-canadas-domestic-status-on-the-sustainable-development-goals/>

p.97). Furthermore, in 2018, the Government of Canada announced its national strategy for achieving the SDGs by 2030, named the Canada Agenda 2030: Moving Forward Together. This strategy includes five core objectives deemed essential to advance in the context of the Sustainable Development Goals (Government of Canada, 2018): 1) Fostering leadership, governance, and policy coherence; 2) Raising awareness, engagement, and partnerships; 3) Accountability, transparency, measurement, and reporting; 4) Reconciliation with Indigenous Peoples and the 2030 Agenda; and 5) Investing in the SDGs.

To realize the aforementioned objectives, the Government of Canada appointed the Minister of Families, Children, and Social Development to be the designated federal department tasked with implementing Agenda 2030. The Government also created an SDG Unit to be housed in Employment and Social Development Canada. The Government of Canada outlined 30 actions it intends to undertake to achieve these core objectives by 2030 (Government of Canada, 2018). Appendix III includes a list of all 30 actions the Government of Canada plans to undertake to implement Agenda 2030. In 2021, Statistics Canada released the SDG Data Hub and the Canadian Indicator Framework (CIF). Together, they are meant to provide the framework through which the Government of Canada plans to measure, assess, and report on progress toward implementing the 2030 Agenda and achieving the SDGs (Government of Canada, 2021).

The CIF is the Government of Canada's distilled subset of SDG Indicators that the federal government argues is most relevant to the Canadian context. The CIF includes indicators consistent with those provided by the UN framework and proxy indicators developed where needed to best fit and reflect Canadian needs and aspirations. The CIF includes 76 indicators,



which the Government of Canada asserts adequately address Canadian interests (Government of Canada, 2021).

The SDG Data Hub is the data portal housed in and managed by Statistics Data. It is meant to provide public access to aggregated and disaggregated data relevant to each indicator in the Canadian Indicator Framework (Government of Canada, 2022).

In my review of both the SDG Data Hub and the Canadian Indicator Framework, I identified a few challenges that, if not addressed adequately, will significantly impact the utility of both of these data tools and frameworks. The majority of CIF indicators, 49 out of 76, have no specific targets. Others have hardly quantifiable ones. For example, CIF Indicators 5.1.1 and 5.1.2 are associated with one target “*fewer women are victims of intimate partner violence and sexual assault*” (Government of Canada, 2021). Such imprecise wording of targets, I argue, will make measuring and assessing progress an arduous and unduly subjective task.

Other targets in the CIF, on the other hand, are very precise. For example, CIF Indicator 9.3.1 is associated with the target “*By 2026, 98% Canadian homes and small businesses are connected to the Internet at speeds of 50 Mbps download / 10 Mbps upload, with the goal of connecting all Canadians to these speeds by 2030,*” and CIF Indicator 9.6.1 is associated with the target “*by March 31, 2024, a total of 1,000 EV Chargers, 22 natural gas stations, and 15 hydrogen stations along major highways, freight corridors and key metropolitan centers are under development and completed*” (Government of Canada, 2021). This perceived inconsistency among the targets and indicators could dissuade practitioners at the local level

from taking the CIF more seriously and adopting it as the primary framework for assessing progress on the SDGs.

The Government of Canada has emphasized the importance of SDG localization and the need for all levels of government to align their plans with SDG targets, as well as monitor and assess the progress of the SDGs locally. However, access to geographically disaggregated data from the SDG Data Hub-the intended data center for SDG-relevant data points- remains to be a challenge. The Government of Canada has also addressed this in its Canada's Federal Implementation Plan for the 2030 Agenda<sup>13</sup>, published in 2021. Federal departments are tasked to support “*the identification of gaps in disaggregated data for marginalized groups and people in vulnerable situations for the SDG(s) within their department's purview, in collaboration with other key contributing departments and Statistics Canada,*” (Government of Canada, 2021, p.4), as well as “*to explore means to address those data gaps as needed, to support the core principle of leaving no one behind*” (Government of Canada, 2021, p.4). However, in my own review of the SDG Data Hub, I have discovered that in many cases, data points for relevant indicators are only disaggregated to the province level and, in some cases, to major cities such as Montreal, Toronto, Vancouver, and Winnipeg. Out of the 76 indicators listed on the SDG Data Hub, only two indicators had relevant data points for the case study in my research, Peterborough, a small, semi-rural city with a population of less than 100,000 (Statistics Canada, 2022). The majority of the data points were only geographically disaggregated to the provincial level. Some data points were only available at the national level, even though the indicator they measure could be relevant provincially and locally. Examples of these indicators are CIF Indicator 3.3.1

---

<sup>13</sup> <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/federal-implementation-plan.html>

*Percentage of the population that is overweight or obese and 3.10.1 Mortality rate for selected causes of death.* It is worth noting that neither of the two Canadian cities that have published a VLR, Kelowna, BC and Winnipeg, MB (BCICC, 2021; & IISD & United Way, Winnipeg, 2021), used or referenced the Canadian Indicator Framework nor the SDG Data Hub in their reports, which suggests that better communication about the tool and its utility would be useful. This utility is pertinent as the Government of Canada has placed SDG localization and the alignment of governmental plans with the SDGs among its 30 priority actions to undertake in implementing the Agenda 2030 (Government of Canada, 2021). However, Statistics Canada points out that the SDG Data Hub is still in its beta version and currently welcomes public feedback (Statistics Canada, 2022).

The Government of Canada also announced a \$59.8-million SDG Funding Program over 13 years to support SDG-related community-based activities across the country (Government of Canada, 2018). This fund's main aim is to raise awareness about the SDGs, their scope, and their utility in sustainable development policy and planning across the country. The program has funded national and local events, youth-focused policy activities, SDG mapping projects, learning tools, research, policy briefs, and reports (Government of Canada, 2021). This funding program enabled GreenUp and the Kawarthas World Issues Centre (KWIC) to host a community forum on the SDGs entitled: Advancing the 2030 Agenda in Peterborough/Nogojwanong (KWIC, 2021).

In 2021, the Government of Canada released another National Review of progress on the SDGs, which it now refers to as Canada's 2021 Annual Report on the 2030 Agenda and the Sustainable Development Goals (Government of Canada, 2021).

The federal government also updated its 2030 agenda and released an implementation plan for this agenda. In this update, the federal government no longer designated the Ministry of Families, Children, and Social Development to coordinate the federal government's effort to implement the 2030 Agenda. Rather, it assigned this responsibility to the SDG Unit housed at Employment and Social Development Canada. The SDG Unit acts as a focal point for the federal government to implement the 2030 Agenda, develop the annual report on SDG progress, communicate with and raise public awareness, and support other federal agencies in integrating the SDGs into their work (Government of Canada, 2021). The federal government also created a more complex, two-tier coordination system for implementing the 2030 Agenda. This system consists of two types of government leads: vertical and horizontal. Vertical leads are governmental departments tasked with coordinating efforts related to one SDG. Horizontal leads are government departments such as the SDG Unit and Statistics Canada, which work across goals and targets to ensure the integration of SDG targets into the plans and policies of the federal government (Government of Canada, 2021). Appendix IV of this thesis document provides a list of all vertical leads sourced from the Federal Implementation Plan for the 2030 Agenda (Government of Canada, 2021).

Canadian communities across the country have been experimenting with localizing the SDGs in myriad ways. A 2021 report by Tamarack Institute highlighted nine diverse stories of community-led initiatives to advance the SDGs through local action. One particularly creative approach came from the Northern Territories: Northern Perspectives on the Sustainable Development Goals photography collection. This project was run by the Northern Council for Global Cooperation (NCGC). In 2019, the NCGC commissioned an initiative involving nine photographers from across the three northern territories to showcase how the northern

communities have advanced sustainability by photographing these community initiatives. The results are shown on the NCGC web portal, Northern SDGs (NCGC, 2019)<sup>14</sup>.

## **SDG Localization Methodologies**

While Voluntary Local Reviews (VLRs) globally date back to 2016 with the publishing of the first VLR by the State of North Rhine-Westphalia in Germany (UN, 2022), SDG localization guidelines and methodologies are a more recent concept. Since 2017, different organizations in Europe, Japan, and North America have developed guidebooks aimed at guiding practitioners in their SDG localization journeys.

These reports had two different purposes and target audiences. In the case of European reports, including the European Commission's Handbook on VLR (European Commission, 2020), the United for Smart Sustainable Cities (U4SSC) KPI Methodology (U4SSC, 2017), and the UN-Habitat and United Cities and Local Governments (UN-Habitat, 2020; UN-Habitat & UCLG, 2021), the main focus was placed on selecting indicators through stakeholder engagement, finding appropriate data to measure these indicators and then developing a VLR report. These guidebooks primarily targeted municipal governments as the principal undertaker of SDG localization initiatives. By contrast, North American guidebooks (SDSN USA, 2019; Shnurr, 2021; IISD, 2022) have centered their approach on highlighting the role of communities outside of the municipal governments in advancing the SDGs through featuring stories of how local actors have initiated projects that advanced the SDGs. These North American reports have given more weight to nongovernmental stakeholders than their European counterparts. While

---

<sup>14</sup> <https://www.northernsgds.ca/gallery>

some European guides went as far as recommending detailed page styles for a VLR report and which indicator to select per goal (European Commission, 2020, p.26), North American guides focused on the flexibility and the role of communities themselves to decide on indicators and developing data points to measure these indicators (IISD, 2022, p.10).

Overall, these various guides have four elements in common, which they have thematically structured in their guidance for local practitioners as follows:

- Initiation of an inclusive and participatory process.
- Setting the local SDG Agenda;
- Planning the SDG implementation;
- Monitoring and evaluation of the SDG targets.

These guidebooks have also recommended following The United Nations Department of Economic and Social Affairs (UNDESA) guiding elements and recommendations for the nature and structure of a VRL report. They suggest that a VLR be periodically consistent and take a “longer-term orientation, identify achievements, challenges, gaps, and critical success factors, and be used to support countries in making informed policy choices.” (UNDESA, 2021, p.2).

The differentiating factor among them remains in the target audience and level of prescription of the scope and the mechanics of a voluntary review. North American reports highlighted flexibility in community-ownership of the process, indicators choices, and the data to measure, while European guides such as U4SSC’s KPI Methodology and the European Commission’s Handbook went to a lot more detail on indicator selections and data points that fit the European context (U4SSC, 2017; European Commission, 2020).

Given their high relevance to this case study and for this research, I have included a detailed review of the two published Canadian SDG localization guides to date. I follow that by presenting summaries of five examples of SDG localization strategies used in small- medium cities in Europe, Japan, and Canada.

The first guidebook was published by the Tamarack Institute in Waterloo in 2021 and is entitled: “*10 A Guide for Advancing the Sustainable Development Goals in Your Community*” and the second is “*Voluntary Local Reviews of Progress on the Sustainable Development Goals: A Handbook for Canadian Communities,*” published by the International Institute for Sustainable Development (IISD) in Winnipeg, MB. Tamarack’s guidebook recommends localization strategies that are focused on “10 Really Good Ideas” (Shnurr, 2021, p.11):

1. Raise awareness through broad community engagement, connecting the SDGs to community issues to inspire and build momentum for change (p.12);
2. Consult on local priorities to develop a shared vision (p.12);
3. understand your community’s progress to celebrate success and galvanize action (p.14);
4. Align existing local plans with the Global Goals (p. 14);
5. Develop a community plan for advancing priority goals, such as ending poverty and tackling climate change (p. 16);
6. Invite diverse voices to lead, offering support to enable participation (p. 17);
7. Identify meaningful indicators that resonate with your community to measure progress (p. 18);

8. Conduct a Voluntary Local Review to affirm commitment to the SDGs and report on progress (p.19);
9. Track progress through an open and transparent approach (p.21);
10. Share stories from your community to inspire and connect with others (p.21).

The Tamarack report is formatted to engage citizens and organizations in implementing the SDGs in their own communities. The recommendations for ways to get started implementing the SDGs stress the fundamental importance of partnerships, alliances, and stakeholder engagement at the local level. Partnerships recommended by the guide within Canada include: the Alliance 2030 Network, Community Foundations of Canada, and Community Climate Connections (Shnurr, 2021). Noteworthy is that the Tamarack guide highlights the unique approach of the Peterborough Community Forum for Advancing the 2030 Agenda utilized in engaging with Indigenous Communities. The Peterborough Community Forum hired two Indigenous consultants and created a working group called Indigenous Leadership Action Team (ILAT) to work alongside SDG-focused action teams to ensure that Indigenous perspectives on sustainable development challenges are integrated properly into the work of four- SDG-focused groups that have emerged from the forum (Shnurr, 2021, p.30). A Full Review of the Peterborough Community Forum's experience is provided later in this chapter.

The IISD's handbook, on the other hand, takes an interesting approach. It acknowledges that there have been many VLR guidelines and guidebooks published, per the literature review in this research and that the handbook was not intended to add another one to the list. Instead, it provides access to useful resources that Canadian practitioners and communities could use on their



own VLR journeys. The majority of the resources recommended have been included in this literature review. The IISD handbook categorizes the VLR approach and the resources it recommends for Canadian communities into eight different areas: “Developing local priorities, partnerships, participation and leaving no one behind, data and indicators, community stories, reconciliation and Indigenous leadership, funding and leadership and organization” (IISD, 2022, p.1) Additionally, IISD handbook also provides examples of how cities in Canada, Finland, and Sweden have addressed these themes in their VLRs (IISD, 2022, p. 27).

I have found both guides to be most relevant to the context of Peterborough, given their focus on Canadian communities and their hands-on practical advice for SDG practitioners across the country. In subsequent sections of this study, I recommend that the Sustainable Peterborough steering committee start by reviewing both guidebooks and discussing them, and also invite the authors of these respective reports to virtual discussions about how to take these suggested practices forward.

The fact that we continue to see SDG guidelines, handbooks, and guidebooks being produced by different entities well into 2022, seven years after the SDGs were ratified, being published, is an indication of two main points: (a) there is not a clear “best” framework and methodology for conducting a VLR, which was corroborated by the European VLR Handbook, published in 2020 and (b) That SDG localization and VLR methodologies are still an evolving field of study, based on the findings of the European VLR Handbook and in line with the results of the IISD mapping analysis of VLR methodologies (Siragusa et al., 2020, p. 17; IISD, 2022, p.19). This underscores the importance of developing VLR frameworks that are rooted in local

contexts. This context-specific approach is also evident in the different approaches adopted in Europe and North America, as indicated in the references above.

## VLR Case Study Examples

In the course of this research, I have reviewed relevant literature, including VLR case studies of cities with apparent contextual similarities to my focus case in the research, the City of Peterborough. The purpose of this review was to glean strategic insight from these cases that could apply to the context of Peterborough. In this section, I review four VLR reports: one from Scandinavia, two from Canada, and one from Japan, to glean strategic insight, including in stakeholder and community engagement, that could be useful to adapt in SDG localization initiatives in Peterborough. The choice of international example was based on their small size of around 100,000 or less and semi-rural nature. The focus on Scandinavian cities was based on the SDG ranking, reviewed earlier in this chapter, which was conducted by SDSN Europe and the Telos Centre, in which out of 45 cities reviewed, Scandinavian cities topped the rank (SDSN & Telos, 2019). The Japanese case of Shimokawa was cited by various VLR guidebooks, including those from the Tamarack Institute and UN-Habitat and UCLG, as an exemplary case in SDG localization in small cities (UN-Habitat & UCLG, 2020; & Shnurr, 2021). The Canadian cities, Kelowna and Winnipeg, were chosen based on the fact that, to date, only two cities in the country have published a VLR (IISD, 2022), and therefore, they both were selected.

### *Asker, Norway*

Asker is a rural city in Norway, located about 20 kilometers southwest of the capital, Oslo. The city has a population of about 95,000, twenty percent of whom are culturally and ethnically

diverse. Its economy consists of health and social services, education, trade and industry, including oil and natural gas and construction (City of Asker, 2021).

### **Localization Strategies**

In establishing the SDGs as a foundation for municipal governance, Asker prioritizes six of the goals: 3) Good Health and Well-being; 4) Good Education; 9) Innovation and Infrastructure; 11) Sustainable Cities and Communities; 13) Stop Climate Change; 17) Collaboration to Achieve Goals. From these six goals, the municipality has identified eight focus areas for its municipal master plan, as well as incorporating targets from other SDGs that are relevant to the focus areas and formulating unique Asker targets (City of Asker, 2021).

To translate broad, global goals to the local context, Asker developed a number of strategies and plans modeled graphically in its VLR. Notably, the city developed its own language for translating SDGs to local governance strategy, with SDG “targets” broken down into “targets” (desired future state) and “strategies” (how to get there) that are able to be operationalized and measured in the local context. The city has formulated “Asker Targets” to capture local services and goals not explicitly covered by the existing SDG framework. The local targets, labeled AK-targets in their system, are numbered and separated from SDG indicator reporting (City of Asker, 2021). Appendix V Shows the different models the City of Asker has used to translate the SDGs into local action.

One strategic lesson that can be learned from the Asker experience is in its application of the U4SSC KPI Methodology to assess its performance and connect those indicators to SDG targets (City of Asker, 2021). In 2017, United for Smart Sustainable Cities (U4SSC), an initiative

by the Geneva-based International Telecommunication Union, UN-Habitat, and the UN Economic Commission for Europe (UNECE), published its KPI methodology document to help cities measure and report on SDG indicators in three dimensions: economy, environment, and culture and society. It has developed a comprehensive list of 91 indicators in these three dimensions: 45 economic indicators, 17 environmental indicators, and 29 cultural and societal indicators. U4SSC has provided detailed descriptions of each of these indicators in a tabular format, including how to calculate each metric and the link between the metric and SDG indicator (U4SSC, 2017). The City of Peterborough and the broader community could engage in a collective exercise to assess the city and the community's performances which would help the city and its community stakeholders better understand the various elements that go into assessing sustainable development metrics. It's important to bear in mind that these processes are iterative in nature and that one should not let the perfect be the enemy of the good.

Another key takeaway is the power of integrating SDG targets into municipal planning. The fact that this integration was mandated by the Norwegian Government played an important role in its success. In the absence of such a mandate in Ontario or Canada more broadly, it's incumbent on local elected officials, the mayor and the city council to require this integration in municipal and regional planning processes.

### ***Shimokawa, Japan***

Shimokawa is a small forest town of approximately 3400 residents faced with unique challenges to sustainable development, such as aging, depopulation, and the slowing of the local economy (IGES, 2020).

## **Localization Strategies**

The VLR method guide developed by the Institute for Global Environmental Strategies (IGES) presents ten steps for conducting a VLR based on Shimokawa’s model, outlined in Appendix VI. Shimokawa utilized a backcasting approach for combining the SDGs with its own municipal goals for sustainable development, which “sets a specific future outcome and then forecasts policies and programs in reverse, connecting the specified future and the present state (IGES, 2020, p. 4). The town then created its “Whole-of-Government Coordination structure,” which essentially determines the web of coordination and responsibility within the town for action on the SDGs (IGES, 2020, p. 9).

Ultimately, the town came up with seven goals known as the Shimokawa Ideals or Shimokawa The goals are broken down further into targets that were then integrated into municipal plans. A key takeaway from the Shimokawa experience is the importance of collective brainstorming to decide on appropriate indicators to measure and track locally. This approach has found great resonance in the Canadian case studies reviewed in the course of this research.

### ***Kelowna, BC, Canada***

Kelowna is a city in the south of Canada’s British Columbia province with a population of approximately 143,000. It lies in the Okanagan Valley, on the eastern shore of Okanagan Lake. (City of Kelowna, 2022).

## **Localization Strategies**

This review outlines the process, partnerships, roles, and key stakeholders that were initiated and implemented by the March 2021 Global Goals, Local Action: Kelowna's Voluntary Local Review.

The British Columbia Council (BCCIC) initiated the process for International Cooperation in partnership with the Global Empowerment Coalition of the Central Okanagan (GECCO). While the report relied on many local and national organizations to derive data from, the primary stakeholders would be: The government of Canada, provided through Global Affairs, Economic and Social Development Canada's Career Launch SDG Impact Funding, and the Sustainability Scholars Program at the University of British Columbia. These organizations would be justified as the stakeholders because they provided funding for research on top of the volunteers that also helped conduct the research.

The coalition created a "shortlist" of 28 indicators through extensive research and consultation processes. In developing the indicators, the authors used local-level planning objectives and policies/targets and saw if the indicators aligned with the SDG while representing local and national priorities, as well as if the data for the indicators could be measured over time, and if it is accessible and actionable from credible sources. They used the example of credible sources such as the City, Statistics overall in Canada, and organizations such as the Interior Health Authority.

The roles that each stakeholder played are as follows: The BCCIC was responsible for managing the project through its project coordinators, authors, co-authors, researchers, and writers. As stated above in identifying the partners, partial funding, on top of many volunteers, was provided by the Government of Canada through Global Affairs, Economic and Social Development Canada's Career Launch SDG Impact Funding and the Sustainability Scholars Program at the University of British Columbia. Moreover, research and help to put together the report were acknowledged by Kelowna's various city teams, ranging from sustainability development offices to homelessness centers and city government agencies for the recommendations to align with each of the sustainable development goals. While these acknowledgments wouldn't be considered key stakeholders, they should be identified in the review as opportunities to further conduct research and/or to learn through these organizations the gap in research they found when putting together the report. These organizations are various Canadian-based organizations at the national and local levels.

An important lesson to be learned from the Kelowna experience is through aligning the city's SDG targets with Canada's Truth and Reconciliation plan (BCCIC, 2021). This stresses the importance of flexibility and local context when developing an SDG localization plan and strategy. The SDGs as a framework are not a rigid doctrine, as the guidebooks reviewed in this chapter have revealed (Siragusa et al., 2020; & Shnurr, 2021; & IISD, 2022). They are meant to be guiding cities and countries on how to measure and track progress on indicators. Keeping an open mind to the process is critical for success in this endeavor, as cities and jurisdictions have different development challenges and circumstances that will need to be taken into account for effective strategic planning.

*Winnipeg, MB, Canada*

Winnipeg is the capital of the province of Manitoba in Canada. It is located in the southern part of the province at the intersection of the Red and Assiniboine rivers. Winnipeg has a population of approximately 750,000 (Statistics Canada, 2022).

### **Localization Strategies**

The process was initiated by United Way Winnipeg (UWW), International Institute for Sustainable Development (IISD), an independent think tank, and Peg, the community indicator system. This VLR report was based entirely on the Community Indicator System (CIS), commonly called Peg, that IISD and UWW had developed between 2009 - 2013, predating the SDGs. In 2018, the two partners decided to align their CIS of 57 community-based indicators with SDG goals, targets, and targets. The Winnipeg CIS is available online at ([mypeg.ca](http://mypeg.ca)) (IISD & United Way Winnipeg, 2021).

### **Partnerships and Stakeholder Engagement**

While the report relied on many local and national organizations, such as Statistics Canada and the Canadian Mortgage and Housing Corporation, and the City of Winnipeg, from which to derive data, the primary stakeholder is The Winnipeg Community Foundation, which provided partial funding for the report. The roles that each of the stakeholders played were as follows: United Way Winnipeg was responsible for putting together the report with partnerships, the mayor and stakeholders in the city, alongside the International Institute for Sustainable Development (IISD). The University of Winnipeg and other local organizations in Winnipeg provided the



statistics and key information. As stated above, in identifying the partners, the Winnipeg Foundation provided partial funding on top of many volunteers. Moreover, research and help to put together the report were acknowledged by Winnipeg's various city teams: which range from economic programs, independent think tanks, community programs, and more. The city's governmental programs partnered to create the report with United Way Winnipeg and the International Institute for Sustainable Development.

An important takeaway from the Winnipeg experience is effective stakeholder management. The fact that the VLR process was built on the existing Community Indicators System (CIS) enabled the team to secure buy-in for the VLR from the various stakeholders who contributed to the original CIS. Additionally, building on an existing set of indicators that are tracked and reported on locally must have made the project be more manageable.

### ***London, Ontario's Innovative Approach to SDG Localization***

London is a city in southwestern Ontario along the Thames River, just north of Lake Erie and the U.S. border. The city's population rose by 10% in just five years to approximately 543,000 in 2021, according to Statistics Canada (Statistics Canada, 2022).

#### **Localization Strategies**

In 2020, the London Poverty Action Centre at King's (LPRC) published a report on localizing the SDGs in London, Ontario. While the report was not structured to be a VLR, it provided a very creative insight and approach to SDG localization. Using a decision tree found in

Appendix VII, each of the original 232 UN indicators passed through a set of six questions to determine its applicability and relevance to the local context (LPRC, 2020). The outcome of the decision tree placed each indicator in one of five categories: maintain, localize, proxy, park, or discard. The “maintain” category means that the indicator can be used as it is or reworded just to make sense in the London context. “Localize” means that the indicator can be adopted by changing only its scale to the municipal level. “Proxy” refers to indicators that need to be adapted to become clearly quantified or measurable at the municipal level. “Park” indicators are applicable but not necessarily relevant in the local context, and “discard” indicators are not applicable to London. Categories and questions for indicator selection are found in Appendices VIII and IX (LPRC, 2020).

### **Potential Gaps in SDG Targets and Indicators**

The SDG localization exercise described above follows the Global to Local approach, wherein indicators are pulled from the list of global indicators and worked with to decide whether or not they are applicable and relevant locally. Potential gaps emerge when there are locally tracked indicators, independent of the SDGs, or issues of concern deemed important to the local community that are not explicitly addressed in the global goals, targets, or indicators in the original list. For instance, in London, the authors of the report noted that SDG 5: Gender Equality focuses primarily on the rights of women and girls with no explicit regard for the rights of gender-diverse and non-binary individuals (LPRC, 2020). Additionally, while some UN indicators suggest that data should be disaggregated to include Indigenous status, Indigenous communities have expressed the importance of integrating Indigenous perspectives and knowledge in the SDG localization process. In both London and Peterborough, stakeholders have

expressed the need to develop locally relevant and inclusive indicators that would be added to the localized list of indicators from the global goals (LPRC, 2020).

To fill these potential gaps, new indicators should be “*created*,” as indicated in the decision tree in Appendix VII.

The London SDG localization example presents a great example to start an SDG localization process. The decision tree that the team has developed is comprehensive and intuitive. It can be applied to any city or region of any size and in any geography. Additionally, a very interesting initiative sprung out of London’s SDG localization work called SDG Cities <sup>15</sup>(. This new initiative is a collaboration between Pillar Nonprofit in London and 10c in Guelph. Among its objectives is to support civil society organizations and constituents in advocating for municipal SDG alignment during elections (SDG Cities, 2022).

## **SDG Alignment and Tracking Progress**

SDG alignment refers to the process of aligning an organization’s vision, mission, and strategic objectives, as well as various plans and projects with the SDGs and their targets (UN-Habitat & UCLG, 2020). In Ontario, municipal planning must align with the Provincial Planning Act (Province of Ontario, 2019). Federal, provincial, regional and municipal authorities divide tracking progress for SDG-relevant metrics among them (City of Peterborough, 2020). SDG plan alignment is normally done by linking work plans, projected output, and outcomes with specific SDG targets (City of Asker, 2021). In the context of municipalities, this would take place at the

---

<sup>15</sup> <https://www.sdgcities.ca/about/about-sdg-cities/>

plan level, strategic plan, official plan, and secondary master plans. For instance, as the City of Peterborough Transportation Master Plan aims to reduce reliance on private vehicles to about 60% of all trips made, while the remaining 40% are split among walking, cycling, and riding public transportation (City of Peterborough, 2021). This mode share target in the TMP is aligned with SDG target 11.2: *“By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons”*. The indicator for this target is indicator 11.2.1 *“Proportion of population that has convenient access to public transport, by sex, age, and persons with disabilities”* (UN, 2015). In this context, it may be more relevant to develop a proxy indicator to track and report progress on this target, such as the annual percentage changes in commuting modes. It could also be useful to track car-pooling and car-sharing and add that to the mix. A modal household transportation study could yield valuable information. The Active Transportation and Health Indicators report is a great place to introduce alignment and SDG progress data in relation to relevant objectives (City of Peterborough, 2020).

Tracking and communicating progress could happen through relevant progress or interim reports on the various plans, transportation, housing, health services, or waste management. However, usually, this either happens through an online portal that the city government manages (i.e Los Angeles) or one that is managed by local community organizations, such as the case in Winnipeg (City of Los Angeles, 2022; IISD & UWW, 2022). This is in addition to a Voluntary Local Review through which a community would analyze relevant data to communicate their status in relation to an agreed-upon subset of SDG indicators (IISD & UWW, 2021).

## *Kitchener, Ontario and Quebec City's SDG Strategic Plan Alignment*

Both the City of Kitchener, Ontario, and Quebec City, Quebec, have aligned their strategic plans with SDG goals (City of Kitchener, 2019; Quebec City, 2021). While aligning city plans with the higher, macro-level of goals, is a good start to introducing the SDG city officials, including the mayor and council, it is not enough to be able to track progress towards achieving SDGs by 2030. To do so effectively, plan alignment will need to go down one level, and zoom in on specific targets within each SDG. For example, building a new school as part of a regional education plan will automatically be aligned with SDG4: Quality Education, but how will running this new school support the city in achieving progress on SDG target 4.4: *“By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship”* will be required to assess whether the plan is strategically aligned with the 2030 Agenda. It is worth noting that while Quebec City created an elaborate SDG alignment chart for its 2021 - 2025 Transportation Plan which includes constructing a tramway in the city, alignment still stays at the macro, goal level. Also, interestingly, for a plan that has climate action in its title *“Plan de transition et d’action climatique 2021-2025”* (Quebec City, 2021, p.126), the plan is not aligned with SDG 13 Climate Action, the very SDG in the plan’s title (Quebec City, 2021).

The City of Kitchener also has a Corporate Climate Action Plan, which advances nine of the 17 SDGs, including linking specific SDGs to specific actions within the plan. The city also issues an annual sustainability report that is aligned with the SDGs (Shnurr, 2021). It is important to emphasize that aligning plans with SDGs at the macro, goal level is still a crucial

first step. It helps to raise needed awareness about the SDGs and the 2030 Agenda and their purpose among city government staff and council and in the broader community. However, further steps to align actions, projects and programs with specific SDG targets will be needed to adequately assess whether a city is on track to achieve the relevant SDGs to its context within their intended timeframe, 2015 - 2030.

## **Peterborough and the SDGs**

### ***City Profile Overview***

Peterborough is a semi-rural city that lies on the Ontonabee River in Ontario, Canada and is part of the Greater Golden Horseshoe region of southern Ontario, which extends from the Trent-Savern Waterway east to the Grand River, Brantford, Waterloo and Guelph to the west (The Canadian Encyclopedia, 2012). The City occupies a land area of 64.50 km<sup>2</sup> (24.90 sq mi) and contains 64.50 km<sup>2</sup> (24.90 sq mi) of water (Statistics Canada, 2022). The city's population, according to the 2021 census, is 83,651. This represents an increase of 3.2 percent from the 2016 census count of 81,032 (Statistics Canada, 2022). Among this population, 39,490 were classified as "Men+," while "44,160" were considered "Women+." According to Statistics Canada, "Men+" includes men (and/or boys), as well as some non-binary persons." Similarly, "Women+" includes women (and/or girls), as well as some non-binary persons (Statistics Canada, 2022). Around 61% of the city's population is in the working age range (15 - 64). People 65 and older represent around 24% of the population, and the median age of the population is 43.2 years. Peterborough, the city, is considered a Census Subdivision (CSD) of the Census Division (CD) of Peterborough and the Kawarthas, which is considered an economic region (CANCEA, 2018).

Appendix X includes a summary of the situational analysis conducted by CANCEA for the Peterborough and the Kawarthas region.

### ***History of Sustainable Development in Peterborough***

Peterborough stands out as being among the earliest cities in Canada and globally to consider sustainable development and its implications for the city and the wider region. A mere two years after the publication of the seminal Brundtland Commission's report in 1987 (UN, 1987), which brought a consensus definition of sustainable development to the world, Peterborough held its own "Our Common Forum", named after the title of the Brundtland Report, and held in 1989 (Sustainable Peterborough, 2022). Sylvia Sutherland, then City of Peterborough mayor established one of Canada's first committees on sustainable development in 1990 (Dart, 2005). The Kawartha World Issues Centre (KWIC), a leading regional nonprofit organization, commissioned a report to explore solutions to complex local environmental challenges. KWIC's commissioned report gave birth to the Task Force on Sustainable Development for the Peterborough Area, which in turn recommended the formation of a new hub to be called "GreenUp", to bring together local, collaborative environmental projects. Based on that recommendation, GreenUp was at first incubated by KWIC until it became an independent nonprofit organization in 1992 (GreenUp, 2021)<sup>16</sup>.

In 1996, the Task Force on Sustainable Development convened community stakeholders to develop Vision 2020, a sustainability plan that engaged the local business community,

---

<sup>16</sup> Information was taken from GreenUp's website: <https://www.greenup.on.ca/who-we-are/our-story/>

introduced key concepts and set objectives to be achieved in the community by 2020. (Sustainable Peterborough, 2022).

As an outcome of Vision 2020, the Peterborough Sustainability Network was established in 2000. This new network brought together academics and sustainability practitioners from across the region to address emerging policy issues and engage decision-makers in the city government and convened an educational workshop for city staff, the mayor, and the city council in 2007.

These efforts culminated in the establishment of Sustainable Peterborough in 2009 through funding from the City and County of Peterborough (Sustainable Peterborough, 2022). Sustainable Peterborough then embarked on developing its strategic plan, named ‘Greater Peterborough Area Community Sustainability Plan,’ which was published in 2012 (Sustainable Peterborough, 2012). To do so, the organization contracted three different consulting firms, Lura Consulting, Hardy Stevenson and Associates Limited, and Grant Consulting, to support the development of the plan (Sustainable Peterborough, 2012).

The devised plan proposed priority actions and strategic objectives in 11 key thematic areas under the environmental, social, and economic dimensions of sustainability:

- Agriculture and Local Food
- Climate Change
- Cultural Assets
- Economic Development and Employment



- Energy
- Healthy Communities
- Land Use in Planning
- Natural Assets
- Transportation
- Waste
- Water

Sustainable Peterborough's most notable contribution to the region was the 2016 Greater Peterborough Climate Action Plan (Sustainable Peterborough, 2016). The comprehensive plan was designed to achieve four community objectives: reduce GHG emissions, lower energy consumption, reduce the use of fossil fuel, and adapt to climate change based on national and provincial by 2030 (Sustainable Peterborough, 2016, p.9). To achieve these objectives, the plan included the creation of eight task forces and five milestones to monitor progress on these objectives.

In 2021 – 2022, Sustainable Peterborough has updated its strategic plan, which has centered advancing the SDG agenda in the Greater Peterborough Area as its main objective. The updated strategic plan is reviewed later in this chapter as a follow-up to the Peterborough Community Forum (Sustainable Peterborough, 2022).

An instrumental figure in the early sustainable development movement in Peterborough was a woman named Cathy Dueck, who is an environmental educator and consultant currently

coordinating the Pathway Project in Peterborough (GreenUp, 2021). Dueck had set up an ecology garden in the area to demonstrate organic agricultural practices and showcase the use and preservation of native plant and tree species. When GreenUp became an independent organization, Dueck's ecology garden joined forces with GreenUP and established the GreenUp Ecology Park at Beavermead, which remains one of the organization's flagship programs today (GreenUp, 2021).

Interestingly, in its early days, GreenUp's work was more focused on realizing impact at the household level. The organization ran "energy audits" and "water audits", as well as provided Do-It-Yourself (DIY) guides to home retrofits up until 2011. These programs involved hiring professional contractors to help households measure their energy consumption, implement retrofits to reduce inefficiencies, and monitor water quality to ensure safe potable water (Dart, 2005)

In 2013, with a new executive director fully onboarded, Greenup began evaluating its services and revenue model. The household services it ran for the first two decades of its history could no longer generate enough income to sustain the growth of the organization and its ambitions. A sharp pivot became necessary. The energy and water audits programs were terminated, and a strategic shift from focusing on household services to community services became the new focus. Since then, the organization has relied on its key physical asset, the Ecology Park, to run children's educational and community-awareness programs that are funded through grants from the Ontario Trillium Foundation and RBC Foundation, respectively, among others (GreenUp, 2018). The organization has also diversified its sources of income by building on its earlier fee-for-service model as well as opening an eco-friendly store in downtown

Peterborough that aims to both educate local residents about sustainable consumption and production as well as contribute funds to sustain GreenUp's other programs in the Greater Peterborough Area (GreenUp, 2020).

### *Stakeholder Analysis: Spheres of Control and Influence*

The Greater Peterborough Area boasts a great number of sustainability-oriented initiatives that can play various roles in the SDG localization process. These organizations are mentioned later in the section in relation to their SDG focus areas. KWIC and GreenUp are two leading nonprofit organizations in the city and the region that work to advance sustainability issues in the region, but they are not the only ones. A number of other organizations have also been working on sustainable development issues through their own programs. Trent University and Fleming College both have degree and certificate programs in sustainability-related fields. They both are active stakeholders in the community and played an important role in advising the Peterborough Community Forum. Most notable, however, is the Peterborough and the Kawarthas Economic Development (PKED), which has incubated Sustainable Peterborough (Sustainable Peterborough, 2022), United Way Peterborough and District, which issues periodic reports on housing, poverty, and labor conditions in the city and advocate for changes to improve the city and county's standing on these issues (United Way Peterborough and District, 2021), and the Community Foundation of Greater Peterborough (CFGP), which issues a report every census year called Vital Signs, through which the organization assesses the well-being of the community through a number of key socioeconomic indicators (CFGP, 2022).

Vital Sign PTBO, Greater Peterborough's Data Hub, is a suitable prototype, a Minimum Viable Product (MVP), for SDG localization in the region (CFGP, 2022). The Hub tracks 21

community indicators across seven different categories: ‘Our Community - age demographics, Peace Justice and Strong Institutions, Good Health and Well-being, Quality Education, Decent Work, and Economic Growth, Housing, Sustainable Cities and Communities. While the Vital Signs data hub is not explicitly aligned with the SDGs, five out of its seven indicator categories exactly match the titles of Goals 16, 3, 4, 8, and 11. Vital Signs also have an eighth category that the CFGP refers to as Build Back Differently (BBD), a project that CFGP supports and brings together Trent University researchers and community experts to gather and analyze data to develop plans for a more sustainable and equitable community in the region (CFGP, 2022). The BBD project has three different themes; Food(in) Security, Aging, and the Opioid Crisis. The portal currently aggregates reports published by CFGP and Trent University on these three subjects but did not currently include any quantitative indicators for this eighth category (CFGP, 2022).

Peterborough and the Kawarthas Economic Development (PKED) is also an important actor in community well-being and sustainability in the Greater Peterborough Area. PKED’s Future Ready 2020 - 2024 strategic plan states a vision for the region to become “ the most sustainable community in Ontario” (PKED, 2020, p.5). The PKED strategic plan also stated the organization would prioritize aligning economic development plans with sustainable development and advancing five SDGs key to its work: SDG4, SDG8, SDG9, SDG11, and SDG17. The City of Peterborough, as a municipal government, also works to collect and report sustainability-related metrics through its own operations.

In 2019, The City of Peterborough joined the 644 that have declared a climate emergency 2019 – 2022 (City of Peterborough, 2019). The municipal government has produced several plans and reports that aim to incorporate climate actions into its operations. In 2021, the city government adopted a new Official Plan, a Transportation Master Plan (TMP) and Cycling Master Plan (CMP), to be implemented by 2051 (City of Peterborough, 2021). The TMP includes extensive road improvements and expansion to accommodate a proposed 71% increase in public bus operating times and capacity, and aims for a reduction in reliance on private vehicles to about 65% of all trips made within the city (City of Peterborough, 2021). The road improvements and expansion also feed into the Cycling Master Plan, in which the city aims to extend cycling lanes and routes in the city by an additional 80 km to what the city already has of 76km of trails and bikeways (City of Peterborough, 2021).

As a result of the city’s declaration of a climate emergency, City Council revisited the Corporate Climate Change Action Plan, adopted in 2016, to accelerate the reductions of emissions generated by municipal facilities and operations. The 2016 plan stipulated a reduction in the municipal corporation’s GHG emissions by 30% from 2011 levels by 2031 (Sustainable Peterborough, 2016). The new updated plan approved a strategy to reduce emissions by 45% by 2030 and become Net-Zero<sup>17</sup> by 2050. This strategy includes installing eight new EV level 2 charging stations for the municipal fleet, shifting LED street lighting, and retrofitting public buildings to reduce their overall energy consumption (City of Peterborough, 2019).

---

<sup>17</sup> Net-Zero refers to carbon-neutrality, concept of offsetting 100% of all carbon emissions generated by a facility, an organization, a city or country.  
[https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15\\_AnnexI.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_AnnexI.pdf)

Notably, these plans only target emissions generated by facilities and operations run by the municipal government and not the entire city. The city government is also currently deliberating two more plans that will help it advance SDG targets in the community. The first is the social procurement program, through which the municipality, with a council mandate, will prioritize purchasing goods and services from local, socially, and environmentally conscious vendors and service providers to further stimulate the local economy and advance sustainability objectives (City of Peterborough, 2020). The second initiative is the Home Energy Efficiency Program (HEEP). This program will aim to help homeowners in Peterborough finance energy retrofits through favorable loans that the city will administer to improve the energy performance of residential buildings, which account for 39% of the city's overall greenhouse gas emissions, thereby advancing the community's climate ambitions. If approved by the city council, this proposed plan will result in 1100 residential retrofits over a four-year period (City of Peterborough, 2022, p.9).

In 2021, the City of Peterborough also approved its 30-year Official Plan. The Official plan will guide development in the city over the next 30 years (City of Peterborough, 2021). The plan projects that the population of the city will grow to 125,000 by 2051. (City of Peterborough, 2021, p.13). The highlights of the plan include land use designation and zoning bylaws to increase and diversify the supply of houses being built in the city's neighborhoods. "Each year, 50% of new residential dwelling units must be through intensification" (City of Peterborough, 2021, p. 13). The plan stipulates an annual increase in affordable housing to 20%, as well as performing major improvements in access to and frequency of public transportation within these neighborhoods (City of Peterborough, 2021, p. 21).

Furthermore, air pollution, greenhouse gas emissions, as well as fuel standards and other pertinent environmental issues are governed under the Ontario Environmental Protection Act, passed in 1990 and most recently updated in July 2022 (Government of Ontario, 2022). This fact further asserts the need for multilateral coordination among the different levels of government and key local and regional stakeholders for an effective approach to SDG localization or, in this case, perhaps better termed, regionalization.

The interim report for the region's 10-year housing plan 2014 - 2024 estimated that to meet their housing needs by 2029, the city and county will need 580 Rent-Geared-to-Income (RGI) Supporting Housing Units to address homelessness, 2,680 new rental units, and 796 affordable homeownership units. Between 2019 - 2020, the region only managed to add 26 RGI units, 46 new affordable rental units, and 164 affordable homeownership units (City of Peterborough, 2020, p. 4). This very slow progress on the housing regional housing targets means some significant changes to the housing strategy will need to be made for the region to meet its 2029 targets and be aligned with the 2030 Agenda.

The zoning bylaws in the land use designation also include dividing business areas into two categories: Prestige Employment Designation and General Employment Designation (City of Peterborough, 2021, p. 15). These plan stipulations inadvertently align with multiple SDG targets that go under different SDGs, primarily SDG 1, SDG 8, SDG 9, SDG 11, and SDG 13. The process of developing this plan spanned ten years (2011 - 2021) and entailed a fair amount of public consultation and engagement. Throughout the plan development period, the city

government organized 13 face-to-face public open house meetings, four design charettes, 13 pop-up installations, ten speaking engagements, four Zoom meetings, five surveys, 40 media releases, 1300 email subscriptions, and over 100 social media posts engaging around 5,800 residents in the process (City of Peterborough, 2021). Having an open, transparent, and participatory approach to city planning and policy-making is one of the SDG targets listed under SDG 16: Peace, Justice, and Strong Institutions (UN, 2015). The process of developing the Official Plan has inadvertently advanced SDG16.

The city's waste management plan was adopted in 2012 (City of Peterborough, 2012). According to the plan, the City of Peterborough has sustained a rate of waste diversion from landfills above 50% for the prior 20 years. (City of Peterborough, 2012, p.3). The municipality has also issued comprehensive guidelines for waste separation and disposal to guide the residents on best practices for managing their household waste. Additionally, the city government has hosted periodic public information sessions on the guidelines of its waste management plan (City of Peterborough, 2022). This plan and associated documents and activities could also become aligned with SDG targets under SDG 9, SDG 11, SDG 13, and SDG 16.

It is important to observe that in the Canadian system of government, it is not always possible to separate municipal plans from regional plans. For example, while transportation and waste management are run by city governments, both the housing plans and economic development plans are for the entire Greater Peterborough Area, which includes the city and county (City of Peterborough, 2020 & PKED, 2020). Under the provincial mandate, Canadian cities must produce an official plan that includes land use planning and designation. This has



shaped how various aspects of development services get delineated between the city and county (Province of Ontario, 2021). Additionally, the research conducted by the Canadian Centre for Economic Analysis has treated Peterborough and the Kawarthas as one economic region in Ontario. Therefore, a regional approach to SDG localization is worth considering. (CANCEA, 2018).

The City of Peterborough administers a number of public opinion surveys, such as the Budget Survey and the Transportation Tomorrow Survey (City of Peterborough, 2022). These surveys could also be used by the city to poll and engage citizens on municipal plan alignment and advancing specific SDG issues in the community.

However, while these plans do advance the SDGs in many ways, **it is important to highlight here that this has thus far been unintentional.** None of the City of Peterborough documents mention the SDGs specifically as a framework with which these plans would align. Additionally, I have scanned 750 city council meeting minutes between September 25, 2015, the day the SDGs were ratified by the UN, and October 21, 2021<sup>18</sup>, the day the city hosted its Open House Meeting to discuss the final draft of the Official Plan, to better understand if the SDGs were ever part of city council discussions. In all of these meetings, sustainable development goals were completely absent from those minutes. At the virtual public open house meeting, I asked city planners if they had considered aligning the official plan with the SDGs. City planners responded by asking me if I could explain what the SDGs were (City of Peterborough, 2021,

---

<sup>18</sup> City Council meeting minutes are accessible through this link: <https://www.peterborough.ca/en/city-hall/upcoming-and-past-agendas.aspx?mid=47267>

00:24:00).<sup>19</sup> This was a stark difference from the City of Asker, a similar-sized city in Norway, where SDG municipal plan alignment has become mandated by the Norwegian Government (City of Asker, 2021).

The lack of explicit alignment between the City of Peterborough's plans and specific SDG targets is not a statement about the quality of these plans. City planners at the city government may very well be competent in their specific domains and still lack awareness of the SDGs. This lack of municipal plan alignment with the SDGs, however, will make it harder to measure and assess the city's sustainability metrics under a universally recognized framework that would allow comparability between cities within a country and help national governments understand how their whole country is doing on specific sustainability metrics by aggregating these results.

### ***Peterborough Community Forum and the SDGs***

In 2019, GreenUp and KWIC partnered with other local organizations in the region, such as Trent University and Fleming College, to organize a community forum entitled: Understanding the UN Sustainable Development Goals: Canada's Commitment and Local Connection.

The Community Forum used an open-source process to identify the five key goals and actions most pertinent to Peterborough, explained below (KWIC, 2019):

- Priority Goal 1 – Basic Income Guarantee (SDG 1)

---

<sup>19</sup> <https://www.connectptbo.ca/official-plan-update/widgets/106129/videos/8230>

- o Local Actions: Develop a Political Approach, Build the Case, Establish a Coalition
- o Partnerships: Nourish, the Basic Income Peterborough Network
- Priority Goal 2 – Experiential Education (SDG 4)
  - o Local Actions: Educate Educators, Build on Local Assets, Increase Access to Green Space, Advocate for Systemic Change
  - o Partnerships: Pathway to Stewardship and Kinship, EcoMentors, Fleming College, Trent University, Kawartha Pine Ridge DSB, GreenUP Ecology Park, Camp Kawartha Environment Centre, KWIC, TRACKS
- Priority Goal 3 – Prioritize Indigenous Knowledge, Practice, and Leadership (SDG 17)
  - o Local Actions: six community objectives
  - o Partnerships: Peterborough-Kawartha-Haliburton Sustainability Education Network (RCE Kawarthas)
- Priority Goal 4 – Advocate for Climate Action (SDG 13)
  - o Local Actions: Amplify Diverse Voices, Strengthen Data Collection, Build on Local Successes
  - o Partnerships: Green UP, Sustainable Peterborough, For Our Grandchildren, Peterborough Alliance for Climate Action, Transition Town Peterborough, Peterborough Public Health
- Priority Goal 5 – Clean Water & Sanitation (SDG 6)
  - o Local Actions: Maintain Strong Protections, Focus on Vulnerable Areas and Communities, Resource Local Stewardship

- o Partnerships: Ontonabee Conservation, Sacred Water Circle, ALUS, Kawartha Land Trust, the East Central Farm Stewardship Collective

As an outcome of the 2019 Community Forum, five working groups were established to advance community projects in each of the identified priority areas.

In 2020, supported by a grant from the federal government's SDG Funding Program, the two organizations continued to support the work of the working groups that emerged from the 2019 forum by convening team meetings and periodically following up on progress (KWIC, 2021). However, due to the COVID - 19 pandemic, all of these meetings became virtual. The two organizations also began planning for a subsequent event to be held in 2021.

In February 2021, GreenUp and KWIC hosted their second forum on the SDGs in Peterborough, entitled: Advancing the 2030 Agenda in Nogojiwanong/Peterborough. The purpose of the 2021 event was for the working groups to report on their progress to the broader community and raise further awareness about the SDGs, their scope and purpose in the local community (KWIC, 2021).

In the case of Priority Goal 3, the Community Forum established an action team to integrate Indigenous Knowledge and perspectives into the work of all four other priority goals identified at the forum. This approach was cited as a unique, exemplary approach for Indigenous engagement by two of the SDG localization guides reviewed earlier, "10 A Guide for Advancing the Sustainable Development Goals in Your Community", published by the Tamarack Institute in 2021 (Shnurr, 2021, p.30), and "Voluntary Local Reviews of Progress on

the Sustainable Development Goals: A Handbook for Canadian Communities,” published by the International Institute for Sustainable Development (IISD) in 2022 (IISD, 2022, p. 10).

While the forum involved five SDG working groups, KWIC has only published four team reports on its website (KWIC, 2022). Absent was the input of the Climate Action Team in the forum.<sup>20</sup> While the experience of incorporating Indigenous Knowledge and experience into SDG localization in Peterborough was unique in comparison to other Canadian communities, it is important to understand the broader context that enabled this type of approach. Trent University, the region’s premier academic institution, is home to one of Canada’s Indigenous Studies programs which offer both master’s and doctoral degrees in the field. Trent University researchers have published influential papers that have addressed reconciling Indigenous Knowledge and perspectives on sustainability with Western sciences and worldviews. In a paper published in 2019 and entitled: “Educating for Sustainable World: Bringing Together Indigenous and Western Knowledges,” Asaf Zohar and David Newhouse, both Trent University faculty, argued for the application of what they referred to as “two-eyed seeing” in sustainability education (Zohar & Newhouse, 2019). This approach stipulates that one should “learn to see from one eye with the best in the Indigenous ways of knowing, and from the other eye with the best in the western ways of knowing and, moreover, we learn to use both these eyes together, for the benefit of all” (Bartlett, Marshall, and Marshall, 2012) as cited in Zohar & Newhouse, 2019, p.6).

Since the conclusion of the reporting on the Community Forum’s outcome, the main partners, GreenUp and KWIC, have returned to focus on their long-term programs. KWIC has

---

<sup>20</sup>KWIC: <https://www.kwic.info/advancing-sdg-reports>

since formed a partnership with the Community Foundation of Greater Peterborough to advance SDG5: Gender Equality in the region. In March 2022, the two partners issued a “Vital Focus: Gender Equality” joint report, in which they presented the results of community surveys and workshops on local experiences and perspectives on gender to identify gaps and challenges in advancing gender equality in Nogojiwanong/Peterborough. The report introduced the idea of intersectionality in gender understanding to identify who is left behind the most in the community: 2SLGBTQ+/gender diverse, Indigenous, Black and racialized, new Canadians, single parents and their children, living on low incomes, elderly, people living with disabilities, mental health issues including addictions, care workers, those without internet, devices or digital literacy, and English as a second language. Furthermore, the report highlighted the unbalanced and gendered effects of the pandemic on the community (CFGP & KWIC, 2022).

Interestingly, on the other hand, GreeUp seems to have eliminated the SDGs from its work focus. While its 2020 annual report aligned all of its main programs with specific SDG targets (GreenUp, 2021), its 2021 report makes no mention of the SDGs at all (GreenUp, 2022).

As it currently stands, the process of SDG localization is owned, controlled and led by civil society organizations. While the city government representatives were present at the 2021 forum and also took part in some of the working groups, their role was to support and influence the process rather than take the lead. However, civil society organizations taking up SDG localization seem to also face some challenges in agreeing on a set of SDGs on which to focus community-based programs. PKED and the Community Forum organizers have both come up with their set of five SDGs as their focus, with an overlap of two SDGs between the two sets

(PKED, 2020 & KWIC, 2021). This divergence in focus areas suggests that better and more strategic coordination will be needed to better gauge the scope and scale of SDG localization, measurement, and tracking progress.

PKED has incubated and continued to support Sustainable Peterborough, a community-based partnership that brings together varied stakeholders from across the Greater Peterborough area: academics, businesses, the city and county governments, nonprofit organizations, community foundations, and Indigenous communities (Sustainable Peterborough, 2021).

Sustainable Peterborough's 2021 - 2031 Strategic Plan states that it will pick up the mantle from the Community Forum to lead the SDG localization efforts. Its strategic plan outlines four key objectives (Sustainable Peterborough, 2021, p. 4):

- Develop the new SP Plan with an SDG focus,
- Develop the framework for monitoring SDG-related work in the community and measuring progress,
- Communicate and Raise local awareness of the SDGs, and
- Track/measure SDG progress, report, and celebrate success.

Sustainable Peterborough's incubation inside Peterborough and the Kawartha Economic Development places it in a good position to be a convenor for this initiative as a reconciler of differences in SDG focus areas between the nonprofit sector and businesses in the area moving forward. However, Sustainable Peterborough will need to rely on stakeholders such as Trent

University, Fleming College, and the city government, among others, to successfully achieve these objectives.

## **Literature Review Summary and Conclusion**

The literature review for this research was an ongoing process of searching for new documents as they were being released and as more attention was progressively given to SDG localization in Canada and globally. Experts in the Community of Practice for Localizing the SDGs in Canada were consulted to compile as comprehensive a list as possible, especially in relation to Peterborough. The Community of Practice is co-run by SDSN Canada and the Tamarack Institute in Waterloo, Ontario, and has been convening monthly virtual meetings in which it brings together academics, nonprofit workers, and independent practitioners to discuss trends, best practices, and challenges and opportunities in localizing the SDGs across Canada.

The meteoritic rise in the number of Voluntary National Reviews and Voluntary Local Reviews cited earlier from the UN-Habitat and the United Cities and Local Governments (UCLG) report suggests that, as we approach the end of the decade, more and more countries and cities will start to measure and assess their performance on the universally accepted targets and indicators of the Sustainable Development Goals. SDG localization helps cities and regions understand the well-being of their communities on key metrics that should guide their planning processes to achieve progress (UN-Habitat & UCLG, 2021). The SDGs also help national governments aggregate comparable data from localities across their jurisdiction to get form a clearer picture of how their nation is doing with regard to key wellbeing indicators and thus help



guide the national strategy towards implementing the universally adopted 2030 Agenda for Sustainable Development (UN, 2015).

However, for local governments to be able to effectively measure and assess their performance and share their comparable results with their subnational (i.e., provincial) and national governments, they will need support from and coordination with these two respective levels of government. In the case of Canada, the Canadian Indicator Framework (CIF) and its associated SDG Data Hub represent a great start in the journey to develop a measurement system that is adaptable to the local context and can yield comparable and reliable results. However, as mentioned earlier in this chapter, there is still work to be done on both the CIF and Data Hub so that they can reach a wider audience in local communities across Canada. Many of the CIF's indicators still do not have targets, and the majority of data points in the Data Hub are only geographically disaggregated to the provincial level or, in some cases, only a select number of cities, leaving smaller cities across the country scrambling for how to use the data hub effectively.

This review has also revealed an underlying tension in the literature that will need to be addressed as SDG localization initiatives move forward. Practitioners in communities are contending with the dilemma of adopting a nationally developed framework such as CIF and the set of indicators that come with it or two engage in grassroots-level consultation about the metrics and data that is most relevant locally that may yield a different set of indicators than the federally endorsed list in the CIF, as in the cases of Kelowna, London, and Winnipeg, and the different indicators each jurisdiction's process has yielded.

The past three years have also seen a major shift in the global conversation about climate change. In 2021 and 2022, summer heatwaves, droughts, and floods hit many communities across North America (Austen and Isai, 2021). Many farmlands across the continent are being lost to urbanization, placing further constraints on food production. According to Canada’s 2021 census data, “Ontario is losing 319 acres of farmland daily, equal to the loss of one average family farm” (CBC, 2022)). The City of Peterborough joined hundreds of other Canadian cities in declaring a climate emergency in 2019 (City of Peterborough, 2021). Elected officials and their appointed staff in cities and communities across the continent will face bottom-up pressure from their constituents to act and address these evolving challenges. Strategic planning and action will require decision-useful data to guide the process efficiently and effectively. This pressure and need for data should lead governments at all levels to coordinate and produce a workable plan that can adequately address the concerns of citizens across the country.

As I attempted to do a comprehensive review of the literature in search of a gap, it became evident that given the current state of affairs in the context of Peterborough, the stakeholders in the community will need to form better coordination and understanding of the state of the art in SDG localization as well as of their own spheres of control and influence on this process. So far, there has not been any research exploring these issues in detail. The two SDG guides that have been published in Canada (Shnurr, 2021 & IISD, 2022) only give macro-level guidance on the process without detailed examination and case study analysis, hence justifying the research questions reiterated below:

- How can Peterborough, as a case study, develop an effective SDG localization initiative to measure, assess and report on SDG indicators, as well as align its development plans with SDG targets and Canada's 2030 Agenda for Sustainable Development?
- What lessons and best practices can Peterborough learn from comparable cities in Ontario, Canada, and globally in developing capacity for advancing the SDGs locally? And how can Peterborough effectively adapt these strategic best practices from other comparable cities to its own context?

In the next chapter, I will discuss my research design and methodology to answer my research question and explain in detail the choices I have made in regard to the method I used to conduct this research. As mentioned in the introduction chapter, this research is about understanding strategy. It views data and quantitative analysis as a tool to assist in strategy development. Examining a strategy will require an understanding of context and the various forces at play, and key stakeholders that exert control and influence on various elements of this strategy. This realization has guided my choice of a qualitative study using an inductive thematic analysis approach (Braun & Clarke, 2006), which will be detailed in the next chapter.

### **Chapter 3. Research Design and Methodology**

This exploratory research aims to propose an effective strategy for the City of Peterborough and its community to localize the Sustainable Development Goals (SDGs) and advance the 2030 Agenda for Sustainable Development (Government of Canada, 2018). This project was based on research-specific questions but does not come with a hypothesis that needs to be tested and validated or falsified. However, my list of interview questions did include a hypothetical scenario to gain insight from local practitioners and city staff in Peterborough. This hypothetical scenario is included in the list of interview questions in Appendix XI. Appendix XII contains the list of questions for SDG practitioners in other Canadian communities interviewed in this research.

This qualitative study aimed to uncover best practices and successful tactics and strategies that local practitioners in cities across Canada and a few European cases have utilized to measure SDG indicators and assess their communities' performance against SDG targets. It did so through a literature review of all relevant documents to the case study and by conducting 23 semi-structured interviews with city staff and local sustainable development practitioners across Canada. The compilation of reviewed documents was done through my own online research and consultation with experts at Sustainable Development Solutions Network (SDSN) Canada, the Tamarack Institute, the International Institute for Sustainable Development (IISD), GreenUp, KWIC, the City of Peterborough, and Sustainable Peterborough. Moreover, I solicited recommendations for documents to review from practitioners during the interview process.

As mentioned in the introduction chapter, I chose a qualitative approach because of the nature of this question I have attempted to answer, which in essence, is a strategy question. While quantitative data is an integral part of an effective SDG localization strategy, the scope of this research focuses on strategy rather than locating and localizing the data itself. This research asked about how to effectively engage with the stakeholders involved in this effort and efficiently allocate resources to achieve this objective. It is through reviewing relevant documents and speaking to practitioners who have carried out SDG localization projects that I believe that insight into strategic stakeholder management could be most effectively uncovered. A recent research paper entitled: “The Case for Qualitative Research.” argued that “*qualitative research can be an invaluable approach to developing and refining theories*” (Fischer & Guzel, 2022, p. 12). Furthermore, in a recent interview with Barron’s Magazine, CEO of the Ford Corporation, Jim Farley, stated that he spends 25% of his workday effectively engaging in qualitative research to uncover strategic best practices for his own context by speaking with executives in other industries and sectors who managed to successfully pivot the strategies of their companies and, in doing so, achieve tangible growth. He does so to uncover strategic best practices that could deploy in his own context. Barron’s analysts have attributed Ford’s success to pulling ahead of all competitors in the Electric Vehicles space and to Farley’s strategy pivot<sup>21</sup> (Hough, 2022, 00:02:50), which Farley, himself, attributed to his learning from other successful pivots (Hough, 2022, 00:07:17). What Farley engages in on a daily basis counts as qualitative research, albeit more informally, which further makes a case for this chosen approach in the context of this research.

---

<sup>21</sup> <https://www.barrons.com/podcasts/streetwise/ford-and-deeres-digital-future/623d2cac-9192-4fb2-b615-e3285021005c?page=1>

## Ethical Considerations

This research has gone through the required ethical review process and has been approved by Trent University's Research Ethics Board and Indigenous Ethics Council on March 15, 2022. REB approval can be found in Appendix XII. The research followed guidelines provided by the Trent University Research Ethics Board, which were ratified by the University Senate in April 2007<sup>22</sup>.

In choosing my research subjects for the interview, I primarily focused on two main attributes: Their role as a primary manager or coordinator for the SDG localization initiative in their communities or being a city government staff who supported the effort to localize the SDGs in their jurisdiction. I reached out to 25 people, and 23 responded affirmatively and participated in this research. Communication with subjects all happened virtually via email, phone calls, or Zoom meetings. Interview participants were all sent an invitation via email and, prior to conducting the interview, were briefed about the ethical process, including their anonymity and consent form. All interviews were conducted virtually using the Zoom platform<sup>23</sup> and lasted between 35 - 80 minutes. Interviews were recorded after participants were briefed about ethical procedures and provided their verbal consent to take part in this research for being recorded. Participants were all then sent a consent form to sign for their participation in the research process. The consent form, which was approved by Trent University's REB, can be found in Appendix XIII.

---

<sup>22</sup> The Trent University Senate Policy for Research Involving Human Participants can be retrieved online at the following link: <https://www.trentu.ca/research/documents/rebpolicy.pdf>

<sup>23</sup> <https://zoom.us>

## Data Transcriptions and Storage and Privacy Considerations

To protect the anonymity of my human subjects, I have devised a numeral system of reference for these interview participants. This system is composed of a six-digit assignment. It includes a two-digit number representing the sequence in which they were interviewed from 01 - 21, followed by an ID number I assigned to their organizational affiliation, 01 Government staff, 02 not-for-profit staff leading the SDG localization project, 03 academic leading the project, 04 Indigenous leaders, 05 City Council member, followed by their location 01 Peterborough, 02 London, ON, 03 Thunderbay, 04 Sault Ste. Marie, 05 Kitchener, 06 Kelowna, 07 Winnipeg, and 08 Quebec City. Appendix XIV shows the code given to each participant in the research.

Interview records in the course of this research were all saved in one place on the OneDrive cloud storage system supported by Trent University and protected through my own Trent University password, which no one else but myself has access to. Interviews were transcribed using an Artificial Intelligence (AI) tool, Otter.ai<sup>24</sup>, on which my account is also password protected and was only accessible. My Trent University REB approval included involving an external human transcriber, and so I have had assistance from an editor who has worked with me to clean some of these raw documents.

---

<sup>24</sup> <https://otter.ai/home>

## **Analytical Approach: Inductive Thematic Analysis**

Following the completion of the cleaning process of the raw transcriptions, transcription documents were then uploaded to a second AI tool, Delve<sup>25</sup>, which I used to analyze the data, perform the coding process, induce the major themes in the data and extract and categorize relevant codes that went under each theme. To stay true to the voices and opinions I have heard throughout the process, when relevant, I included verbatim quotes from the participants and developed insight from these quotes, which informed my analysis and discussion of the results. When using direct, verbatim quotes by interview subjects, each participant was sent their exact quotes back for approval and consent before including the quotes in the final thesis document. Participants were also given a chance to change their quotes if they saw fit and were instructed to do so within a certain timeframe.

In performing my analysis, I have followed the Inductive Thematic Analysis approach outlined by Virginia Braun and Victoria Clarke in their joint paper entitled: Using Thematic Analysis in Psychology (Braun & Clarke, 2006). Thematic analysis is a flexible analytical process that does not necessarily require a theoretical framework; it primarily relies on “identifying, analyzing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p.6). At the minimum level, this approach helps the researcher organize and vividly describe their datasets. This approach, however, allows the researcher to delve deeper into their datasets and interpret the range of possible aspects of the issue being researched. The analysis process involves six sequential phases, outlined below (Braun & Clarke, 2006, p. 35) described below.

---

<sup>25</sup> <https://delvetool.com>



## ***Knowledge and Transcription of the Data***

This process requires the researcher to develop deep knowledge of the data through reading, reflecting on, and transcribing all the data thoroughly.

1. **Coding Process:** Coding is the process of diligently combing through the dataset to detect interesting data points or texts, then extracting and collating these data points to create patterns/themes and inform the findings of the research.
2. **Thematic Development:** This process prompts the researcher to search for themes using the collated codes that resulted from the coding process. This process could be inductive or deductive (theoretical). An inductive approach provides a rich description of the entire dataset without fitting the data into a pre-existing conception or coding frame. A deductive approach, on the other hand, is one whereby the researcher focuses less on analyzing the entire dataset in detail and more on describing specific aspects of the data.
3. **Thematic Review:** This process is conducted on two levels. First, to see if they tell a coherent and cohesive narrative from the subset of extracted data that resulted from the coding process. The second is to see if the themes reflect the story of the entire dataset.
4. **Themes Definitions:** This process is an iteration of the previous two processes to further refine the themes and their definitions more clearly in ways that vividly reflect the dataset. This process is where the themes have their final names, and the narrative of the research becomes clear. Normally, a thematic map results as an output of this process.
5. **Report or thesis production:** In this phase, the researcher goes through their thematic analysis one more time and selects the most compelling quotes that will inform the analysis of each theme in the research. Use the themes to relate back to the research

question and the reviewed literature to gauge the extent to which the emerging themes have properly addressed the research question and been validated by the literature review.

## **Summary of Research Design and Methodology**

In this chapter, I discussed my research design and methodology in conducting this qualitative study to propose a strategy for the City of Peterborough and the community stakeholders to measure SDG indicators and assess performance against SDG targets in the region.

In Chapter 4, I perform my analysis of the data collected using the approach described above. This chapter included extensive quotes from interview participants that vividly highlight the emerging themes in this research. Here, I use my interpretation of these quotes and the underlying context in the environment in which interview participants operate to weave, what I hope, is a compelling narrative for best practices in strategies and tactics that could be used by the City of Peterborough and the broader stakeholders in carrying out an SDG localization plan.

In the discussion, I explain how the emerging themes have properly addressed the research question and are validated through the available literature in this research, and I use that as the foundation for my conclusion and proposed recommendations.

The last part of the study includes my bibliography and appendices cited and referenced throughout this thesis.

## Chapter 4. Findings and Analysis

### Introduction

Following my initial literature review and in tandem with my ongoing search for documents that would shed more light on how cities and communities have carried out SDG localization initiatives in Canada and internationally, I began to interview SDG practitioners in city government, nonprofit organizations, and academia in cities across Canada including my focus case study, Peterborough, Ontario. The purpose of these interviews was to glean strategic insight and tactical lessons that could apply in the context of my case study, Peterborough. I conducted 21 interviews with 23 individuals in eight cities from four different provinces; Kelowna - BC, Winnipeg - MB, Thunder Bay - ON, Ste. Sainte Marie - ON, London - ON, Kitchener - ON, Quebec City - QB, and Peterborough - ON.

These interviews were focused on better understanding practitioners' strategies, tactics, and tools to apply the SDGs to their local contexts. In this chapter, the results of my interviews are summarized and analyzed to complement my analysis of the available literature on this topic and answer my main research question: How can the City of Peterborough and community stakeholders develop an effective SDG localization initiative to measure, assess and report on SDG indicators?

In my interviews, I asked practitioners to detail their experiences engaging in the SDG localization process, focusing on their roles and responsibilities, the challenges they faced, and the opportunities they saw arise throughout that process. The field of SDG localization is still

relatively new and evolving. Practitioners have carried out these initiatives in an ad-hoc fashion in which their personal interests, experiences, and management style played key roles in shaping these initiatives and bringing them to fruition. While many have looked at other examples of SDG localization that had been published, there was not a clear throughline between these examples and what these practitioners ended up doing in their own initiatives. Whether through a Voluntary Local Review process or a community forum.

SDG localization is ultimately a project. It goes through a project stages life cycle. And as a project, it is a time-bound process and requires initiation, input, planning, assigning roles and responsibilities, managing stakeholders, achieving milestones and deliverables, and producing a final output (Project Management Institute, 2021). In my discussion chapter, I will explain these findings in the theoretical framework of project management, explained in the Project Management Body of Knowledge (PMBOK) by the Project Management Institute (Project Management Institute, 2021). However, based on these interviews, it became evident that, unlike traditional project managers, SDG localization practitioners have exercised a great degree of personal agency and improvisation in carrying out their projects. These varied approaches to the process dictated the need for flexibility in the interviews and tailoring questions that were based on the interviewees' personal roles and responsibilities and ways of managing or engaging with the SDG localization process.

In some cases, such as in Kelowna, the projectization of the process was a lot clearer. A project manager was appointed who assigned tasks and milestones to everyone on the team. This approach can be explained through the lens of the project management framework developed by

the Project Management Institute in its publication, Project Management Body of Knowledge (Project Management Institute, 2021).

*Participant 050206 [00:11:17] “For the Kelowna VLR, we had approximately 15 core team members who put in a minimum of three months’ worth of work. Additionally, there were another ten team members or so that supported us with various activities, from research to graphics design to data cleaning, but may have put in anywhere from 8 hours to a month worth of work. That doesn't include any of the people from the City of Kelowna, NGOs, and other governmental and civil society organizations that contributed their knowledge and expertise....”*

Other examples, on the other hand, have relied on fewer people and a more horizontal project hierarchy. *Participant 020202 [00:10:12]: “So there was the LPRC, the London Poverty Research Center, it had just one employee at the time. And then they hired me to lead that research. So, I had his support. But I’d say it was, I don't know, if I can kind of put that in hours, maybe five to eight hours a week of his time. And then I was like, 35 hours a week, working on the project, I would help him with a few other projects. But I'd say I was pretty much focused on the SDG localization process. In terms of others, like I said, I think one thing that really made a difference to get it off the ground; I guess one of the things that you can say that I had was the social capital, like the access to this group of people who were already looking at a lot of challenges, a lot of solutions, a lot of things that were happening in the city.”*

## Thematic categories

To authentically capture and convey the voices of participants, I relied on an inductive in vivo coding method whereby codes were derived from interviews themselves rather than being pre-assigned in advance (Saldana, 2014). Examples of these codes are “*engaging with city government*” and “*engaging with academic institutions,*”...etc., which were grouped together under the themes “*stakeholder management,*” while “*localizing indicators,*” “*access to relevant data,*”....etc., which were grouped under “*data management.*” Initially, I came up with 27 different codes that were eventually consolidated into nine sub-themes under three major themes, which are detailed in Figure 3. Additionally, a permeating theme of ‘personal rapport’ emerged across the themes and subthemes.

From the outset, SDG localization initiatives were divided into two main categories that were based on the role of the city government in the process, “**government-led**” and “**the arm’s-length approach.**” Government-led means the SDG localization process is led and owned by the city government. In this approach, popular in European cities, as highlighted in the literature review (City of Asker, 2021), city staff takes on the task of developing a Voluntary Local Review, which in this case focuses on city operations and services while including feature stories from communities in the city (UN-Habita &UCLG, 2021). The arms-length approach, by contrast, is one whereby a VLR is carried out by nongovernmental actors at an arms-length from the government. This approach usually includes evaluating the state of affairs on SDG indicators

in the community of the city, and not only city government operations and services (IISD & UWW, 2021).

Canadian cities and communities have largely preferred the arms-length approach; five out of the eight examples studied in this research are localization projects led by either a nonprofit organization or an academic. This was not knowledge that was derived from the interviews. I had known this based on my literature review and prior research on the central actors in the SDG process.

In two cases, my interviews revealed that as their initiatives were still in their infancy, the city government in these respective places, Kitchener and Sault Ste. Marie, both located in the Province of Ontario, planned to play an enabling but not necessarily a leading role in the localization process.

*Participant 180105 [00:07:49]: “We're really trying to play up goal number 17; partnerships for the goals. [In the ecosystem], we're all working together collaboratively. We dabble in the same space. We're all working in entrepreneurship. There's going to be an overlap with what we're doing. But the intent is for us to be a resource center so we know who's doing what. (So) if you come into our space, and you say, ‘Hey, do you know someone that's working on this particular SDG or can help me in this particular area, I can make an introduction to someone in that space or[recommend] a program or center that would be better suited.’ The intent is to have partners and the community activate the space. It really is about putting a bunch of like-minded people in the space.*

*Participant 060104 [00:04:54]: “The SDG project started here in Sault Ste. Marie back in 2021. We were approached by a professor at the University who is teaching a class on the SDGs to see if we would be interested in participating in a voluntary local review of a key municipal document through the SDGs as a City Studio Project. The project is complete; however, we are still waiting to see the final report output. Students were tasked with reviewing the report that I told you about, Common Cause and New Direction report, as well as the City’s Official Plan Backgrounder document to determine which national and international SDG targets were relevant to Sault Ste. Marie and generate recommendations regarding what the City needs to do in order to make progress on all of the relevant targets/goals.”*

## **Major themes and sub-themes**

As mentioned earlier in this chapter, the interview process has revealed that undertaking an SDG localization initiative is, in essence, a project management exercise. It has inputs which are mainly three; human resources, financial resources, and data, and an output, usually a report that documents the process and analyzes and contextualizes the data, or a voluntary local review, which serves as an assessment of how a jurisdiction measures against specific SDG targets. It became evident through the interviews that it’s still too early to measure the outcome and impact of these efforts. However, some participants suggested that aligning municipal plans with SDG targets could be an effective way to translate the output into an outcome.

*Participant 080102 [00:06:17]: “When I think about the SDGs, and I think about the work of this city, I think that there's the closest tie. And this is one that has yet to be formalized. But I*



*think the closest tie really is to the strategic plan that our council creates in its four-year cycle. I know there are other municipalities that directly use the SDGs as part of their metrics and reporting when it comes to their strategic objectives, the strategic council objective. And I think, you know, I have certainly been lobbying internally, with the team that someone could spearhead that strategic plan creation with incoming council members, to really make sure or to at least suggest that this be something that we use to help guide and communicate the work of the next council, which is due to come in this fall.”*

*Participant 120201 [00:23:34]: “I wouldn’t want to sound as though I am telling the City what to do, but I would recommend that perhaps they could build the SDG lens into their work plans and into their official plan, that sort of thing. A lot of great work is taking place already but not yet directly connected or aligned to the SDGs and their respective indicators, so in many cases, it’s simply a matter of aligning initiatives, accomplishments, and projects with the SDGs. In many cases, it would just entail rewording and reframing, which would also make reporting that much easier. And that might even enable them to access additional funding as, from what I understand, funding may become available for SDG-specific projects.”*

The result of the extensive coding exercise for the 21 interviews for 23 people was three major themes, nine subthemes, and one permeating theme, as shown in Figure 3 below.

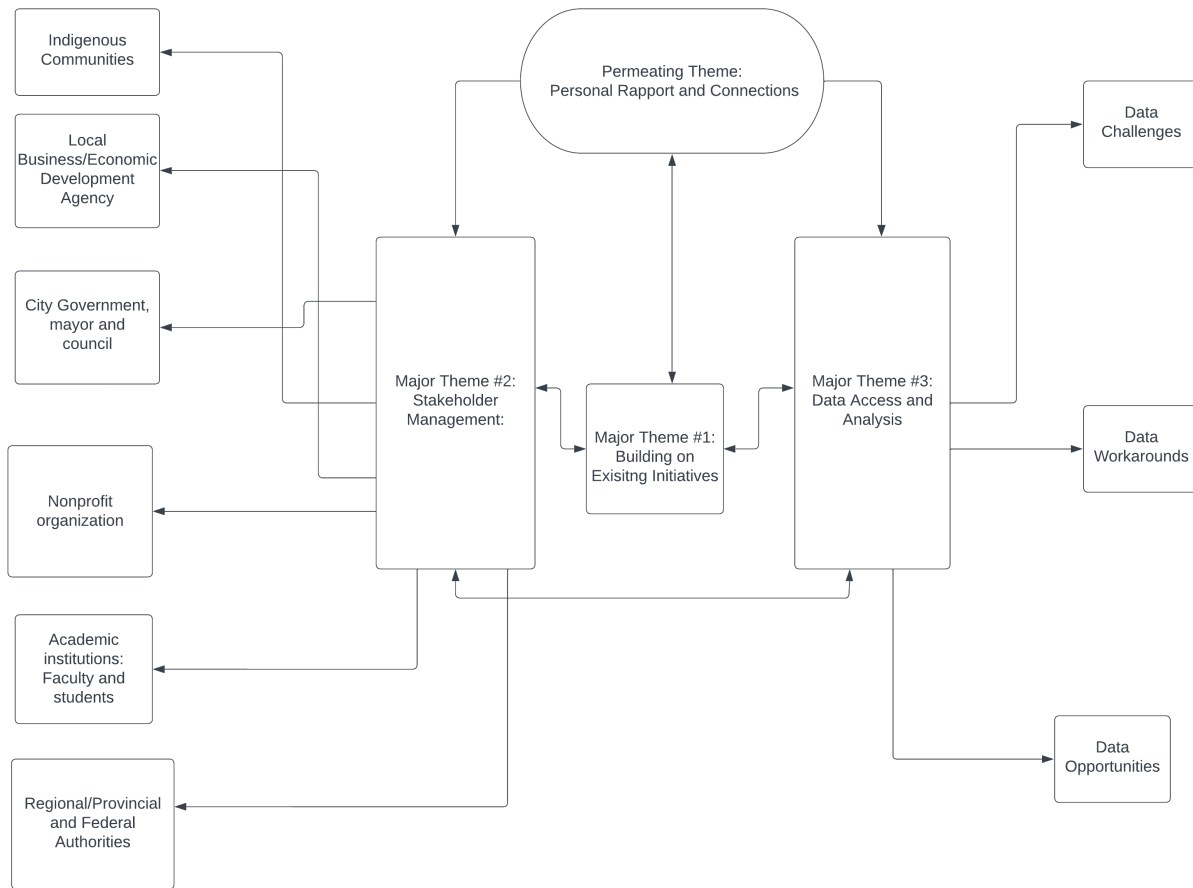


Figure 3: Thematic Analysis Diagram

## Theme 1: Building on existing initiatives

As cited earlier, cities, communities, and organizations have dedicated resources and spent valuable hours collecting and analyzing data to produce an SDG localization report. To better understand the rationale behind and the value proposition for SDG localization and I set out to find out why these practitioners engaged in the process by asking them the open question to walk me through why and how they got started on their SDG localization journey. While participants' experiences with the process have varied, a common theme emerged from most of

them: building on existing initiatives and attempting to align those with the SDGs. In London, Ontario, the London for All Initiative provided the catalyst for the detailed work on SDG localization that was carried out by the London Poverty Research Centre (LPRC), which involved developing a decision tree to decide which indicators would apply to the local context and complement that with indicators for data that is collected locally and match the data with SDG targets. The decision tree and the London methodology can be found in Appendices VII, VIII, and IX.

*Participant 020202 [00:01:58]: “But what led to the SDG work started at the city. So, there was a panel on poverty, sorry, poverty taskforce. That's what they called it, organized within the City of London. And, as you know, like it's a systemic issue, it has a lot of different, it's multi-dimensional, it's one of the wicked problems, right? So what they decided to do was to invite, to hire an external organization to lead that work, like to convene all the different sectors, all the different stakeholders, all the different champions, the community that could further that work. And they chose United Way. United Way was the convener. I think it was a three-year project that they called London for All. And the bold vision was to end poverty in one generation. What they did, they convened, like I said, they convened groups and organizations from different sectors and a lot of people from different departments in the city.”.....”And, obviously, the first group that we reached out to was the people involved with London for All initiative, which already has, like, it was a very cross-sector group that had business people, had government, nonprofit people, and people with lived experiences; it was a great start to look at the SDGs. So, that's how the process started.”*

In Kelowna, BC, it was a “reporting card” on poverty data that the British Columbia Council for International Cooperation (BCCIC) had developed for British Columbian cities and communities.

*Participant 050206 [00:00:16]: “Basically, it started with BC Council for International Cooperation, BCCIC, as it has done a lot of work with the SDGs. BCCIC had done some work in the past where they developed an SDG report card, but it was a very high-level report card for communities. It just looked at the 17 SDGs and used traffic light colors, red, yellow, and green, to indicate how the community was generally performing for the specific SDGs. GECCO (local BCCIC Chapter). I looked at this project, and I thought about how this existing report card could be taken to a deeper level. Implementing meaningful change based on general information is difficult; GECCO wanted to develop a pilot case of an SDG report card for a community with additional information around barriers, challenges, and work already being conducted to improve the situation on the specific SDG. The SDGs rolled out in 2015. In 2017 when GECCO was considering the pilot project, Canada was lagging in SDG implementation, making bringing any community on board more difficult. We, therefore, started mapping out some Kelowna municipal planning documents and aligning them with the SDGs ahead of approaching the municipality....”*

In Thunder Bay, ON, it was based on the prior experience and research interest of the lead author of the Voluntary Local Review in Thunder Bay, who was a professor at Lakehead University, and during her Ph.D. in Australia, had taken an interest in the Millennium Development Goals (MDGs), the predecessors to the SDGs.

*Participant 110303 [00:00:20] “ So I had, earlier in my career, particularly during my Ph.D., I had done a lot of work on that sort of broad sustainability theory, type work, you know, at this sort of international level thinking, talking about the Millennium Development Goals, and as they were transitioning in and that sort of thing, and then I have gotten away from that and to stuff that I've maybe I'd term it more specific, kind of into some of the more specific MDGs or SDGs, like around anti-poverty work and food, sustainable food systems, and Indigenous peoples rights. And so anyway, I had personally just been thinking about opportunities to sort of refocus some of my work back towards broader sustainability theory. And this was around the same time that the SDGs were launched. And I sort of, I don't know, when I was just sort of searching around trying to think about what I wanted to do, I came across the SDGs. And I came across this idea of voluntary local reviews, and this was in 2018 or 2019.”*

In Winnipeg, MB, a Community Indicator System (CIS) had been developed by two leading nonprofit organizations in the city, United Way Winnipeg and the International Institute for Sustainable Development (IISD), prior to the adoption of the SDGs by the UN in 2015. This Community Indicator System started in 2009 and, over the four ensuing years, was developed in broad consultation with other community organizations and the city government and culminated in the selection of 57 indicators that aimed to measure community wellbeing in eight categories and is publicly accessible through the myPeg platform online<sup>26</sup>. Appendix XV lists the indicators in the Winnipeg Community Indicator System.

---

<sup>26</sup> [www.mypeg.ca](http://www.mypeg.ca)

*Participant 070207 [00:00:14]: “So in the case of Peg, which was sort of the primary partnership that created the VLR. IISD, the organization that is one half of the partnership that I have been a part of, we have quite an international focus. And so, in the international scene, the SDGs were becoming more of a discussion topic, obviously, after they had been brought to life in 2015. And so, IISD approached United Way, our counterpart in the Peg partnership, and proposed uniting the platform and the indicators and aligning them with the SDGs. So it started with IISD. And then, obviously, because of the partnership, we decided with United Way Winnipeg that this was the approach that we wanted to take. So in 2018, in time for our annual Peg report, we did align the Peg indicators in the platform with the Sustainable Development Goals.”*

In Sault Ste. Marie, ON, the initiative built upon a report that was developed by the city’s Community Adjustment Committee (CAC) that was entitled: a Common Cause and New Direction for Sault Sainte Marie, which was published in 2017.

*Participant 060104 [00:00:16]: “The core goal of this report is for Sault Ste. Marie to become a vibrant community with a population of 100,000 people. It focuses on four pillars, including economic growth and diversity, social equity, cultural vitality, and environmental sustainability. We are working on that goal of being a vibrant community of 100,000 people; our population right now is approximately 72,000. There has been a lot of effort made to improve the arts and culture in the community. There is also a huge attraction strategy to encourage newcomers to settle here. We’re also working on improving social equity issues here in Sault Ste. Marie, and the environment, as well. As you know, the SDGs are robust, and all four pillars fit into them*

*very well. In 2021, we had a conversation with the Institute for International sustainable development (IISD) to discuss how we could track community progress on the CAC report. We also met with a variety of community stakeholders to discuss how we can track our SDG progress in a more transparent and efficeint manner to encourage more community engagement. Tracking the impacts in a community is a community effort and will require the efforts of multiple stakeholders. We are continuing the conversation to expand on this across multiple sectors in our community, in alignment with the SDGs.”*

In Kitchener, ON, the initiative, which is an SDG lab, a physical space wherein SDG practitioners in the community would gather to host workshops, training programs, and discussion sessions to advance the SDGs locally, was based on a trust in the form of an existing building that was given to the city to make use of in a productive way. Additionally, the city’s strategic plan 2018 - 2022 had been aligned with the SDGs under the mayor’s directive. (City of Kitchener, 2018)

*Participant 180105 [00:00:14]: “Part of the “City of Kitchener, 2018 to 2022 strategic plan is to foster the creation of a city-wide network of incubators, accelerators, and coworking spaces.” (quote from our strat plan). Building off of 2020 Make it Kitchener 2.0 Economic Recovery and Growth strategy, which included developing a hub to support businesses tackling the UN Sustainable Development Goals. We had a space that's sitting empty. It was bought for an organization in the city, and it's being held in a trust to facilitate their capital expansion—They have ten years to expand into the space. Since the ten-year period hasn’t passed, we asked to use it for the next three years to run a pilot project and got it approved by council.”*

In Quebec City, the approach was different. The city aimed to take stock of its own operations and services and attempted to assess these operations and services in relation to the SDGs and then create alignment with the SDGs for these plans and programs moving forward. The city government has engaged with a wide range of community partners to develop a suitable strategy for advancing the SDGs in the city. This was in contrast to initiatives in other cities, where the city government attempted to play a supporting role rather than a leading role in the process.

*Participant 170108 [00:01:14]: “The Sustainable Development Strategy was the subject of an extensive consultation process. Indeed, it is the result of a participatory process that involves city staff, partner organizations, the Huron-Wendat Nation, and the population. It is intended to be the solid foundation of a collective transformation. The citizen consultation helped gather comments and ideas from the public and stakeholders. The objective was both to encourage the population to adhere to the strategy and to plan actions that will challenge citizens for a successful collective shift. The report of the citizen consultation is available on the city's website of Quebec. More details can be found in the documents of Sustainable Development strategy.”*

In my focus case study, Peterborough, contrary to other examples, there was not a clear connection between an existing initiative or program, but rather four leading organizations in the region, GreenUp, the Kawartha World Issues Centre (KWIC), Trent University, and Fleming College were inspired by other examples of Canadian communities who had attempted to localize the SDGs.



*Participant 230201 [00:00:14]: “We had read about some Canadian communities that were attempting to localize the SDGs. Recognizing the value of having a universal or international way of talking about progress toward sustainable development and climate change, we were interested in thinking about how we could do that work locally--what it would mean to localize the SDGs in the Peterborough context, who was already doing that work, how the indicators could be relevant or possible to measure at the local level, and which organizations and institutions might have the capacity to be supporting that type of benchmarking into the future”*

## **Theme 2: Stakeholder Management**

The second emerging theme in this research is stakeholder management. Stakeholder management and meeting stakeholder expectations, as the Project Management Institute (PMI), emphasizes, are critical to the success of any project (Project Management Institute, 2021). PMI defines stakeholder management as *“the process of managing the expectations of individuals, groups, or organizations that may affect, be affected, or perceive to be affected by the project”* (Project Management Institute, 2021, p.250). Stakeholders are anyone or any entity that impacts or is affected by the outcome of a project. This includes the project manager and the project management team (Project Management Institute, 2021). Primary stakeholders were identified through a case study, Peterborough, and other examples spanning four provinces and eight cities. These are the city government staff, nonprofit organizations, academic institutions in the region, local businesses, economic development agencies, the mayor and city council, Indigenous communities, and provincial and federal governments. It became evident that none of the SDG localization leads had developed a comprehensive strategy to engage all of the nine stakeholders identified in this study. In developing their SDG localization plans, leads have had the least

engagement with provincial governments, federal agencies, Indigenous communities, and local businesses. Given that many of these leads were nonprofit workers, they naturally formed stakeholder groups made up of other nonprofit workers, city government staff, and academics. Personal rapport and connections were especially visible in how stakeholder groups were formed. These groups ultimately acted as steering committees for the SDG localization projects.

This approach could also be seen as a scoping and resourcing issue. A comprehensive stakeholder engagement plan could prove to be very difficult to manage. Stakeholders may have varied and sometimes conflicting interests. Focusing on those with whom one has a good working relationship might be an effective way to manage stakeholder expectations. The role of personal rapport and connections in forming professional networks has been studied empirically in sectors such as healthcare, which validates the salience of this finding (Macintosh, 2009; & Prochnau et al., 2003).

*Participant 110303 [00:02:35]: “So I initially talked to my friend, a colleague, \*\*\*\*\*, who's at \*\*\*\*\*. So that's a nonprofit organization. But she also runs the Poverty Reduction Strategy, which is a city-run initiative. So do city work, but as part of an independent organization, so I spoke with her, and I said, ‘Hey, you know, I've been thinking about this, what do you think?’ she's like, ‘I've loved the SDGs, we definitely have been thinking about them.’”*

*Participant 200201 [00:01:22]: “My memory is that at some point, a conversation happened between \*\*\*\*\*-at Greenup and-\*\*\*\*\* at KWIC, who was the executive director at KWIC at the*

*time. And I think there was some interest in trying to think about the SDGs. And at some point, they decided to partner on that initial forum in 2019.”*

Stakeholder management styles and focus have varied significantly. As mentioned earlier, none set out to comprehensively engage with all possible ones. This varied engagement led to a variety of outcomes.

### ***Engaging with Indigenous groups***

Some SDG localization leads have struggled to get Indigenous leaders interested in the process. This perceived lack of interest on the part of Indigenous groups could be interpreted in different ways. One participant pointed to the fact that Indigenous communities are often overburdened and have to deal with multiple issues constantly at once. They face resource challenges, both human and material, to dedicate to initiatives, the benefits of which may not be readily available.

*Participant 090201 [00:52:50]: “ So we had the letter sent out, but there always is a problem of capacity and resources in their communities because there's a lot that they're dealing with all the time.”*

*Participant 050206 [00:28:25]: “we (GECCO) have a lot of improvement to do in our engagement with Indigenous organizations, and it was a huge learning process. First, we approached a local First Nations band in the area. We had difficulty making a connection, and I reached out to a personal contact who then connected me with the appropriate department. While this department provided information to help us map out the SDGs to the municipal documentation, there did not seem to be much interest. I thought, maybe I don't have the right*

*connection. Somebody then connected me to an elder in the same band, and the elder seemed interested. However, communications halted. It was important to our project that we capture an Indigenous perspective on the SDGs. However, we felt it was not fair to push and impose our goals onto an organization that was not interested or did not have the capacity. We brought another team member on board who was able to spend more time contacting Indigenous organizations to understand if and how their goals can align with our project goals. We received a tremendous amount of help and valuable feedback from First Nations Health Authority and Ki-Low-Na Friendship Society. These organizations also helped us understand how to respectfully approach and work with Indigenous organizations. While our initial attempts to connect with an Indigenous group on the SDG work did not work out, it was important we keep trying and adjust our approach accordingly.*

*Participant 070207 [00:25:35]: “ Because one unfortunate thing is that early, very early on, you know, over a decade ago, when Peg first did community consultations, the partnership Peg did approach Indigenous groups to ask, you know, if they were interested in becoming involved with the process, and at that point in time over a decade ago, the answer was no. And I don't know the details over, you know, how that discussion exactly went. But the result was that you know, for roughly a decade, the sort of Indigenous perspective and data related to Indigenous peoples, more specifically, Indigenous consultation and collaboration, was not a part of what made Peg which is, certainly, I think we all acknowledge on the team, a very significant flaw, and one of the biggest things that we intend to work on, that we need to work on.”*

By contrast, Peterborough's engagement strategy with the Indigenous community was so successful that it was highlighted as an exemplary case by the two SDG localization guidebooks that have been published in Canada to date (Shnurr, 2021, & IISD, 2022).

*Participant 090201 [00:52:50]: "So we had really good contacts within the closest community, Curve Lake. So we did consult Hiawatha and Alderville, who are the closest ones to us, and yeah, we sent out a letter letting them know that this is the work that's happening. As treaty partners or treaty people, we need to inform them of the work that's happening because this is their territory. So we really partnered closely with Curve Lake First Nation because they have the most capacity and really incredible people over there. So we were really grateful for \*\*\*\*\* and his consulting agency, which was actually just created during the project. He used to work for Cambium Aboriginal. So that was great to have his expertise because he's consulted, you know, the government, the federal government, people all over Canada."*

The teams at the Community Forum collaboratively selected four priority SDGs to focus on in consultation with the community stakeholders, which were largely made up of faculty at Trent University and Fleming College and other local and regional nonprofit organizations. These were SDGs 1, 4, 6, and 13. Each SDG had its own dedicated team that worked to develop recommendations for advancing these goals in the community. In addition, a fifth team, the Indigenous Leadership Action Team (ILAT), was created to incorporate Indigenous knowledge and perspectives into the work and findings of the four other teams.

*Participant 090201 [00:52:50]: " So that was really, really helpful and important work to do. And they also appointed somebody from their chief and council to be on the Indigenous*

*leadership action team. So we had good representation there. And on the indigenous leadership action team, we needed people representing those different nations. So we made sure we had someone from Hiawatha and Alderville. Most of them were from curve lake. And also, Burleigh Falls First Nation.”*

Citing an earlier experience in promoting waste recycling in Indigenous communities, an Indigenous leader stressed the importance of hiring Indigenous community members to be consultants on projects such as SDG localization, which further reinforced the success of the Peterborough Community Forum’s model for Indigenous engagement.

*Participants 140401 [00:19:02]: “So how I have gotten around it, is I identified some community leaders, got them on site and actually hired them to go around and do the consultation. And in addition to that, I did promotion within the schools, So the children would be at schools, they'd come home to their parents and say ‘mom, or dad, that doesn't go in the garbage, that goes into recycling’. So it was the children that actually taught the parents how to recycle and such. Yes. So that as a result, we're going on, you know, 20, over 20 years in successful recycling. And we diminished our garbage content by 40%. So, you know, that was successful, but that's how I did it. How does it translate into the SDG, consultations, maybe it could have some kind of hire somebody, identify community leaders, and go into the schools and the schools here would mean, mostly the colleges, and the university.”*

### ***Engaging with local/regional businesses and the local/regional economic development agency***

While in many cases, SDG practitioners found it difficult to get Indigenous communities interested, except for Kitchener, practitioners did not seem to have a clear strategy for engaging directly with local businesses. In both London and Peterborough, practitioners opted to engage with the economic development agency in their respective areas and use that as a proxy for engaging with businesses.

*Participant 020202: [00:49:33] “Yeah, we, our main partner in the private sector, well, guess what's not really private sector because they're, they're also an arm's length organization, the LEDC London Economic Development Corporation. They were supporting us with mapping the indicators. They did connect us to a few other private sector, champions, if you will, in the community so we can get their feedback as well. They also have some data for us for some of the SDGs for SDG 8 decent work and SDG 9.”*

*Participant 090201 [00:39:17]: “\*\*\*\*\*, from PKED. So she really had that hat for engaging businesses and what the implications would be for small businesses locally....” ...” “Yeah, so the forum, it was really about presenting the work that we did and then hearing feedback on that from the community. So we did invite, send a, you know, we tried to engage through the PKED. They have a lot of businesses in their network. So we tried to reach out to them to invite them to come and share their perspectives. So we did our best.”*

In engaging with local businesses and entrepreneurs, the experiment being carried out in Kitchener warrants consideration. The city's dedication of a building to become an "SDG Lab" that would house entrepreneurs from across the city to work on startups through an SDG lens might be a creative way to engage local businesses in SDG localization.

*Participant 180105 [00:02:18]: "One of the areas they were looking at in economic development was entrepreneurship, and the SDGs as well as social entrepreneurship. The Waterloo Region Small Business Centre did a community consultation in 2021 with a sample of entrepreneurs and the number one finding was, they wanted a space to be connected with like minded people and organizations. We basically then had to come up with a plan to see how we would be able to connect our entrepreneurs into this kind of space."*

The Greater Peterborough region boasts a vibrant ecosystem of entrepreneurship support. Organizations such as the Peterborough and the Kawartha Economic Development (PKED)<sup>27</sup> Greater Peterborough Innovation Cluster<sup>28</sup>, Community Futures<sup>29</sup>, and the Peterborough Region Angel Network<sup>30</sup> all provide different support services, mentorship and guidance, and investment for small businesses and budding entrepreneurs in the area. A variation on Kitchener's SDG Lab in Peterborough could be to consider a startup challenge under the SDG framework that would be co-sponsored by the city government, Trent University, Fleming College and Seneca College, and the Peterborough Innovation Cluster.

---

<sup>27</sup> <https://investptbo.ca/about-us/>

<sup>28</sup> <https://www.innovationcluster.ca>

<sup>29</sup> <https://communityfuturespeterborough.ca>

<sup>30</sup> <https://www.peterboroughangels.ca>



### ***Engaging with the city government, mayor and city council***

The role of the city government in the process varied based on examples. While in the cases of Kitchener, Sault Ste. Marie, and Quebec City, SDG localization initiatives were spearheaded by city staff, in others such as Thunder Bay, Kelowna and Winnipeg, city staff played a supporting role in giving feedback and commentary on relevant SDG indicators and data to measure these indicators as part of a steering committee.

*Participant 190106 [00:02:15]: “So my colleague and my direct manager were involved from the beginning. And they, I believe, were approached by \*\*\*\*\*, that they had some funding, and they wanted to do a pilot community project. And so it was a great opportunity for us as a city to be involved with that, and to see where we stood in terms of the Sustainable Development Goals. So that's kind of where it initiated, and then my understanding is, over the next little while, my colleague and my manager worked together with \*\*\*\*\* to start identifying some of potential targets. And well, not all of them are directly from the city. For those ones that we identified, we worked with other departments within the city to see what was actually feasible, because I'm in the Policy and Planning Department.”*

*Participant 210107 [00:02:52] “So I met\*\*\*\*\*, early on, at the Our Winnipeg project, which she may have mentioned, she was very interested. And I wanted to say, ‘Oh, yes, like, where can we find data? Who can we share data with at the city? How can we share the city's data out.....Out to the rest?’”*

In my case study, Peterborough, the city staff were most active in the SDG6 Water Sanitation and Hygiene action team, which was formed as a result of the 2019 Community Forum.

*Participant 090201 [00:08:11]: “So the representation from the city, specifically in the clean water and sanitation group, was \*\*\*\*\*. And he was instrumental in being a liaison between the city and us. And because he was leading the projects, on their new model for Watershed Protection, something like that.”*

The mayor of Peterborough at the time was present in the 2019 forum, according to one local SDG lead, and it seemed unclear if there was any serious attempt to reach out to the council.

*Participant 230201 [00:15:12]: “The mayor at the time was in attendance, which had been a strategic outreach. There was turnover in community services around that time, but I cannot recall if there was other outreach to municipal staff or council.”*

When asked about their familiarity with the SDGs and the SDG Community Forum in Peterborough, one participant in this study who served as a city council member indicated that she only knew of the SDGs as a framework that exists but was unaware of the community forum and its proceedings or outcomes.

*Participant 100501 [00:04:25]: “ I'm aware they [the SDGs] exist, and I am aware like I can't list all of them off the top of my head. But yeah, I'm aware that they exist and there has been some movement towards making them happen. But other than that, I don't have much familiarity with them. ”.....”Short answer, no, I feel like perhaps I heard on the periphery that something was happening. Or rather, I know that I heard that something was happening. But it was never brought to my full attention. So I knew that KWIC was working towards it. But other than that, I didn't know that there was a forum happening. I didn't know that there were four groups that were working towards, or rather five, five groups that are working towards addressing some of the SDGs. So I sort of heard about it, but not really.”*

In London, the participating city staff in the study was not in their position at the time that the SDG localization initiative was being carried out by the London Poverty Resource Centre (LPRC). They are now considering different approaches to taking this initiative forward and having the city be more actively involved in this process.

*Participant 080102 [00:06:17]: “When I think about the SDGs, and I think about the work of this city, I think that there's the closest tie. And this is one that has yet to be formalized. But I think the closest tie really is to the strategic plan that our council creates in its four-year cycle. I know there are other municipalities that directly use the SDGs as part of their metrics, and reporting when it comes to their strategic objectives, the strategic council objective.”*

This planned engagement with incoming council on the SDGs in London, suggests that doing so with incoming council in Peterborough as it creates its strategic plan and encouraging

alignment of the strategic plan with SDGs, would be of practical value for the City of Peterborough to consider. A strategic alignment with the SDGs that is mandated by the city council, would empower city staff to dedicate appropriate time and resources to ensure that targets in this alignment are met.

In Peterborough, Sustainable Peterborough, an initiative currently housed in The Peterborough and the Kawarthas Economic Development (PKED), is set to take the lead on SDG localization and build upon the work of the community forum. It is likely that the city government and its staff will become more actively engaged in the process, given that senior city staff sits on the steering committee for Sustainable Peterborough.

*Participant 120201 [00:21:34]: “The City (along with Peterborough County) jointly funds Sustainable Peterborough so so they have a financial role in Sustainable Peterborough. Also, with \*\*\*\*\* being one of the co-chairs, they have a governance role. In terms of the actual work, the tangible SDG tracking work, I can see liaising with them to gather various types of data to build into this tracking framework. We would absolutely be collaborating with them either through ~~xxx~~, or through various department heads, as we did so in the past with the report card. It was a bit of a blend, so I would reach out to various contacts at the city, and they would send me all the required data. Sometimes they had a representative on the Coordinating Committee who would gather that data from various department heads, as well. I can definitely see something like that continuing, but reframed through an SDG lens.”*

Quebec City, on the other hand, developed a very interesting partnership. The city government partnered with a professor at the local university, Université du Québec à

Chicoutimi, to educate its staff about the SDGs. This initiative, which according to city staff, was very successful, is worth considering in the City of Peterborough, as it considers how to engage with the SDGs moving forward.

*Participant 170108 [00:37:36]: “The City of Quebec, in concert with the University’s Eco-advisory Chair from Quebec to Chicoutimi, analyzed the UN targets to establish those that fell within its responsibility. Targets were prioritized with the participation of 23 administrative units’ representatives. More information can also be found in our sustainable development strategy.”*

The most interesting finding about engaging with the city government came from the SDG lead in Thunder Bay in a follow-up email correspondence in which I requested a copy of their VLR, if published, to include in my review. The SDG lead said, *“We decided to wait until October after the new council is elected [to publish the VLR]”* (personal communication Jul 25, 2022). This decision by the VLR team suggests that the city council and local governments are poised to assume an even more active role in the SDG localization process.

It is worth noting that beyond a few engaged staff in city governments, with the exception of Quebec City and Kitchener, city staff have not been instructed in any tangible way to pay attention to the SDGs in their functions.

*Participant 150101 [00:02:32]: “I, myself, no, your email request was the first I've heard of them. And I was intending to go and take a look. But I still haven't. So I really don't have any knowledge of it.”*

*Participant 160101 [00:03:12]: “I asked \*\*\*\*\*-about it. And he sent me a blurb that maybe he copied and pasted from somewhere, maybe not. But that's literally the two sentences all I know about what the Sustainable Development Goals initiative is what he sent me. So it's not very much.”*

### ***Engaging with nonprofit organizations***

Engaging with nonprofit organizations beyond those leading the initiatives seemed more natural than engaging other stakeholders. This could once again be explained through personal rapport and connections, cited earlier in this chapter, as in many cases, nonprofits or academia took the lead in SDG localization initiatives. The two main organizations that were mentioned in the interview are the local chapters of United Way and Community Foundations. This engagement was in the form of input on relevant indicators and data collected locally, as well as in providing a financial contribution to the initiative.

*Participant 220103 [00:02:16]: “ So we had conversations with some other community partners who are interested in the sustainable development goals. And that included Lakehead University, the United Way of Thunder Bay, and our City's Adaptation and Sustainability Coordinators, and we just had some preliminary conversations about it. We used several of the SDGs in the*

*Population Level Indicators report that informed the City's Community Safety and Well-Being Plan."*

*Participant 070207 [00:02:28]: "I'm not sure what the level of awareness was on the side of United Way - Winnipeg when it came to the SDGs. But still, to this day, IISD does have sort of the primary role within the partnership of handling the sort of SDG-related work and analysis and understanding. Of course, through doing this work, United Way - Winnipeg has become more familiar, and you know, obviously supports using the SDG framework in their work. But it was definitely IISD that approached United Way Winnipeg about this, and to this day, still kind of is the primary partner within the partnership that handles sort of the SDG-related work."*

Another interesting initiative by two nonprofit organizations, Pillar Nonprofit in London, ON, 10c in Guelph, On is called SDG Cities. It's a federally funded nonprofit initiative to help local organizations assess their programs and services in relation to the SDGs. It can be worth considering linking up with the managers of the SDG Cities program to learn more about their programs and see how they could be applied in Peterborough.

*Participant 020202 [00:06:35]: "The SDG Cities is pretty much trying to support any organization at the local level, to work towards the SDGs. And that means in terms of the spectrum. It could be raising awareness about the SDGs, and providing support to integrate the SDGs into the work that they do institutionally. So it's a level of localization even further down to how to use the SDGs in your organization, not necessarily in your city. So it's a lot of, we talk a lot about impact measurement. And then storytelling with the SDGs. And obviously, we want to,*

*as more organizations are thinking and using SDGs, we want to convene, we want to be the convener at the local levels of the SDGs.”*

In Peterborough, The Kawartha World Issues Centre (KWIC), one of the two partners behind the SDG Community Forum, has collaborated with the Community Foundation of Greater Peterborough to focus its SDG work on advancing SDG5: Gender Equality.

*Participant 090201 [00:48:10]: “And Community Foundation wasn't really involved in this one [Community Forum]. They funded the SDG gender equality project and were instrumental in creating the vital signs report. So they're very involved now. But yeah, I don't think they had a significant part in the SDG work that we did.”*

SDG leads in Peterborough could benefit from actively engaging with the Community Foundation’s Vital Signs project. Leads and concerned stakeholders in the region should consider encouraging the alignment of this project with SDG targets and indicators. This alignment and active engagement could prove fruitful for the stakeholders involved, especially since the community foundation has created a data hub<sup>31</sup> that is very similar to the community indicator system used in Winnipeg.

### ***Engaging with Academic Institutions***

Engaging with and consulting academics was among the shared elements in all of the SDG localization initiatives in Canada that were part of this study. It’s worth noting, however,

---

<sup>31</sup> <https://vitalptbo.ca>



that the outreach was generally to academics based on their knowledge and expertise and not to their institution as a whole. So administrators at universities were not necessarily engaged in that process.

In one case, Thunder Bay, the entire project was led by a faculty member and two of her graduate students who did that as graduate research assistants. The SDGs were not even related directly to their own master's research :

*Participant 040303 [00:02:09]: "So for both of us, I don't want to speak for \*\*\*\*\*. But I'm like the VLR is more so like our research job rather than for our own theses. I actually didn't do a thesis, and \*\*\*\*\* is on a different project. So this was solely what we were doing for graduate assistantships."*

In Peterborough, Trent University, and Fleming College, faculty, staff, and students were part of the 'Project Coordinating Committee', according to the final report published by the Kawartha World Issues Centre (KWIC, 2021).

*Participant 090201 [00:35:09]: "Yeah, so we only really worked with the Sustainable Studies, I think, Sustainability Studies programs, master's program. Yes. And that was really great. I appreciated the capacity that they had because, yeah, everyone from that program brought their own knowledge already. So we didn't have to educate them on the SDGs. And they brought that capacity to the forum, which was great. So the most difficult part about engaging those students is the capacity to train them to, you know, like what they needed to know to support us. You know, that's always the difficulty with volunteers; you have to orient them. So yeah, that was my*

*experience with them in the forum. But I think that having a university is really beneficial to be involved in this work because of the research, the capacity, the space to convene people.”*

*Participant 230201 [00:13:24]: “Our partners at Trent and Fleming were involved in the coordination of the summit, and there was an intentional effort to bring key community organizations and leaders together.”*

In London, it was an alignment with the research interest of faculty at Western University that brought SDG practitioners and academics together.

*Participant 020202 [00:31:24]: “We did have a partnership with Western because they have an office that had ready access to the federal data from Statscan, and they would have,, because some of those datasets are not that easy to find. They're not easily available online for free.”*

However, priorities have changed due to the COVID-19 pandemic, and this partnership was abruptly canceled before it yielded its intended output.

*Participant 020202 [00:31:40] “They were actually funded by Mitacs grant too, and their deliverables included creating datasets that would fit into the mandate of the project as well. So it was just a perfect alignment that we would have access to experts that have access to data that could provide it to our project. It was just such bad timing that COVID happened, and we just had to shut it down.”*

Much like in Peterborough, in Winnipeg, university faculty were part of the advisory committee, providing feedback and commentary to help guide the project forward:

*Participant 070207 [00:25:35]: “ So the involvement of students was, as far as I know, not part of the process. However, we did have quite a few professors who were part of the advisory committee to ensure that, you know, they took a look at the work that we were doing, and from their professional perspective, their field of expertise, they were able to provide that kind of feedback on what our work looks like, from their perspective. And there have been quite a few very helpful comments that were made. And one of them quite early on with the VLR planning process was one of, I believe, for the most part, echoed by most of the members of the advisory committee, but it was also definitely more so led by, I would say, the university professors that were on the committee, and it was ensuring that we, at the very least, acknowledge the fact that we are not doing enough on the level of Indigenous data and reconciliation, and that more needs to be done.”*

As cited earlier in this chapter, the SDG localization project started in Sault Ste. Marie when a professor at the local university reached out to the city and proposed that his students perform a review of municipal documents to assess their alignment with the SDGs as a class exercise. Also, as cited earlier in this chapter, faculty at the local university in Quebec City designed and delivered a 35-hour course to 32 municipal staff to raise awareness about the SDGs and their role in city functions and planning policies. These examples further emphasize the importance of the role academics can play in supporting SDG localization in their communities.

In Kitchener, as the initiative, the “SDG lab” is still under development, the SDG lead is in the process of developing a stakeholder engagement plan, which includes academic institutions in the region.

*Participant 180105 [00:23:29]: “There are academic stakeholders in what we're doing.—We have each one of them; the University of Waterloo, Wilfrid Laurier University, and Conestoga College; each one of them focuses on entrepreneurship, each one of them focuses on sustainability, and each one of them focuses on social enterprise. So, in all different capacities, people are in there. They're being represented in every different level that can be.”*

Interestingly, however, the SDG lead in Kitchener stressed the idea of not letting academia dominate these spaces.

*Participant 180105 [00:26:22]: “However, the focus also is not to have academia be a barrier to entry. There are going to be people in the community who are not coming from that space. And as a person that might be the steward of that space, I also want people to feel comfortable in that they might not have that background or degree or educational capacity, but to still be welcomed in that space.”*

By contrast, engagement with academics seemed to be most limited in Kelowna’s case:  
*Participant 050206 [00:24:32]: “ They were involved a little as we didn't have too many connections. In some instances, a team member may have known a professor whose expertise was in the SDGs they were researching. The team member would then approach the Professor*

*and request if they would be willing to read our SDG write-up and provide feedback and/or if they had specific data to help support our SDG indicator.. We didn't have the staff or resources to pursue relationship building.”*

In the Greater Peterborough Area, Trent University and Fleming College have actively engaged in SDG localization efforts. As noted earlier, both institutions were part of the organizing team of the 2019 Peterborough Community Forum (KWIC, 2019). Trent University and Fleming College faculty, staff, and students continued to play key roles in the organization and implementation of the 2021 Community Forum (KWIC, 2021). SDG Leads should consider building on the success of the two community forums by establishing new connections and building collaborative rapport with key faculty and students at key relevant departments for the SDG localization initiative. These departments include Trent’s Sustainability Studies<sup>32</sup>, Applied Modelling and Quantitative Methods<sup>33</sup>, the Community Research Centre<sup>34</sup>, the Maps, Data and Government Information Centre (MADGIC)<sup>35</sup>, as well as Fleming’s GIS Certificate Program<sup>36</sup>.

### ***Engaging with regional authorities and upper levels of government, provincial and federal***

Engaging with regional and provincial authorities has centered on accessing, analyzing, and interpreting data such as public health and carbon emissions data which are regionally and provincially collected (Province of Ontario, 2019). Given that access to data was identified as a

---

<sup>32</sup> <https://www.trentu.ca/sustainabilityma/program/program-options>

<sup>33</sup> <https://www.trentu.ca/amod/>

<sup>34</sup> <https://www.trentu.ca/community-based-research/>

<sup>35</sup> <https://www.trentu.ca/library/madgic>

<sup>36</sup> <https://flemingcollege.ca/programs/geographic-information-systems-applications-specialist>

major theme in this research, relationships with data sources will be analyzed and discussed under that theme.

In addition to data-related interactions with Statistics Canada, the federal data department, which will be discussed under the theme ‘data management, engaging with the federal government was also in the form of seeking funding through the Sustainable Development Goals Funding Program to support SDG localization efforts. This was most visible in the cases of Peterborough and London, in which SDG leads tapped into that fund:

*Participant 090201 [00:00:46]: “So in March 2020, when I began with KWIC and when this SDG project began. So we applied for the Sustainable Development Goals funding program through the Government of Canada. And that was originally created as a grant for in-person engagement that came from the 2019 forum. And it was really meant to bring people together to talk about how we advance these priorities locally.”*

*Participant 020202 [00:06:16]: “So for the localizing process, that report that I shared with you. This was 100% funded by the London for All initiative, which is local, but now, I'm still working with the SDGs in a different role on a program called SDG Cities. And it is funded by the federal government.”*

### **Theme 3: Data Management**

Data access, analysis, and interpretation was a salient theme in five of the cases studied in this research. In four of these cities, Kelowna, Winnipeg, London, and Thunder Bay, the purpose of the SDG localization project was to produce a document that is either a Voluntary Local

Review (VLR) or, as in the unique case of London, a comprehensive document for how to select and localize SDG indicators and search for data that measures those indicators that would serve as a prelude to a VLR (LPRC, 2020). In Peterborough, a lively debate ensued among the community forum's team about what the purpose of this project should be. Should it be about localizing and measuring indicators to assess the current state in relation to the SDGs, or would it be better to focus on conversations that would advance the work on the priority SDGs for the community?

*Participant 200201: [00:06:14]: "I think you've touched on probably what ultimately was a bit of...tension is the wrong word because it makes it sound negative or like it was some kind of disagreement. It wasn't that, but I think there was not always clarity in that project about which of those was really the priority. And I think, in practice, it was a bit of both. Not so much measuring full stop, but at least having conversations with relevant stakeholders for each of those focus groups, about, you know, indicators.... there was that piece of the project that we tried to reopen or sort of pull into the reports a little bit. And sort of assess where things were locally, not so much in terms of actually measuring progress, but just being able to understand what the lay of the land was."*

The nature and purpose of the initiative were different for Sault Ste. Marie, Kitchener, and Quebec City. In Sault Ste. Marie and Kitchener, these projects were still evolving at the time of the interviews with the respective SDG leads in both places. As cited earlier in this chapter, in Sault Ste. Marie, the SDG lead was still waiting on the results of the academic exercise that the local professor ran with his students to assess the SDG alignment of key municipal documents to

decide how to take this initiative forward. In Kitchener, the SDG lead was waiting on the renovation of the building that would house the SDG lab, also cited earlier in this chapter. In Quebec City, the initiative, in its current stage, is centered on aligning municipal plans, operations, and services with the SDGs. This focus means that in this particular case, the SDG team will only work with municipally generated and controlled data about its operations and will not be looking for data at the community level yet.

*Participant 170108 [00:14:41]: “The data for the SDGs is structured internally, and project progress monitoring is carried out. These steps are necessary to prepare for the public rendering of accounts that will come in the second phase.”*

As a result, the findings and analysis under this theme will focus on the cases that did localize and measure indicators for the purpose of producing a report on the current state of affairs in relation to the SDGs in their community. I will also highlight relevant input from my focus case study, Peterborough, in relation to this theme. Under this major theme, three sub-themes have emerged; challenges, workarounds, and opportunities.

### ***Data Challenges***

From the perspective of SDG leads who sit outside of the city government, challenges in working with available data were common among SDG localization initiatives studied in this research. SDG leads struggled to access data points that were geographically disaggregated to their community level and measure the indicators in the 231-indicator set developed by the UN (UN, 2015).



*Participant 050206 [00:38:12]: “Sometimes data was not available for the municipal boundary making it difficult to narrow down on barriers, challenges, and policy implementation suggestions as the data across multiple jurisdictions. For example, we may have had data available for the Okanagan region, but it was not available for the local Kelowna boundary. In some cases, Statistics Canada was able to help us disaggregate regional data down to the municipal boundary. ”*

*Participant 040303 [00:23:55]: “for health data, a lot of them came from public health Ontario level. Yeah, but it's at the health unit level. It's, again, it's really hard to find data at all at the city of Thunderbay level like it's impossible.”*

From the perspective of city staff, the challenge was data management. Processed data is not housed in a central office, a data repository in the city. According to staff interviewed in this study, each department manages and owns its own processed data:

*Participant 150101: “My first thought is figuring out where all this information is. So you would really assume that all this information would flow back into the GIS, but it doesn't. Yeah, I know that, like transit, for example, they would definitely track the increase of users per bus. Because I know that's how they track their routes. So, they know how many people get on each bus stop. And then they could tell when they need to add a new bus stop or whatever. But that information wouldn't come back to us. So the challenge I really see is figuring out where you get the information. And then what information is everybody capturing?”*

*Participant 13010 [00:25:16]: “I suppose what probably would need to happen is, if this was, if the expectations were that the city becomes a supplier of data and information and things of that nature, you know, then we are going to probably, we're just gonna have to figure out a way to sort of build that into a process, which would either be through a report or a budget process, where we would be kind of indicating that, you know, this would be the proposal to adopt this framework, this is how we see the different divisions lining into the framework. These are the goals of the framework. These are how the goals in the framework map to what our existing goals are through existing approved plans of Council.”*

*Participant 190106 [00:01:43]: “I'm in the \*\*\*\*\*. And we don't, aren't the holders of all the data. So we work with others, and we work with others to see what would make sense. So water is a good example, you know, we work with our water utility to see what would make sense from that perspective.”*

### ***Data Workarounds***

The second sub-theme under data was workaround strategies and tactics that practitioners developed to overcome these challenges as they progressed through their localization projects. This included making the framework more flexible and developing proxy indicators that are relevant locally but do not necessarily need to reflect the exact language of UN indicators, necessarily.

In Winnipeg, the VLR process relied primarily on the data from the Community Indicators System, myPeg, that the partners in the project had developed prior to initiating the

VLR process. As explained in Chapter 2 of this thesis, the partners, United Way Winnipeg and IISD, have been tracking community progress on a set of 57 indicators in eight categories since 2013. While these indicators do not exactly match UN indicator language, they relate directly to SDG targets.

*Participant 070207 [00:08:17]: “The kind of process of localization really had to do with the existing work and taking it in a sort of bottom-up approach of matching the existing Peg indicators to the targets of the SDGs. In a manual way, with sort of a qualitative assessment, but also with an understanding of the methodologies of the sort of proposed indicators and the ones being used in Peg to ensure that we maintain the integrity of the local data set, but also connected it in a way that made the most sense to the global framework.”*

Similarly, in Thunder Bay, SDG leads relied on data gathered by community organizations to create alternative yet relevant data points to measure SDG indicators.

*Participant 030303 [00:12:28]: “One example that comes to mind is through Earth Care. So, Earth Care does a really good job in measuring indicators in Thunder Bay and surrounding areas related to climate change, environmental demographics, and all that kind of stuff. And so, there were some points where they shared reports with us that they had produced that were not as accessible online; they're still publicly available. So, they're in the public domain. It's not like we're getting, you know, secret data from them. But in some cases where we had trouble accessing those resources, that's where some of our partner organizations were really helpful in helping to provide access to that data.”*

To mitigate the challenges of accessing meaningful data at the local level, some SDG leads turned to provincial and federal data sources to complement their locally generated data. And while data sometimes was only disaggregated to the regional, not municipal, levels. SDG leads worked with the most narrowed-down version available. Engagement with provincial and federal data sources took two different forms: passive and active. Passive engagement took place through browsing data portals from both levels of government and picking data points relevant to their jurisdictions.

*Participant 040303 [00:26:04]: “All of the health indicators, not all of them, but most of them are available on the Public Health Ontario website. There’re some amazing graphs and like datasets that you can access. So, I pulled that information directly from public health Ontario, and you can sort it by the health unit, or Ontario, and get the averages, and like, different indicators have a different number of years. So like, some of them were only from the Canadian Community Health Survey, so that was only like, one or two years, and then others, you could go back to, like, 2002 and get the data. Like, up until now.”*

Active engagement involved communication with staff at provincial and federal authorities to request access to specific data and assistance in analyzing and interpreting that data.

*Participant 050206 [00:37:24]: “The Climate Action Secretariat was extremely helpful. I participated in a webinar on the SDGs, and an audience member from the provincial government showed great interest in the SDGs and VLRs. This person connected me with*

*somebody from the Climate Action Secretariat who helped guide me through locating data and indicators available through The Province. They were really keen on providing support and helped us understand the data and programs offered by The Province. They guided us to information that some municipalities may not be aware of. Again, because I had a contact at the Climate Action Secretariat that was really interested in the SDGs, they provided a lot of time to walk me through their data and programs....”*

While active engagement with provincial and federal data departments has proven to be fruitful in some cases, it yielded challenging results in others, such as in the experience of SDG leads in Thunder Bay.

*Participant 030303 [00:32:14]: “And then, of course, I don't know, if you have any more, but the difficulties of going through Stats Canada, it is, in so many cases, they have exactly the data you're looking for. But if you want them to produce, you know, a data table for you, or a report for the Thunder Bay Area, it was a rate of \$83 an hour for them to produce that data for you. And, you know, we did have funding for the project, but unfortunately, not \$83 an hour, we're no, especially when we're looking at, you know, data for a single indicator could be that expensive. So I think StatsCan was really frustrating. And they don't make it as accessible as it should be, in my opinion. And then also a small detail. But when you find a lot of their data tables, the hyperlink that they give you doesn't link back to the table. So it made it really hard for citations and being transparent about where we got our data from.”*

By contrast, however, SDG lead in Kelowna had a markedly different experience engaging with Statistics Canada:

*Participant 050206 [00:18:41]: “I happened to make a connection with somebody at Statistics Canada that was really interested in the SDGs. As this person was interested, they spent a lot of time helping us locate indicators and data as well as disaggregating data for us. For example, I would mention to them that I'm looking for data on food insecurity, and I want to ensure it captures x and y; this contact would then find out from the appropriate departments if this specific information was available and also when it would become available. I was really lucky that we made this connection. Because without this person that was passionate about it, I don't believe our VLR would have been able to have 28 indicators and the level of accuracy that we desired.”*

This contrast between the experiences of Kelowna and Thunder Bay illustrates, quite vividly, the power of personal rapport and chemistry that people may have in professional settings, which was a permeating theme throughout this study.

### ***Data Opportunities***

Data opportunities emerged from conversations with city staff and SDG leads from across the jurisdictions covered in this study. City staff in Peterborough, for example, wanted to see more direct engagement with regular citizens who were not necessarily part of an active organization in the sustainability space.

*Participant 130101: [00:51:52]: “ I think another mechanism that is very much underutilized is polling research. Doing actual statistically representative polling research and trying to get an understanding of.... I feel like the public consultation forum, the Open House Public Information Center mechanism, is one that's a little played. I think it kind of has the risk of.... it has the drawbacks baked into it that I was mentioning earlier about who you're actually hearing from.”*

In Thunder Bay, city staff wanted to see more qualitative stories of people with lived experiences being gathered and included with quantitative data to get a more holistic picture of the community.

*Participant 220103 [00:37:02]: “ But I feel like that's a really important piece to have, to gather the stories of people, because, in that way, people feel more invested. They feel more engaged, right? Like they're a part of the process. And I think stories really matter. It adds a whole other dimension to this work” .....”And I'd like to hear their stories about how they make those connections and what they're experiencing, and if they can connect that back to what might be happening in the realm of sustainability. I feel like it's a qualitative piece; I'd like to see if the same stories emerge around poverty, as in, what is the data saying and then what do people say about their experience of poverty and inequities.”*

In light of the fact that Sustainable Peterborough is poised to take the lead on advancing the SDGs in Peterborough, backed by the City and County of Peterborough and the Peterborough and the Kawarthas Economic Development (PKED), I proposed a hypothetical scenario as a

potential opportunity for managing the data aspect of this initiative to the subgroup in the study from Peterborough. My purpose was to gather useful input for my recommendations for the way forward, which will be discussed in the next chapter. In this research, I interviewed four City of Peterborough staff, one city council member, one Indigenous elder, and four nonprofit SDG leads.

My hypothetical scenario was inspired by my own experience doing this research. I have received a Mitacs grant<sup>37</sup>, which enabled me to do a placement at the City of Peterborough and be granted access to key city staff and SDG leads who would play essential roles in the SDG localization moving forward. Additionally, I was inspired by the Business Count study the PKED published annually. The initiative relies on a team of<sup>38</sup> students that are managed by PKED staff to survey all businesses in the Peterborough and the Kawarthas region.

My proposal was to have Sustainable Peterborough partner with Trent University and Fleming College faculty to have graduate students in sustainability, quantitative analytics, and Geographic Information Systems (GIS) from both institutions do a placement with Sustainable Peterborough under a scheme like Mitacs or the Colleges and Institutes Canada (CIC)' and collaboratively design their master research or certificate's capstone around SDG localization in the Greater Peterborough Area. Under this hypothetical scenario, students from both institutions, guided by their academic supervisors, would gather and analyze both qualitative and quantitative data, run surveys, focus groups, community charettes, and open house discussions to get broad support and be as inclusive as possible in this process. I am fully cognizant that the scenario that I suggested was very ambitious, involving multiple stakeholders, and requiring diligent

---

<sup>37</sup> <https://www.mitacs.ca/en>

<sup>38</sup> <https://investptbo.ca/data-resources/business-count/>



stakeholder management to meet everyone's expectations. But I wanted to test this out and explore what would be possible or realistic in this context.

The following is a selection of feedback that I gathered from the subgroup in my focus case study, Peterborough. While participants were generally supportive of the proposed idea, they raised some questions about how it would be managed and funded.

*Participant 200201 [00:58:19]: "Yeah. I mean, well, I think you're right that, first of all, this initiative for sustainable Peterborough to sort of be the home for all of this work won't work unless there's more capacity, full stop. Whether it's paid with more staff or some other arrangement like the one you're suggesting. I think it could work. I think it would need to be done like you say, with a rigor that we can't expect from anyone but grad level or post-grad type or specialized professional programs like the GIS one. It's not something that could be handled, I think, at the undergraduate level, for instance, for all kinds of reasons; maybe there's room for that as well, not like in the sense of having undergrad students build and coordinate this sort of stuff, but to help with a very sort of more basic data entry or data collection or something toward that."*

*Participant 230201 [00:25:58]: "One of the things to consider is that supporting meaningful experiences for students in an NGO setting requires the NGO to have capacity. Although there's a significant value added in terms of having students be involved, it actually requires the NGO to be able to support the management and transition of students: onboarding students, matching tasks with their research interests and capacity and considering their employment experience."*

*What I would suggest, if that's a model that you're going to recommend, is to think about how Sustainable Peterborough's capacity would need to change to meaningfully support that.*

*Because with one person working part-time, it would be very difficult to have a constant influx of students support what is meant to be longitudinal research.”*

*Participant 100501 [00:40:41]:” So you know, when you're doing your masters or Ph.D., hopefully, at some point, you complete it and move on. So like, continuity is sort of the first thing that pops into my mind of, like, if you have a student who starts doing research, or whatever, and then they graduate, then somebody else needs to pick it up, which is not impossible. Like it happens all the time in workplaces, it might, but does the new person have the same understanding as the old student did? Are they using the same methodologies of study? You know, are they tracking things the same way? So, all of that will need to be sort of set at the get-go to ensure, like, quality and continuous... Then the data is, yeah, I'm thinking more; I guess the quantitative data is, you know, measured in the same way.”*

*Participant 120201: [00:28:51]:” Absolutely. We've done that in the past, actually, through CIC. They paid I think, 50%, and we paid 50%. We had done that while we were in the process of creating the climate change action plan about eight years ago. Once the Climate Change Action Plan was established, we hired a climate change coordinator, and her position was subsidized half by us. I believe that there may have been additional City and or County funding, I can't recall the specifics and half through CIC. A similar arrangement to Mitacs. So definitely, I can see that being a possibility again, depending on finances and other needs, project-specific details, etc.”*

*Participant 130101 [00:46:43]: "I'd say it's definitely an opportunity worth exploring. I think a key thing in terms of the vision for when Sustainable Peterborough was established was always to be able to create an organization that could focus on sustainability in the region, and then be able to access other funding sources and bring resources into the community to help advance some of those objectives.".... "I wouldn't say it's a bad idea. I'd say it's definitely an opportunity. And I think, if anything, the challenge will probably be in terms of understanding the resourcing for Sustainable Peterborough, recognizing that it's a jointly funded initiative by the county and by the city. And so, for you to increase that funding level, there's going to have to be some kind of a business case put forward by Sustainable Peterborough to both the councils of the county and the city to justify increasing those spending priorities... "... "And again, that's just everything in the municipal game these days is. We're always expected to do more with less. So there are no extra resources just lying around like that. Everything kind of comes with a cost."*

### ***Findings and Analysis Summary and Conclusion***

The findings and analysis from the interviews provided very practical information about cities and communities that have managed SDG localization initiatives across Canada. This information helped provide some possible answers to the research question of how the City of Peterborough and its community should engage with the SDG localization challenge and build upon the prior work of the Peterborough Community Forum.

One important finding is that there is not one single answer to this question, but multiple, comparably possible ones. In some cases, such as in Sault Ste. Marie, Kitchener, and Quebec City, we saw the city government play a more active role in the process, creating and convening spaces to enable the initiative to take off. While in others, city staff played a more supporting role in giving feedback and commentary and facilitating access to data for SDG localization reports such as a voluntary local review (VLR). While the findings and analysis did not clearly reveal any tangible advantage for one type of engagement over another, they definitely highlighted the need for a comprehensive stakeholder engagement plan ahead of initiating an SDG localization project. This plan should begin with mapping out all stakeholders who may impact or be impacted by the SDG localization project or any policies that may result from that. The benefit of this plan would be to ensure buy-in and help each stakeholder figure out the optimal role for themselves in this project.

In the next and final chapter of this thesis, I will my gleaned insight and propose recommendations for how stakeholders in the Peterborough community could engage in the process in a productive, resource-efficient, and effective manner. I will conclude by discussing the limitations of the research methodology and findings and discuss areas that warrant further in the future.

## Chapter 5. Discussion, Recommendations and Conclusion

### Discussion of Results

In reviewing the literature and conducting the interviews for this research, I have detected a projectization pattern in all of the SDG localization initiatives. In this chapter, I will discuss my results through the lens of the theoretical project management framework developed by the Project Management Institute (PMI) (PMI, 2021). In some cases, including the focus case study, Peterborough, in the interviews, as quoted in Chapter 4., SDG leads referred to their initiative as a “project.” The Project Management Institute defines a project as: “*a temporary endeavor undertaken to create a unique product, service, or result.*” (PMI, 2021, p.245). According to the Project Management Body of Knowledge (PMBOK), projects go through five stages, as termed in the book “*Standard for Project Management: Initiating, Planning, Executing, Monitoring, and Controlling, and Closing.*” (PMI, 2021, p. xiii).

#### *Initiating*

In the context of SDG localization, initiation took different shapes and forms in the various jurisdictions studied in this research, but a common throughline among most of them was building on existing initiatives or prior interests of an SDG lead. With the exception of Thunder Bay’s, all the other seven cases analyzed in this study have sprung out of prior institutional work. In Thunder Bay, it was the personal and prior research interests of the SDG lead herself, not necessarily her institution, the main catalyst for this initiative, as cited in Chapter 4.

SDG leads were either specifically hired to lead this project or brought in internally and assigned the task of a project coordinator or manager. In my focus case study, Peterborough, the end result was a community forum and following reports on the working groups that were part of this project (KWIC,2021). As cited in Chapter 4, the project started when the two executives of the partner organizations in this project, GreenUp and KWIC, discussed their interests in organizing the community forum in 2019.

### *Planning*

Planning followed similar paths in all of the cases; project leads began to do stakeholder mapping and reach out to individuals and organizations they wanted to partner with. Here, I have detected the role of personal rapport and connections, which was identified as a permeating theme throughout this study. SDG leads, with the exception of Peterborough, have struggled to attract interest from Indigenous communities in their jurisdictions. And with the exception of Kitchener, all lacked an effective plan to engage local businesses in the process.

Once the primary stakeholders had been identified and engaged, a steering committee was formed, and a team was assigned to realize the objective of the project. For instance, as gleaned in Chapter 4, in the focus case study, Peterborough, the team included two project coordinators, one from each of the main partners, two Indigenous consultants, as well as members of each action team for the priority SDGs, which averaged ten people per team<sup>39</sup>.

---

<sup>39</sup> <https://www.kwic.info/advancing-sdg-reports>

## *Executing*

Once the roles and responsibilities of these teams have been assigned, execution varied greatly based on the nature of the project and the team itself. There was no one uniform way in how teams executed their projects. In three of the cases analyzed, Sault Ste. Marie, Kitchener, and Quebec City, the projects are still ongoing. In both Kitchener and Sault Ste. Saint Marie, the projects were still in the planning phase at the time of the interviews with the respective leads. In Quebec City, the project is in the executing phase. In the five other cases where the projects have concluded, execution varied based on the nature of the project and its intended output.

In the cases of London, Kelowna and, Thunder Bay, teams studied the list of global indicators under the UN framework<sup>40</sup> and engaged with stakeholders identified in the planning phase to decide on a list of indicators applicable to their context. As gleaned from the literature review and findings and analysis, in Winnipeg, indicators had already been localized and tracked on the myPeg<sup>41</sup> platform, and the team's work centered on connecting the indicators in the myPeg platform to SDG targets. In Peterborough, unlike the other four cases, the project output or end product was not a Voluntary Local Review or a status document but rather a hosting of a community forum and reports on the results of discussions among each of the action teams of the four priority SDGs. So execution in Peterborough involved both the preparation for the forum itself as well as coordination of team meetings to discuss relevant targets and indicators and the production of reports.

*Participant 090201 [00:07:01]: " Yeah, they [City staff] didn't really have much of a role in planning the forum that was really on the coordinators of the project itself, but they had representatives in the action teams, specifically clean water and climate action."*

---

<sup>40</sup> <https://sdgs.un.org>

<sup>41</sup> <https://www.mypeg.ca>

*Participant 090201 [00:29:33]: “Yeah, so in the action team meetings, we had three meetings for each action team. And in one of them, I think it was like the third one, we looked at the targets and indicators for that specific SDG. And we tried to see if it's aligned, if it needs to be revised or if it needs to be scrapped. Because it doesn't, it's not local.”*

### ***Monitoring and Controlling***

SDG leads periodically engaged with stakeholders identified in the planning phase to collect and incorporate feedback in various stages of the project.

*Participant 030303 [00:10:42]” And so that was kind of the main role of the partners that we have is providing input on those indicators. In some cases, they provided access to data, you know, from their organizations. They also reviewed our materials and gave feedback at those stages. So I think that was a lot of the work of what the partners were doing.”*

However, SDG leads did not plan their control and monitoring in the ways described by the PMBOK. PMI defines monitoring as “*collecting project performance data, producing performance measures, and reporting and dissemination of performance information.*” (PMI, 2021, p. 243). It defines control as “*the process of comparing actual performance with planned performance, analyzing variances, assessing trends to effect process improvements, evaluating possible alternatives, and recommending appropriate corrective action as needed.*” (PMI, 2021, p. 237). SDG leads did have to change course from planned activities in great part due to the COVID -19 pandemic. In London, as cited in Chapter 4, the partnership the SDG team had with faculty at Western University had to be abruptly terminated. In Peterborough, the 2021 forum was originally planned as an in-person event in the application grant for the



Sustainable Development Funding program<sup>42</sup> but had to pivot to a virtual event as a result of the COVID-19 pandemic.

*Participant 090201 [00:00:46]: “So in March 2020, was when I began with KWIC and when this SDG project began, we applied for the Sustainable Development Goals funding program through the Government of Canada. And that was originally created as a grant for in-person engagement that came from the 2019 forum.”*

In Kelowna, the SDG lead reflected on the changes to the process that they would like to implement post-mortem.

*Participant 050206 [00:41:53]: “I think I would definitely change the approach as we didn't have many face-to-face meetings. I'm sure a lot, of VLRs, had round table discussions as part of their community engagement. As we didn't have the budget or resources for it, we couldn't carry this out... But if we were to carry out a VLR 2.0 or VLR for another community, definitely, we would have these different actors (governments, municipalities, regions, provinces, CSOs, academia, and local residents) all sitting around a table and discussing the SDGs, barriers, challenges, and what's next altogether, rather than interviewing the actors separately and amalgamating the information. ”*

In Thunder Bay, SDG leads devised a system to assess the quality of data points for each SDG indicator.

*Participant 030303 [00:21:52]: “But we went through, like quality considerations. So that's kind of what \*\*\*\*\* is referring to is like; for each of the indicators that we had, which was a much larger list, we*

---

<sup>42</sup> <https://www.canada.ca/en/employment-social-development/programs/sustainable-development-goals.html>

*looked at whether they had been replicated, whether it was a reliable source, measuring the validity, comparing it to other sources of data. So we really wanted to only include indicators that we knew were of high quality. And we actually at one point had ranked them on a scale of one to five, five being, you know, they were an incredibly reliable source. It was reputable, it was repeatable, and it was repeated often.*

While the control process that SDG leads in Thunder Bay engaged in is considered part of the quality assurance of the end product, it did not exactly fit the definition of this phase by PMI, as it did not compare planned execution with actual execution and analyze variances between the two to devise course corrections (PMI, 2021).

### ***Closing***

In five of the eight cases analyzed in this study, SDG projects have concluded and closed. SDG leads have moved on to work on other initiatives either within their organizations or changing organizations altogether. The closing and conclusion of these projects materialized in the publication of their respective reports, which can be found on their institutions' websites: myPeg<sup>43</sup>, KWIC<sup>44</sup>, BCCIC<sup>45</sup>, and LPRC<sup>46</sup>.

As noted in Chapter 4, while the SDG localization project in Thunder Bay has concluded, SDG Leads have decided to wait on its publication until after the municipal elections, planned for October 2022. Therefore, their VLR report was not included in the literature review of this research.

---

<sup>43</sup> <https://www.mypeg.ca/winnipeg-sdgs-voluntary-local-review-2021/>

<sup>44</sup> <https://www.kwic.info/advancing-sdg-reports>

<sup>45</sup> <https://www.bccic.ca/kelowna-sdg-voluntary-local-review/>

<sup>46</sup> <https://unitedwayem.ca/wp-content/uploads/2020/04/London-Ontario-SDG-Indicators-report-LPRC-2020.pdf>

## Recommendations

The purpose of this research was to glean best practices and applicable strategies, practices, and tactics that my focus case study, the City of Peterborough and its community, could use to devise their own plans for successful SDG localization. From both my literature review and interviews, I developed a diagram, shown in Figure 4, that describes how SDG leads have gone about initiating, planning, and executing their projects. Additionally, I have included a stakeholder map for select cities in Canada, Europe, and Japan that can be found in Appendix XVI. Furthermore, I have developed a set of strategic approaches based on this diagram that I recommend that stakeholders in the Peterborough region deliberate as they develop their plans for future SDG engagement.

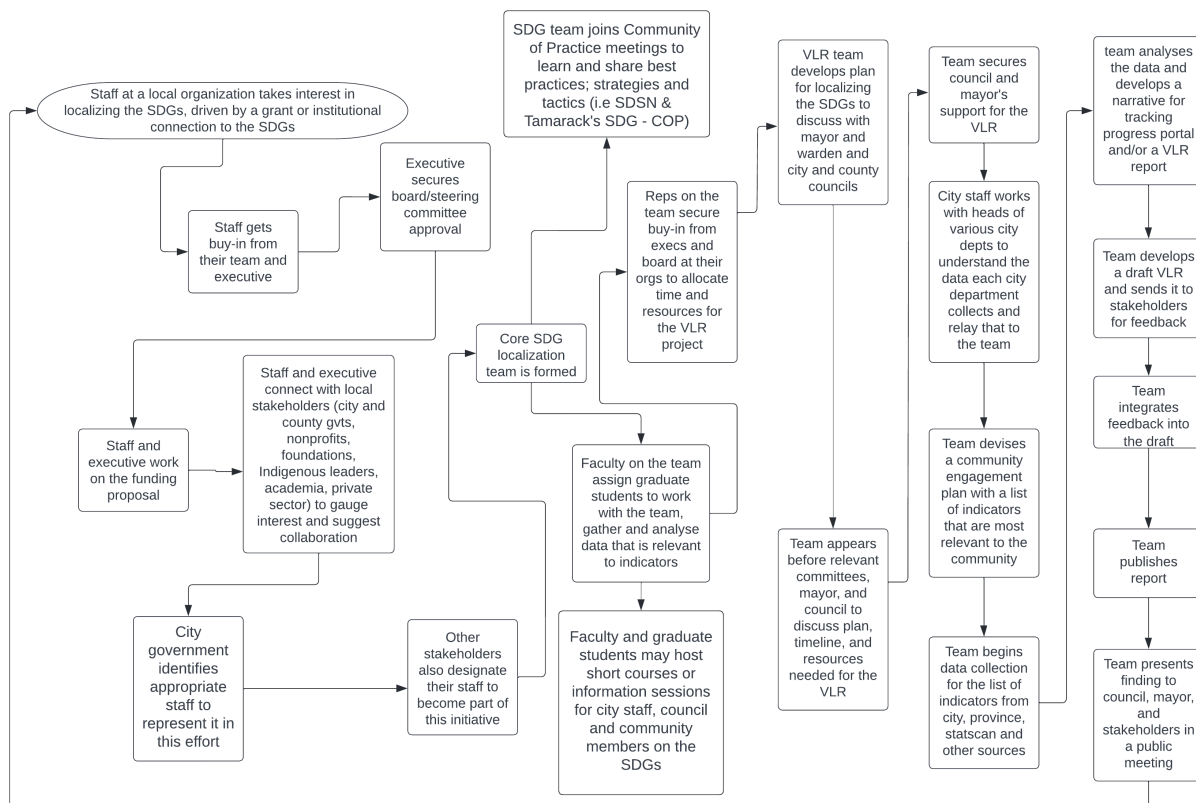


Figure 4: SDG localization Stakeholder Engagement in the Canadian Context

- a) Consider developing a comprehensive stakeholder plan to include all community actors who may impact or be impacted by the SDG localization initiative.
- b) A key finding from analyzing the European case study, City of Asker, is the role of national mandate in SDG alignment in the Norwegian context<sup>47</sup>. In the absence of this mandate in Canada, it is critical to engage local elected officials (mayor and council) in both the city and county to secure support and create a local/regional mandate to allocate appropriate resources for the success of this endeavor.
- c) The city and county governments could lead by example by *commissioning studies into their own performance* as corporations in relation to the SDG targets and indicators.
- d) *Engaging city council members* is essential. The conversation with one city council member in this study revealed that the council was hardly aware of SDG localization efforts in the community, be it the community forum, PKED's SDG focus areas, or Sustainable Peterborough's new mandate by its board to pick up the mantle and take the work of the community forum forward.
- e) *The city and county's role in the process is overlapping and interwoven*. While the city and county governments may choose to play supporting roles rather than leading roles in the community-level SDG initiative, they must, through champion staff, facilitate conversations between SDG leads and the various departments which collect and analyze data in the city. Similarly, as the case from Kelowna suggests, city and county staff should facilitate conversations with regional and provincial departments as well to help the SDG leads understand the lay of the land and who is doing what exactly.

---

<sup>47</sup> <https://sdgs.un.org/sites/default/files/2021-07/Agenda%202030%20in%20Asker%2C%20Voluntary%20Local%20Review%202021%20%281%29.pdf>

- f) *Consider designating an SDG facilitator at the City and County of Peterborough to also speak to their counterparts in other cities and regions informally to share and learn lessons about their role in supporting these initiatives. There is tremendous value to informal conversations among the staff themselves. SDG leads at Sustainable Peterborough could also do the same by connecting with SDG community initiatives in other cities to share lessons learned and learn best practices.*
- g) *Consider aligning the City's various plans with SDG targets by introducing SDG language into these plans. The City of Kitchener's (ON) strategic plan includes alignment at the goals' level, which is a good first attempt before looking at closer alignment with specific targets. Doing so would elevate the conversation about the SDGs in the city and region, raise awareness among all stakeholders about their relevance and increase buy-in from decision makers to advance and gather support for SDG initiatives. Appendix XVII and Appendix XVIII are examples of municipal plan alignment with the SDGs from Quebec City.*
- h) *Build on the unique success of Indigenous involvement in the localization process by re-engaging with the Indigenous consultants and elders who guided the process at the Peterborough Community Forum and seeing how they could be engaged in the work moving forward. Consider exploring more ways to integrate Indigenous Knowledge and align SDG localization plans with the recommendations of Canada's Truth and Reconciliation Commission<sup>48</sup>.*
- i) *Raise awareness among City and County of Peterborough staff and council about the SDGs, their scope, and their relevance to municipal development. Host workshops that are conducted by the SDG lead at Sustainable Peterborough and/or Trent University faculty and graduate students. In Quebec City, the city government invited a university professor to lead an SDG localization course of about 35 hours for 32 of its relevant staff to make sure everyone was on the same page about the SDGs.*

---

<sup>48</sup> <https://www.rcaanc-cirnac.gc.ca/eng/1450124405592/1529106060525>

- j)** Achieving the desired outcome of SDG localization will require a dramatic expansion of capacity and the development of expertise in this subject matter. Sustainable Peterborough is currently a one-person initiative under the auspices of PKED. The City and County of Peterborough should support Sustainable Peterborough by helping it get *access to funding to, for example, involve faculty and graduate students in research or other key activities*, such as through a Mitacs internship or Colleges and Institutes Canada (CIC).
- k)** Sustainable Peterborough should make a case for its expansion of operations by *presenting its plan and progress report to both city and county on a quarterly or bi-annual basis*.
- l)** Given the challenge of effective stakeholder engagement that was highlighted in the previous chapter, SDG stakeholders need to think creatively of ways to engage with the public and raise the profile of the conversation around the SDGs. Trent University and Fleming College should continue and expand their support for Sustainable Peterborough by hosting a broad community engagement event to bring together all stakeholder groups identified in this study. The purpose of this event should be to raise awareness about the SDGs and develop an effective stakeholder map and engagement plan. Critical here is outreach to incoming city council members and mayor, county warden and council, and entrepreneurs and local businesses.
- m)** *Think at the level of the goals first before going to targets and indicators*. By looking at goals, those working on SDG localization could begin their search of the specific department, be that in the city, region, or province, that may be tracking data that is relevant to a particular goal. For example, SDG 13 Climate Action suggests that among the data that will need to be measured is greenhouse gas emissions. This should lead the team to seek connections with the provincial department that measures greenhouse gas emissions. Through that connection, the team working on SDG localization should inquire about what other data points this department measures aside

from greenhouse gas emissions, which could help connect with other targets within this goal or relate to another goal entirely.

- n) *Localize targets and not just indicators.* Research conducted by PwC in 2019 of 1,141 corporations across seven industries and 31 countries concluded that effective alignment and reporting must occur at the target level (PwC, 2019)<sup>49</sup>. SDG leads need to look at *localizing SDG targets* first and then develop the indicators that measure where the community is in relation to those targets.
- o) *Consider using the Canadian Indicator Framework (CIF) as the basis for SDG localization.* The CIF contains a distilled list of 76 indicators that the Government of Canada deems as the most relevant in the Canadian context. By using the CIF, the community in Peterborough could provide useful feedback and *establish a good rapport with the staff at the federal SDG Unit*, housed in Employment and Social Development Canada, as well as with administrators at the *SDG Data Hub*. These connections could help SDG lead get access to localized data points that measure indicators and be able to report on the progress of SDG targets as data points get updated. SDG 6 Clean Water Action Team in the Community Forum Project did attempt to localize water targets and compare their results with the Canadian Framework<sup>50</sup> (KWIC, 2021, p. 4).
- p) Once a good tally of the indicators that are collected locally, regionally, and provincially has been done, further *broad community engagement and consultation* should begin to ensure community buy-in and ownership of the process. This includes relevant city staff, nonprofit organizations, academic institutions, Indigenous communities, and private businesses.
- q) *Do not let perfect be the enemy of good.* I have heard this recommendation echoed as well by sustainability analysts in the Environmental, Social, and Governance (ESG) space (Whieldon & Hall, 2022). The first VLR or community indicator system is unlikely to be perfect, based on the

---

<sup>49</sup> <https://www.pwc.com/gx/en/services/sustainability/sustainable-development-goals/sdg-challenge-2019.html>

<sup>50</sup> <https://www.kwic.info/sites/default/files/2021-05/KWIC-Report-SDG6-WEB.pdf>

other experiences surveyed in this research. Start with the data that is available, develop proxy indicators for the available data, connect those indicators to SDG targets as best as possible, publish the results, and get feedback that can be incorporated in the next iteration. Through iteration, improve the quality and your analysis of the data as more resources become available.

- r) *Trent University and Fleming College should play an active role in the process*, as was the case with academia in all other SDG localization initiatives across Canada. Trent University has high-caliber Sustainability Studies and Applied Modeling and Quantitative Methods programs that could both be utilized in developing and tracking local indicators. Fleming College also has a promising GIS program, and students there could be involved in developing geospatial analysis presentations for SDG indicators. All of this could become possible with more support for Sustainable Peterborough.
  
- s) The City and County of Peterborough should *help students and Sustainable Peterborough staff appropriately gauge the community's needs and expectations* in relation to the initiative through their various surveys, such as the Infrastructure Survey or the Transportation Tomorrow Survey, among others. This could be done through introducing SDG-related questions in the surveys or by helping the SDG leads design, disseminate, collect and analyze survey responses that will help ensure higher, more democratized community engagement. An Excellent case in which students have been actively engaged in surveys and data collection and the community is the PKED Business Count Survey. Connecting with PKED staff in charge of the survey would be useful in engaging businesses in the conversation.
  
- t) *Join the conversation on the SDGs*. The Tamarack Institute and SDSN Canada have convened a Community of Practice for localizing the SDGs in Canadian communities. The group meets once



a month to discuss and share best practices and lessons learned in various aspects of the SDG localization project, such as data collection and localization and stakeholder engagement<sup>51</sup>.

- u) *Consider engaging more effectively with local businesses.* Among the findings of this research is that Canadian SDG leads have struggled to meaningfully engage with private businesses in their region. PKED and the Peterborough Innovation Cluster, in collaboration with Trent University and Fleming College, should host workshops about the business applications of the SDGs. PwC<sup>52</sup> has published guides on the relevance of SDGs for business that can be used as references in those workshops. Additionally, stakeholders mentioned could host an SDG startup challenge in collaboration with Green Economy Peterborough<sup>53</sup>.
  
- v) *Consider using the IISD SDG Tracking Tool<sup>54</sup>.* The tool is highly versatile and easy to use and is a very cost-effective way of tracking and reporting progress on SDG indicators.

## Research Limitations

In carrying out this research, I was faced with some limitations and challenges that the reader must understand to properly interpret the findings, analysis, and recommendations of this research. Primarily, the field of SDG localization is still evolving in the Canadian context. At the time of conducting the literature review in the summer of 2022, only three cities have published SDG localization reports; London, Kelowna, and Winnipeg. Many other cities and communities were in the process of developing their own SDG localization plans. This has limited the number of cases that could be studied in the context of this research. Additionally, I used convenience sampling in selecting participants that

---

<sup>51</sup> <https://www.unsdsn.org/canada>

<sup>52</sup> <https://www.pwc.es/es/publicaciones/sostenibilidad/pwc-sdg-guide.pdf>

<sup>53</sup> <https://www.greenup.on.ca/green-economy-peterborough/>

<sup>54</sup> <https://www.tracking-progress.org>

were based on their role in the SDG localization project in their respective jurisdictions, which introduced a sampling bias. Both limitations on the number of cases and participant sample may limit the generalization of the findings and results of my research. Nonetheless, the findings of this research were based on the real-life experiences of SDG leads across the country and are highly contextualized for Peterborough, a relatively small, semi-rural region in southern Ontario. This should make the recommendations and findings highly applicable to this case study.

## **Areas of Further Research**

In concluding this research, I have identified three areas that warrant further research in the future. First is investigating the applicability of the Canadian Indicator Framework to the regional Peterborough context and then researching effective strategies for engaging with the federal SDG Unit and the SDG Data Hub to obtain relevant, geographically disaggregated data points that measure localized indicators.

Second is researching effective strategies and tactics for engaging with local private businesses. Following the conclusion of the Peterborough Community Forum in February 2021, in April 2021, GreenUp launched Green Economy Peterborough<sup>55</sup> (GreenUp, 2021). GreenUp invited sustainability expert Bob Willard to be a keynote speaker at the inaugural event of this new initiative (GreenUp, 2021). Willard has developed a Basic Sustainability Assessment Tool (BSAT)<sup>56</sup> that helps small and medium-sized measure their alignment with the SDGs. Promoting the use of this tool among regional businesses could broaden the engagement with the business community in the SDG localization process. Finding the

---

<sup>55</sup> <https://www.youtube.com/watch?v=tybiVZAv758>

<sup>56</sup> <https://sustainabilityadvantage.com/assessments/bsat/>

optimal approach to engage with local businesses would further strengthen the localization process and validate its results.

In light of the various levels of challenges in broadening engagement on the SDGs that were experienced throughout all of the cases analyzed in this study, thinking creatively and outside the box about more impactful ways of public engagement is worth considering. A third area that is worth further research is engagement with religious institutions. According to the Statistics Canada 2021 census, over one-third of Canadians identified themselves as non-religious (Dawson, 2022). This leaves two-thirds of the population that still identifies with a religion. Christianity has the largest following at 53.3%, followed by Islam at 4.9%, then Hinduism at 2.3%, Sikhism at 2.1%, and Judaism at 0.9% (Dawson, 2022). Including religious institutions as stakeholders in SDG localization efforts is also an area worth exploring. Using religious sermons as a podium from which to discuss sustainability challenges in the community could yield very interesting results. A practical example to test receptivity among clergy to having SDG practitioners come and present community plans on sustainability and the SDGs during sermons, similar to how politicians often use these spaces to promote their programs during elections season<sup>57</sup>

## **Conclusion**

This research aimed to search for a successful strategy for how the City of Peterborough and its community could localize SDG targets and indicators. While there was not a single definite answer to this research question, many useful practices have been identified that should help SDG practitioners in the community take their work forward. Chief among them is developing a broad and inclusive stakeholder engagement plan. Additionally, understanding that this process is iterative and, therefore, can improve over time is important to progress on reporting and gathering relevant feedback. And lastly, it is important

---

<sup>57</sup> <https://www.nytimes.com/2022/10/30/us/politics/raphael-warnock-religion-campaign.html>

to build good personal rapport and connections with SDG practitioners, nationally and globally, to stay up to date on developments in the field. I hope that SDG localization leads in Peterborough, in Canada, and globally find these findings and recommendations useful.

## Bibliography

- (2021). Province of Ontario. Planning and Development Act, 1994, S.O. 1994, c. 23, Sched. A
- (2022). Province of Ontario. Environmental Protection Act, R.S.O. 1990, c. E.19
- 17 goals to transform our world*. Canadian Indicator Framework for the Sustainable Development Goals Data Hub. (2021). Retrieved October 25, 2022, from <https://sdgcif-data-canada-oddcic-donnee.github.io/>
- Advancing SDG reports*. Kawartha World Issues Centre (KWIC). (2022). Retrieved October 26, 2022, from <https://www.kwic.info/advancing-sdg-reports>
- Asker Kommune. (2021). (rep.). *Agenda 2030 in Asker Voluntary local review 2021*. Retrieved from <https://sdgs.un.org/sites/default/files/2021-07/Agenda%202030%20in%20Asker%2C%20Voluntary%20Local%20Review%202021%20%281%29.pdf>.
- Austen, I., & Isai, V. (2021, November 21). *Vancouver is marooned by flooding and besieged again by climate change*. The New York Times. Retrieved October 27, 2022, from <https://www.nytimes.com/2021/11/21/canada-flooding-climate-change.html>
- Abu Hamed, T., Flamm, H., & Azraq, M. (2012). Retrieved November 3, 2022, from <https://www.sciencedirect.com/science/article/pii/S1364032111004898>
- Background*. Sustainable Peterborough. (2022). Retrieved October 26, 2022, from <https://sustainablepeterborough.ca/about-us/background/>
- Bartlett, C., Marshall, M., & Marshall, A. (2012). Two-eyed seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences*, 2(4), 331–340. <https://doi.org/10.1007/s13412-012-0086-8>
- BCCIC. (2021, April 13). *Global goals, local action: Kelowna's Voluntary Local Review*. Retrieved October 25, 2022, from <https://www.bccic.ca/kelowna-sdg-voluntary-local-review/>
- United Nations. (1972, June 16). Report of the United Nations Conference on the Human Environment. Retrieved October 21, 2022, from <https://www.un.org/en/conferences/environment/stockholm1972>
- Borowy, I. (2014). *Defining sustainable development for our common future: A history of the World Commission on Environment and Development (Brundtland Commission)*. Routledge.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Burr, V. (2019). Social constructionism. *Handbook of Research Methods in Health Social Sciences*, 117–132. [https://doi.org/10.1007/978-981-10-5251-4\\_57](https://doi.org/10.1007/978-981-10-5251-4_57)
- CBC/Radio Canada. (2022, June 18). *Ontario rapidly losing farmland amid urban sprawl, Provincial Agriculture Group says*. CBCnews. Retrieved October 27, 2022, from <https://www.cbc.ca/news/canada/toronto/ont-farmland-loss-1.6493833>

- City of Kitchener. (2019). (rep.). *KITCHENER'S STRATEGIC PLAN 2019-2022*. Retrieved from [https://www.kitchener.ca/en/resourcesGeneral/Documents/COR\\_CAO\\_Kitcheners\\_Strategic\\_Plan.pdf](https://www.kitchener.ca/en/resourcesGeneral/Documents/COR_CAO_Kitcheners_Strategic_Plan.pdf).
- City of Peterborough. (2012). (rep.). *Waste Management Master Plan*. Retrieved from <https://www.peterborough.ca/en/City-Hall/resources/Documents/Waste-Management-Master-Plan-with-Appendices.pdf>.
- City of Peterborough. (2019). (rep.). *Social Procurement and Social Enterprise*. Retrieved from.
- City of Peterborough. (2022). (rep.). *2022 BUDGET SURVEY*. Retrieved from <https://www.peterborough.ca/en/city-hall/resources/Documents/Finance/2022-Budget/2022-Budget-Survey-What-We-Hear-Accessible-version.pdf>.
- City profile*. City of Kelowna. (2021, June 17). Retrieved October 26, 2022, from <https://www.kelowna.ca/our-community/about-kelowna/city-profile>
- Climate change plans and policies*. City of Peterborough. (2019). Retrieved October 26, 2022, from <https://www.peterborough.ca/en/city-hall/city-climate-change-plans-and-policies.aspx#Climate-Emergency-Declaration-September-23-2019>
- Community Foundation of Greater Peterborough. (2022). *Greater Peterborough's Data Hub*. Vital PTBO.
- Data reporting platform*. City of L.A. Sustainable Development Goals. (2022). Retrieved October 26, 2022, from <https://sdg.lamayor.org/our-work/data-reporting-platform>
- Dawson, F. (2022, October 27). Islam Now Second Most Popular Religion in Canada. Retrieved October 31, 2022, from <https://newcanadianmedia.ca/islam-now-second-most-popular-religion-in-canada/>
- Dodds, F., Donoghue, D., Leiva Rosech, J. (2016). *Negotiating the Sustainable Development Goals*. Routledge
- Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2013). *Management research*. Sage.
- Egelston, A. E. (2013). *Sustainable development: A history*. Springer.
- Employment and Social Development Canada. (2019, July 15). *Towards Canada's 2030 Agenda National Strategy*. Government of Canada. Retrieved October 25, 2022, from <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/national-strategy.html#h2.01>
- Employment and Social Development Canada. (2021, July 13). *About the Sustainable Development Goals Funding Program*. Government of Canada. Retrieved October 24, 2022, from <https://www.canada.ca/en/employment-social-development/programs/sustainable-development-goals.html>
- Employment and Social Development Canada. (2021, September 14). *Canada's Federal Implementation Plan for the 2030 Agenda*. Government of Canada. Retrieved October 24, 2022, from <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/federal-implementation-plan.html>

- Employment and Social Development Canada. (2022, April 25). *Moving forward together: Canada's 2030 Agenda National Strategy*. Government of Canada. Retrieved October 24, 2022, from <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/moving-forward.html>
- Employment and Social Development Canada. (2022). *Taking Action Together Canada's 2021 Annual Report on the 2030 Agenda and the Sustainable Development Goals*. Retrieved from [https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/sdg\\_taking-action-together-aoda.pdf](https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/sdg_taking-action-together-aoda.pdf)
- Fehling, M., Nelson, B. D., & Venkatapuram, S. (2013). Limitations of the millennium development goals: A literature review. *Global Public Health*, 8(10), 1109–1122. <https://doi.org/10.1080/17441692.2013.845676>
- Fischer, E., & Guzel, G. T. (2022). The case for qualitative research. *Journal of Consumer Psychology*. <https://doi.org/10.1002/jcpy.1300>
- Fletcher, C. (2021). (rep.). *Cycling Master Plan Update*. City of Peterborough. Retrieved from <https://pub-peterborough.escrimemeetings.com/filestream.ashx?DocumentId=29367> .
- Geospatial Data Analysis Group. (2018). (rep.). *Situational Analysis: Peterborough & the Kawarthas*. Canadian Centre for Economic Analysis. Retrieved from <https://investptbo.ca/wp-content/uploads/2022/02/Peterborough-the-Kawarthas-Situational-Analysis.pdf>.
- Ghorbani, S. (2020, October 22). *The History of Sustainable Development Goals (sdgs)*. The Sustainable Mag. Retrieved October 25, 2022, from <https://thesustainablemag.com/environment/the-history-of-sustainable-development-goals-sdgs/>
- Global Affairs Canada, Canada's implementation of the 2030 Agenda for Sustainable Development (2018). Ottawa.
- Government of Canada. (2021, June 22). *The Canadian Indicator Framework for the Sustainable Development Goals*. Statistics Canada. Retrieved October 25, 2022, from <https://www150.statcan.gc.ca/n1/pub/11-26-0004/112600042021001-eng.htm>
- Government of Canada. (2021, July 13). *List of projects funded by the Sustainable Development Goals Funding Program*. Employment and Social Development Canada. Retrieved October 25, 2022, from <https://www.canada.ca/en/employment-social-development/programs/sustainable-development-goals/projects-funded.html>
- Shnurr, L. (2021). 10 A Guide for Advancing Sustainable Development Goals in Your Community. Retrieved August 18, 2022, from <https://www.tamarackcommunity.ca/library/ten-guide-sdgs-2021>
- Government of Canada. (2022, September 2). *Census profile, 2021 census of Population - Peterborough, City (CY) [Census subdivision], Ontario*. Statistics Canada. Retrieved October 25, 2022, from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Peterborough&DGUIDlist=2021A00053515014&GENDERlist=1%2C2%2C3&STATISTIClist=1&HEADERlist=0>

- Greater Peterborough. (2022). (rep.). *VitalFocus Gender Equality*. Retrieved from <https://www.kwic.info/sites/default/files/2022-03/Vital%20Focus%20Gender%20Equality%20Report%20.pdf> .
- Greenhouse gas emissions reporting by Facility*. Ontario Data Catalogue. (2019). Retrieved October 27, 2022, from <https://data.ontario.ca/dataset/greenhouse-gas-emissions-reporting-by-facility>
- GreenUP. (2018). (rep.). *GreenUP Strategic Plan 2018-2022*. Retrieved from [https://www.greenup.on.ca/wp-content/uploads/2018/06/GreenUPStrategicPlan2018\\_Final.pdf](https://www.greenup.on.ca/wp-content/uploads/2018/06/GreenUPStrategicPlan2018_Final.pdf) .
- GreenUP. (2021). (rep.). *2020 Annual Report*. Retrieved from [https://www.greenup.on.ca/wp-content/uploads/2021/08/GreenUP\\_AnnualReport\\_2020\\_FINAL\\_reduced.pdf](https://www.greenup.on.ca/wp-content/uploads/2021/08/GreenUP_AnnualReport_2020_FINAL_reduced.pdf) .
- GreenUP. (2021, April 26). *Green Economy Peterborough - April 22, 2021 Earth Day Launch Event Recording*. YouTube. Retrieved October 27, 2022, from <https://www.youtube.com/watch?v=tybiVZAv758>
- Greenup. (2022). (rep.). *2021 Annual Report*. Retrieved from <https://www.greenup.on.ca/download/2021-annual-report/9>.
- A guide to SDG interactions: From science to implementation*. International Science Council. (2022, August 16). Retrieved October 25, 2022, from <https://council.science/publications/a-guide-to-sdg-interactions-from-science-to-implementation/>
- A Pathway to Sustainable American Cities: A guide to implementing the SDGs*. SDSN USA. (2019). Retrieved June 19, 2022, from <https://irp-cdn.multiscreensite.com/be6d1d56/files/uploaded/190123-2019-us-cities-guide-INT.pdf>
- Dart, R. (2005). *Peterborough's GreenUp Program Walks the Walk, Helping People Translate Information into Action*. Retrieved July 2, 2022, from [https://go.gale.com/ps/i.do?id=GALE%7CA134389045&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=12057398&p=AONE&sw=w&userGroupName=cu\\_alumni](https://go.gale.com/ps/i.do?id=GALE%7CA134389045&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=12057398&p=AONE&sw=w&userGroupName=cu_alumni)
- Hall, L., & Whieldon, E. (Host). (2022 July 8). Why ESG experts say don't let perfect be the enemy of good [Audio podcast]. S&P Global. <https://www.spglobal.com/esg/podcasts/why-esg-experts-say-don-t-let-perfect-be-the-enemy-of-good>
- High-level Political Forum 2022. (2022). *Voluntary National Reviews*. United Nations. Retrieved October 25, 2022, from <http://hlpf.un.org/2022/programme/voluntary-national-reviews>
- Hough, J. (Host). (2022 July 8). *Streetwise: Ford and Deere's Digital Future* [Audio podcast]. Barron's. <https://www.barrons.com/podcasts/streetwise/ford-and-deeres-digital-future/623d2cac-9192-4fb2-b615-e3285021005c?page=1>
- IGES. (2020). (rep.). *The Shimokawa Method for Voluntary Local Review*. Retrieved from [https://www.iges.or.jp/en/publication\\_documents/pub/training/en/10779/Shimokawa+Method+Final.pdf](https://www.iges.or.jp/en/publication_documents/pub/training/en/10779/Shimokawa+Method+Final.pdf) .



- IISD. (2022). (rep.). A Pathway to Sustainable American Cities. Retrieved from <https://irp-cdn.multiscreensite.com/be6d1d56/files/uploaded/190123-2019-us-cities-guide-INT.pdf>.
- IISD & United Way Winnipeg. (2019, September 12). MyPeg. Retrieved October 26, 2022, from <https://www.mypeg.ca/>
- IISD & UWW. (2022, February 11). *2021 Voluntary Local Review shares Winnipeg progress with United Nations*. MyPeg. Retrieved October 25, 2022, from <https://www.mypeg.ca/winnipeg-sdgs-voluntary-local-review-2021/>
- Kroll, C. (2015). (rep.). *Sustainable Development Goals: Are the rich countries ready?* . Sustainable Development Solutions Network.
- KWIC. (2019). (rep.). *Community forum Understanding the UN Sustainable Development Goals: Canada's Commitment and the Local Connection*. Retrieved from <https://www.kwic.info/sites/default/files/2021-05/SDGForumPrioritySummary-Ptbo%202019.pdf> .
- KWIC. (2021). (rep.). *Advancing the 2030 Agenda in Nogojiwanong | Peterborough Final Report*.
- KWIC. (2021). (rep.). *Toward Clean Water and Sanitation in Nogojiwanong / Peterborough*. Retrieved from <https://www.kwic.info/sites/default/files/2021-05/KWIC-Report-SDG6-WEB.pdf>.
- Kyoto Protocol to the United Nations Framework Convention on Climate Change. (1998).
- London Poverty Research Center. (2020). (rep.). *London Ontario SDG Indicators A city-based set of indicators localized from the UN Sustainable Development Goal Indicators*. Retrieved from <https://unitedwayem.ca/wp-content/uploads/2020/04/London-Ontario-SDG-Indicators-report-LPRC-2020.pdf> .
- Macintosh, G. (2009), "The role of rapport in professional services: antecedents and outcomes", *Journal of Services Marketing*, Vol. 23 No. 2, pp. 70-78. <https://doi.org/10.1108/08876040910946332lon>
- McArthur, J., & Rasmussen, K. (2017). *Who and what gets left behind? assessing Canada's domestic status on the Sustainable Development Goals*. Brookings. Retrieved October 24, 2022, from <https://www.brookings.edu/research/who-and-what-gets-left-behind-assessing-canadas-domestic-status-on-the-sustainable-development-goals/>
- McArthur, J. W., & Rasmussen, K. (2019). Classifying sustainable development goal trajectories: A country-level methodology for identifying which issues and people are getting left behind. *World Development*, 123, 104608. <https://doi.org/10.1016/j.worlddev.2019.06.031>
- Northern Perspectives on the Sustainable Development Goals. (2019). Retrieved October 25, 2022, from <https://www.northernsgs.ca/gallery>
- Okitasari, M., Sunam, R., Mishra, R., Masuda, H., Morita, K., Takemoto, K., & Kanie, N. (2019). (issue brief). *Governance and National Implementation of the 2030 Agenda: Lessons from Voluntary National Reviews*. United Nations University.

- Okitsari et al. (2019). (rep.). *The 2019 SDG Index and Dashboards Report for European Cities* (prototype version, Vol. Telos, SDSN).
- Our story*. GreenUP. (2018, June 28). Retrieved October 26, 2022, from <https://www.greenup.on.ca/who-we-are/our-story/>
- Patrinos, H. A. (2014, December 1). *You can't manage what you don't measure*. World Bank Blogs. Retrieved October 24, 2022, from <https://blogs.worldbank.org/education/you-can-t-manage-what-you-don-t-measure>
- Paull, J. (2013). The rachel carson letters and the making of silent spring. *SAGE Open*, 3(3). <https://doi.org/10.1177/2158244013494861>
- Peterborough City & County. (2020). (rep.). *Active Transportation & Health 2020 Indicators Report*. Retrieved from <https://www.peterboroughpublichealth.ca/wp-content/uploads/2020/12/ATI-Report-2020-WEB-Acc.pdf>
- Peterborough. (2020). (rep.). *Peterborough Housing and Homelessness Plan Progress Report 2020*. Retrieved from <https://www.peterborough.ca/en/city-services/resources/Documents/Social-Services/Housing-and-Shelter/CSSS21-005---Appendix-A---HHPPR-2020.pdf>.
- Peterborough. (2021, October 21). Official Plan Update 2021. Retrieved from <https://www.connectptbo.ca/official-plan-update>
- Peterborough*. The Canadian Encyclopedia. (2012). Retrieved October 26, 2022, from <https://www.thecanadianencyclopedia.ca/en/article/peterborough>
- Peterson, S. (2020). Earth day from 1970 to 2020: The journey from petroleum lover to climate activist. *Psychiatric News*, 55(13). <https://doi.org/10.1176/appi.pn.2020.7a33>
- PKED, Peterborough and the Kawarthas Economic Development Plan 2020-2024 (2020). Peterborough; City of Peterborough.
- Prochnau, C., Liu, L., & Boman, J. (2003). Personal–professional connections in palliative care occupational therapy. *The American Journal of Occupational Therapy*, 57(2), 196–204. <https://doi.org/10.5014/ajot.57.2.196>
- Peterborough. (2021, February 3). Transportation Master Plan Phase 4 Update. Retrieved from <https://www.connectptbo.ca/moveptbo>
- Project Management Institute, Inc. (2021). *The standard for Project Management and A guide to the Project Management Body of Knowledge (Pmbok guide)*.
- Public open house recording (October 21 2021)*. Connect Peterborough. (2021). Retrieved October 26, 2022, from <https://www.connectptbo.ca/official-plan-update/widgets/106129/videos/8230>
- Rosling, H. (n.d.). *Let my dataset change your mindset*. TED Talk. Retrieved October 24, 2022, from [https://www.ted.com/talks/hans\\_rosling\\_let\\_my\\_dataset\\_change\\_your\\_mindset?language=en](https://www.ted.com/talks/hans_rosling_let_my_dataset_change_your_mindset?language=en)

- Peterborough (2022, March 3). *Home Energy Efficiency Program*. Retrieved September 8, 2022, from <https://www.connectptbo.ca/homeenergy>
- Sachs, J. D. (2012). From millennium development goals to sustainable development goals. *The Lancet*, 379(9832), 2206–2211. [https://doi.org/10.1016/s0140-6736\(12\)60685-0](https://doi.org/10.1016/s0140-6736(12)60685-0)
- Saldaña, J. (2014). Coding and analysis strategies. *The Oxford Handbook of Qualitative Research*, 580–598. <https://doi.org/10.1093/oxfordhb/9780199811755.013.001>
- Scott, L., & McGill, A. (2019). (rep.). *Creating a strategy for a better world*. PWC. Retrieved from <https://www.pwc.com/gx/en/sustainability/SDG/sdg-2019.pdf>.
- SDG cities homepage*. SDG Cities. (2022). Retrieved October 26, 2022, from <https://www.sdgcities.ca/>
- Schnurr, L. (2021). *Book: 10 - A Guide for advancing the sustainable development goals in your community*. BOOK | 10 - A Guide for Advancing the Sustainable Development Goals in Your Community. Retrieved October 24, 2022, from <https://www.tamarackcommunity.ca/library/ten-guide-sdgs-2021>
- Siragusa, A., Vizcaino, M.P., Proietti, P. and Lavalle, C., European Handbook for SDG Voluntary Local Reviews, EUR 30067 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-15402-0, doi:10.2760/257092, JRC118682.
- Statistics Canada. (2022, September 2). *Census profile, London*. Statistics Canada. Retrieved October 28, 2022, from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=London&DGUIDlist=2021S0503555&GENDERlist=1%2C2%2C3&STATISTIClist=1&HEADERlist=0>
- Statistics Canada. (2022, September 2). *Census profile, Peterborough-Kawartha*. Statistics Canada. Retrieved October 28, 2022, from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=Peterborough--Kawartha&DGUIDlist=2013A000435084&GENDERlist=1%2C2%2C3&STATISTIClist=1&HEADERlist=0>
- Statistics Canada. (2022, September 2). *Census profile, Winnipeg City*. Statistics Canada. Retrieved October 28, 2022, from <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&GENDERlist=1&STATISTIClist=1&HEADERlist=0&DGUIDlist=2021A00054611040&SearchText=winnipeg>
- Sustainable Peterborough. (2012). (rep.). *Greater Peterborough Area Community Sustainability Plan*. Retrieved from [https://sustainablepeterborough.ca/wp-content/uploads/2015/01/SP\\_Plan\\_Final\\_Plan.pdf](https://sustainablepeterborough.ca/wp-content/uploads/2015/01/SP_Plan_Final_Plan.pdf).
- Sustainable Peterborough. (2016). (rep.). *Greater Peterborough Area Climate Change Action Plan*. Retrieved from <https://sustainablepeterborough.ca/wp-content/uploads/2017/11/Greater-Peterborough-Area-Climate-Change-Action-Plan-FINAL-October-2017.compressed.pdf>.
- Sustainable Peterborough. (2022). (rep.). *Strategic Plan 2021-2031*. Retrieved from <https://sustainablepeterborough.ca/wp-content/uploads/2022/04/Sustainable-Peterborough-Strategic-Plan-Final-Apr.-2022-compressed.pdf>.

- U4SSC. (2017). (rep.). *Collection Methodology for Key Performance Indicators for Smart Sustainable Cities*. Retrieved from <https://unece.org/DAM/hlm/documents/Publications/U4SSC-CollectionMethodologyforKPIfoSSC-2017.pdf> .
- UN Department of Economic and Social Affairs. (2021). (rep.). *Global Guiding Elements for Voluntary Local Reviews (VLRs) of SDG implementation*. Retrieved from [https://sdgs.un.org/sites/default/files/2021-06/GlobalGuidingElementsforVLRs\\_FINAL.pdf](https://sdgs.un.org/sites/default/files/2021-06/GlobalGuidingElementsforVLRs_FINAL.pdf) .
- UN Department of Economic and Social Affairs. (2022). *Voluntary local reviews*. United Nations. Retrieved October 24, 2022, from <https://sdgs.un.org/topics/voluntary-local-reviews>
- UN Habitat. (2020). (rep.). *Guidelines for Voluntary Local Reviews Volume 1: A Comparative Analysis of Existing VLRs*. Retrieved from <https://unhabitat.org/guidelines-for-voluntary-local-reviews-volume-1-a-comparative-analysis-of-existing-vlrs>
- UN-Habitat & United Cities and Local Government. (2021). *Guidelines for Voluntary Local Reviews Vol2*. Retrieved September 16, 2022, from <https://unhabitat.org/guidelines-for-voluntary-local-reviews-volume-2-towards-a-new-generation-of-vlrs-exploring-the>
- UN Habitat. (2021). (rep.). *Guidelines for Voluntary Local Reviews Volume 2: Towards a New Generation of VLRs: Exploring the local-national link*. Retrieved from <https://unhabitat.org/guidelines-for-voluntary-local-reviews-volume-2-towards-a-new-generation-of-vlrs-exploring-the> .
- United Nations Department of Economic and Social Affairs. (2015). *Goal 16 Promote Just, Peaceful and Inclusive Societies*. United Nations. Retrieved October 26, 2022, from <https://sdgs.un.org/goals/goal16>
- United Nations. (1987). (rep.). *Report of the World Commission on Environment and Development: Our Common Future*. Retrieved from <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.
- United Nations. (2000). *United Nations Millennium Development Goals*. United Nations. Retrieved October 24, 2022, from <https://www.un.org/millenniumgoals/bkgd.shtml>
- United Nations. (2012). *Future we want: sustainable development knowledge platform*. United Nations. Retrieved October 25, 2022, from <https://sustainabledevelopment.un.org/rio20/futurewewant>
- United Nations. (2015). *Home | Sustainable Development*. United Nations. Retrieved October 24, 2022, from <https://sdgs.un.org/>
- United Nations. (2015). *Transforming our world: The 2030 agenda for sustainable development*. United Nations Department of Economic and Social Affairs. Retrieved October 25, 2022, from <https://sdgs.un.org/2030agenda>
- United Way Peterborough. (2021). (rep.). *Housing is Fundamental*. Retrieved from <https://www.uwpeterborough.ca/wp-content/uploads/2021/12/HousingIsFundamental-2021.pdf> .

Ville de Quebec. (2021). (rep.). *STRATÉGIE DE DÉVELOPPEMENT DURABLE*. Retrieved from <https://www.ville.quebec.qc.ca/apropos/planification-orientations/developpement-durable/docs/strategie-dev-durable-plan-transition-action-climatique.pdf> .

Vital PTBO. (n.d.). Retrieved October 26, 2022, from <https://vitalptbo.ca/>

*Voluntary local reviews of progress on the Sustainable Development Goals*. IISD. (2022, July). Retrieved October 26, 2022, from <https://www.iisd.org/system/files/2022-07/vlr-handbook-canada.pdf>









*Waste Management Master Plan update public meeting March 1, 2022*. Connect Peterborough. (2022). Retrieved October 26, 2022, from <https://www.connectptbo.ca/wasteplan2022/widgets/116861/videos/8931>



Zohar, A., & Newhouse, D. R. (2019). Educating for a sustainable world. *Intellectual, Scientific, and Educational Influences on Sustainability Research*, 121–137. <https://doi.org/10.4018/978-1-5225-7302-9.ch006>

## Appendices

### Appendix I: Lists the 17 SDGs and the aim of each goal to be achieved by 2030





SDG #	SDG Title and Aim
<p><b>1</b> NO POVERTY</p> 	No Poverty: End poverty in all its forms everywhere.
<p><b>2</b> ZERO HUNGER</p> 	Zero Hunger: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
<p><b>3</b> GOOD HEALTH AND WELL-BEING</p> 	Good Health and Well-being: Ensure healthy lives and promote well-being for all at all ages.
<p><b>4</b> QUALITY EDUCATION</p> 	Quality Education: Ensure inclusive and equitable quality education, and promote lifelong learning opportunities for all.
<p><b>5</b> GENDER EQUALITY</p> 	Gender Equality: Achieve gender equality and empower all women and girls.
<p><b>6</b> CLEAN WATER AND SANITATION</p> 	Clean Water and Sanitation: Ensure availability and sustainable management of water and sanitation for all.
<p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p> 	Affordable and Clean Energy: Ensure access to affordable, reliable, sustainable and modern energy for all.

<p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p> 	<p>Decent Work and Economic Growth: Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all.</p>
<p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>Industry, Innovation and Infrastructure: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.</p>
<p><b>10</b> REDUCED INEQUALITIES</p> 	<p>Reduced Inequalities: Reduce inequality within and among countries.</p>
<p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p> 	<p>Sustainable Cities and Communities: Make cities and human settlements inclusive, safe, resilient and sustainable.</p>
<p><b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p>Responsible Consumption and Production: Ensure sustainable consumption and production patterns.</p>
<p><b>13</b> CLIMATE ACTION</p> 	<p>Climate Action: Take urgent action to combat climate change and its impacts.</p>
<p><b>14</b> LIFE BELOW WATER</p> 	<p>Life Below Water: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.</p>
<p><b>15</b> LIFE ON LAND</p> 	<p>Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.</p>





<p><b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS</p> 	<p>Peace Justice and Strong Institutions: Promote peaceful and inclusive societies for sustainable development. Provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.</p>
<p><b>17</b> PARTNERSHIPS FOR THE GOALS</p> 	<p>Partnerships for the Goals: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.</p>

Source: <https://sdgs.un.org>

## Appendix II: Lists the eight MDGs and the aim of each goal to be achieved by 2015

MDG #	MDG Title and Aim
 <p><b>1</b> ERADICATE EXTREME POVERTY AND HUNGER</p>	<p>Eradicate extreme poverty and hunger</p>
 <p><b>2</b> ACHIEVE UNIVERSAL PRIMARY EDUCATION</p>	<p>Achieve Universal Primary Education</p>
 <p><b>3</b> PROMOTE GENDER EQUALITY AND EMPOWER WOMEN</p>	<p>Promote gender equality and empower women</p>
 <p><b>4</b> REDUCE CHILD MORTALITY</p>	<p>Reduce child mortality</p>



	Improve maternal health
	Combat HIV/AIDS, Malaria and other diseases
	Ensure environmental Sustainability
	Global Partnership for Development

Source: <https://www.un.org/millenniumgoals/>

**Appendix III: List of 30 Canada Government Actions to be taken to achieve the Agenda 2030: Annex I:**

*Towards Canada’s 2030 Agenda National Strategy* proposes 30 concrete federal actions to advance progress on the 2030 Agenda framework and 30 national ambitions to achieve the 2030 Agenda in Canada. Canadians’ views and feedback on the actions below and the ambitions set out in Annex III are required to solidify a whole-of-Canada vision for 2030 and to collectively define our path forward.

1. Demonstrate leadership in implementing the 2030 Agenda, both at home and abroad, by coordinating a whole-of-Canada national strategy for the 2030 Agenda and measuring progress made on the SDGs.
2. Align federal reporting mechanisms and support the integration of the SDGs into new and existing strategies, policies and programs across federal departments and agencies to increase policy coherence.
3. Develop training materials on the 2030 Agenda and its SDGs for federal public servants across all departments and agencies.

4. Ensure diverse representation at the United Nations High-Level Political Forums from all levels of government, including the provinces and territories, Indigenous governments and peoples, communities, municipalities and cities.
5. Develop long-term inclusive engagement plans with Indigenous partners and communities, National Indigenous Organizations, Modern Treaty organizations and Indigenous self-governments to further implement the 2030 Agenda. Identify opportunities for collaboration and for integrating Indigenous perspectives, priorities and ways of knowing into the SDGs, support capacity building and increase awareness about the 2030 Agenda.
6. Foster collaboration with communities, cities and municipalities to further implement the 2030 Agenda locally, and support action to achieve the SDGs.
7. Share best practices and identify opportunities for collaboration and for localizing the SDGs across all levels of government and with communities and local organizations.
8. Work with partners on compelling storytelling and calls to action, and highlight stories of Canadians who are taking action on the SDGs from coast to coast to coast.
9. Support a national SDG Forum that brings together diverse stakeholders to discuss the 2030 Agenda and to collaborate on innovative approaches to advance progress on the SDGs in Canada.
10. Work in partnership with organizations and communities to ensure that vulnerable and marginalized groups are aware of and engaged in the 2030 Agenda.
11. Enable horizontal partnerships and collaboration that promote the sharing of best practices, ideas and experiences relating to the 2030 Agenda.
12. Leverage opportunities at key international and regional events and forums like the UN High-Level Political Forum on Sustainable Development, the Expert Mechanism on the Rights of Indigenous People, the UN Permanent Forum on Indigenous Issues, the G7 and G20 summits and the OECD to share best practices in implementing the 2030 Agenda, showcase Canada's efforts and collaborate with other countries to increase the impact of the SDGs and help build momentum.
13. Support First Nations, Metis, and Inuit-led research initiatives, protocols, and governance structures and partner with schools, universities, academic institutions and research networks to support research, development, resource sharing and youth engagement in the SDGs.
14. Establish a representative external advisory committee of experts to guide the implementation of the 2030 Agenda in Canada.
15. Support research in areas that help identify gaps in Canada's efforts to meet the SDGs or improve the understanding of the social, economic and environmental needs of under-represented populations who are at risk of being left behind.
16. Participate annually in the High-Level Political Forum and present at least one additional Voluntary National Review to the United Nations before 2030.
17. Advance data disaggregation and explore local or community-driven measurement to ensure the Framework reflects and monitors under-represented and marginalized groups.
18. Enhance data disaggregation and the recognition of Indigenous identity across the Canadian Indicator Framework to the extent possible, and enhance the future integration of Indigenous-owned, community-based data, building on work like the National Outcome-Based Framework's development of Indigenous indicators of poverty, health and well-being.
19. Present a report that covers Canada's national strategy regularly, and report annually to Canadians on progress made in the Global Indicator Framework.
20. Support independent review mechanisms and peer review processes as a means to enhance Canada's implementation of the 2030 Agenda.
21. Support sub-national reporting to highlight new and existing actions locally that are making progress on the SDGs.
22. Implement the 2030 Agenda with full regard for the rights of Indigenous peoples by protecting and promoting these rights, as reflected in the 10 Principles of Reconciliation, the TRC's calls to action, the National Inquiry into Missing and Murdered Indigenous Women and Girls' calls to justice and the UNDRIP.

23. Consult with National Indigenous Organizations and Indigenous communities to ensure that the 2030 Agenda is implemented collaboratively and in ways that respect the rights of First Nations, Inuit and Métis to self-determination, and support participation in implementation, follow-up and review processes.
24. Raise awareness about Indigenous ways of knowing among all Canadians.
25. Support the development of resources that connect the past, present and future experiences of First Nations, Inuit and Métis communities in Canada to the 2030 Agenda.
26. Enhance collaboration between different levels of government, the private and non-profit sectors and research communities, and support the development of new and innovative partnerships, approaches and breakthroughs to advance multiple SDGs.
27. Encourage philanthropic organizations, private sector firms and private investors to contribute to achieving the SDGs through opportunities for collaboration which could include: sustainable production and procurement processes; resource efficiency, clean energy and the regenerative use of natural resources; improved social protection for labour; the adoption of circular economic approaches, ESG-compliant investment in emerging and frontier markets; and corporate social responsibility initiatives.
28. Partner with organizations to encourage SDG implementation in the business community, including corporate social responsibility initiatives.
29. Engage with partners to develop, test and deploy innovative and flexible financing tools that will mobilize new investments to achieve the SDGs in Canada and abroad.
30. Measure the economics and the effectiveness of the impacts of successful SDG implementation, different resourcing requirements and potential types of funding.

Source: <https://www.canada.ca/en/employment-social-development/programs/agenda-2030/national-strategy.html#h2.06>

## Appendix IV: Vertical Leads & Horizontal Leads – Canada SDG Implementation Plan. Pages 14 – 17

SDG 1: No Poverty	SDG 2: Zero Hunger	SDG 3: Good Health and Well-being
<p><b>Vertical lead:</b> Employment and Social Development Canada</p> <p><b>Key contributing departments:</b> Canada Revenue Agency, Crown-Indigenous Relations and Northern Affairs, Finance Canada, Global Affairs Canada, Indigenous Services Canada, Innovation, Science and Economic Development, Public Safety, Women and Gender Equality</p>	<p><b>Vertical lead:</b> Agriculture and Agri-Food Canada</p> <p><b>Key contributing departments:</b> Canadian Food Inspection Agency, Crown-Indigenous Relations and Northern Affairs Canada, Fisheries and Oceans Canada, Health Canada, Global Affairs Canada, Indigenous Services Canada</p>	<p><b>Vertical lead:</b> Health Canada</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food, Canadian Food Inspection Agency, Canadian Heritage, Crown-Indigenous Relations and Northern Affairs, Employment and Social Development Canada, Environment and Climate Change Canada, Global Affairs Canada, Indigenous Services Canada, Public Health Agency of Canada,</p>

		Public Safety, Transport Canada
<b>SDG 4: Quality Education</b>	<b>SDG 5: Gender Equality</b>	<b>SDG 6: Clean Water and Sanitation</b>
<p><b>Vertical lead:</b> Employment and Social Development Canada</p> <p><b>Key contributing departments:</b> Canadian Heritage, Crown Indigenous Relations and Northern Affairs, Global Affairs Canada, Indigenous Services Canada, Innovation, Science and Economic Development, Women and Gender Equality</p>	<p><b>Vertical lead:</b> Women and Gender Equality</p> <p><b>Key contributing departments:</b> Crown-Indigenous Relations and Northern Affairs, Employment and Social Development, Finance Canada, Global Affairs Canada, Immigration, Refugees and Citizenship Canada, Indigenous Services Canada, Infrastructure Canada, Justice Canada, Public Safety, Public Services and Procurement Canada, Treasury Board of Canada Secretariat</p>	<p><b>Vertical lead:</b> Indigenous Services Canada</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food Canada, Canadian Food Inspection Agency, Crown-Indigenous Relations and Northern Affairs, Environment and Climate Change Canada, Global Affairs Canada, Health Canada, Infrastructure Canada</p>
<b>SDG 7: Affordable and Clean Energy</b>	<b>SDG 8: Decent Work and Economic Growth</b>	<b>SDG 9: Industry, Innovation and Infrastructure</b>
<p><b>Vertical lead:</b> Natural Resources Canada</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food Canada, Crown-Indigenous Relations and Northern Affairs, Global Affairs Canada, Infrastructure Canada, Indigenous Services Canada, Innovation, Science and Economic Development, Public Services and Procurement Canada, Transport Canada</p>	<p><b>Vertical lead:</b> Employment and Social Development Canada</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food Canada, Canadian Heritage, Crown Indigenous Relations and Northern Affairs, Global Affairs Canada, Immigration, Refugees and Citizenship Canada, Indigenous Services Canada, Innovation, Science, and Economic Development Canada, Justice Canada, Natural Resources Canada, Public Services and Procurement Canada, Transport Canada, Women and Gender Equality</p>	<p><b>Vertical co-leads:</b> Infrastructure Canada and Innovation, Science and Economic Development</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food Canada, Canadian Heritage, Canadian Radio-television and Telecommunications Commission, Crown-Indigenous Relations and Northern Affairs, Employment and Social Development Canada, Environment and Climate Change Canada, Finance Canada, Global Affairs Canada, Indigenous Services Canada, Natural Resources Canada, Transport Canada</p>
<b>SDG 10: Reduced Inequalities</b>	<b>SDG 11: Sustainable Cities and Communities</b>	<b>SDG 12: Sustainable Consumption and Production</b>
<p><b>Vertical lead:</b> Employment and Social Development Canada</p> <p><b>Key contributing departments:</b> Canadian Heritage, Crown Indigenous Relations and Northern Affairs, Finance Canada, Global Affairs Canada, Indigenous</p>	<p><b>Vertical co-leads:</b> Infrastructure Canada and Canada Mortgage and Housing Corporation</p> <p><b>Key contributing departments:</b> Canadian Heritage, Crown Indigenous Relations and Northern Affairs, Employment and Social Development Canada, Environment</p>	<p><b>Vertical lead:</b> Employment and Social Development Canada (SDG Unit)</p> <p><b>Key contributing departments:</b> Agriculture and Agri-Food Canada, Crown-Indigenous Relations and Northern Affairs, Environment and Climate Change Canada, Finance</p>

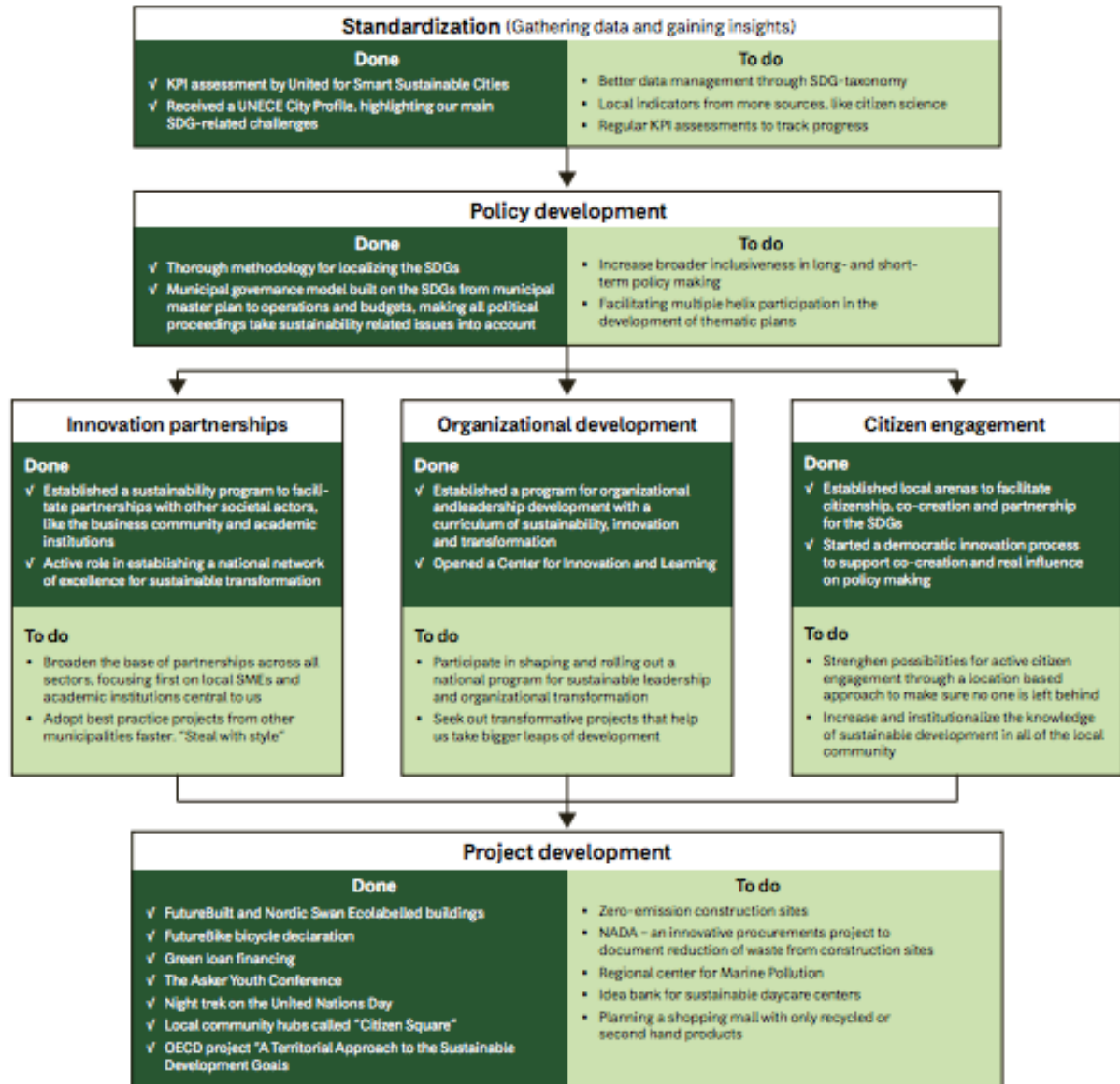
Services Canada, Immigration, Refugees and Citizenship Canada, Infrastructure Canada, Innovation, Science and Economic Development, Justice Canada, Women and Gender Equality	and Climate Change Canada, Global Affairs Canada, Health Canada, Indigenous Services Canada, Natural Resources Canada, Public Safety, Transport Canada	Canada, Global Affairs Canada, Health Canada, Indigenous Services Canada, Innovation, Science and Economic Development, Natural Resources Canada, Public Services and Procurement Canada, Transport Canada, Treasury Board of Canada Secretariat
<b>SDG 13: Climate Action</b>	<b>SDG 14: Life Below Water</b>	<b>SDG 15: Life on Land</b>
<p><b>Vertical lead:</b> Environment and Climate Change Canada</p> <p><b>Key contributing departments:</b></p> <p>Agriculture and Agri-Food Canada, Canadian Food Inspection Agency, Crown-Indigenous Relations and Northern Affairs, Fisheries and Oceans Canada, Global Affairs Canada, Health Canada, Indigenous Services Canada, Infrastructure Canada, Natural Resources Canada, Public Safety, Transport Canada, Treasury Board of Canada Secretariat</p>	<p><b>Vertical lead:</b> Fisheries and Oceans Canada</p> <p><b>Key contributing departments:</b></p> <p>Crown-Indigenous and Northern Affairs, Environment and Climate Change Canada, Global Affairs Canada, Natural Resources Canada, Transport Canada</p>	<p><b>Vertical lead:</b> Environment and Climate Change Canada</p> <p><b>Key contributing departments:</b></p> <p>Agriculture and Agri-Food Canada, Canada Border Services Agency, Canadian Food Inspection Agency, Crown-Indigenous Relations and Northern Affairs, Fisheries and Oceans Canada, Global Affairs Canada, Natural Resources Canada, Transport Canada</p>
<b>SDG 16: Peace, Justice and Strong Institutions</b>	<b>SDG 17: Partnerships for the Goals</b>	
<p><b>Vertical lead:</b> Justice Canada</p> <p><b>Key contributing departments:</b></p> <p>Crown-Indigenous Services and Northern Affairs Canada, Canada Revenue Agency, Employment and Social Development Canada, Global Affairs Canada, Indigenous Services Canada, Immigration, Refugees and Citizenship Canada, Public Safety, Women and Gender Equality</p>	<p><b>Vertical co-leads:</b> Global Affairs Canada and Employment and Social Development Canada</p> <p><b>Key contributing departments:</b></p> <p>all federal departments and agencies</p>	

<b>Horizontal Leads (cross-cutting objectives):</b>	<b>Horizontal Leads (enablers):</b>
<p><b>Supporting the core principle of leaving no one behind</b></p> <p><b>Horizontal lead:</b> Women and Gender Equality With the support of Canadian Heritage</p> <p><b>Advancing reconciliation with Indigenous peoples</b></p> <p><b>Horizontal lead:</b> Crown-Indigenous Relations and Northern Affairs With support of Indigenous Services Canada</p> <p><b>Ensuring coherence with Canada’s international efforts, and between international and domestic efforts to support the advancement of the SDGs</b></p> <p><b>Horizontal lead:</b> Global Affairs Canada</p>	<p><b>Policy Coherence</b></p> <p>Horizontal leads (enablers): Finance Canada, Global Affairs Canada, Privy Council Office, SDG Unit, Treasury Board of Canada Secretariat</p> <p><b>Data, Indicators, and Reporting Platform</b></p> <p><b>Horizontal lead (enabler):</b> Statistics Canada</p>

Source: [https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/Implementation-Plan\\_layout\\_EN\\_Web.pdf](https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/Implementation-Plan_layout_EN_Web.pdf)

## Appendix V: Different models the City of Asker has used to translate the SDGs into local action

**Modell 1**  
**Bold City Vision:**  
**Data - Policy - Action**



---

## Model 2

From global goals to local actions



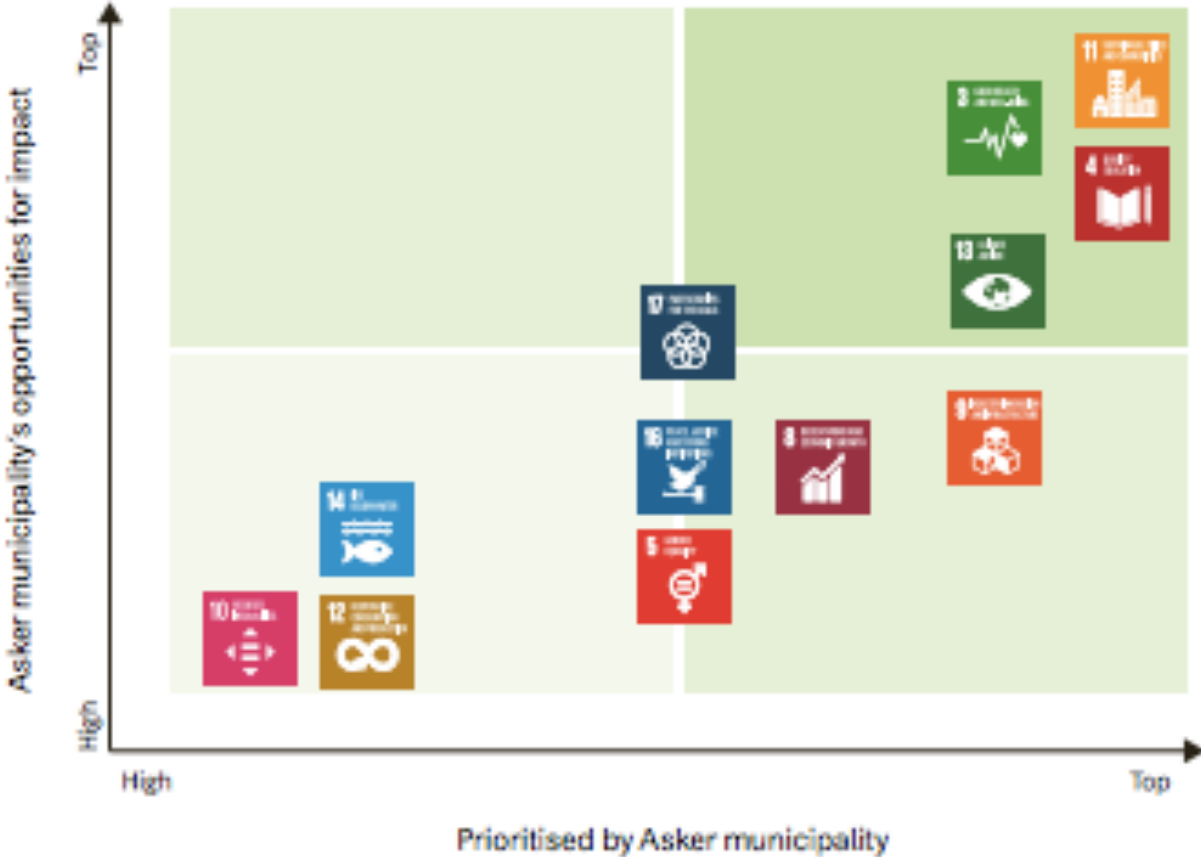
*Askerkommune / Pure Consulting*

- ▶ The upper triangle shows a broad-based starting point, which is then narrowed down from the global to the local perspective.
- ▶ The lower triangle shows the hierarchy of our local plans, where initiatives are incorporated for subsequent implementation.

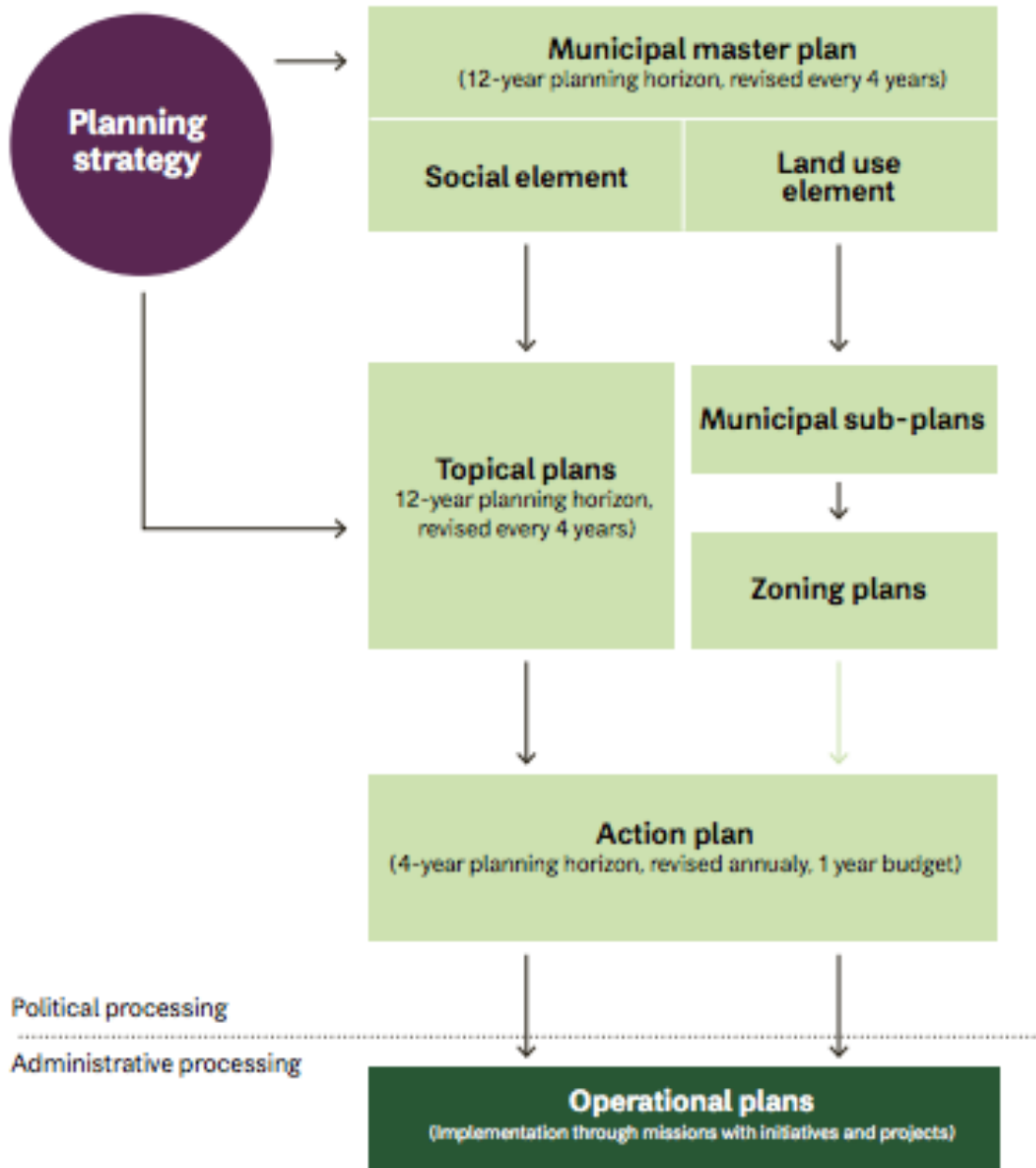


**Model 3**

Materiality assessment - priorities for the first municipal planning period.



**Model 4**  
The planning system



---

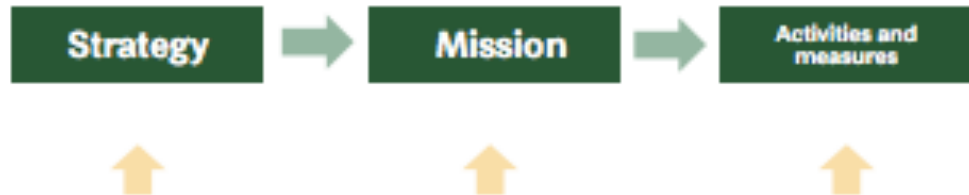
## Model 5

### The Flows: Goals - Actions - Results

**Goal flow:**  
*Where are we going?*



**Action flow:**  
*How do we get there?*

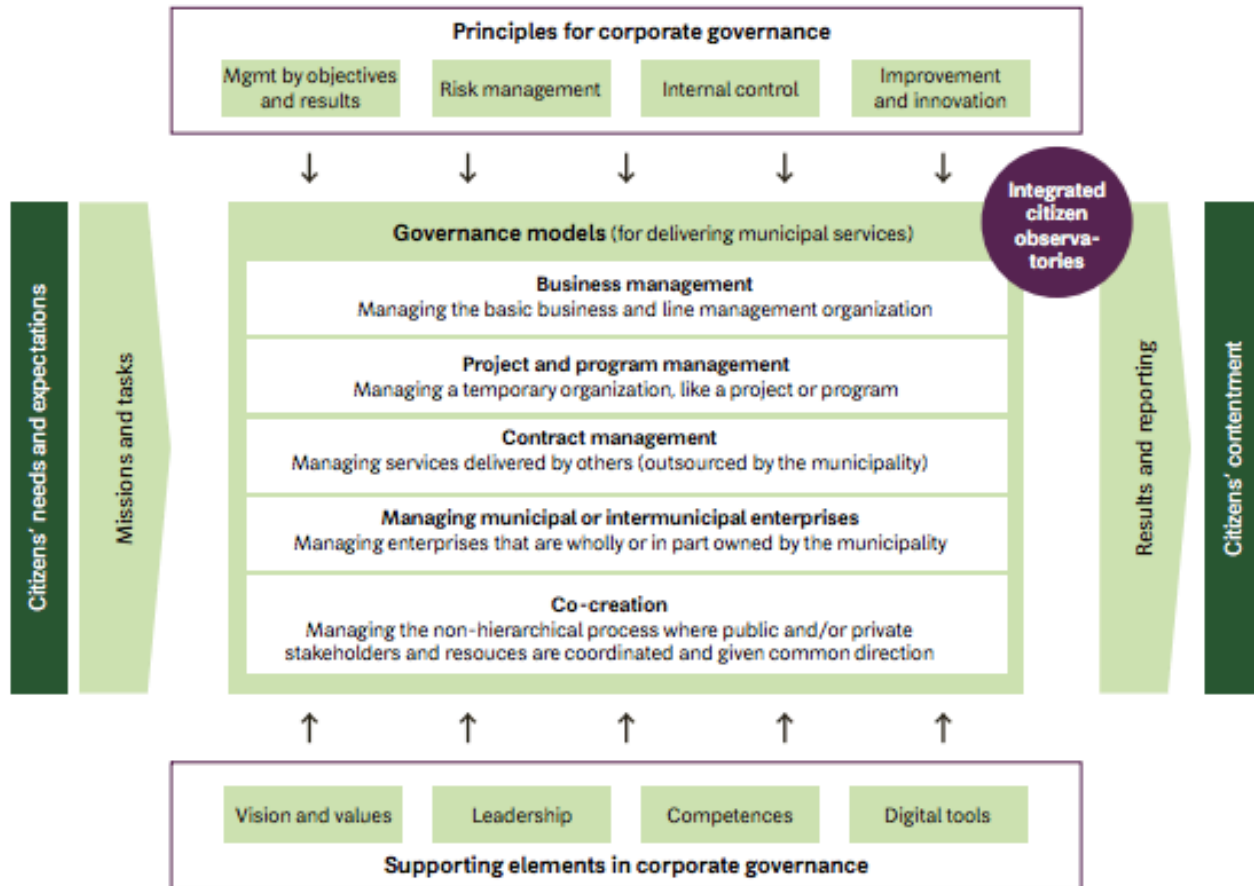


**Result flow:**  
*How does/did it go?*



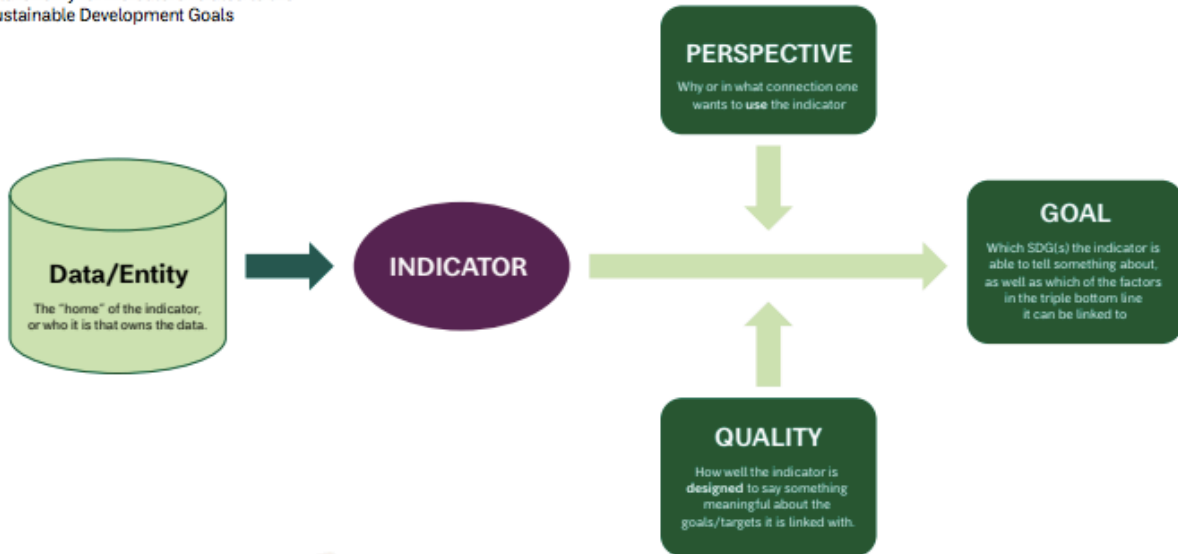
**Model 6**

The management system: Input - Processes - Output/Results



**Model 9**

A taxonomy for indicators related to the Sustainable Development Goals



**Model 8**

SDG progress - a holistic view.



Source: <https://sdgs.un.org/sites/default/files/2021-07/Agenda%202030%20in%20Aster%2C%20Voluntary%20Local%20Review%202021%20%281%29.pdf>

## Appendix VI: Shimokawa's SDG VLR model

# The Shimokawa Method – for Voluntary Local Review (VLR) –



Source: <https://unhabitat.org/sites/default/files/2021/07/shimokawamethodfinal.pdf>

**Appendix VII: Decision Tree for Localizing SDG Indicators: A tool to identify which indicators are locally applicable.**

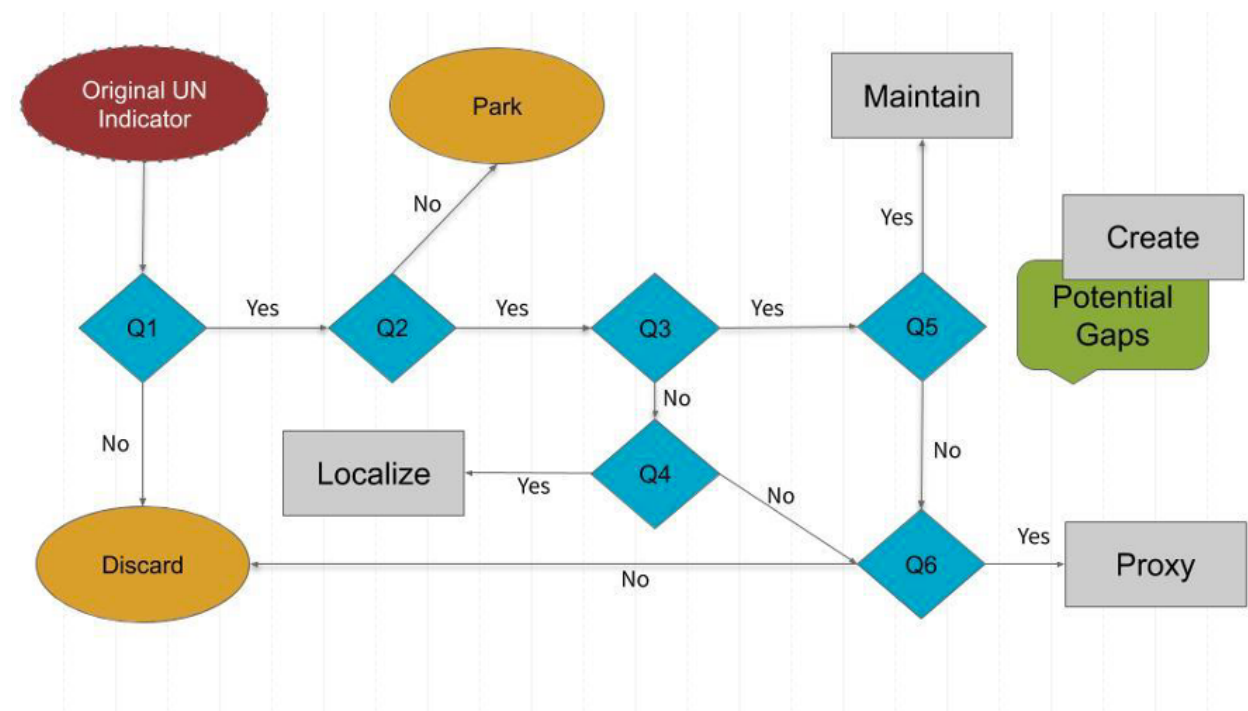


Figure : London, Ontario’s Decision Tree for localizing the SDG. Courtesy of London Poverty Research Centre at King’s: <https://www.sdgcities.ca/resources/>

**Appendix VIII: London’s Categories for SDG indicator selection**

<p><b>Maintain</b></p>	<p>Indicator can be used as it is or reworded just to make sense in the London context. Example: Indicator 11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities</p>
<p><b>Localize</b></p>	<p>Indicator can be adopted by changing only its scale to the municipal level. Example: Indicator 5.5.1 Proportion of seats held by women in (a) national parliaments and (b) local governments.</p>

<b>Proxy</b>	Indicator needs to be adapted to become clearly quantified or measurable at the municipal level. Example: Indicator 4.2.1 Proportion of children aged 24–59 months who are developmentally on track in health, learning, and psychosocial well-being by sex.
<b>Park</b>	Indicator is applicable but not necessarily relevant in the local context (requiring further consultation). Example: Indicator 7.1.1 Proportion of population with access to electricity.
<b>Discard</b>	Indicator is not applicable. Example: Indicator 1.5.3 Number of countries with national and local disaster risk reduction strategies.

**Table 1: Categories for SDG indicator translation. Courtesy of London Poverty Research Centre at King’s:**

<https://www.sdgcities.ca/resources/>

**Appendix IX: Decision nodes to evaluate indicator translation**

The decision nodes are a series of six questions that would ask about each SDG global indicator to decide whether or not it is relevant locally.

<b>Question</b>	<b>Rationale</b>
Q1: Is the indicator applicable in the London context?	This question is the first vetting process for filtering indicators that simply cannot be measured in the local context because they do not match features. For example, in the London context, any indicators looking at marine life can be discarded quickly because London is not close to any oceans.



<p>Q2: Is the indicator relevant in the London context?</p>	<p>This question aims to examine if the indicator is relevant to the local context. That is, even if the indicator may be measuring something in the local context, is it significant enough of an issue to warrant attention in a local tracking system.</p>
<p>Q3: Is the indicator focused at the municipal level?</p>	<p>This question examines if the indicator is intended to be an international measurement - and whether it is worded as such (i.e., amount of international aid provided to developing countries). In the case that the indicator does not specify the level and it makes sense in the municipal context, we answer 'yes' to this question (i.e., mortality rate of children &lt;5).</p>
<p>Q4: Can the indicator be adopted by only changing its scale?</p>	<p>This question explores if an indicator can become relevant to the local level by simply changing the scale of the measurement. If we can establish a meaningful indicator by substituting terms such as 'national' for 'local,' then we answer 'yes' to this question. If the scale can't be changed or the indicator remains unclear even after changing then we answer 'no' to this question.</p>
<p>Q5: Is the indicator clearly quantified and measurable?</p>	<p>This question seeks to identify if the indicator can be used as it is (maintained) because it is applicable, relevant, and has clearly measurable variables. If the indicator is vague - in terms of what exactly should be measured, then we answer 'no' to this question.</p>

<p>Q6: Can a proxy indicator be established?</p>	<p>In this question, it has already been determined that the indicator is applicable and relevant to the local level, but that it does not clearly state what should be measured (i.e. convenient access to public transport). In this case, if we can identify a proxy measure, we answer ‘yes’ to this question.</p>
--	--

**Table 2: Decision nodes to evaluate indicator translation. Courtesy of London Poverty Research Centre at**

**King’s: <https://www.sdgcities.ca/resources/>**

**Appendix X: Summary of Situational Analysis for the Peterborough and the Kawarthas Region**

In 2018, the Canadian Centre for Economic Analysis (CANCEA) conducted a situational analysis of the Peterborough and the Kawarthas Census Division area. A situational analysis is a comparative study of a region with its counterparts in the same larger governing entity, i.e, province and nationally. A situational analysis includes key demographic and economic indicators such as age, immigration, and employment sectors of employment, among others (CANCEA, 2018). The study was conducted based on 2016 census data (CANCEA, 2018). It concluded that in the region, with Peterborough as its largest census subdivision, in 2016, there were 62,710 out of the 141,423 residents in the city and county (CANCEA, 2018). Out of the 20 employment sectors analyzed in this study, the largest employment sector in the region is healthcare and social assistance with about 15%, higher than the Ontario average of about 11%, followed by retail and trade with about 13.5%, also higher than the Ontario average of 11%. In 14 of the industry sectors analyzed, the differences between the Peterborough and the Kawarthas’ average and that of Ontario’s were negligible. Ontario averages higher in professional, scientific, and technical services, finance and insurance, and manufacturing. The report also assessed the strengths of certain employment sectors in the region relative to Ontario and concluded that the region leads the provincial employment

growth average in manufacturing by 1.1%, followed by waste management services by 0.6%, and wholesale trade by 0.5%, and healthcare and social assistance by 0.35% (CANCEA, 2018). The comparative analysis revealed that between 2001 and 2016, the population region of Peterborough and the Kawarthas grew by approximately 8.0%, much slower than the provincial average of 17.5% (CANCEA, 2018). Median Household Income was also 13.3% less than the provincial average. Interestingly enough, however, employment growth in the region over the same period was 29.5%, noticeably outpacing the provincial average of 25.8%. (CANCEA, 2018).

CANCEA used its artificial intelligence-enabled predictive modeling system called Prosperity at Risk to come up with population growth forecasts for the region, concluding that the region could grow to between 154,000 and 162,300 with the highest expected value of 158,200, representing an approximately 12% increase over a 25-year period (CANCEA, 2018).

Source: <https://investptbo.ca/wp-content/uploads/2022/02/Peterborough-the-Kawarthas-Situational-Analysis.pdf>

## **Appendix XI: Interview Guide for SDG Practitioners in Peterborough**

This Interview is a semi-structured interview. It is designed to learn about best practices of practical strategies, tactics, opportunities, and challenges and how to mitigate or alleviate those challenges for localizing the SDGs in Peterborough by interviewing a select number of SDG coordinators in similar-sized cities in Ontario and across Canada. This research will also include interviewing relevant City of Peterborough staff and members of stakeholder groups to understand their context, gauge their interest in and knowledge of the SDGs, and discuss these lessons learned with them to get their feedback about the applicability of these lessons learned and best practices in Peterborough. Interviews will be conducted online via Zoom due to the Covid-19 pandemic; and will be open-ended. The questions are there to make sure all the topics I need to include are covered, but if the information pertaining to a specific question were conveyed by the participant before being asked, I will not ask them again directly. Questions may develop as the research progresses. The exact wording of these questions might change to reflect evolving knowledge in the literature and reports. I do not plan to ask questions that can be easily found in

published reports. That's why questions in the interviews must be focused on the expert's own experiences in localizing the SDGs in their cities.

**Definition: Community stakeholders:** For this research purpose, I define a community stakeholder as any city-based organization. This includes the city government and quasi-governmental agencies such as PKED and Sustainable Peterborough, nonprofits such as GreenUp and the New Canadians Centre, community foundations, business owners and managers such as Ashburnham Realty and Wild Rock, academic institutions such as Trent University and Fleming College, and Indigenous groups.

### **Interview questions: Local actors**

In 2019 the Kawartha World Issues Centre (KWIC) and GreenUp, two leading nonprofit organizations in the region initiated a community forum to advance the SDGs in Peterborough in collaboration with Trent University and Fleming College. Four SDGs were picked as a primary focus for this forum: SDG 1: No Poverty, SDG 4: Quality Education, SDG 6: Clean Water and Sanitation, and SDG 13: Climate Action. This forum convened twice more, in 2020 and 2021. However, one of the leading forum coordinators confirmed to me that the grant for this initiative has expired and therefore there is no longer the capacity to host similar forums in the near future. Here is some background information about the forum (<https://www.kwic.info/advancing-sdg-reports>), including its final report:

[https://www.kwic.info/sites/default/files/2021-05/SDGProject\\_FinalReport\\_2021\\_CompleteVersion.pdf](https://www.kwic.info/sites/default/files/2021-05/SDGProject_FinalReport_2021_CompleteVersion.pdf)

- **What** can the City of Peterborough learn from the forum's experience? **Can** the city government pick up the mantle from these nonprofits and develop a new SDG stakeholder initiative to advance the SDGs locally?
- If the answer to the previous question is yes, **how** can the City of Peterborough, as a municipal government, build on the momentum of this multi-stakeholder effort and the outcome of this forum in shaping its own initiative?
- If the answer to the first question is no, **what** prevents the City of Peterborough from assuming a leading role in coordinating the stakeholders' efforts to advance the SDGs?
- If there is a limitation in staff capacity and funding to take on new initiatives of this sort, **should** the municipal government approach the province or the federal governments for more support to expand its capacity? In other words, **should** the city have a dedicated SDG coordinator and acquire funding to support this position?

- If the answer to the above question is yes, **how should** go about initiating this position? **What** specific actions would you recommend in that regard?
- **What** role do you see the city play in relation to advancing the SDG agenda locally?
- What role do you think it should play in that regard, if different from above?

I have analyzed the city council's meeting minutes between September 25, 2015, the day the SDGs were adopted at the UN General Assembly, and October 21, 2021, the day the city convened its public house meeting to announce the official plan. In the 750 meeting minutes analyzed, there was not a single mention of the Sustainable Development Goals. At that public house on the Official Plan, I asked the planners of the OP if they had considered integrating the SDGs into the OP by aligning the OP's targets and milestones with specific SDG targets. It seemed that the planners had no prior knowledge of the SDGs, as they asked me to briefly explain what they were. For reference to that meeting, here is a recording. **You can view my intervention at minute 24.00 in the recording.**

<https://www.connectptbo.ca/official-plan-update/widgets/106129/videos/8230>

- Where does this disconnect between the city council and city planners' priorities and those of the broader community stem from?
- Is it possible to bridge this gap, given the current composition of the city council and city staff? If so, how should it be done? What specific actions would you recommend in that regard?
- What role should the mayor play, if any, in this process?

### **On tracking progress, data gathering, analysis and dissemination:**

The Tamarck Institute at the University of Waterloo has convened a Community of Practice for localizing the SDGs in Canada, of which I am part. The Tamarack Institute has also issued a guiding document to help practitioners engage in the localization process. Tamarack has recommended two different approaches to localizing data and tracking progress. One method developed by the International Institute for Sustainable Development (IISD) and adopted by the City of Winnipeg on its SDG portal (mypeg.ca) and the other method is that of the City of Los Angeles'. The IISD/Winnipeg tracker categorizes community data under **eight categories** that while very relevant to the SDGs do not use the same language of SDG targets and indicators. By contrast, the LA portal is completely aligned and uses exact SDG language.

Tamarack's Guide for Localizing the SDGs: [https://www.kwic.info/sites/default/files/2021-11/TamarackGuide2021\\_EN\\_v10\\_0.pdf](https://www.kwic.info/sites/default/files/2021-11/TamarackGuide2021_EN_v10_0.pdf)

Winnipeg: <https://www.mypeg.ca>

LA: <https://sdgdata.lamayor.org>

- Viewing these two different methods of tracking progress, localizing and displaying SDG-related data, which one do you think would be best suitable for Peterborough, and why?
- Sustainable Peterborough, a regional initiative that is supported by the city and housed at the regional economic development agency, Peterborough and the Kawarthas Economic Development (PKED), has taken on the initiative to develop a regional SDG tracking portal that will follow the IISD tracking system. The scope of this tracking project is regional, including the city and the Kawarthas region. **What role** do you think the city should play in this initiative? **What opportunities** do you think this initiative could have? **How should** it position itself among the stakeholders? **What challenges** do you think it may face?

**On stakeholder engagement:**

- Both IISD and LA's trackers rely on publicly available data from national, state/provincial statistical departments as well as data collected and gathered locally at the city level by universities such as UCLA in the LA example, community foundations, research centers, nonprofits and businesses. What role do you think Trent University and Fleming College should play in Peterborough's SDG data collection, analysis and dissemination?

**Following this question, consider this hypothetical scenario:**

A City-based SDG coordinator works with faculty at Trent University's Department of Applied Modelling and Quantitative Methods (AMQM), the Department of Sustainability Studies, and Fleming College's GIS program to start a joint master's level program whereby graduate students from both departments have their thesis tailored on SDG city-based tracking. AMQM students would take on the quantitative localization and analysis of publicly available data as well as the design of quantitative surveys to collect and analyze data locally. Sustainability Studies students would take on collecting and analyzing qualitative data through interviews and focus discussions with stakeholder groups, as well as literature reviews of relevant published reports by community organizations, as well as provincial and federal agencies to be combined with quantitative analysis. Together with students at Fleming College's GIS

program and the city's own GIS department would produce data in a format that would be visualized on layered maps divided into census tracts to give a detailed, granular picture of progress on the SDGs at the smallest statistical level possible, a census tract.

This hypothetical scenario would also require the collaboration of various other stakeholders including nonprofit organizations, community foundations, businesses, economic development agencies and Indigenous groups, who would provide input and support the students and faculty's efforts in gathering data, disseminating surveys and hosting interviews and focus groups.

This hypothetical was inspired by the US-based Opportunity Insights, a national program run by leading US universities such as Harvard, Yale, Princeton and Stanford where granular level community development data are put on GIS maps per census tract to help guide the decision-making process of development projects. Through its promotional video, it's clear that the Tracking Progress initiative of IISD also has a similar objective in mind.

Another local inspiration for university-community collaboration is that of PKED's annual Business Count survey where business students from Trent University and Fleming College work on collecting detailed local data that then is published on PKED's website.

- Would this scenario realistically work in Peterborough?
- If the answer to the first question is yes, where and how should it start?
- What opportunities or benefits do you think this scenario could bring to the city government and community stakeholders?
- What sources of funding or other types of support could it tap into?
- What challenges do you think it may face?
- What specific actionable recommendations would you have for this initiative to succeed?
- If the answer to the first question is no, what would make it difficult or impossible for this type of initiative to take off?
- What do you think would need to change or happen first for an initiative of this sort to become viable?

**References for the hypothetical scenario:**

- Trent University Department of Applied Modelling and Quantitative Methods (AMQM):  
<https://www.trentu.ca/amod/>

- Trent University Sustainability Studies Department: <https://www.trentu.ca/sustainabilityma/>
- Fleming College GIS Certificate Program: [https://flemingcollege.ca/school/environmental-and-natural-resource-sciences?utm\\_source=kcg&utm\\_medium=google&gclid=Cj0KCCQjwpImTBhCmARIsAKr58cyQVgMWvEP1O5P-HzJqjdv1nQoBNrHEWNRKuHVgND2ncHMnx4yXRWcaAmw6EALw\\_wcB](https://flemingcollege.ca/school/environmental-and-natural-resource-sciences?utm_source=kcg&utm_medium=google&gclid=Cj0KCCQjwpImTBhCmARIsAKr58cyQVgMWvEP1O5P-HzJqjdv1nQoBNrHEWNRKuHVgND2ncHMnx4yXRWcaAmw6EALw_wcB)
- City of Peterborough GIS Open Data Initiative: <https://data-ptbo.opendata.arcgis.com>
- Opportunity Insight's The Opportunity Atlas Project: <https://www.opportunityatlas.org>
- PKED's Business Count Survey: <https://investptbo.ca/data-resources/business-count/>
- IISD's Tracking Progress Promotional video: [https://www.youtube.com/watch?v=nt4\\_cT3v54I](https://www.youtube.com/watch?v=nt4_cT3v54I)

## Appendix XI Participant anonymization

Participant #	Organizational affiliation	Location
010101	City government staff	Peterborough
020202	Nonprofit lead	London
030303	Academic lead	Thunderbay
040303	Academic lead	Thunderbay
050206	Nonprofit lead	Kelowna
060104	City government staff	Sault Ste. Marie
070207	Nonprofit lead	Winnipeg
080102	City government staff	London
090201	Nonprofit lead	Peterborough
100501	City Council member	Peterborough
110303	Academic lead	Thunderbay
120201	Nonprofit lead	Peterborough
130101	City government staff	Peterborough
140401	Indigenous leader	Peterborough
150101	City government staff	Peterborough



160101	City government staff	Peterborough
170108	City government staff	Quebec City
180105	City government staff	Kitchener
190106	City government staff	Kelowna
200201	Nonprofit lead	Peterborough
210107	City government staff	Winnipeg
220103	City government staff	Thunderbay
230201	Nonprofit lead	Peterborough

**Appendix XII: Interview Guide for SDG Practitioners in other Canadian Communities**

This Interview is a semi-structured interview. It is designed to learn about best practices of practical strategies, tactics, opportunities, and challenges and how to mitigate or alleviate those challenges for localizing the SDGs in Peterborough by interviewing a select number of SDG coordinators in similar-sized cities in Ontario and across Canada. This research will also include interviewing relevant City of Peterborough staff to understand their context, gauge their interest in and knowledge of the SDGs, and discuss these lessons learned with them to get their feedback about the applicability of these lessons learned in Peterborough. Interviews will be conducted online via Zoom due to the Covid-19 pandemic; and will be open-ended. The questions are there to make sure all the topics I need to include are covered, but if the information pertaining to a specific question were conveyed by the participant before being asked, I will not ask them again directly. Questions may develop as the research progresses. The exact wording of these questions might change to reflect evolving knowledge in the literature and reports. I do not plan to ask questions that can be easily found in published reports. That’s why questions in the interviews must be focused on the expert’s own experiences in localizing the SDGs in their cities.

**These questions are intended to acquire information that will help answer the main thesis question:**

- How can the City of Peterborough develop an effective SDG localization initiative to advance the SDGs, and align its development plans with SDG targets and Canada's 2030 Agenda for Sustainable Development?
- What lessons and best practices can the City of Peterborough learn from other comparable cities in Ontario, Canada, and also globally in developing capacity for advancing the SDGs locally?
- How can the City of Peterborough effectively adapt these strategic best practices from other comparable cities to its own context?

**Note:** Interviews will only be conducted with Canadian city staff. Global lessons learned will be gathered from three comparable European cities through their published Voluntary Local Reviews on the UN portal. Three cities have already been identified for this purpose. They are the City of Asker, Norway (approx. population, 96000), the City of Helsingborg, Sweden (approx. population 112,000), and the City of Gladsaxe, Denmark (approx. population 70,000).

### **Interview questions: SDG Coordinators of comparable cities from across Ontario and Canada.**

1. Walk me through how you got started on localizing the SDGs in your city? Where did the initiative start, which city department initiated it, and how did it evolve since then?
2. What internal resources did you need at the setup stage; staff time, streamlining access to data, and kickstarting alignment of existing city-wide development plans (official plan and secondary master plans) with SDG targets? What was the approval process like in your city for starting this initiative and for aligning your plans with SDG targets?
3. Describe the ownership structure of the SDG localization initiative? Who started it (department, job title) and who now manages it (department, job title)?
4. How many SDG targets have you set for your initiative? **Out of the 169 targets under the 17 goals.** And what are these specific targets?
5. How many SDG indicators are you tracking and reporting on locally to achieve those targets? And what are those indicators? Out of 231 unique and overall, 248 indicators.
6. What are your data sources for localizing these SDG indicators? **Both public (StatsCan, CMHC, community reports...etc) and internal sources (city generated and owned).**

7. How did the alignment process of public and internal data with SDG indicators take place? If you could describe the steps you took to get to the most possible alignment between available data and SDG indicators?
8. What challenges did you face, if any, in gathering and adapting public data to your local context?
9. How did you mitigate or deal with those challenges?
10. Is your SDG initiative entirely run and managed by the city government, or did you need to collaborate with other non-governmental stakeholders (nonprofits, businesses, foundations, economic development agencies, universities...etc) to advance this initiative?
11. If engaging nongovernmental stakeholders was necessary to get the data and input needed to progress on localizing the SDGs, what strategy did you implement in carrying out this collaboration? What form of structure did this collaboration take? This can be internal City staff in various departments or staff in other stakeholder entities (nonprofits, foundations, businesses, economic development agencies, academic institutions, and Indigenous groups).
12. If the city government did not initiate and house this initiative, what role did the municipality play in this process?
13. What role did the local university or college play in this process? Any examples?
14. What role did local nonprofit organizations and community foundations play in this process?
15. What role did the private sector, i.e. local businesses play in this process?
16. What role did the local/regional economic development agency play in the process?
17. What role did Indigenous institutions and communities play in this process?
18. What role did the provincial and federal governments play in this process?
19. What role should each level of government play in this process moving forward?
20. What types of data or input did you need from nongovernmental stakeholders in the city? (i.e., nonprofits, businesses, academic institutions, economic development agencies, and Indigenous groups)?
21. How did you go about collecting this input or data?
22. What challenges did you face in collecting this input or data?
23. Who in the city (department, job title) is responsible for gathering, analyzing, and interpreting the data to fit in your local context?
24. What are other city-level examples of **best practices** for localizing the SDGs have you looked at? What specific strategies, tactics, or processes have you learned from those examples? Were you

able to apply some of those lessons to your context? If so, which ones? How did you go about applying these lessons to your context? Describe the process.

## Appendix XIII: Trent University Research Ethics Board (REB) Approval Letter



Mohammad Alazraq <mohammadalazraq@trentu.ca>

---

### Office of Research and Innovation - ROMEO Event Approved

1 message

**jmuckle@trentu.ca** <jmuckle@trentu.ca>  
To: "Alazraq, Mohammad (Primary Investigator)" <mohammadalazraq@trentu.ca>  
Cc: jmuckle@trentu.ca

Mon, Aug 29, 2022 at 9:58 AM



August 29, 2022

File #: 26757

Title: Developing a stakeholder strategy for advancing the SDG Agenda in the City of Peterborough.

Dear Mr. Alazraq,

Your renewal application for "Developing a stakeholder strategy for advancing the SDG Agenda in the City of Peterborough.." has been approved.

Should the research extend beyond its new approved end date of December 31, 2022, a Study Renewal Form will be required.

This project has the following reporting milestones set:

Annual progress report-2021/12/31

Renewal Due-2022/12/31

To complete these milestones, click the Events tab in your ROMEO protocol to locate and submit the relevant form.

If an amendment to the protocol is required, you must submit an Amendment Form, available in the Events tab in your ROMEO protocol, for approval prior to implementation.

Any questions regarding the submission of reports or Event forms in ROMEO can be directed to Jamie Muckle, Coordinator, Research Conduct and Reporting, at [jmuckle@trentu.ca](mailto:jmuckle@trentu.ca)

Best Regards,

Jamie Muckle  
Coordinator, Research Conduct and Reporting  
Office of Research and Innovation  
Suite 344, Gzowski College  
Trent University

## **Appendix XIV: Interview Consent Form**

April 18, 2022

### **LETTER OF CONSENT**

**Mohammad M. AlAzraq,**

Masters Candidate

Sustainability Studies Graduate Program

Trent University, Peterborough Ontario

**Tel: 705-559-4379**

**Research Sponsor:** Trent University

**Supervisor:** Prof. Asaf Zohar

**Research Purpose:** you are invited to take part in this research that aims to assess the performance of and develop a stakeholder strategy for the City of Peterborough on a number of UN Sustainable Development Goals (SDGs) targets and indicators. I am doing this research for my masters thesis, which is a requirement for graduation from my masters program in Sustainability Studies at Trent University.

I will conduct an online interview with you via Zoom regarding your ideas and perspective on the strategies and actions the city could adopt to improve its performance on specific SDG targets. The interview will last about an hour to 80 minutes. I will be asking you questions based on your professional role in the city with the aim to come up with recommendations for the city on strategies and actions it can realistically take to improve its performance on this goal and its targets. This Zoom session will be recorded for further research analysis. Only myself, my research supervisor, research committee member and research assistant may have temporary access to the recording. The recording will be deleted from servers on which it will be stored upon the completion of the research.

It is unlikely that there will be discomforts associated with the interview. However, you do not need to answer questions that you do not want to answer or that make you feel uncomfortable. I describe below the steps I am taking to protect your privacy.

The research will not benefit you directly. I hope to learn more about good strategies and practices of implementing sustainable city planning and to understand the potentials and challenges for the city as it endeavors to become the most sustainable city in Ontario. I hope that what is learned as a result of this study will provide practical and realistic ideas the city could consider as it moves forward.

I will not use your name throughout the research but may use professional functions in reference to quotes. No one but me, the members of my academic committee that assess my research, and research assistants will know whether you were in the study unless you choose to tell them.

**Quotes will only be attributed to professional functions and not names. Moreover, you will have the opportunity to read and approve any of your quotes before they are used in the final version of the thesis document.**

The information/data you provide will be encrypted. The data will be destroyed after the study will be completed and approved. The paper as a whole will be shared with my program colleagues and professors, the city of Peterborough, civil society organizations, and research institutions. The paper will not include your name but may refer to your professional function.

**Participation and Withdrawal:** Your participation in this study is voluntary. If you decide to be part of the study, you can withdraw from the interview for whatever reason at any time before I submit my paper (August 20 2022).

If you decide to withdraw, there will be no consequences to you. In cases of withdrawal, any data you have provided will be destroyed unless you indicate otherwise. If you do not want to answer some of the questions you do not have to, but you can still be in the study. Signing this form is for the sole purpose of documenting that you've agreed to participate in the research and you do not waive any legal rights by signing it.

**Information about the Study Results:** I expect to have this study completed by approximately 31, 8, 2022. If you would like to get a copy of my paper, I will gladly email it to you.

**Questions about the Study:** If you have questions or need more information about the study itself, please contact me at:

[mohammadalazraq@trentu.ca](mailto:mohammadalazraq@trentu.ca)

705-559-4379

This study has been reviewed by the Trent University Research Ethics Board and received ethics clearance. If you have concerns or questions about your rights as a participant or about the way the study is conducted, please contact:

**Alexander Lawrie**

**Trent University's Certifications and Regulatory Compliance Officer**

**Telephone: (705) 7481011 ext. 6299**

**E-mail: [alawrie@trentu.ca](mailto:alawrie@trentu.ca)**

---

## CONSENT

- I have read the information presented in the information letter about a study being conducted by Mohammad Alazraq of Trent University.
- I have had the opportunity to ask questions about my involvement in this study and to receive additional details I requested.
- I understand that if I agree to participate in this study, I may withdraw from the study at any time or up until 30/8/2022.
- I have been given a copy of this form.
- I agree to participate in the study.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Participant (Printed) \_\_\_\_\_

1. I agree that the interview can be audio/video recorded.

Yes

No

2.  Yes, I would like to receive a copy of the study's results.

Please send them to me at this email address \_\_\_\_\_

Or to this mailing address: \_\_\_\_\_

\_\_\_\_\_

No, I do not want to receive a copy of the study's results.

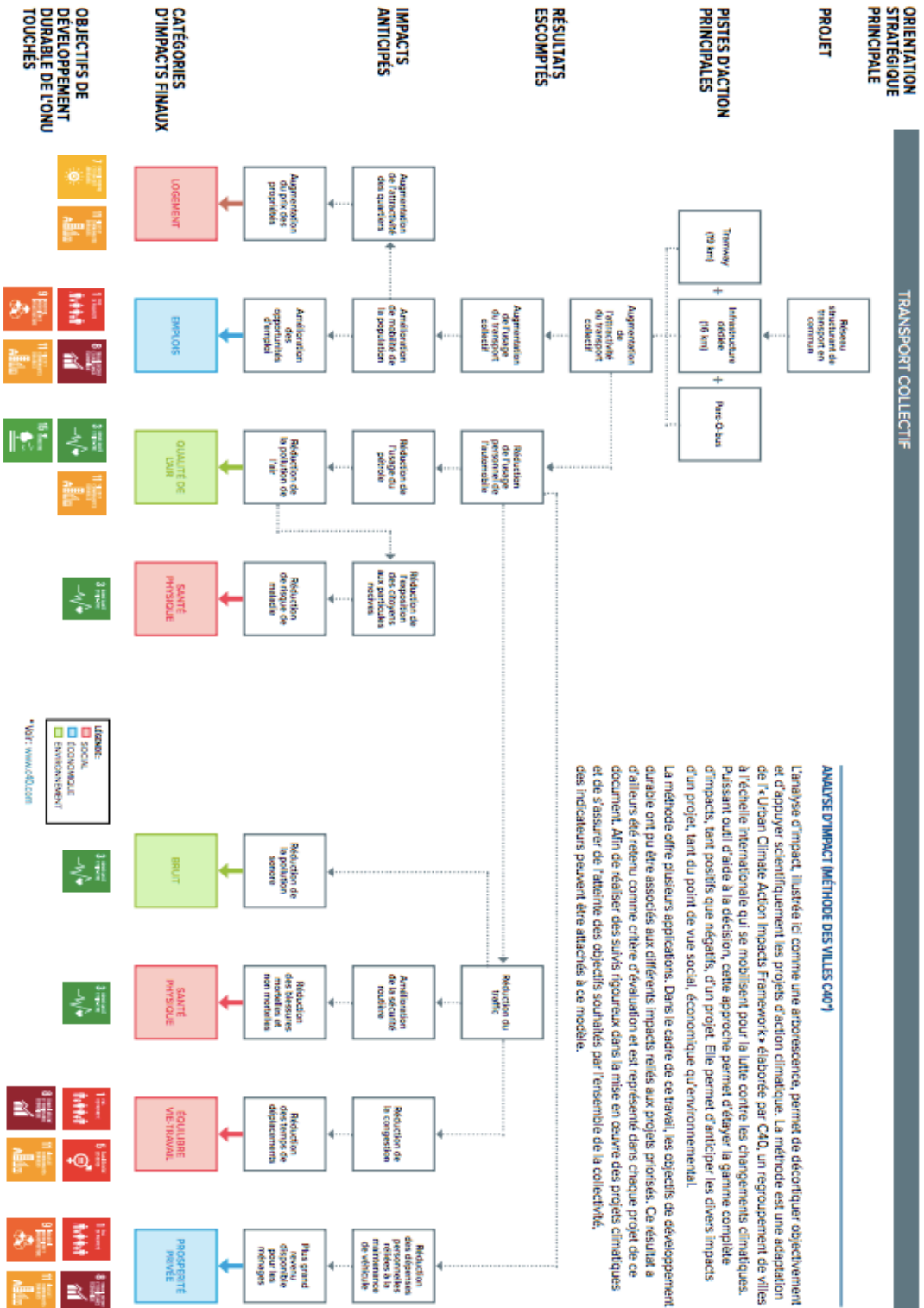
3. I agree to be contacted about a follow-up interview, and understand that I can always decline the request.

Yes, please contact me at: \_\_\_\_\_

No




# Appendix XV: Quebec City's Public Transportation Plan's Alignment with SDGs



Source: <https://www.ville.quebec.qc.ca/apropos/planification-orientations/developpement-durable/docs/strategie-dev-durable-plan-transition-action-climatique.pdf>

### Appendix XVI: Quebec City’s Priority Projects’ Alignment with the SDGs

CLASSEMENT DES 20 PROJETS PRIORISÉS								
TYPE DE PROJET	PROJET	ORIENTATIONS STRATÉGIQUES TOUCHÉES	ODD TOUCHÉS	ACCEPTABILITÉ SOCIALE	MISE EN ŒUVRE	INVESTISSEMENTS	ÉQUITÉ	
SIVÈRIE	S1. Rues conviviales	9	12	5	2	3	4	
	S2. Milieux de vie durables	12	14	4	3	3	5	
	S3. Consolidation urbaine du territoire	9	10	2	1	2	4	
	S4. Mise en valeur des rivières	7	11	4	3	3	4	
	S5. Écosystèmes naturels et biodiversité	8	9	4	3	4	2	
	DÉCONOMISATION	D1. Réseau structurant de transport en commun	9	10	3	5	5	4
		D2. Optimisation du stationnement	8	9	3	3	3	4
		D3. Déplacements actifs	7	8	3	2	4	4
		D4. Énergie renouvelable et sobriété énergétique des bâtiments	8	9	5	2	2	3
		D5. Capital et stockage du carbone	9	9	3	4	3	2
	RÉSILIENCE	R1. Diagnostic de la résilience	9	8	4	1	1	5
		R2. Îlots de fraîcheur urbains	8	6	5	2	3	4
		R3. Milieux humides et hydriques	7	9	4	3	4	2
		R4. Prévention des inondations et embâcles	7	7	2	1	4	3
		R5. Perméabilisation des sols	6	8	2	3	3	4
TRANSITION	T1. Mobilisation collective	2	5	4	2	2	5	
	T2. Forum d'échange sur l'action climatique	2	5	3	2	1	4	
	T3. Test climat	3	4	2	2	1	5	
	T4. Achat local	6	7	5	1	2	3	
	T5. Économie de partage	6	9	2	3	2	3	

source: <https://www.ville.quebec.qc.ca/apropos/planification-orientations/developpement-durable/docs/strategie-dev-durable-plan-transition-action-climatique.pdf>

## Appendix XVII: A Stakeholder Engagement in the SDG Localization for select communities

City	City Government	Electe d Officials	Civil Society / Non-Profit	Academic Institution	Private Business	Economic Development Agency	Minority and Indigenous Groups
Asker	Municipality <b>(lead)</b>		Sustainable Asker; Future Built		Framskit	Asker Business Council, UNEC for Europe	
Helsingborg	Municipality <b>(lead)</b>		Miljöverkstaden; Solar Park; Senior Citizens Council; Council for Children and Young People; Council for Individuals with Disabilities; Sustainable Helsingborg	Reco Lab; RISE Research Institutes of Sweden; Swedish University of Agricultural Sciences	Tengborn Arkitekt er Firm; IKEA	Swedish Innovation Agency	
Gladsaxe	Municipality <b>(lead)</b>		SDG House; Loop City; Child Friendly Cities Initiative			Gladsaxe Business District; UNICEF	
Shimokawa			United Cities and Local Governments (UCLG); Local Governments for Sustainability (ICLEI)			IGES <b>(lead)</b> ; SDG Future Cities Programme	
Kelowna	City of Kelowna		British Columbia Council for International Cooperation (BCCIC) <b>(lead)</b> ; Global Empowerment Coalition of the Central Okanagan (GECCO); Elizabeth Fry	British Columbia Institute of Technology; Community Energy Association; Pacific Institute for Climate Solutions; Vancouver School of		International Institute for Sustainable Development	First Nations Health Authority; Ki-Low-Na Friendship Society; BC First Nations Health Authority

			Society; BC Non-profit Housing Association	Economics at UBC; Canadian Observatory on Homelessness; The University of British Columbia; PROOF Food Insecurity Policy Research			
London	London Urban Agriculture Strategy	Mayor's Advisory Council on Poverty	London for All; United Way Elgin Middlesex ( <b>lead - implementation</b> ); London Community Foundation	London Poverty Research Center at King's Western University ( <b>lead - report prep</b> )			
Winnipeg			United Way Winnipeg ( <b>lead</b> ); Community Education Development Association; Make Poverty History Manitoba; Mama Bear Clan; Manitoba Eco-Network; Mood Disorders Association of Manitoba; NorWest Co-op Community Health; Plurielles; SEED Winnipeg; The Winnipeg Foundation; The Winnipeg Boldness Project; Winnipeg Trails Association;		Celeste McKay Consulting, Inc.	IISD; Opportunities for Employment	Indigenous Relations Director, United Way Winnipeg; End Homelessness Winnipeg; Mother Earth Recycling

			Winnipeg Poverty Reduction Council				
Peterborough	Peterborough Public Health; Otonabee Conservation; ALUS; Kawartha Pineridge DSB		Basic Income Peterborough Network; Nourish; GreenUP Ecology Park; Camp Kawartha Environment Center; KWIC; TRACKS; RCE Kawarthas; Sustainable Peterborough; For Our Grandchildren; Peterborough Alliance for Climate Action; Transition Town Peterborough; Kawartha Land Trust; East Central Farm Stewardship Collaborative	Fleming College; Trent University;			Sacred Water Circle; Pathway to Stewardship and Kinship

## Appendix XVIII: List of Winnipeg Mypeg Indicators

Built Environment	Basic Needs	Economy	Education and Learning
Buiding Permit Values	Children in Care	Average House Price	Childcare Spaces
Collision Fatalities	Consumer Price Index	Consumer Price Index	Educational Attainment
Commuting Patterns	Core Housing Need	Gross Domestic Product	High School Graduation Rate
Core Housing Need	Dwelling Condition	Housing Starts	Readiness to Learn
Dwelling Condition	Food Bank Use	Median Household Income	
Dwelling Density	Homelessness	Participation Rate	
Housing Starts	Low Income Cut-Off After Tax (LICO-AT)	Retail Sales	
Public Transit Trips Per Capita	Market Basket Measure	Unemployment Rate	
Residential Waste Going to Landfill	Median Household Income	Unemployment Rate (Youth)	
Residential Waste Going to Recycling	Personal Safety		
Water Use			

Health	Natural Environmet	Social Vitality and Governance	Demographics
Diabetes Rates	Air Quality Health Index (AQHI)	Charitable Donations	Immigrant Population
Heart Attacks	Commuting Patterns	Participation in the Arts	New Immigrant Population
Immunization Rates	Residential Waste Going to Ladfill	Perception of Safety	Population
Life Expectancy	Residential Waste Going to Recycling	Personal Safety	Population Identifying as Indigenous
Mood Disorders	Water Use	Quality of Life	
Obesity Rates		Residential Stability	
Overweight and Obesity Rates (Youth)		Sense of Belonging	
Perceived Health		Volunteerism	
Premature Mortality Rate		Voter Turnout (Municipal Election)	
Smoking Rate			
Stroke Rate			
Substance Use Disorders			

