Envisioning a Community Energy Planning Future in Toronto through Participation and Well-being Lenses

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Abstract

Countries around the world, including Canada, have acknowledged the far-reaching and intergenerational impacts of climate change, with many jurisdictions declaring a state of climate emergency. Given the threat of climate change and the imperative for energy transitions worldwide, Canada has identified various policy solutions and targets to address greenhouse gas (GHG) emissions from the energy sector. Simultaneously, a growing body of literature is highlighting the link between public participation in energy transitions alongside energy democracy, justice, and well-being. One type of solution that sits at the intersection between a renewable energy transition and community-centred action is community energy planning (CEP). CEP combines considerations around energy systems transformation with local-level policy and planning. There are examples of community energy projects, planning, and implementation across the country, with varied levels of community participation, ownership, and benefits.

The City of Toronto in Ontario, Canada, was an early adopter of climate change mitigation policies in Canada and is currently underrepresented in the CEP literature. CEP research within the Canadian context includes studies comparing interprovincial policies and CEPs across various municipalities or First Nations communities. Toronto is a unique case study due to its size and scope: it has comprehensive climate policies under TransformTO, and it has neighbourhood-level CEPs which have been facilitated by the municipal government. These hyper-local CEPs occurred due to their own unique sets of circumstances, and they contribute to the wider city's climate goals as well. Additionally, CEP within urban contexts is an underexplored area in the literature. Assessing CEP in a large city such as Toronto provides avenues to explore related topics in the CEP literature such as participation, justice and the well-being of communities.

This research paper examined how participation in CEP processes in Toronto can enable well-being benefits for communities. To do this, a case study analysis was used, and data was collected from documents and qualitative interviews related to three established neighbourhoods with completed CEPs. Documents and policies were also analyzed at the overall city level, because CEPs in Toronto occurred due to municipal and provincial climate and planning policy frameworks. To analyze the case studies, two frameworks were used to map the participation of different collectives in the CEP process, as well as how this related to well-being based on the

satisfaction of human needs. The results and discussion contributed to policy recommendations for the City of Toronto, which could also be translated to CEP in other settings. Overall, the dialogue between high-level city climate policies and neighbourhood experiences provided interesting insights and lessons for the future.

Keywords: Climate change, energy transitions, community energy planning, participation, well-being, Toronto

Foreword

This Major Paper is the result of my area of concentration in the Master in Environmental Studies (MES) program at York University in the Faculty of Environmental and Urban Change. I knew that in the MES I wanted to research energy solutions in the context of the global climate crisis. This was because of my interests and my previous work experiences where I supported government programs which funded renewable energy projects in communities across Canada. My area of concentration was based around the knowledge that energy transitions for communities are a complex and multi-dimensional issue that requires an interdisciplinary research approach. Throughout this paper, I note the interconnections between the social sciences and energy transition studies, and how the two inform one another.

To address my area of concentration of "Community Energy Planning for Energy Transitions", I formed my learning objectives for the program around climate change policy, participation in energy transitions, and community energy planning (CEP). This paper is the culmination of the corresponding learning objectives, and the research process helped me to expand on my previous understandings of these topics. For example, I knew that community participation in CEP was an important element of my study, but through this research I learned that participation is one dimension of community energy studies, and that layering it with other dimensions can provide for richer and more holistic analysis. I found that studying the specific concept of CEP helped to contextualize climate change policies and goals (which can be abstract or high-level) into local community experiences.

Finally, researching this topic through a qualitative case study allowed me to apply participatory frameworks from the literature into practice. Researching and understanding community experiences and realities from climate policies such as CEP was integral to this study. The qualitative interviews used as one of the data collection methods in this study provided me with a new understanding of CEP and community energy actions in Toronto. I will be able to take these learnings and apply them in the next step of my energy studies journey after this MES.

Table of Contents

Abstract ii
Foreword iv
Table of Contents v
List of Tables vii
List of Figures vii
List of Acronyms viii
Acknowledgements ix
1. Introduction 1
1.1 Research Question and Objectives 3
1.2 Major Paper Outline 4
2. Literature Review 5
2.1 The role of demand-side interventions and energy services in energy transitions 5
2.2 The link between energy use and well-being 7
2.3 Community energy 9
2.3.1 Defining community energy 9
2.3.2 How community energy, participation and justice research connects to well-being 10
3. Methodology 12
3.1 Methodological Approach 12
3.1.1 Case Study Design 13
3.2 Positionality and Reflexivity 14
3.3 Case Study Selection 15
3.3.1 How community is defined in this study 15
3.3.2 Neighbourhood case study selection criteria 15
3.3.3 Mount Dennis CEP 18
3.3.4 Lawrence-Allen CEP 19
3.3.5 Mimico-by-the-Lake CEP 20
3.4 Data Analysis 21
4. Results & Discussion 23

4.1 A review of CEP within Toronto's climate and energy policies 23
4.2 Neighbourhood case studies 34
4.2.1 Lawrence-Allen neighbourhood 34
4.2.2 Mimico neighbourhood 36
4.2.3 Mount Dennis neighbourhood 38
4.2.4 Summary of the neighbourhood CEPs 40
4.3 Ecologies of participation in the Toronto energy system 41
4.3.1 Dominant participatory collectives 42
4.3.2 Diverse participatory collectives 44
4.3.3 Emergent participation and outflows 45
4.3.4 Interactions within the ecologies of participation 46
4.4 Participation in community energy through the lens of human needs satisfiers 47
4.4.1 Synergetic and singular satisfiers 48
4.4.2 Inhibiting satisfiers 50
4.4.3 Violators or destroyers 53
5. Recommendations and Future Research 54
5.1 Recommendations for Toronto CEP processes 54
5.1.1 Re-incorporate and broaden CEP in TransformTO's future actions 54
5.1.2 Promote further collaboration with utilities within TransformTO framework to achieve CEP implementation 55
5.1.3 Advocate for the TGS and other energy efficiency standards 55
5.1.4 Fund community-led CEP through existing City of Toronto Programs and develop a guide for interested communities 56
5.2 Future Research 57
6. Conclusion 58
Bibliography 60
Appendices 66

List of Tables

Table 1: Community definitions in energy transitions literature

Table 2: Summary of indicators used in Toronto neighbourhood equity scores

Table 3: The three case study neighbourhoods based on their criterion

Table 4: Preliminary themes and sub-themes from the qualitative interview coding

Table 5: Summary of first two decades of climate action in Toronto

Table 6: Summary of most recent eras of climate action in Toronto

Table 7: Summary of neighbourhood CEP results

Table 8: Interrelations within ecologies of participation

Table 9: Max-Neef's Classification of Satisfiers

Table 10: Summary of CEP process benefits as synergetic satisfiers

Table 11: Summary of CEP process as singular satisfier

Table 12: Summary of energy planning process as inhibiting satisfiers

Table 13: Summary of provincial intervention as violators or destroyers

List of Figures

Figure 1: An overview of demand-side intervention research questions and disciplines

Figure 2: Analytical framework linking energy and well-being

Figure 3: Mount Dennis CEP study area from 2016 CEP

Figure 4: Lawrence-Allen Revitalization Plan area from 2011 CEP

Figure 5: Mimico CEP boundary area from 2014 CEP

Figure 6: Selected CEP study areas within City of Toronto neighbourhood boundaries

Figure 7: Metrolinx rendering of the battery energy storage backup power facility with solar panels

Figure 8: Mapping ecologies of participation in Toronto energy transitions

List of Acronyms

CAP	Climate Action Partnership
CEJ	Community Energy Justice
CEP	Community Energy Planning
EEO	Energy Efficiency Office
ES	Energy Services
GHG	Greenhouse Gas
HN	Human Needs
HSES	Human Scale Energy Services
HSD	Human Scale Development
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
LARP	Lawrence-Allen Revitalization Plan
LRT	Light Rail Transit
MDCA	Mount Dennis Community Association
MW	Megawatt
NIA	Neighbourhood Improvement Area
OEB	Ontario Energy Board
PC	Progressive Conservative
SPACE	Special Advisory Committee on the Environment
TAF	The Atmospheric Fund
TCH	Toronto Community Housing
TGS	Toronto Green Standard
TRCA	Toronto and Region Conservation Authority
TSNS	Toronto Strong Neighbourhoods Strategy

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First, I would like to thank the communities and leaders across Canada who have been implementing energy ideas and solutions which have positively impacted both people and the planet. It is because of this leadership that I was inspired to study energy transitions in Toronto communities. I am grateful to the planners, policymakers, and community members who took the time to share their experiences about community energy initiatives in Toronto with me. Thank you for welcoming me and showing me around your neighbourhoods, and for all that you do to support your neighbours and local ecosystems. Doing this research gave me a new appreciation for the city that I currently call home, and for the people who uplift one another in their communities.

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My sincerest thanks to my supervisor, Professor Lina Brand-Correa, for helping me grow in my energy studies journey and for all the guidance along the way during this major research. I feel so lucky to have learned from you on how energy transition studies and the social sciences can benefit from one another. The teachings you provided me with on degrowth, demand-side energy, justice and well-being (the list goes on!) made me see energy studies in a completely different way, and it made this major research process more interesting. I know I will take these learnings with me wherever I end up next.

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1. Introduction

For years, scientists, policymakers and leaders around the world have identified the clear links between energy sector emissions and the acceleration of climate change impacts. These recognitions have led to the formation of international climate commitments such as the Paris Agreement. Countries including Canada signed the Paris Agreement and based on the recommendations of the Intergovernmental Panel on Climate Change (IPCC), they committed to net-zero greenhouse gas (GHG) emissions by 2050 (Environment and Climate Change Canada, 2016). Despite this commitment, Canada is not on track to meet its 2030 emissions targets, all while communities continue to experience the severe impacts from climate change (Smith, 2025). The energy sector is not yet on track to meet net zero emissions in Canada, but systems transformations are still possible, and many solutions are already underway or being developed.

The concept of energy transitions in countries like Canada is not new by any means, but the ways in which we study and approach these energy transitions are evolving. In general, energy transitions focus on moving systems away from fossil fuel-based energy resources to more renewable energy sources (Clark, 2023). Many communities and authors have pointed out that energy transitions can have unintended consequences, and therefore justice considerations should be made. This has led to just transition studies which connect "the concept of social justice – more specifically, the equitable distribution of the benefits and costs of the transition away from high carbon and unsustainable development trajectories – with the environmental, climate resource and energy reasons for that transition" (Barry, 2019, p 7). Within just transitions research, innovative energy solutions are considered alongside concepts such as participation, equity and energy democracy (Upham et al., 2022). Studying energy transitions in this way allows researchers to place community-based and social considerations at the forefront, instead of focusing solely on technological solutions to reduce GHG emissions.

Although many just transition studies focus on communities or "community energy", there is not one agreed-upon definition of community energy, or one way to approach this kind of research. An early study by Walker and Devine-Wright (2008) defined community energy as distinct in energy studies based on two dimensions, which are process (who the project is developed and run by) and outcomes (how they are spatially and socially distributed). Nearly

two decades later, there are many more community energy studies with different understandings and applications. Authors such as Taiwo and Tozer (2025) summarized this in their study and found ten different meanings of community in energy transitions research, which can overlap with one another. Community can mean an actor, scale, place, network, process, identity, outcome, technology, governance strategy, or ethical commitment (Taiwo & Tozer, 2025). Despite the expansion of this research agenda, community perspectives are still underrepresented within energy transitions (Taiwo & Tozer, 2025). So, there is progress to be made in terms of community energy research which focuses on bottom-up community participation, process, and/or benefits.

Community energy planning (CEP) has become a mainstream process in Canada, evident in both academic research and its implementation by many policymakers, organizations and governments. As of 2020, there were over 400 communities with completed energy plans in Canada (City of Brampton, 2020). CEP connects to broader climate change mitigation and adaptation goals, and it enables communities to outline energy priorities within their local contexts (Winfield et al., 2021). Like Walker and Devine-Wright's understanding of general community energy (2008), CEP can also be both process- and outcome-oriented. This means that CEP has not been implemented or studied in one uniform way in Canada, as noted by authors like Calvert et al. (2021). CEP is versatile, and its focus can range from downstream demand-side energy solutions (for example, retrofits), considerations around local energy supply, and even structural or systemic social transformations related to energy (Calvert et al., 2021). Due to its potential to impact a variety of local activities and sectors, there are also many actors which can be involved in CEP, such as "levels of government, utilities, developers, community organizations, building owners, and individual residents" (Winfield et al., 2021, p. 36). Studying CEP provides an opportunity to consider both high-level energy policy targets alongside complex interactions and community experiences.

Gaps within the CEP research resemble those in the broader community energy literature. Many studies analyze CEP from a policy evaluation perspective, evaluating its effectiveness or successful implementation (St. Denis & Parker, 2009; Tozer, 2013; Murphy et al., 2021). While this line of CEP research is useful for future CEP implementation, there are still gaps in the documentation of community experiences, participation, and potential benefits from CEP. These

gaps are discussed from an energy justice perspective by Taiwo and Tozer (2025); suggesting that future research should shift to more bottom-up approaches that encourage community ownership and empowerment. Overall, there are some Canadian CEP case studies focused on cities or local areas, but there are opportunities to expand on interdisciplinary research in this area.

While brainstorming potential case studies for this research, it was found that Toronto, Ontario, one of Canada's most populated cities, with a variety of implemented climate plans and solutions, had largely been excluded from CEP studies. This could be due to early CEP case studies focusing on other Canadian cities which were among the first to adopt CEP (St. Denis & Parker, 2009; Tozer, 2013). Toronto has recently been studied based on its broader climate plans such as TransformTO (Slater et al., 2022) but not necessarily from a specific CEP perspective. The City of Toronto approaches energy planning based on specific neighbourhood or development area contexts (City of Toronto, 2025a). Toronto provides a unique vantage point to consider local neighbourhood perspectives, while relating them back to the city's CEP and broader climate goals. Also, at the time of this research, there have been rising tensions between municipal climate action and unsupportive policy frameworks at the provincial and federal government levels in Canada.

1.1 Research Question and Objectives

This study aims to build and expand upon the existing CEP research through a CEP case study in an urban context (the city of Toronto, Ontario). The research explores how CEP connects to broader social justice concepts such as participation and human well-being. The research question and objectives combine the analysis of local neighbourhood CEP experiences with higher-level policies and planning. Therefore, the research question is as follows:

> How can participation in the community energy planning (CEP) process in Toronto provide well-being benefits to communities?

There are also four research objectives which helped inform the rest of the study:

1. To identify how policy and planning in Toronto consider community energy and well-being principles.
2. To analyze how participation in Toronto CEP relates to the broader energy system.

3. To understand the overall CEP process and where there are opportunities for community participation and well-being benefits during this process.
4. To make recommendations as to how policymakers can better incorporate community participation and well-being into Toronto CEP policy and processes.

1.2 Major Paper Outline

This paper is organized into six sections, which explore the research question and address the research objectives. After Section 1, the Introduction, the paper is organized as follows:

Section 2: The Literature Review provides the background to understand demand-side energy interventions and their connections to human well-being. Theoretical frameworks on community energy, participation, and energy justice are then reviewed for consideration throughout the rest of the paper.

Section 3: Methodology describes the case study design to address the gaps in the literature. It discusses the two data collection methods of document analysis and qualitative interviews. Then, the three Toronto neighbourhood case studies are introduced, alongside data analysis details.

Section 4: Results & Discussion is organized according to the first three research objectives. It first includes a historical review of CEP and well-being within Toronto's climate policies. This is followed by the results from the three case studies. The final two sub-sections apply theoretical frameworks to analyze the data.

Section 5: Recommendations and Future Research aligns with the fourth research objective and presents next steps for this major paper.

The paper's Section 6: Conclusion reflects on the overall research process and results from the study and their contribution to the field of community energy and well-being research.

2. Literature Review

This review demonstrates how community energy studies connect to broader conversations of well-being based on the existing research on participation and justice. First, demand-side energy interventions and energy services are summarized in 2.1. Next, the review points to authors who have made the connections between energy use and well-being (2.2), and the frameworks which they have established to analyze energy use benefits at a community level. Then, the evolution of community energy studies (2.3) is explored, demonstrating how researchers are building on previous understandings to perform interdisciplinary research. Community energy and well-being studies remain segmented within the literature, although many of the topics and frameworks in this review are complementary and present an opportunity to combine the concepts together in the case studies.

2.1 The role of demand-side interventions and energy services in energy transitions

To achieve emissions reductions globally, often supply-side renewable energy technologies (wind, solar, hydroelectric, etc.) are proposed as replacements for non-renewable energy sources such as fossil fuels. Though they are an important element of energy transitions, supply-side technologies are best complemented with demand-side solutions, which are important and often overlooked in energy transitions (Anderson et al., 2014). As summarized by Creutzig et al. (2018), the sixth assessment report of the IPCC included a chapter on demand, services and social aspects of mitigation. Demand-side solutions can be classified as "strategies targeting technology choices, consumption, behaviour, lifestyles, coupled production-consumption infrastructures and systems, service provision and associated socio-technical transitions" (Creutzig et al., 2018, p. 260). Demonstrated in Figure 1 below, there are a variety of ways for researchers to bring interdisciplinarity into energy studies using a demand-side lens.

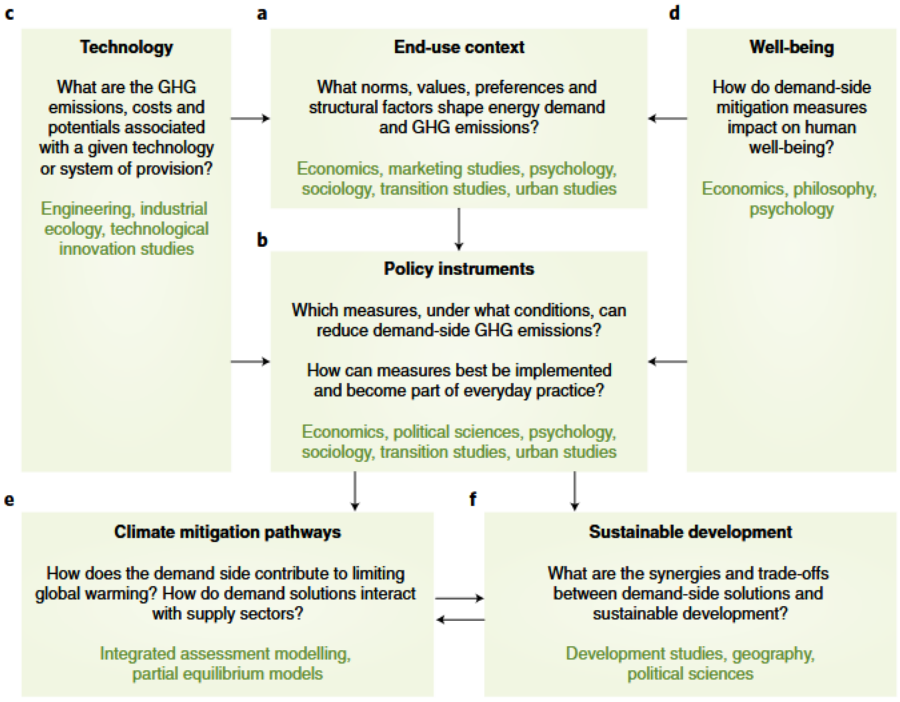


Figure 1: An overview of demand-side intervention research questions and disciplines (Creutzig et al., 2018).

Since understanding energy end-use is the common first step to approaching demand-side research (Creutzig et al., 2018), many studies have discussed the concept of energy services. Fell (2017) conducted a content analysis and literature review to understand common energy services themes and definitions. Based on this comprehensive review, a definition was proposed: "energy services are those functions performed using energy which are means to obtain or facilitate desired end services or states." (Fell, 2017). As noted by the author, commonly used examples of energy services are lighting, heating, cooling, and cooking. Energy services help us to connect our understandings of everyday activities and amenities to the broader energy system (Pollution Probe, 2016). Most studies do not focus on this final step of the energy chain, but rather primary or final energy (Brand-Correa & Steinberger, 2017). Another author, Sovacool, applied the idea of energy services in a multi-dimensional way and analyzed how they differ across low, middle, and high-income households (2011). It is from works such as these that the link between energy services and social implications starts to become evident in the broader picture of demand-side studies.

By connecting the concept of energy services to everyday activities, researchers have proposed different points of intervention to reduce energy demand within systems. Creutzig et al. (2018) categorized different interventions based on an avoid-shift-improve framework. They included examples of building sector improvements: retrofitting to avoid the demand for heating and cooling, shifts to efficient technologies such as heat pumps, and improving options such as insulation and energy-efficient appliances (Creutzig et al., 2018). Other authors such as Day et al. (2016) also presented interventions and their application to alleviate energy poverty along the energy chain. These frameworks considered demand-side interventions in a systematic way. They are useful because they can be used to analyze energy use at an individual household or building level, or more broadly for community-wide energy improvements.

2.2 The link between energy use and well-being

Within demand-side energy studies, there is a growing body of research analyzing the relationship between energy use and well-being. Authors such as Rao and Wilson (2021) stated that these topics have not been traditionally researched together in the past, and that future research could help contribute to positive economic, environmental and social outcomes. Previous research has largely been quantitative and energy modelling based. For example, studies related to sufficiency are concerned with what maximum amount of energy results in the betterment of human well-being, and how we can strive to stay within those maximum thresholds (Burke, 2020). What the existing sufficiency research has demonstrated is that there are indeed context-specific energy consumption values which equate to a high quality of life (Burke, 2020). Despite the evidence of these sufficiency levels there are still many social, infrastructural, economic, and political barriers to setting limits to energy consumption (Dablander et al., 2025). These authors have pointed to future interdisciplinary and systems thinking research, and collaboration from all kinds of stakeholders to establish ideas of sufficiency into everyday life.

Now, quantitative and qualitative methods are being combined to explore energy and well-being. In Section 2.1, the concept of energy services was introduced. Some authors, such as Brand-Correa et al. (2018), have demonstrated how the use of energy services can contribute to human well-being. In their work, they referenced the United Nations' former Secretary-General Ban Ki-Moon, who described energy as the "golden thread" connecting "economic growth,

social equity and environmental sustainability" (Brand-Correa et al., 2018). This area of research defines well-being from the philosophical concept of eudaimonia, meaning whether an individual can "flourish" and adequately participate in society (Brand-Correa & Steinberger, 2017). Under this philosophical framing, the authors used the Human Needs (HN) approach from both Doyal and Gough (1991) and Max-Neef (1991). In doing this, they developed a novel analytical framework (displayed in Figure 2) to study the relationship between energy services and the satisfaction of human needs.

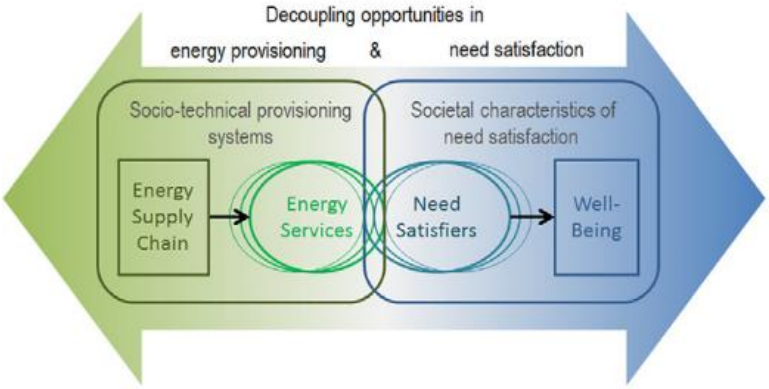


Figure 2: Analytical framework linking energy and well-being (Brand-Correa & Steinberger, 2017).

The literature also presented examples of the analysis of energy and well-being within community contexts. Brand-Correa et al. (2018) used participatory workshops to map the connections between energy services and human needs satisfaction in Colombia. In their study, they built on Max-Neef's Human Scale Development (HSD) needs and satisfiers approach, which includes nine human needs, which are expressed across four existential categories (Max-Neef, 1991). Also, part of this framework is the concept of "satisfiers," which are culturally specific ways that human needs are fulfilled (Brand-Correa & Steinberger, 2017). Brand-Correa et al. (2018) built on this framework by incorporating energy services as satisfiers of human needs. Within the participatory workshops, these concepts were introduced to participants, and then they categorized which energy services satisfied different human needs in their communities, and they also collaborated on alternative ideas for service provision (Brand-Correa et al., 2018). Therefore, this study is an example of incorporating bottom-up community goals and needs into demand-side energy considerations.

2.3 Community energy

There are many energy studies which can be classified as “community energy” research, mainly because they approach energy transitions from a local or bottom-up approach. A recurring theme of the literature is a hesitancy to define community energy in one uniform way, but researchers agree that understanding its parameters provides important insights. In the social sciences, there are applicable studies related to community energy, participation and energy justice which can be built upon to inform community energy and well-being research.

2.3.1 Defining community energy

Across the energy transitions literature, the concept of “community energy” appears in many different forms, such as community-owned renewable energy projects, CEP processes, and other forms of governance. First, an early article by Walker and Devine-Wright (2008) is frequently referred to by other authors as it lays out the discourse around community energy definitions and then provides their own framework for understanding the concept. They identify two dimensions as part of community energy: process and outcome (Walker & Devine-Wright, 2008). These dimensions appear frequently within community energy, with process being concerned with who runs the project, and outcome concerned with who the project is for (Walker & Devine-Wright, 2008). Different cases of community energy can exist along these two dimensions and the authors summarize where an “ideal” community energy project exists, with collective benefits being felt in the local community (Walker & Devine-Wright, 2008). This framework and the two dimensions provided a foundation for other authors and policymakers to discuss community energy.

Although the framing from Walker and Devine-Wright is useful, both the kinds of renewable energy projects and the literature have evolved with more dimensions to define community energy. This is summarized in the work of Taiwo and Tozer (2025), where they present ten different and often overlapping meanings of “community” found in the energy transitions literature. The authors point out that the common theme throughout these classifications is decentralization and “bringing energy solutions closer to people in their locality whether in terms of creation, development, ownership, management and/or benefiting from energy services.” (Taiwo & Tozer, 2025, p. 2). It is interesting to note that this framing from the

authors includes the concept of energy services. In addition to these authors' research agenda, which is further discussed in the next section, they also point out that community energy activities can include supply-side, demand-side or an integration of both kinds of energy management (Taiwo & Tozer, 2025). This is an important consideration for exploring the case studies within this paper.

Table 1:

Community definitions in energy transitions literature (from Taiwo & Tozer, 2025)

Meaning (Community as…)	Explanation
Actor	Community as distinct, specified individuals or entities that can act or take action and have interactions with others
Scale	An intermediate level in societal hierarchy positioned above individuals/households but typically below municipal government[1]
Place	Per typical meaning of "community" in popular usage, a geographically bounded set of members within a locality
Network	Goal-driven social relationships, typically extending beyond place-based connections, and often built on coordination
Process	Collaborative set of steps and/or activities comprising the "hands on" involvement and input of various stakeholders
Identity	Shared values, ways of thinking, being and doing, typically translated into common cultural and material aspects of daily life
Outcome	Collective distribution of benefits and costs; those for whom projects are initiated and/or by whom project burdens are borne
Technology	Connections through shared interest in specific energy technologies, whether from a supply or demand orientation
Governance Strategy	Community as the object, focus, or recipient of government effort to tackle energy related challenges
Ethical Commitment	Entities, whether providers or intermediaries, embodying perceptions of energy provision as a moral activity

[1] Note: In community energy planning literature, community energy has sometimes been conceived in terms of energy projects and initiatives spear-headed by municipal governments.

2.3.2 How community energy, participation and justice research connects to well-being

Authors have debated and offered future research directions as to whether community energy projects can indeed produce the theoretical bottom-up benefits which they are designed for. First, the "who" of community energy projects is often discussed, including questions such

as “who participates in community energy?” and “who is community energy for?”. Many authors such as MacArthur (2015) discuss engagement on renewable energy projects which exist under broader policymaking and processes which are not necessarily participatory in nature. Authors also note that there are some barriers to true community-based energy projects, because the community energy space has been co-opted by top-down or corporate interests in the past (MacArthur, 2015; Creamer et al., 2018; Tarhan, 2025). This has led authors to call for in-depth participation which acknowledges the challenges and barriers of community representation in energy transitions.

Participation in community energy also relates back to broader theories on participation and energy democracy processes. Van Veelen and van der Horst (2018) discussed the dimensions of energy democracy, which include a desire to shift to an equitable and low carbon society, while also devolving decision-making and power to the local level. There are also examples of community energy case studies in relation to energy democracy (Van Veelen, 2018; Tsagkari et al., 2021). In broader participation in socio-technical transitions literature, there are also relevant insights and frameworks which relate to community energy. One framework I found particularly useful was the ecologies of participation framework from Chilvers et al. (2018). This framework was unique because it provided me with a broader understanding of the energy system, where community energy fits within that system, and how it interacts with other participatory collectives (Chilvers et al., 2018). They presented the energy system as a constitution, and then three different collectives of participation (dominant, diverse, and emergent) as well as interactions between those collectives (Chilvers et al., 2018). Although not explicitly community energy related, the mapping of the collectives is helpful for understanding community energy participation in the wider system.

Reviewing community energy and participation literature then presented connections to the energy justice literature. The energy justice literature points out that participation only accounts for one of the justice pillars which is procedural justice (Taiwo & Tozer, 2025). In addition to this, authors have discussed research gaps because participation and energy justice studies are not always speaking to one another despite their interrelations (Suboticki et al., 2023; Upham et al., 2022; Taiwo & Tozer, 2025). Building on these gaps, Taiwo and Tozer presented a framework for studying community energy justice. They defined community energy justice

(CEJ) research which "emphasizes community-oriented approaches and community-centred lenses as a crucial avenue for studying justice and equity in energy transitions." (Taiwo & Tozer, 2025, p.5). Sources note justice pillars that should be considered in this research which are distributive, recognition and procedural justice (Taiwo & Tozer, 2025; Suboticki et al., 2023). Conducting community energy research in this way can account for some of the gaps present in the earlier community energy participation research, while also relating back to well-being benefits in communities.

As discussed in the CEJ research, there are still gaps to be overcome to achieve more bottom-up, participatory and representative community energy research. Taiwo and Tozer (2025) discussed examples of future research directions which are underexplored, such as connections to broader social justice linkages and equity goals which include well-being outcomes. Studying community energy through an analysis of well-being could provide new insights compared to what already exists in the community energy participation and justice studies. Using frameworks such as the Human Scale Energy Services approach from Brand-Correa et al. (2018) can address concepts such as participation in community energy, while also relating to broader human well-being considerations.

3. Methodology

3.1 Methodological Approach

Researching the Canadian CEP context led me to identify some gaps, such as urban areas like Toronto being excluded from CEP discussions. Also, the literature review demonstrated that community energy can be analyzed using a variety of lenses, and that well-being frameworks could be a complementary next step in the evolution of community energy studies. These observations informed my consideration of the methodology in this major paper.

There are many examples of case study research in the community energy literature, because case studies are used to explore a complex phenomenon within its context (Baxter & Jack, 2008). Qualitative case studies are approached through a constructivist lens, meaning that "truth is relative and that it is dependent on one's perspective" (Baxter & Jack, 2008, p. 545). Crabtree and Miller (1999) mention that while using this approach, researchers can collaborate

with participants and understand their perspectives. Due to the context-specific nature of community energy as well as its participatory nature in theory, a qualitative case study aligns well with the objectives of this research.

Canada and Ontario's community energy landscapes have been studied through different perspectives and forms of inquiry. Studies such as one by Hoicka and Macarthur (2018) examined forms of community energy across countries such as Canada and New Zealand. Some authors, such as Winfield et al. (2021), have compared Ontario's community energy planning policies to other provinces within Canada. A few studies, such as those by St. Denis and Parker (2009) and Tozer (2013*),* have compared community energy plans across different cities or municipalities in Canada. Much of the CEP research has been approached from a policy perspective, examining whether CEPs have led to renewable energy project implementation, or if CEPs have contributed to GHG emission reduction goals. Consideration of community perspectives and bottom-up processes remains underexplored in overall community energy research (Taiwo & Tozer, 2025).

3.1.1 Case Study Design

A qualitative case study design was used to examine the specific CEP context within the area of Toronto, Ontario. This was an exploratory case study based on the research question: How can participation in the CEP process in Toronto enable well-being benefits for communities? Based on a classification by Hancock et al. (2021), this study takes a historical approach because it analyzes completed CEP processes in Toronto completed between the years 2011-2016, as well as the history of all Toronto policies related to CEP. A historical approach represents and interprets documents, records, and other sources of information about people, phenomena, or practices (Hancock et al., 2021). This study also examined multiple cases across Toronto: three established neighbourhoods with completed CEPs.

For the case studies, I collected data through two methods: document analysis and qualitative interviews. First, there were a variety of historic documents online which summarized the CEP policies and processes, as well as City of Toronto climate policies. These included CEP summaries from the City of Toronto and consultants, news articles, and City of Toronto climate strategies and plans. I searched for specific terms based on themes in the literature: CEP, energy justice, CEJ, emissions reductions, well-being. A summary of relevant documents and the

information based on the themes can be found in the Appendix. To track the frequency and detail in which these themes were discussed in the documents, I used a qualitative research application called Dedoose. Once the documents were reviewed, they provided an overall picture of the incorporation of CEP and related topics in Toronto's policies, as well as the outcomes in the specific neighbourhood CEPs themselves.

To supplement the documentation with community experiences, qualitative interviews were conducted with people who had facilitated or participated in CEP in the Toronto neighbourhoods. Interview questions were semi-structured, and a snowballing approach was used to ask participants whether they knew of relevant contacts to interview. This resulted in 5 separate interviews, three interviews were conducted online on Zoom, and two interviews were conducted in person. In the remainder of this paper, the interviewees are referenced as follows: Interview 1 was conducted with a City of Toronto staff member, Interview 2 was with a Planning professional and academic, Interview 3 was with a City of Toronto staff member, Interview 4 was with a Mimico community member, and Interview 5 was with a Mount Dennis community member. The interview guide I used can be viewed in the Appendix. Zoom recordings and Otter AI were used to transcribe the interview recordings, and Dedoose was used as the software to compile codes from the interviews and to group codes into themes. Overall, the combined approaches complemented each other and filled in gaps from each data collection method.

3.2 Positionality and Reflexivity

I would like to reflect on my perspectives and positionality and how they connect to this field of research and my choice of methodology. An article by Tarhan (2025) included their own positionality statement as it related to community energy studies. Tarhan stated that they have their own bias for community energy initiatives that are designed for and by communities and this is a key part of their reflexive and non-positivist research (2025). This can be made transparent and reflected throughout the research process, including sharing with any research participants (Tarhan, 2025). I think it is appropriate to include a similar statement and incorporate my own reflections where appropriate.

This research is informed by multiple years of experience working on energy policy and programming at both a provincial and federal government level. These work experiences were

my introduction to CEP and the energy policy landscape at different levels in Canada. The experience of working on these programs influenced the declaration of my research interest and forms the basis of my inquiry around community energy projects as a vehicle for well-being benefits. During the time of this research, being a resident of the city of Toronto as well as a student at York University inspired me to focus on community energy issues at a local level, and then I was able to reach out to local contacts who have been working in CEP and energy initiatives in Toronto.

3.3 Case Study Selection

3.3.1 How community is defined in this study

Before the neighbourhood case studies are introduced in the next sub-section, I would like to expand on how community is being considered in these case studies and their analysis. Defining community was an important theme in the energy transitions literature. Referring to Table 1, the ten meanings of community from Taiwo and Tozer (2025), a couple of these meanings are applicable the specific neighbourhood CEP case studies in Toronto. First, neighbourhoods in Toronto are typically thought of by their physical boundaries or geography, so place is the first consideration. Community in these case studies can also mean the actors, either individuals or groups of people who have acted in relation to CEP or other community energy outcomes. Finally, because the municipal government completed CEP in these neighbourhoods, there is also a process element of the community definition as well. So, when I think of the three communities in relation to CEP, I think of place (the physical neighbourhoods), actors (individuals or collectives of people who participate) and process (the CEP process itself). These are the main dimensions that I am using to define community in the case studies, but aspects of the other meanings of community were also present in the findings.

3.3.2 Neighbourhood case study selection criteria

Two criteria were used to select case studies which could contribute to the research question and objectives. First, the CEPs had to have taken place in established neighbourhoods of Toronto (and not new developments) so that community experiences could be analyzed. Second, the CEP neighbourhoods would need to have different social, cultural or historic contexts so that their participation processes could be compared.

I identified that the City of Toronto website listed nine neighbourhoods and/or development sites with completed energy plans: Lawrence-Allen, Mimico-by-the-Lake, Scarborough Centre, Westwood Theatre Lands, Lower Yonge Precinct, Mount Dennis, Consumer Road Business Park, Downtown, and Port Lands (2025a). The background and policy context behind how CEP became implemented in Toronto and therefore these neighbourhoods is explored further in Section 4.1. Selecting historic neighbourhoods (and not new development sites) from this list allowed for the comparison of historical energy planning processes and the comparison of how CEP may have impacted neighbourhood well-being afterwards.

Next, after establishing the known neighbourhoods with energy planning initiatives, the second criterion connected to more social considerations (such as equity, justice and well-being) in these communities. This second criterion was important because I needed a basis to understand what could have impacted participation in CEP in these communities, as well as how it would impact well-being outcomes. I searched for resources or studies to help me understand how the neighbourhoods differ from one another. It was found that the Toronto Strong Neighbourhoods Strategy provided a framework where neighbourhood equity scores were calculated for over one hundred Toronto neighbourhoods based on fifteen unique and weighted indicators (City of Toronto, 2014a). The indicators which contributed to the equity score calculations are summarized in Table 2 below.

Table 2:

Summary of indicators used in Toronto neighbourhood equity scores (City of Toronto, 2014a)

Domains	Indicator
Economic opportunities	Unemployment
	Low Income
	Social Assistance
Social Development	High School Graduation
	Marginalization
	Post-Secondary Completion
Participation in Decision-Making	Municipal Voting Rate
Physical Surroundings	Community Places for Meeting
	Walkability
	Healthy Food Stores

	Green Space
Healthy Lives	Premature Mortality
	Mental Health
	Preventable Hospitalizations
	Diabetes

Although the equity scores and indicators could not tell me everything about each neighbourhood in Toronto, they helped by providing me with a starting point for understanding how the lived realities could differ between these communities.

By cross-referencing the 140 neighbourhood equity scores with the first indicator (the nine neighbourhoods or sites with completed CEPs), there were only three neighbourhoods that had CEPs and which were also present in the equity score calculations in 2014. These neighbourhoods were Lawrence-Allen (classified as two smaller areas in 2014), Mimico and Mount Dennis. My understanding was that the remaining neighbourhoods did not align with my search because their neighbourhood boundaries were different at the time, or that they were new development sites. Once the three CEP neighbourhoods were identified within the equity scores, it was observed that they all had varying scores (Mount Dennis was low, Lawrence-Allen was mid-range, and Mimico was high), so that meant there could be socio-cultural and equity differences which may have impacted participation in CEP. The neighbourhoods and their equity scores are listed in Table 3 below.

To understand the scoring of the neighbourhoods in comparison to each other, the lower the score means the higher the inequities. It is through this scoring and framework that neighbourhoods like Mount Dennis were identified as Neighbourhood Improvement Areas (NIAs) by the City, and that meant that immediate action needed to be taken to address the inequities (City of Toronto, 2014a). The three selected neighbourhoods had varying equity scores, which provided a basis for further analysis and consideration in this study. Each neighbourhood's population, infrastructure, and social contexts were considered within each case study alongside the CEP process itself.

Table 3:

The three case study neighbourhoods based on their criterion (compiled using City of Toronto data, sources referenced in each column)

Criteria 1: Neighbourhood with completed CEP (City of Toronto, 2025a)	**Criteria 2: Equity Score** (City of Toronto, 2014a)	**Equity score, out of 140 neighbourhoods** (City of Toronto, 2014a)	**Recommended as a Neighbourhood Improvement Area?** (City of Toronto, 2014a)
Mount Dennis	26.39	3	Yes
Neighbourhood equity benchmark: 42.89*			
Yorkdale-Glen Park**	49.53	45	No
Englemount-Lawrence**	56.01	64	No
Mimico	62.36	81	No

*Note: Neighbourhoods below the equity benchmark indicated the imperative for immediate action.
**Note: Yorkdale-Glen Park and Englemount-Lawrence were two neighbourhoods where a CEP was completed within the same boundaries, titled Lawrence-Allen.

3.3.3 Mount Dennis CEP

In 2014, Mount Dennis had the third lowest equity score in the city, making it a high priority for equity and justice actions (City of Toronto, 2014a). The Mount Dennis CEP was completed in 2016, primarily in response to community concerns over a proposed natural-gas power plant in the area. The purpose of the power plant was to reduce electricity costs and provide backup power for the future Eglinton Crosstown Light Rail Transit (LRT) (City of Toronto, 2016a). The Eglinton Crosstown would intersect with the Mount Dennis neighbourhood area (see CEP study area in Figure 3). After community concerns were raised, City Council requested that a CEP be developed to assess potential solutions to reduce GHG emissions in the area (City of Toronto, 2016a). There are various news articles and city summaries which detail the community concerns and discussions during this time. Once data collection began, both documents and interviews also revealed the environmental and social initiatives that this community has been a part of for decades.

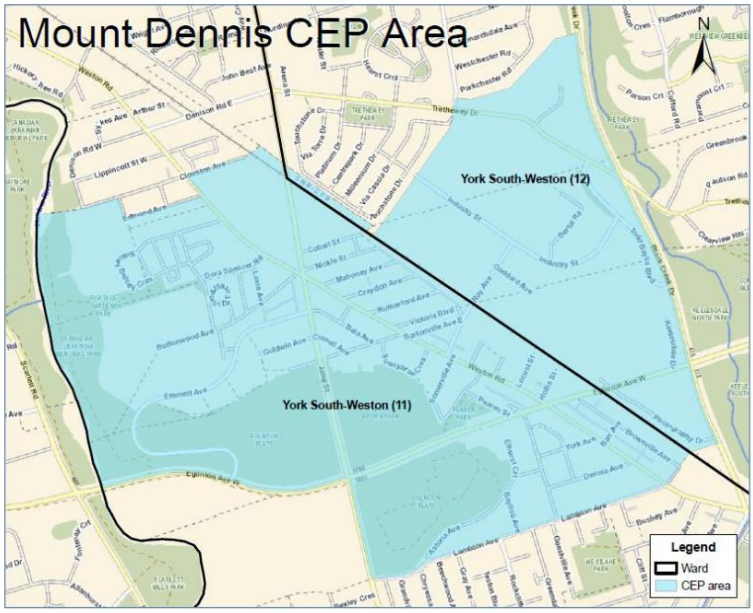


Figure 3: Mount Dennis CEP study area from 2016 CEP (City of Toronto, 2016a).

3.3.4 Lawrence-Allen CEP

The oldest of the CEPs in this paper, the Lawrence-Allen study was completed in 2011. The Lawrence-Allen energy plan was part of a broader 20-year revitalization plan for the area (City of Toronto & MMM Group, 2011). The study area is outlined in Figure 4 with four different phases of planned revitalization. The Lawrence-Allen study area included a combination of lands owned by the City of Toronto, Toronto Community Housing, RioCan and Toronto District School Board (City of Toronto & MMM Group, 2011). Plans were based around replacing social housing infrastructure as well as upgrading existing infrastructure to meet efficiency standards. A variety of heat recovery and renewable energy technologies were discussed in the energy plan for Lawrence-Allen.



Figure 4: Lawrence-Allen Revitalization Plan area from 2011 CEP (City of Toronto & MMM Group, 2011).

3.3.5 Mimico-by-the-Lake CEP

Similar to Lawrence-Allen, the Mimico-by-the-Lake CEP was completed by the City of Toronto in 2014, after years of planned revitalization and redevelopment for the area such as the Mimico 20/20 Revitalization Study. The specific geographic boundaries of the CEP are displayed in Figure 5. As described in the CEP, Mimico had a combination of residential buildings and infill developments. The intention behind the CEP was to address issues such as aging rental apartments, community infrastructure, and the need for new development (City of Toronto, 2014b). Overarching objectives of the plan were related to conservation and demand-side management, resilience (such as preparing for extreme weather events), and powering growth with renewable and efficient technologies.



Figure 5: Mimico CEP boundary area from 2014 CEP (City of Toronto, 2014).

3.4 Data Analysis

The two data collection methods, document analysis and qualitative interviews, were conducted simultaneously and therefore they informed each other as part of the inductive research and exploratory case study analysis. To gain an understanding of CEP in Toronto, policy documents such as TransformTO climate plans were reviewed early on in the process. Then, once I began interviewing people who had facilitated or known about CEP in Toronto, they were able to provide me with specific documentation, such as the CEP summary documents for all three neighbourhoods. Similar feedback processes like this continued for the rest of the study; I would build up the number of documents to review, and then interviewees would point me to other studies or sources which I hadn't previously considered. I found this process to be helpful as I built on my preliminary understanding of how the CEP process worked in Toronto, and how participation took place.

When coding for themes in the documents and interviews, I also used an exploratory process. First, in the policy documents and summaries, I would highlight concepts which were aligned with my objectives and themes within the literature review. I then noted how often these themes occurred and how in-depth they were discussed. Early themes that I searched for and

recorded were related to CEP, energy justice, participation, and well-being. After reviewing several documents, I felt that it was useful to present this data in a historical review, to emphasize the evolution of how CEP participation was incorporated (or not) in Toronto's climate policies and plans. This is summarized in detail in Section 4.1.

Coding the Toronto and neighbourhood-level documents then helped to inform the coding for the qualitative interview data. I found that the document analysis presented big-picture policy themes and commitments, whereas the interviews presented the specific community experiences at a neighbourhood level. I could directly compare if the policy themes I was seeing in the documents were playing out in the neighbourhood CEPs. Then, the experiences from the neighbourhoods informed how I was thinking about the high-level policies. I first coded the interview data based on any themes which were emerging, and then I grouped them into broader themes of barriers and benefits to CEP participation (themes and sub-themes are found in Table 4 below). Overall, the interview themes were somewhat informed by both the document analysis and literature review, but some sub-themes and findings were also organic from the interview data. The analysis of these findings using the theoretical frameworks from the literature review is discussed in the following section.

Table 4:

Preliminary themes and sub-themes from the qualitative interview coding

Theme	Sub-themes
Barriers to CEP participation and implementation	• Ontario's regulatory system • Coordination of actors • Fossil fuel lock-in • Gap between planning and implementation
Barriers to public participation in energy transitions	• Lack of effective tools • Misconceptions about energy/energy myths • Lack of community recognition or trust • "Invisible" nature of energy • Homeowner vs. renter engagement
Benefits of participation in CEP	• Environmental: GHG reduction • Health: air quality • Economic: local jobs and community revenue streams • Capacity building and education: local champions, leadership, community networks, training, and advocacy
Benefits of CEPs at the neighbourhood level	• Tailored to a specific place and its contexts • Focus on specific buildings, infrastructure, etc. • Incorporation with the Secondary Plan for the area

4. Results & Discussion

The results of the case studies are discussed below, based on the data collected from both the document analysis and qualitative interviews. First, a jurisdictional review of the city of Toronto revealed that there were many layers of historical, political, and institutional contexts which have contributed to present-day CEP implementation. This review is summarized below (4.1) which provides the city-wide policy context and dynamics leading to neighbourhood-level CEPs in recent years. Then, the results from the neighbourhood CEPs and any direct or indirect outcomes are summarized (4.2). To analyze the themes from the case studies, I used two different frameworks: an ecologies of participation framework (4.3) and community energy through the lens of human needs and satisfiers (4.4).

4.1 A review of CEP within Toronto's climate and energy policies

CEP initiatives exist within Toronto due to early leadership and innovation from the municipal government and environmental advocates. This review demonstrates the ability of the municipal government to support climate targets and CEPs even during time periods where other levels of government were unsupportive. Any eras of policy support or barriers from higher levels of government are mentioned where applicable to Toronto decision-making. CEP was first incorporated into climate plans under the leadership of Toronto Mayor David Miller (2003-2010) and then remained under the city's priorities even once new leadership was elected. Climate and energy plans have also incorporated more topics related to equity, well-being and justice in recent years. To implement CEP, the city has mainly utilized development and land-use planning resources as tools. CEP remains a part of the current climate plans for the city (TransformTO 2016 and 2021) but as of 2026, Toronto is at the centre of another era of hostility from provincial and federal governments regarding climate change and energy policy which CEP exists under. Through reviewing documents and completing interviews, this city-wide context proved helpful for understanding the three neighbourhood CEPs.

1988-1995: Toronto's climate leadership sets a global precedent

There is consensus that the catalyst behind Toronto's climate commitments was in 1988 when it hosted an international conference titled The Changing Atmosphere: Implications for Global Security (Lambright et al., 1996). It was at this conference that a 'Toronto target' was

established: to reduce GHG emissions by 20% below 1988 levels by 2005, and this was also ahead of any other targets being made at the provincial or federal level (Touchant, 2022). Sources such as Lambright et al. (1996) and Touchant (2022) emphasized that one prominent City Councillor Anthony O'Donohue attended the conference and afterwards became a major supporter of climate action within the City's processes. O'Donohue supported the formation of the Special Advisory Committee on the Environment (SPACE) which published reports in 1991 and 1992 and whose recommendations were pivotal for institutionalizing climate action in Toronto (Touchant, 2022). Hosting the 1988 conference in Toronto led to a domino effect of complementary actions at the city-level.

In the years following, recommendations from the SPACE and corresponding implementation efforts by City Council helped formalize the Toronto Target. First, the Toronto Target was approved by City Council in 1990, making it one of the first cities in the world to establish an emissions reduction target (Lambright et al., 1996). The next two SPACE recommendations which were implemented were the creation of the Energy Efficiency Office (EEO) for the City in 1991, and the establishment of the Toronto Atmospheric Fund (TAF) in 1992, which was an independent agency from the City (Lambright et al., 1996). Both the EEO and TAF would help Toronto in achieving some of its climate and energy implementation goals. Another achievement from 1991-1993 was the City establishing a requirement for developers to meet energy performance standards (Harvey, 2003). Finally, Toronto was collaborating beyond its municipal boundaries, like under the International Council for Local Environmental Initiatives (ICLEI) where member municipalities could share lessons learned with one another (Lambright et al., 1996). These early actions demonstrate Toronto's commitment to achieving its goals as well as collaborating with other local-level actors to do so.

1995-2003: Top-down pressures of government restructuring and environmental cuts

This period in Toronto included a few environmental and sustainable energy commitments, but in various sources these were overshadowed by intense pressure from the province with its extensive cuts to government and environmental services. This pressure from the province was felt in Toronto in a variety of ways. The election of the Progressive Conservative Premier Mike Harris in 1995 led to a 'Common Sense Revolution' in the province, and part of this movement was a strong desire to increase efficiencies and reduce costs for the

taxpayer (Sancton, 2000). This led to the largest municipal amalgamation in Canada's history, consolidating surrounding municipalities and the city of Toronto itself to form a megacity (Sancton, 2000). There were both supporters and critics of this far-reaching decision, authors such as Sancton stated that the policy failed in that it didn't provide substantial cost savings for the province and that it didn't bring the broader GTA together (Sancton, 2000). Relating this back to climate and energy policy, this resulted in extensive administrative changes and financial burdens for the City of Toronto, so it makes sense that it was challenging to move forward with significant environmental or policy changes during this time.

The amalgamation of the city of Toronto itself was a significant event, but the Common Sense Revolution also resulted in several regulatory and restructuring decisions at the provincial level, leading to impacts on both the electricity and environmental sectors. Winfield and Jenish (1999) described this period as having a "dismantling of environmental laws and institutions without precedent in the province's history". Extensive changes were made to environmental laws and protections, and the Ministry of Environment's budget was cut by 38% by the end of 1998/1999 fiscal year (Winfield & Jenish, 1999). Another institutional change in the province at this time was that Bill 35 introduced a competitive electricity market in Ontario and saw the organization Ontario Hydro divided into different entities (Winfield & Jenish, 1999). Organizations such as the Clean Air Alliance (1995) stated concerns about how the changes to the electricity market in Ontario could contribute to large increases in pollution in the province. In addition to these major changes impacting Ontario's environmental and energy sectors, Krajnc (2000) pointed out that these changes happened at the same time as the federal government was also cutting Environment Canada's budget and staffing. It is for these reasons as well as the Toronto amalgamation that this would have been a particularly challenging period for policies aimed at emissions reductions.

Despite the barriers from the provincial and federal government changes during this time, some minor actions were made by the municipality. Examples of some of these priorities were evident in a report titled "Clean, Green and Healthy – A Plan for an Environmentally Sustainable Toronto" which was endorsed by City Council (City of Toronto, 2000). This report discusses an Environmental Task Force which was formed in 1998 and worked on the plan for two years. Different energy priorities are discussed in the plan, such as energy efficiency improvements in

industry, city operations, and new developments (City of Toronto, 2000). Other recommendations in the plan related to energy included the development of a multi-stakeholder sustainable energy partnership which would carry out actions such as preparing a sustainable energy plan for the city (City of Toronto, 2000). Besides these recommendations, there was a lack of energy and emissions reduction priorities evident during this era, especially compared to the next era that followed once David Miller became Mayor of Toronto.

2003-2010: Clean energy prioritization by both municipal and provincial governments

This period demonstrated a renewed progress from the City of Toronto in integrating climate goals and energy considerations into its policies, largely because of the leadership of Mayor David Miller and city staff. David Miller was the Mayor of Toronto for two terms between 2003 and 2010. In his first term as mayor, there was evidence of international leadership and collaboration on climate and environmental issues. This was exemplified first in 2003 through an innovative partnership with the City of Chicago to protect the Great Lakes, known as the Cities Initiative (Touchant, 2022). Similarly in 2004, Mayor David Miller supported London's (UK) Mayor Livingston in establishing a climate agency and by sharing best practices (Touchant, 2022). In addition to international partnerships, local actions were also occurring in 2006, such as the Better Buildings Partnership administered by the EEO to provide resources for energy efficient retrofits and construction for Toronto's buildings (City of Toronto, 2007a). Also in 2006, the first version of the Toronto Green Standard (TGS) was introduced as a voluntary measure for buildings (City of Toronto, 2021a). These actions indicate that there was a renewed level of commitment to sustainability and climate action from Toronto Mayor and City Council at the time.

The early decision-making and leadership in Mayor Miller's first term would contribute to updated policy goals and implementation for his second term. Touchant (2022) conducted interviews with city staff who stated that Miller had ambitious climate priorities at the time. In 2007, the City released a variety of reports, the first being a framework for public review and engagement titled Change is in the Air: Toronto's Commitment to an Environmentally Sustainable Future (City of Toronto, 2007a). After the engagement report was released, the city then published the Climate Change, Clean Air and Sustainable Energy Action Plan in June 2007. This Plan confirmed new GHG emission reduction targets for the city which were a 30%

reduction below 1990 levels by 2020 and 80% by 2050 (City of Toronto, 2007b). In both reports there was an emphasis on the use of renewable energy, with City of Toronto staff noting that there was a desire for Toronto to become the "renewable energy capital of Canada" through supporting the development of renewable energy systems (City of Toronto, 2007b, p. 7). Of the climate plans reviewed up until this point, this was the first with evidence of a more long-term consultation process with the public in determining climate priorities.

Then, the municipality doubled down on its renewable energy priorities with The Power to Live Green: Toronto's Sustainable Energy Strategy (City of Toronto, 2009). Where generic energy planning was mentioned in the previous 2007 action plan, community energy planning (CEP) was explicitly defined here instead, marking a shift to more local and community-based priorities (City of Toronto, 2009). CEP was defined as: "research, analysis and stakeholder engagement to generate ideas, opportunities and support for sustainable options. CEP describes how energy is used in communities, and how its use affects the community including energy cost, energy security, and environmental impacts." (City of Toronto, 2009, p. 19). This report also mentions concepts such as energy equity and energy affordability for Toronto residents. In the review of all the Toronto policy documents, this report stands out as being entirely related to energy and energy systems compared to broader climate change reporting and targets.

Finally, during this time period, changes were being made at the provincial level by the liberal government which provided the complementary GHG emission reduction actions which would have benefited Toronto's climate goals as well. This was when Ontario began implementing its coal-phase out, and Ontario Power Authority stated it was the "single largest GHG reduction measure in North America" (Harris et al., 2015). In 2003, the coal phase-out became a provincial election issue, and by 2007 Ontario passed legislation to close its remaining coal-fired power plants by 2014 (Harris et al., 2015). This policy window of opportunity provides context behind the kind of climate action support which was ongoing above the City of Toronto at the provincial level.

Table 5:

Summary of first two decades of climate action in Toronto

Era of climate action in Toronto	City-wide policy implementation				Support (+) or barriers (-) from levels of government (Municipal, Provincial, and/or Federal)
	Climate Plan, Report or Strategy	Emissions reduction target	Policies, programs or tools to support community energy?	Well-being elements	
1988-1995	The Changing Atmosphere: A Call to Action (1989)	'Toronto Target': 20% below 1988 levels by 2005 (1990)	-Urban CO2 project participant -Energy Efficiency Office est. 1991 -TAF est. 1992	1989 report cited well-being of future generations	✚ Strong support within the Toronto City Council ▬ Lack of support from other levels of government besides the acknowledgement of the target.
1995-2003	Clean, Green and Healthy: A Plan for an Environmentally Sustainable Toronto (2000)	None	-Environmental Task Force (ETF) recommended a Sustainable Energy Plan be developed	Right of Torontonians to clean air for health and well-being	▬ Significant barriers from provincial government: Toronto amalgamation (1998), cuts to environmental protections and the Ministry of Environment budget. Similar budget ▬ cuts to federal Environment Canada despite some federal climate targets.
2003-2010	Climate Change, Clean Air and Sustainable Energy Action Plan (2007) Toronto Sustainable Energy Strategy (2009)	30% below 1990 levels by 2020 80% below 1990 levels by 2050	-2006 Better Buildings Partnership Program -Voluntary Toronto Green Standards (TGS) -Green Energy and Green Economy Act (2009) supported community energy co-ops	Mentions of energy equity in the plans	✚ Strong support under leadership from Mayor David Miller ✚ Coal phase-out becomes an objective of the province in 2003, and by 2007 legislation is passed to shut down remaining coal power plants

2010-2020: Rob Ford's inaction, followed by the first TransformTO under John Tory

Following the previous era of environmental and energy leadership from Mayor David Miller, the years between 2010-2014 saw virtually no movement on climate or renewable energy policies under new Mayor Rob Ford. Advocates such as the Toronto Environmental Alliance graded Ford an "F" on environmental commitments (2014), and Corporate Knights called Ford the "antithesis of an environmentalist" (Hamilton, 2014). Authors such as Touchant (2022) interviewed City staff and found that although there was inaction from the mayor's office, staff were still committed to being involved and achieving climate targets. This speaks to the momentum that was created in previous years in Toronto.

Climate and energy topics re-emerged as priorities once John Tory became mayor in 2014. Slater et al. (2022) conducted a review of Toronto's climate progress and described the period between 2014-2018 as a window of opportunity where policy platforms were aligned throughout levels of government, with Kathleen Wynne as Ontario Premier, and Justin Trudeau

as Canadian Prime Minister. Climate change and clean energy priorities became reflected again in action plans, budgets, and the development of the first TransformTO report (Slater et al., 2022). The City of Toronto acknowledged the commitments made by previous governments, and established TransformTO which represented an updated and comprehensive strategy for achieving GHG emissions reductions city-wide. The first iteration was titled TransformTO: Climate Action for a Healthy, Equitable and Prosperous Toronto (City of Toronto, 2016b). In 2016, short-term strategies were released by the government, as well as a technical modelling report in 2017 to achieve an 80% reduction in GHG emissions by 2050 (Slater et al., 2022). Although these reports were released under a new mayor and City Council, they acknowledged the previous work and priorities put forward by the city in 2006-2009 and served as a complement and mostly aligned next phase of climate and energy policy.

Regarding the incorporation of community energy in TransformTO, there was some mention of CEP, equity, renewable energy technologies, and neighbourhood-based considerations in the city's short-term strategies (City of Toronto, 2016b). This is evident in examples such as dedicated funding for community-based climate action, an upgrade to the TGS for buildings (Versions 2 & 3), a commitment to advancing CEP for new developments and revitalization areas, and the prioritization of renewable energy technologies such as district energy (City of Toronto, 2016b). During this time, the city defined CEP as an "area-based approach to energy planning that models energy needs for existing and future development" (City of Toronto, 2016b, p. 17). This CEP definition is narrower than the 2009 definition and therefore signals the city's priorities of linking CEP only under development contexts, and less about community impacts. Although the scope of the city's CEP seemed to shrink, there was still a consistent mention of community engagement and equity considerations throughout the first TransformTO report.

Complementary policies and plans: 2019 Toronto Resilience Strategy & 2020 Strong Neighbourhoods Strategy

In addition to TransformTO, the City of Toronto had published plans and strategies related to the resilience and improvement of neighbourhoods across the city, which include some considerations around climate planning and energy. In the 2019 Resilience Strategy, references are made to TransformTO, as well as how increasing resilience contributes to GHG reduction

goals, while bringing benefits to communities. The strategy discusses deep retrofits as an opportunity with multiple co-benefits, and it also described some of the work that Toronto Community Housing (TCH) had underway (City of Toronto, 2019). Impacts of climate change such as heatwaves, flooding, and power outages are also discussed throughout the strategy (City of Toronto, 2019). Much of the strategy references engagement with people across Toronto and how climate change and other stressors have impacted them (City of Toronto, 2019). The emphasis on the relationship between climate, resilience and equity is made clear in this report and aligns well with the rest of the TransformTO plans.

In 2020, Toronto released the Strong Neighbourhoods Strategy (TSNS), which calculated equity scores for 140 Toronto neighbourhoods, and developed an action catalogue for neighbourhoods (City of Toronto, 2020). The strategy's actions make minor references to retrofits of buildings, and warming and cooling centres for vulnerable residents in the city (City of Toronto, 2020). Another interesting feature of the TSNS is the methodology that it used to calculate its neighbourhood equity scores, which then contributed to the selection of Neighbourhood Improvement Areas (NIAs). Although TSNS is less related to climate change than the Resilience Strategy, it provides a better understanding of Toronto neighbourhoods, and what considerations are being made to improve equity in those neighbourhoods.

2020-2026: Toronto's first Net Zero Strategy, and a challenging present-day policy landscape

Under John Tory's next term as mayor, TransformTO continued, but CEP priorities became less evident in policies and plans. Five years after the first TransformTO report was released, the City published the TransformTO Net Zero Strategy: A climate action pathway to 2030 and beyond (City of Toronto, 2021b). The overall goal of this strategy was to respond to City Council's declaration of a climate emergency in 2019, and to establish a path towards net zero emissions by 2050 or sooner which was the recommended pathway from the IPCC (City of Toronto, 2021b). Despite these targets, the strategy itself was vague on any CEP initiatives in the city, and whether it was continuing to prioritize them (City of Toronto, 2021b). This omission could be due to the changing political landscape at the time, with the election of Doug Ford Progressive Conservatives (PCs) targeting renewable energy policies and planning in the province. Compared to the climate plans the city had released in the previous 30 years, this

strategy explicitly discussed the top-down challenges which were making it increasingly difficult for the city to achieve its renewable energy goals.

In addition to a lack of CEP being mentioned, the city's targets under the net zero strategy slightly shrunk compared to previous years. New and existing buildings emissions reduction goals remained similar to 2016, but the TransformTO renewable energy goal changed from a 75% target by 2050 to a 50% target by 2050 (Slater et al., 2022). In the energy section of the net zero strategy, there was discussion paragraphs stating that although the province of Ontario's electricity grid was relatively clean, it was projected to become more GHG intensive due changes to both its planned nuclear and natural gas usage for electricity (City of Toronto, 2021b). This tension between Toronto's climate ambitions and the province's increasingly emitting electricity grid becomes a theme throughout all subsequent climate reports leading to the present day. By 2025, pressures from both provincial and federal levels increased, through both the exogenous impact of tariffs, as well as the removal of a consumer carbon price in Canada (City of Toronto, 2025b). Compared to 2016, the TransformTO 2021 strategy presented these new challenges and how the city needs to adapt and advocate in the face of them.

It is evident that the current era of TransformTO is reflective of a changing political landscape, but TransformTO also changed the way it presented the process and benefits of net zero aligned actions. First, in the 2021 net zero strategy, each proposed action was presented alongside the specific benefits (either health, equity, resilience and/or prosperity) that it could produce (City of Toronto, 2021b). These topics are considered throughout the strategy, for example in section 4.2 on energy, energy affordability considerations are mentioned, and benefits of renewable energy deployment such as job creation (City of Toronto, 2021b). Compared to previous reports, this net zero strategy provided an in-depth review of not only the impacts of climate change on communities, but how each action could potentially benefit them.

By 2023, the TransformTO mandate transferred to the current Mayor of Toronto, Olivia Chow and actions have continued under her leadership. Previous themes related to equity and well-being are continued into the 2026-2030 net zero action plan which was published in 2025. Each critical step and its proposed actions include equity considerations, as well as a description of co-benefits which could be resilience, prosperity or health related (City of Toronto, 2025b). The acknowledgement of benefits to be overlapping and related to one another aligns with the

well-being frameworks in the literature. The action plan from 2025 brings equity to the forefront as a cross-cutting issue and key performance indicator (City of Toronto, 2025b). In these most recent reports from the city, the prioritization of equity as a process and outcome is made clear, as well as the consideration of co-benefits from net zero transformations (City of Toronto, 2025b).

Bill 98 and changes to planning mandates in 2026

Twenty years after the first version of the TGS, the City of Toronto was presented with another challenge to its sustainability goals and initiatives. On June 2, 2026, the province passed Bill 98 the Building Homes and Improving Transportation Infrastructure Act (City of Toronto, 2026a). Bill 98 removed mandatory building sustainable design from the province's planning law which will have major implications for the TGS (Lorinc, 2026). Toronto Environmental Alliance stated that this was Premier Ford's fourth time attacking green building policies in four years, such as going after the green roof bylaw in 2025 (Buchanan, 2026). In addition to impacting the TGS, Bill 98 also removed requirements for municipalities to incorporate climate goals in their Official Plans, again impacting another tool for municipalities to make climate progress (Buchanan, 2026). This provincial legislation will impact Toronto's ability to act on climate change in the future and its implications will be discussed further in this report.

Table 6:

Summary of most recent eras of climate action in Toronto

Era of climate action in Toronto	City-wide policy implementation				Support (+) or barriers (-) from levels of government (Municipal, Provincial, and/or Federal)
	Climate Plan, Report or Strategy	Long-term emissions reduction target	Policies, programs or tools to support community energy?	Well-being elements	
2010-2014	No evidence of new city-wide targets or implementation				- No support from Mayor Rob Ford - In 2011, the federal government withdrew from the Kyoto Protocol
2014-2020	TransformTO: Climate Action for a Healthy, Equitable and Prosperous Toronto (2016)	80% reduction below 1990 levels by 2050	-TGS updates: Version 2 in 2014, Version 3 in 2018 -Update to Official Plan requiring energy strategy from developers -CEP for new developments and revitalization areas -Investment in low-carbon thermal networks	-general equity lens applied throughout TransformTO	+ City incorporated resilience and equity considerations into other policies, which complimented TransformTO + Supportive climate targets and plans from federal government - Provincial attacks on energy efficiency and renewable energy mandates under Doug Ford
2020-present	TransformTO Net Zero Strategy: A climate action pathway to 2030 and beyond (2021) TransformTO 2026-2030 Net Zero Action Plan (2025)	Net zero emissions by 2050 (2021)	-TGS updated in 2022 (Version 4) -community-wide energy target: 50% comes from renewable sources by 2030	-equity as cross-cutting issue, and co-benefits considered for every action (resilience, prosperity, health)	- Exogenous events of COVID-19, Tariffs, etc. caused federal policies on climate to be impacted (such as carbon tax) - Multiple cases of the Doug Ford government directly attacking Toronto green energy and energy efficiency tools

Review Summary

This review demonstrated the evolution of Toronto's climate policies, and related renewable energy priorities which included CEP. The policy early leadership from the city between the 1990s-early 2000s meant that city staff was motivated to continue with climate commitments even amidst top-down barriers from the province. The city originally defined CEP broadly in 2009, including community energy use and impacts in its scope (City of Toronto, 2009). Then, by 2016, the definition of CEP became narrower and was only focused on development contexts (City of Toronto, 2016b). Also, since the change in provincial leadership in 2018 with Doug Ford as Premier, political barriers to municipal climate action and energy targets have significantly heightened. The future of municipal climate planning, and successful implementation tools such as the TGS remain uncertain in Ontario. But, as this review suggests, most Toronto leaders have been consistent in their commitment to climate and renewable energy actions, even amidst political uncertainty. The policy decisions in this review impacted the neighbourhood-CEPs (all of which took place between 2011-2016) and therefore they represent an era of CEP which may be unique compared to future CEPs in Toronto.

4.2 Neighbourhood case studies

The three neighbourhood case studies represent established areas (not new developments) with completed CEPs within the city of Toronto. Both the historical policy and planning processes were analyzed in these areas, as well as the present-day context in each neighbourhood and whether any energy initiatives have continued at the community-level. Two out of three of the selected neighbourhoods were either emerging or neighbourhood improvement areas (NIAs), as determined by the City of Toronto. This means that due to factors such as inequities, aging infrastructure, new growth, etc. these areas were identified by the city to undergo improvements. This is displayed in the map below, as well as the geographic location of each neighbourhood within the city.

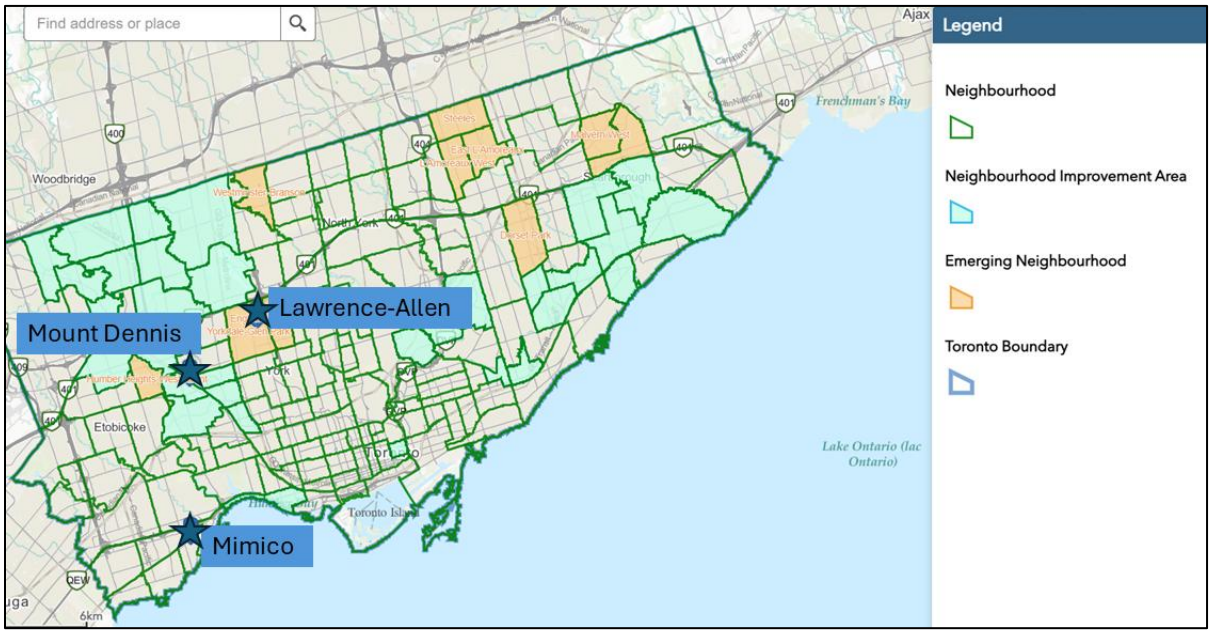


Figure 6: Selected CEP study areas within City of Toronto neighbourhood boundaries (adapted from the City of Toronto Neighbourhood Profiles, 2026).

4.2.1 Lawrence-Allen neighbourhood

The earliest of the three case studies, the CEP for Lawrence-Allen was completed in 2011 and had the least City of Toronto involvement at the time. The report was called a community level energy implementation plan, and it was prepared by an external consultant MMM Group (City of Toronto & MMM Group, 2011). This CEP was part a broader 20-year plan for the area

known as the Lawrence-Allen Revitalization Plan (LARP) which aimed to “re-invigorate the local environment and its residents. Emphasis has been placed on raising the standard of living for local residents over the next 20 to 25 years.” (City of Toronto & MMM Group, 2011, p. 1). There were two broad objectives of the CEP, first to conduct a cost benefit analysis which informed recommendations for community and building energy savings. Next, the CEP included a draft energy strategy to be used in future development applications in the area (City of Toronto & MMM Group, 2011). This was an early example of the energy strategy tool being used in planning.

The methodology used in the CEP was primarily quantitative analyses such as life cycle analysis, a cost benefit analysis, and environmental impact analysis for community level and building level energy savings. MMM Group also conducted interviews with City of Toronto employees and reviewed various policy and planning documents to inform the CEP. The options proposed for the area were all related to the adoption of specific technologies (City of Toronto & MMM Group, 2011). The following considerations were included in the plan: community heat recovery, neighbourhood heat recovery and community level energy technologies including short- and long-term energy storage, combined heat and power, solar thermal heating and solar cooling (City of Toronto & MMM Group, 2011). Therefore, the data collection and analysis for this CEP did not include any community member participation or input.

In terms of implementation, the LARP construction phases have continued into the present day and there are several housing projects and retrofits which have taken place in the community. The Secondary Plan for the neighbourhood consolidated in 2024 contains language related to renewable energy and energy efficiency priorities (City of Toronto, 2024a). These priorities can be seen in terms of the construction in the neighbourhood, for example the first Toronto Community Housing (TCH) building constructed as part of Phase 1 revitalization was 20 Zachary Court, and the building’s design met Tier 1 of the TGS with features including energy-efficient heating, air conditioning and lighting, low-flow plumbing fixtures and a green roof (Toronto Community Housing, 2019). In 2024, the construction of a new replacement net-zero community recreation and childcare centre was announced with a joint investment from both federal and municipal governments (Government of Canada, 2024). The net-zero requirements for the building are under the Canada Green Building Council’s Zero Carbon

Building Design Standards. These are examples of how energy use has been considered throughout the revitalization of the neighbourhood.

In both the CEP summary and interviews with City of Toronto staff, there was no evidence of community member-input into the CEP in 2011. Community involvement and benefits were incorporated into the broader revitalization of the neighbourhood, such as job opportunities, tenant-led microgrant projects, and overall community input into the LARP (Toronto Community Housing, 2026). Therefore, the CEP itself for this neighbourhood did not include community social considerations, but broader planning and development initiatives did.

4.2.2 Mimico neighbourhood

Similar to the Lawrence-Allen CEP, the Mimico CEP in 2014 also occurred during a period of long-term revitalization for the neighbourhood. The CEP discussed needs for the area which included improvements to existing and aging buildings, and the construction of new developments (City of Toronto, 2014b). Unlike Lawrence-Allen, the Mimico CEP incorporated more of the city's language and priorities at the time related to energy and climate. The CEP referenced the 2009 Sustainable Energy Plan's definition of CEP: "CEP describes how energy is used in communities, and how its use affects the community including energy cost, energy security, and environmental impacts. CEPs show how designing for sustainable energy supports community objectives of greenhouse gas emissions reduction, local job creation and funds retained in community" (p. 19). This definition of CEP broadens its objectives and intentions to be able to consider community-level and more social impacts.

The CEP was designed to model energy outcomes for the area and discuss barriers and solutions for implementation. The plan included three objectives. First, conservation and peak demand reduction which included measures to improve the performance of existing buildings and designing new buildings to meet the TGS (City of Toronto, 2014b). The plan calculated the associated improvements in energy consumption and emissions which would be associated with those demand-side solutions (City of Toronto, 2014b). The next objective was resilience and included measures to prepare for extreme weather events such as flooding and ice storms (a large ice storm had occurred in the city in 2013). Finally, powering growth which looked at renewable energy solutions for the development in the area (City of Toronto, 2014b). Some of the proposed

renewable energy options in the plan included solar photovoltaic and solar thermal systems, combined heat and power, and district energy systems.

In the case of this CEP, its preparation led to land-use planning implications for the area. In the CEP recommendations, the city focused on existing planning tools such as a Developer Energy Strategy to be included in development applications (City of Toronto, 2014b). The CEP states "The Energy Strategy should identify how the development will incorporate opportunities identified in this report or other strategies they may have to reduce energy use and demand. Items outlined could include but are not limited to efficient design elements, ECMs, reliable emergency power, on-site renewables, CHP, thermal networks, and smart energy grid integration." (p.18). By this time, the Developer Energy Strategy was more formalized as a planning tool than in the older Lawrence-Allen plan. Ten years later in the Secondary Plan for Mimico, the energy strategy is listed as a requirement for new developments in the area (City of Toronto, 2024b).

After interviewing an active member of Green Mimico, a committee of the Mimico Residents Association, it was clear that there is a gap between the community members' knowledge of the CEP and how it could inform current energy initiatives. Green Mimico has three organizational objectives which are resilience, preparedness and prevention and they have facilitated various events within the community related to climate change and energy solutions (Green Mimico, 2026). One event held in November 2025 partnered with organizations such as Toronto Hydro and the Toronto Home Energy Network to engage community members on heat pumps and energy efficiency. The event was held at a local library branch, with approximately 50 people in attendance. Toronto Hydro brought a heat pump to the event for people to interact with, and there were also booths set up for engagement with neighbours. The event also inspired follow up discussions and interest between neighbours:

> "We had 50 people for the heat pump event, you know. And then after that, I had seven people come to our house, in minus 20, because they didn't believe that the heat pump would work in winter." (Interview 4, April 2026)

Based on this conversation and the data on the Green Mimico website, the community is regularly engaged in brainstorming energy solutions that can positively impact the neighbourhood. The interviewee mentioned that energy solutions are a regularly discussed topic at community meetings, and that Green Mimico is planning more engagement events. There is a clear interest in neighbourhood-level energy improvements in Mimico, but there is a

dissemination gap between the CEP the City prepared in 2014, and the actions which are currently taking place in Mimico by community members.

4.2.3 Mount Dennis neighbourhood

The Mount Dennis CEP took place during a different set of circumstances than the first two CEPs, and there have been various outcomes in the neighbourhood since then. There are multiple ways in which the community advocated for changes to proposed developments in the area, due to the future Eglinton Crosstown light rail transit (LRT). First, Mount Dennis and Metrolinx negotiated a community benefits agreement during the environmental assessment of the development site (Interview 5, July 2026). Then, Mount Dennis community members found out that there was a proposed 18 megawatt (MW) natural gas-fired power plant backup facility for the LRT, and that "its going to be filthy, run in the worst weather, and when power is the most expensive, it will be running" (Interview 5, July 2026). Mount Dennis got to work in organizing to advocate for an alternative solution. They collaborated with organizations such as Toronto and Region Conservation Authority (TRCA) to organize a townhall, where battery industry representatives, Toronto Hydro, and politicians were in attendance (Interview 5, July 2026).

Due to the concerns of the community gaining traction after the town hall, the City of Toronto was instructed to prepare a CEP in 2016. The City met with Metrolinx and Toronto Hydro to determine the feasibility of alternative energy options to offset the back-up facility's carbon footprint (City of Toronto, 2016a). In a Toronto Star article, one community member stated: "We want to see people have a conversation about the alternatives. If there is going to be more development in this community in terms of a mobility hub, it makes sense to do more energy planning. Nobody's done that" (Kalinowski, 2016). The CEP was used as both an informational and engagement tool to be able to engage with the community and relevant organizations to determine the recommended next steps.

Due to the nature of this CEP responding to community concerns, there was an iterative process between the city, organizations, and Mount Dennis community members. The CEP mentioned that meetings with the public and impacted stakeholders occurred before, during and after the CEP itself (City of Toronto, 2016a). According to a Toronto Star article, the engagement process was also expedited (Kalinowski, 2016). After a meeting with the city, Metrolinx and Toronto Hydro, the City stated that a renewable technology replacing the backup facility would

be very costly, so the CEP objective was changed (Kalinowski, 2016). Instead, city staff considered energy solutions for the entire Mount Dennis area instead of just as a replacement for the backup power facility. Energy demand, consumption and GHG emissions were calculated for the area's existing buildings and future development scenarios for Mount Dennis (City of Toronto, 2016a). The CEP explored the potential impacts and emissions reductions from building retrofits, new building design, building-scale renewables, district energy solutions and energy resilience. The options and information presented in the CEP were used to consult with the Mount Dennis Councillor and community to illicit feedback (interview 1, March 2026).

The community's advocacy resulted in a variety of environmentally and socially beneficial outcomes. Shortly after the CEP and engagements, the plans for the backup power facility for the Eglinton LRT changed completely. It was announced in 2017 that the plan for the gas-powered backup facility was cancelled, and that a battery-powered system would replace it (Howells, 2017). This was a complete shift from the CEP, but a welcome change from the community who wanted an option which would produce less GHG emissions (Howells, 2017). The system was designed to store energy during off-peak hours, and it has a storage capacity of 30,000kWh (Power Technology, 2021). Other impacted infrastructure from the LRT included the community childcare centre which had to be moved, so there was a push for the new facility to be net zero (Interview 5, July 2026). Therefore, Mount Dennis' advocacy resulted in the following changes:

> "So we end up with three things: the energy storage (facility), the preservation of a historic building with community access, and a net zero building. All of which goes through with political support." (Interview 5, July 2026)

In a newly released progress report for TransformTO 2022-2025 the Mount Dennis Early Learning and Childcare centre was highlighted as the largest municipal childcare centre in the city and the city's first net zero building. The building is fully electric, uses insulation, geothermal heating and cooling and a 264-panel solar array (City of Toronto, 2026b).



Figure 7: Metrolinx rendering of the battery energy storage backup power facility with solar panels (Metrolinx, 2019).

The capacity of community members to create positive changes in Mount Dennis did not stop with the cancellation of the natural gas power facility. This was demonstrated in news articles as well as an interview with a local representative. For example, in 2017, CBC released an article about Mount Dennis' intentions to become Toronto's first net zero community (Shahzad, 2017). In terms of implementation, Mount Dennis has an Eco-Neighbourhood Initiative, part of their Residents Association (Mount Dennis Community Association, 2026). In 2017, they hosted a public meeting to discuss energy initiatives with neighbours and determine next steps (Shahzad, 2017). In 2020, the initiative planned to have a climate action summit, but plans were impacted because of the COVID pandemic (Mount Dennis Community Association, 2026). Presently, the Eco-Neighbourhood Initiative is regularly involved in Mount Dennis' community events and remains an active part of the community.

4.2.4 Summary of the neighbourhood CEPs

The case studies of the three neighbourhood CEPs are summarized in Table 7 below, including the CEP purposes, processes and any direct or indirect outcomes experienced in the neighbourhoods. Lawrence-Allen's building-level and affordable housing energy improvements have occurred due to City and TCHC revitalization initiatives, and planning tools such as the TGS. Mimico's CEP document itself is separate from current community action, but there is presently a high engagement-level from Green Mimico with neighbours on renewable energy

and energy efficiency initiatives. Finally, Mount Dennis is another community with high engagement, where community advocacy directly impacted the CEP development and resulting backup power facility, and the neighbourhood remains involved in broader environmental initiatives.

Table 7:

Summary of neighbourhood CEP results

CEP title and date	Prepared by	Purpose of CEP	Was the community engaged during the process?	Were there any direct or indirect outcomes of the CEP?
Community Level Energy Implementation Plan, 2011	MMM Group (for the City of Toronto)	Part of neighbourhood revitalization planning	No	Broader revitalization continued and incorporated energy efficient construction under the TGS
Mimico 20/20 Revitalization Community Energy Study, 2014	City of Toronto, with calculations by Halsall Associates Ltd.	Part of neighbourhood revitalization planning	No	Developer Energy Strategy required in the Secondary Plan
Mount Dennis Community Energy Plan, 2016	City of Toronto	Developed in response to community concerns over natural gas-fired backup power facility for the Eglinton Crosstown LRT	Yes	Metrolinx changed the backup facility power source to battery energy storage, and there was a community benefits agreement

4.3 Ecologies of participation in the Toronto energy system

In both the community energy literature, and the observed case studies in Toronto neighbourhoods, participation is a main factor in understanding the context in which community energy initiatives take place. In the case studies, I found that participation in these CEPs occurred for varied purposes, and that there were many actors and interests who participated either directly or indirectly. Also, the documents and interviews alluded to both federal and provincial government decisions which are impacting the City of Toronto's participation on climate change initiatives. One framework which can be used to analyze multi-dimensional participation in energy systems is the ecologies of participation framework presented by Chilvers et al. (2018). Using this framework allows for both the mapping of the different collectives who participated in community energy in Toronto, as well as how those groups interacted. This framework allows for both the political and institutional contexts in Toronto to be considered alongside the socio-cultural and well-being elements of community energy at the neighbourhood level.

To develop the ecologies of participation framework, Chilvers et al. (2018) reviewed case studies of energy transitions in the UK between 2010-2015 and mapped different participatory collectives based on that data. Using this same approach and the examples of collectives provided by Chilvers et al., the ecologies of participation in Toronto community energy transitions are mapped out below in Figure 8, based on the three neighbourhood case studies. Both the data collected from the document analysis as well as the qualitative interviews were considered to create the map. The map has three main areas of participation which are dominant participatory collectives, diverse participatory collectives, and emergent participation and outflows (Chilvers et al., 2018).

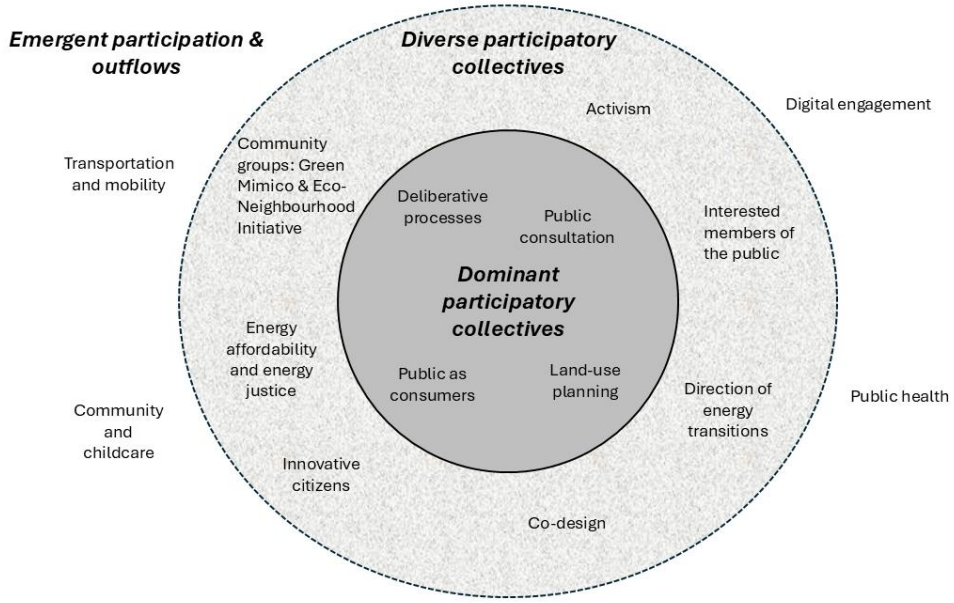


Figure 8: Mapping ecologies of participation in Toronto energy transitions (adapted from Chilvers et al., 2018).

4.3.1 Dominant participatory collectives

First, dominant participatory collectives are engrained in the energy system and are more mainstream compared to other forms of participation (Chilvers et al., 2018). In Toronto's CEP case studies, the deliberative processes such as land-use planning and climate change policymaking led by the municipal government were dominant factors in this space. Under these broader topics of planning and climate change, CEP can be considered a sub-process or tool used by the City of Toronto and similarly by other municipal governments across Canada. Also, both

documents and interviews revealed how these deliberative processes in Toronto are influenced by top-down decision making at the provincial and federal levels of government. The energy sector in Ontario is regulated by the Ontario Energy Board under the 1998 Ontario Energy Board Act and land-use planning is legislated by the province through the Planning Act (1990). In addition to routine planning and policymaking from the province, they are currently using their power to make exceptional changes to the Toronto climate policy landscape, as seen with changes under Bill 98 (Buchanan, 2026).

Under the dominant deliberative processes in Toronto's energy system, the most common method used for gathering input was public consultation. For the CEPs, any engagement with communities was conducted through public consultation, usually in the form of meetings. As pointed out by Chilvers et al. (2018), and echoed by some interviewees, the scope of consultation is narrow because it is usually performed when there is a problem impacting communities, or some form of new development. The challenge with this traditional and dominant form of engagement was discussed in one interview:

> "Other than a few keen folk, we're probably not going to get much interest…people probably aren't going to come out to those kinds of meetings." (Interview 3, April 2026)

In addition to the participatory barriers that exist within traditional processes such as consultation, in a city such as Toronto, there are a wide variety of people living in different forms of housing. Dominant participatory collectives may also overlook people in different forms of housing, which was expressed in climate plans under TransformTO as well as in one interview:

> "Toronto Hydro reached out about a year ago, a group there was interested in electrifying apartments. They reached out to the Residents Association about the apartments…I was like well we don't have much membership in the Residents Association, and you should be including everybody." (Interview 4, April 2026)

Finally, another dominant participatory theme from the literature and the case studies is the idea of public as consumers. For example, in the energy participation literature more broadly, public participation in energy transitions might be confined to material participation, as in what technologies they consume, purchase, or interact with in other ways (Ryghaug et al., 2018). This idea could be translated to some of the neighbourhood cases in Toronto, where community interaction may currently be limited to something like purchasing a heat pump, or an electric vehicle. Although making switches to lower emitting products is important, it shifts most of the

responsibility to the individual, and may inhibit systemic shifts in dominant collectives such as this.

4.3.2 Diverse participatory collectives

Next, diverse participatory collectives are defined as "established practices that form part of wider spaces of participation and tend to be more marginal, decentred or endangered in relation to what is commonly taken as the 'energy system'" (Chilvers et al., 2018, p. 204). In comparison to the dominant collectives in these case studies, many of the diverse collectives stemmed from the bottom-up interests and initiatives of the neighbourhoods themselves. In Mimico and Mount Dennis, interested and concerned citizens formed environmental sub-groups of their neighbourhood associations (Green Mimico and the Eco-Neighbourhood Initiative). Under Green Mimico, interested citizens collaborated with external organizations to host engagement events for the community, such as the energy efficiency event in 2025. In Mount Dennis, the concerns and activism of citizens were the reason that a CEP was conducted for the neighbourhood, and that the technology of the backup power facility was changed to a renewable storage system. Due to the capacity and interests of these community groups, they were able to influence and in some cases co-design the traditional or dominant participatory collectives' outcomes.

The collectives themselves were concerned about specific topics which Chilvers et al. (2018) also identified in their work such as energy affordability when transitioning away from fossil fuels (or the direction of energy transitions). Energy affordability showed up in the outcomes of building-level improvements such as in Lawrence-Allen, and interviews with a community member in Mimico also demonstrated the desire for energy affordability:

> "With renewable energy, you're going to be less connected to the volatility of energy prices. We're seeing a grand example of that now with wars across the world." (Interview 4, April 2026)

Also, interviews with City staff demonstrated that the benefits of integrating energy efficiency improvements early on in development processes results in cost savings as well, but that this is something that is still not in dominant decision-making yet:

> "But if you are able to build and connect these buildings, do it right kind of from the beginning it's going to save you a lot more money over time. And then especially if you just build in the capacity to adapt later on. Yeah, so people see the long-term benefits of

> it…but our society doesn't always focus on long-term value. It's a lot of the time short term value. But people are getting it." (Interview 3, April 2026)

Overall, there was interest from the collectives to incorporate energy affordability, but its integration into broader, dominant policy processes has not been completely actualized yet in Toronto.

The Mount Dennis CEP case study demonstrated energy justice elements and could even fit under the classification of community energy justice by Taiwo and Tozer (2025). Multiple elements in the diverse participatory collectives overlapped in this case: there were concerned community members carrying out activism and arguing for the transition away from fossil fuels. Also, I learned about the added historical context of this community being impacted by industrial projects in the past because of its proximity to the railroad (Interview 1, March 2026 and Interview 5, July 2026), as well as having the third highest inequity score calculated the city of Toronto (City of Toronto, 2014a). When asked about the overall development process, and how the community was impacted by the Eglinton LRT, a community member responded:

> "We got steamrollers. It was hard enough just to get what we got. We lost a soccer facility, a field, and places were taken out of service for years. The local businesses were abused. I mean, we pushed back hard and made a lot of differences." (Interview 5, July 2026)

Mount Dennis has received its distribution of harms from industrial projects in the past as well as the LRT development, and therefore there is a distributive justice element of the community negotiating its own benefits from the development such as community spaces that are net zero. There were community involvement and input throughout the CEP process, which relates to procedural justice. I found evidence throughout the news articles and the interviews that the outcomes of the development would have been significantly different if the community had not intervened.

4.3.3 Emergent participation and outflows

This section of the map is what overflows or emerges from the energy system (Chilvers et al., 2018). From the three CEPs, a few emergent topics and priorities were found. Due to the CEPs focusing on long-term changes to the neighbourhoods, priorities such as transportation and mobility in these neighbourhoods became interwoven into the energy system. For example, since Mount Dennis was planned to become a transit hub with the Eglinton LRT being developed, this

impacted the development of the neighbourhood and its projected energy demand (Kalinowski, 2016). This then had a cascade effect, because the development from the transit system caused the childcare centre in Mount Dennis to be moved, but it was also redeveloped into a net zero building (Interview 5, July 2026). Similarly in Lawrence-Allen's revitalization, the sustainability of the new childcare centre was also prioritized. This demonstrates the ability of the originally proposed solutions to cause overlapping and complementary community and childcare benefits.

Next, public health became an emergent outflow of the energy improvements in neighbourhoods. Public health such as air quality improvements and well-being also became an increasingly mentioned topic in the Toronto climate and TransformTO plans. When communities such as Mount Dennis changed the originally proposed natural gas backup power facility to being a lower emitting option, that will have positive health benefits in the future such as better air quality in the neighbourhood. Residents in Mimico learning about the benefits of heat pumps could also help increase their adoption, and impact residents' comfort in their homes through heating and cooling. In these case studies, it was a combination of the community groups as well as their interests which created these beneficial impacts, something that would not have necessarily occurred in traditional CEP processes.

4.3.4 Interactions within the ecologies of participation

Within the ecologies of participation framework, after Chilvers et al. (2018) identified the three types of participatory collectives, they also analyzed the ways in which the collectives participated and related to one another, calling these interrelations. They identified six interrelations which were found in their ecologies of participation in the UK energy system (Chilvers et al., 2018). These interrelations and their descriptions are listed in the table below. The main interrelations in the case studies occurred between the dominant actors, such as the City of Toronto, Toronto Hydro and the Province of Ontario. The historical connection and mandates between the province and the city means that antecedence took place in the case studies. As well, something like public consultation has become replicated across different processes, seen in Toronto where it is used as the major practice both for land-use planning and CEP. The community actors did not interact with one another, as their CEPs occurred during over different contexts and within the boundaries of their own geographic neighbourhoods. This could

be seen as an opportunity for future relationship building between communities that have completed CEPs in the city.

Table 8:

Interrelations within ecologies of participation (Chilvers et al., 2018)

Type of interrelation	Description
Antecedence	Connections formed between collective participatory practices that existed in the past and present.
Replication	Similarly configured participatory collectives connect in wider technologized spaces which become more or less standardised across space, time and cultures.
Insulation	Dis-connections resulting from boundary work where participatory collectives become insulated from others.
Resistance	Situations where distinct participatory collectives resist, jostle and compete with each other in wider spaces of controversy or pathways of socio-technical change.
Assistance	The formation of solidarities and assistive relationships between otherwise distinct participatory collectives.
Transformation	Where a participatory collective transforms from one form of participation to another. For example, a fracking protest group transforming onto a community renewable energy initiative.

4.4 Participation in community energy through the lens of human needs satisfiers

After conducting interviews with community members, City of Toronto employees and academics, it was clear that both historical and socio-cultural contexts played an important role in how these neighbourhoods participated in community energy. The themes which emerged from the interviews were first grouped into two broad areas which were the benefits of community energy, and the barriers to community energy processes. With the association that comes with these themes (benefits being positive and barriers being negative) this aligned with the application of a well-being framework, specifically the human needs and satisfiers theory adapted from Max-Neef (1991) by Brand-Correa et al. (2018) as the Human Scale Energy Services (HSES approach). Classifying the barriers and benefits of community energy in this way allows for the general theme of participation to be layered alongside human well-being through the human needs and satisfiers framework. Max-Neef introduced five different kinds of satisfiers, and they are described below in a sustainable development context by Guillen-Royo (2016).

Table 9:

Max-Neef's Classification of Satisfiers (Guillen-Royo, 2016)

Satisfier classification	Description
Synergetic satisfiers	Satisfy simultaneously different kinds of needs. They usually emerge as a result of endogenous bottom-up processes as do local currencies, farmer's markets and democratic community organizations.
Singular satisfiers	Satisfy the need they are meant to satisfy and are neutral towards other needs. They are common in public or private development programs and interventions.
Inhibiting satisfiers	Over-satisfy a specific need and reduce the prospect of satisfying other needs. They originated in customs, habits and rituals such as paternalistic and overprotecting attitudes and customs.
Pseudo-satisfiers	Mislead people into believing their need is satisfied and puts at risk the satisfaction of the need in the long run. Often induced through propaganda and advertising but, like the overexploitation of natural resources, they might be embedded in socio-economic practices.
Violators or destroyers	Annihilate the satisfaction over time of the need they aim at and they impair the satisfaction of other needs (often related to the need for protection, like censorship, exile…)

4.4.1 Synergetic and singular satisfiers

The participation in CEP in the neighbourhoods, as well as other energy related activities created outcomes which can be considered synergetic satisfiers. The community groups such as the Eco-Neighbourhood Initiative Mount Dennis and Green Mimico have participated in processes which have resulted in a variety of benefits and at their core human needs being met. For example, when Mount Dennis advocated for an alternative backup power facility in their community, they gained the capacity to participate in and advocate during consultation processes run by the City and provincial governments (emerging and interacting in traditionally dominant participatory collectives discussed in the previous section). Some of the benefits of this participation were discussed by a community member:

> "The local community realized we had an opportunity and worked with the Toronto politicians to add a list of ten conditions or terms that Metrolinx would follow when developing this site. And they included the Toronto Community Benefits Program, they included arts and culture, they included protection of the natural environment, protection of local businesses." (Interview 5, July 2026)

Green Mimico also coordinated with the utility Toronto Hydro, and the Toronto Home Energy Network to be able to deliver an energy efficiency education event to its community members. Both groups are currently active and are involved in a variety of environmental initiatives which contribute to these overlapping needs summarized in Table 10.

From the community groups originally participating in energy initiatives, they have now stimulated a variety of other needs. In Mimico, residents will now be able to understand municipal energy efficiency programming better, and they will be able to assist their neighbours in making the decision to switch to more sustainable technologies such as heat pumps. In Mount Dennis, by advocating for their community during the LRT development, they created a shared identity while also protecting essential infrastructure in the community. Without their advocacy, they would have lost a historic building which is used by the community, and the natural gas-fired backup power facility would have meant environmental consequences for the community. Therefore, the participation in these initiatives led to both tangible and intangible benefits in these neighbourhoods.

Table 10:

Summary of CEP process benefits as synergetic satisfiers

Satisfier	Need	Needs, the satisfaction of which it stimulates
Community-energy related groups (Green Mimico and Eco-Neighbourhood Initiative)	Participation	Understanding, Identity, Subsistence, Protection
Resilience (stormwater management, heat management, etc.)	Protection	Subsistence, Protection
Energy conservation in residential buildings and community/childcare centres	Protection	Subsistence, Protection, Freedom

The objectives within the Mimico and Mount Dennis CEP summary documents included resilience and conservation, both of which can be considered synergetic satisfiers. These priorities are also echoed in broader City of Toronto climate policies and plans. For example, resilience in communities like Mimico can lead to better protection when extreme weather events such as flooding occur, helping community members' physical environment, shelter and financial situation. This is discussed in one quote:

> "Flooding, we've seen how much damage it does, we need to help people protect their homes from that, because the financial damage can be severe, and that hurts everybody, right?" (Interview 4, April 2026)

Similarly, energy conservation in community buildings also satisfies multiple human needs at the same time. With the retrofits of community housing in Lawrence-Allen, that had a positive

environmental impact while simultaneously improving the physical environment that people live in and increasing energy affordability for the future. Also, the net-zero community and childcare centres that were built in both Lawrence-Allen and Mount Dennis have co-occurring benefits such as providing community infrastructure for thousands of people, childcare which helps families, all while being net-zero GHG emissions which is beneficial for the environment and contributes to Toronto's climate goals and leadership.

There are also some elements of the CEPs which satisfy one need in particular (therefore they can be classified as singular satisfiers). For example, the nature of the CEPs being part of the overall land-use planning process in Toronto means that they can be flexible to the specific place-based needs of that community. This was identified as a benefit by one of the academic interviewees, as part of the overall planning process:

> "What planning does well is it puts the issue on the table, in the forefront. And it tailors that policy to the individual place." (Interview 2, April 2026)

This interviewee also identified the unique advantage of combining land-use planning with energy considerations for communities:

> "People's livability and quality of life is the whole reason why we have land use planning. Adding the energy aspect to it, to reduce emissions, to have a better future in order to facilitate that energy transition." (Interview 2, April 2026)

Since all the neighbourhoods had CEPs completed in the past, there are traces of energy goals still incorporated into their current Secondary Plans, meaning that energy priorities have persisted for all these specific communities.

Table 11:

Summary of CEP process as singular satisfier

Satisfier	Need that it satisfies
Place-based specificity of the neighbourhood-level CEPs	Identity

4.4.2 Inhibiting satisfiers

Where the bottom-up interests and participation of community members in CEP aligned with synergetic and singular satisfiers, I found that the top-down energy planning processes of

the province aligned with inhibiting and pseudo-satisfiers. Since the interviews and document analysis took place during a particularly volatile period of climate policymaking in Ontario, it is clear that some policy decisions aimed at protecting Ontarians are also simultaneously harming them and becoming barriers to human needs and well-being.

One theme that was present throughout the data collection phase was the fossil-fuel lock-in that we are currently experiencing in the province of Ontario, which can be classified as an inhibiting satisfier. For example, because natural gas is seen as a cheap source of fuel in Ontario, it is continually promoted for household heating across Ontario, and in industries as well. The Climate Action Partnership (CAP) identifies this as the regulatory system favouring fossil fuels business-as-usual (2026). This phenomenon was described by one City staff member:

> "The province of Ontario, we've kind of always had access to the abundant methane natural gas. We chose to subsidize it, and that has been the cheaper option, because we decided as such." (Interview 1, March 2026)

These high-level provincial decisions were directly translated to some of the early CEPs, where Mount Dennis was advocating against the originally proposed natural gas-fired backup power plant, and these generators were also discussed as an option in the Mimico CEP (2014b). So, natural gas was proposed in the past CEPs, and continues to be mentioned in the province's current policy plans such as the Integrated Energy Plan (Ministry of Energy and Mines, 2025). The issue with focusing on short-term reliability and low costs of natural gas results in other human needs being inhibited, due to the environmental damages from GHG emissions like methane entering the atmosphere, and the risks of aging fossil fuel infrastructure (Lieberman, 2016). If the City of Toronto wants to move towards a net-zero future, natural gas is an inhibitor in accomplishing that future.

Another inhibiting satisfier used by both Ontario and Toronto governments is the traditional consultation process, which translated to how communities could participate in the CEPs. City staff and planners spoke to the barriers to participation in consultations, such as short timelines for input, and the difficulty of eliciting feedback on plans that will not occur until many years in the future. In the case of Lawrence-Allen and Mimico, there was no community input into the CEP process. Also, interviewees spoke to the barriers of planning in terms of actualizing decarbonization:

> "The gap is massive in terms of having to decarbonize, so there needs to be other actors, and how you get them involved is not necessarily through planning processes." (Interview 1, March 2026)

This relates to how CEP participation processes could be improved in Toronto in the future. Yes, consultation meetings with communities do satisfy a need to engage on general planning and CEP, but they may miss some key context and creative methods to improve energy use in communities (as was seen in Mount Dennis).

The last inhibiting satisfier I found through reviewing the history of Toronto's CEP plans and policies was that CEP became more narrowly defined overtime, and then became linked to new developments only. When the definition of CEP was changed from the 2009 definition in the Sustainable Energy Strategy to the definition in TransformTO, it removed consideration of stakeholder engagement for ideas, and also community-level energy use and energy security. Like the traditional consultation processes discussed above, this narrow definition of CEP inhibits the possibility of other human needs such as participation and the creation of community-led sustainable options in CEPs. There is value in conducting CEPs for new developments, but the majority of Toronto's neighbourhoods are already established, and some of that infrastructure is aging while climate change is being felt in communities. This issue was discussed in one interview:

> "The housing of the future is largely going to be the housing that we already have where the buildings that are going to be around in 2050, 2075, 2100 are already here. That's gonna be much more of a difficult solve as far as figuring out how we go back and adapt a neighborhood." (Interview 3, April 2026)

So, if Toronto has 140 neighbourhoods, and the definition of CEP is now narrowed to new developments, the potential for benefiting existing communities with CEPs is limited and will result in less human needs being satisfied.

Table 12:

Summary of energy planning process as inhibiting satisfiers

Satisfier	Need	Needs, the satisfaction of which is inhibited
Fossil fuel lock-in: natural gas use in Toronto and Ontario	Protection	Subsistence, Protection, Freedom
Traditional consultation process as part of CEP	Participation	Understanding, Protection

CEPs solely focused on new developments	Protection	Creation, Participation, Subsistence

4.4.3 Violators or destroyers

Finally, a recurring theme in both the document analysis and interviews was the current provincial government making consistent changes and threats to municipal-level climate action and energy improvements. I have classified this as a violator or destroyer of multiple human needs. Many of the needs discussed above, which are satisfied through climate action and bottom-up community processes would be largely impacted by the removal of municipal-level climate targets, and building-level measures such as the TGS. The success of the TGS in implementing building-level energy efficiency improvements in Toronto was highlighted by the interviewees and in news articles online, and this instrument was impacted by Bill 98 in 2025. Similar to other legislation introduced during this era of the Ford government, the need to supposedly be satisfied by this Bill would be subsistence in the form of speeding up housing construction and lowering costs. The reaction to this kind of top-down threat to energy improvements was described by one interviewee:

> "We are powerless over, you know, the province in this case, changing all the rules the city had imagined for itself…there's just a certain distrust now." (Interview 4, April 2026)

In addition to distrust from interested members of the public, this supposed satisfier of building homes faster will have detrimental impacts in the long-term, such as increased GHG emissions from buildings, and impacts on human well-being. The TGS being essentially destroyed is going to have far-reaching implications in Toronto.

Table 13:

Summary of provincial intervention as violators or destroyers

Supposed satisfier	Need to be supposedly satisfied	Needs, the satisfaction of which it impairs
Removal of Toronto Green Standards (TGS) and climate-focused requirements in Planning Act (to satisfy housing and development needs in the province)	Subsistence	Protection, Subsistence, Participation, Freedom

5. Recommendations and Future Research

5.1 Recommendations for Toronto CEP processes

The following are policy recommendations to improve the overall CEP process in Toronto, in terms of achieving improved community participation and well-being benefits. One finding of this study was the mapping of the large number of actors involved in renewable energy implementation in a city like Toronto, so in addition to policymakers these recommendations are for energy organizations, not-for-profit organizations, community organizations and other interested actors. The recommendations combine findings from the ecologies of participation in Toronto's energy system, and how participation in CEP can promote human needs improvement for the future well-being of Toronto communities.

5.1.1 Re-incorporate and broaden CEP in TransformTO's future actions

The City of Toronto and other organizations such as the CAP have stated the importance of integrating energy planning early in the process for new developments (Climate Action Partnership, 2026). This recommendation acknowledges the importance of CEP for new developments but at the same time calls for a prioritization of CEP for existing neighbourhoods and buildings who may be left behind in energy transitions in the city.

The original 2009 Sustainable Energy Strategy definition of CEP was "research, analysis and stakeholder engagement to generate ideas, opportunities and support for sustainable options. CEP describes how energy is used in communities, and how its use affects the community including energy cost, energy security, and environmental impacts". By using a broader definition such as this, the City would be able to approach CEP from a systemic perspective, and it would also be able to better incorporate community input into current and future CEPs. Only one out of the three case study neighbourhoods included the impacted community's input in the CEP process.

Broadening the objective of CEP would fit under the current TransformTO plans, such as the critical step to increase local renewable energy to contribute to a resilient, carbon-free grid (City of Toronto, 2025b). It would also align with other building energy efficiency improvement goals for the city. Broadening and integrating CEP into the future of TransformTO also provides

opportunities for co-benefits such as equity, well-being, and resilience to be identified by community members themselves, as they were in the Mimico and Mount Dennis neighbourhoods.

5.1.2 Promote further collaboration with utilities within TransformTO framework to achieve CEP implementation

While speaking with interviewees and reviewing Toronto policy documents, it was made clear that utilities (or local distribution companies) in Ontario are having an increasing role in energy planning and development in communities. In the Toronto context, Toronto Hydro is already a supporting organization on several TransformTO initiatives, and they also have their own Climate Action Plan (Toronto Hydro, 2021). In their plan, Toronto Hydro discusses actions such as renewable energy projects, energy efficiency and demand management, and climate advising (Toronto Hydro, 2021). These could be complemented by working more closely on CEPs in the city. If utilities like Toronto Hydro are already engaging with communities in an educational capacity (like the case in Mimico's community energy efficiency event), a case could be made to increase their capacity to take a more forward approach to CEP in Toronto.

In the CAP's 2026 Low Carbon Energy Planning Guide, they also discuss the role of utilities and the Ontario Energy Board in achieving action. In their discussion, they emphasized the importance of utilities and developers discussing energy planning early on in their processes (Climate Action Partnership, 2026). Also, CAP pointed out that if Ontario's energy system had a decarbonization mandate, then this would translate to utilities' energy planning implementation across the province (Climate Action Partnership, 2026). If the city of Toronto has been a leader in climate implementation in the past, then utilities like Toronto Hydro could also be leaders in decarbonization initiatives like CEPs.

5.1.3 Advocate for the TGS and other energy efficiency standards

The interviewees and policy documents emphasized the success and the importance of the TGS, therefore Bill 98 which harmed the TGS was identified as a violator of human needs in Section 4.4. The City of Toronto and other environmental organizations should continue to advocate for policies that uplift instead of destroy building-level energy efficiency improvements. In communities like Lawrence-Allen and Mount Dennis, the design of community and childcare facilities to be net-zero produced multiple co-benefits for those

neighbourhoods. Fighting for energy efficient buildings in Toronto also means fighting for the well-being of its community members.

As CAP prepared their Low Carbon Energy Planning Guide in early 2026, they provided recommendations on this topic knowing that the TGS were likely to be impacted by the provincial government. They mentioned that alternative mechanisms such as building Step Codes in Ontario could be implemented in place of Green Development Standards (Climate Action Partnership, 2026). They also recommended GHG intensity metrics to be used in the future to encourage more comprehensive sustainability measures in buildings (Climate Action Partnership, 2026).

5.1.4 Fund community-led CEP through existing City of Toronto Programs and develop a guide for interested communities

The City of Toronto has funded a variety of community-based climate initiatives and champions in the city to contribute to the goals of TransformTO and the Strong Neighbourhoods Strategy (City of Toronto, 2026c). To incentivize further community energy ideas from communities, this funding program could be expanded to include items that contribute to broader CEPs, such as research, engagements or collaborations to reduce energy demand in homes, apartments, or entire neighbourhoods. Toronto already funds renewable energy feasibility studies under this program, so a new sub-stream of the program which focuses on CEP priorities could be a complementary next step.

The interviewees highlighted the power of community action when a concerned group of citizens come together, or when an individual champions energy ideas in their neighbourhood. This kind of work could be specifically funded by the City of Toronto and could help provide the co-benefits of CEPs which were exemplified throughout the previous neighbourhood case studies. There is already a Neighbourhood Climate Action Champions program, so adding an energy planning certification could help champions develop CEP for their neighbourhoods (City of Toronto, 2026c).

In addition to funding, increased transparency from the City on completed CEP summary documents, as well as connecting neighbourhoods with completed CEPs could help strengthen the network of communities who are interested in CEP. They could share resources with one

another, and standardized documents could also be developed by the City to help neighbourhoods who don't know where to begin with CEP in their area.

5.2 Future Research

Future studies could address some of the gaps which were present in this research and its findings. First, while focusing on CEPs in established neighbourhoods in Toronto, it became clear that the City is moving forward with more CEP prioritization within neighbourhoods within new developments. While looking at the historical CEPs was helpful, documents and interviews were more limited in terms of the number of contacts, as well as the data collected. Looking at present-day CEPs which are occurring in neighbourhoods with new developments could help in providing a clearer picture of Toronto's CEP priorities. Instead of focusing on only the three completed neighbourhood CEPs, a future study could expand and analyze all the completed CEPs for the City of Toronto, and therefore broaden its network of interviewees and documents to analyze.

Next, the actors involved in CEP were mapped based on their participation (in the ecologies of participation model) but future studies could also map every single actor present in the current system beyond just CEP. This would exemplify just how broad and diverse the actor network is in Toronto's energy space. Broadening this map could present a basis for more analysis of the interrelations between the different actors and collectives in energy transitions. Also, studies on Toronto CEP could benefit from interviews with additional actors such as TAF and Toronto Hydro.

This study focused solely on the city of Toronto due to the lack of discussion on its CEP in the literature. Future studies could expand beyond the boundaries of Toronto and either compare Toronto to other cities with community energy initiatives, or cities with complex climate frameworks like TransformTO. Some academic articles have compared Toronto's climate policies to Canadian cities like Guelph and Vancouver, but expanding on these studies (even with international cities) and using the frameworks such as Max-Neef's human needs and satisfiers could provide helpful insights for comparison.

6. Conclusion

This major paper explored how both policy choices and community experiences impact CEP participation and well-being outcomes in Toronto. This research direction was formed based on an observation that although Toronto had made climate commitments related to CEP in the past, this was not explored in the academic or grey literature. Also, community energy research has evolved to focus on energy justice, but community energy concepts such as CEP had not been explored in relation to well-being, a complementary area to justice. Based on these gaps, I analyzed Toronto climate and energy policies and specific neighbourhood CEP experiences using two frameworks from the literature. The first framework was ecologies of participation (Chilvers et al., 2018), and the second was adapted from Human Scale Energy Services from Brand-Correa et al. (2018). Analyzing the data through participation and well-being lenses led to a better understanding of what factors enable community benefits from CEP, and which factors inhibit those benefits. Although current CEP processes in Toronto are dominated by traditional energy planning decisions and collectives, the case studies presented some bottom-up community interests, well-being benefits and influence on community energy outcomes.

After selecting Toronto and the three neighbourhoods for the CEP case study, I decided to combine historical policy decisions from the document analysis with the CEP experiences from the qualitative interviews. I found that these two data collection methods enhanced one another, for example when interviewees would reference policy decisions from the City of Toronto or the Province of Ontario. The scope of my document analysis was broadened as the results were forming, because I needed to understand the historical policy context related to how CEP implementation changed over time in Toronto. Also, the document analysis and interviews were reflective of a rapidly changing political landscape while the research was being completed. Interviews mentioned global conflicts which impacted local energy interests, such as energy security and affordability concerns. Policy changes at the provincial level were another topic which was frequently discussed as a barrier to community energy in the interviews. Despite top-down pressures and changes impacting local energy contexts, the historic review provided insights into how leaders and residents in cities like Toronto can make bottom-up changes and influence community energy outcomes.

In addition to the data collection methods informing one another, I found that the frameworks for data analysis were complementary. Analyzing and mapping the collectives of participation in Toronto CEP helped to provide me with a foundational understanding of how the human need of participation was being met, and how those interactions were impacting other human needs. Participation and participatory processes are an integral part of dialogues on community energy, and foundational research by many authors can help better inform future community energy and well-being studies. Since participation is one of the human needs in Max-Neef's (1991) framework, analyzing the rest of the human needs and their satisfiers helped to provide a more holistic view of how CEP was or wasn't impacting communities.

The gaps and benefits from the data analysis were considered throughout the policy recommendations and future research directions in Section 5. There were ways in which CEP and community energy interests in Toronto contributed to the satisfaction of multiple human needs, and if those co-benefits are considered in CEP policymaking and implementation, this will positively contribute to TransformTO net zero goals as well. There are also ways in which community energy networks can further be promoted in Toronto, which would help improve collaboration in the ecologies of participation of Toronto energy transitions.

This study can help inform CEP considerations in other areas, such as how to prioritize participation and well-being goals in its implementation. Many CEP studies have been completed in Canada, but from a top-down policy exercise. Policymakers need to consider who CEP is being designed for, and how benefits could be maximized for the communities that energy initiatives are going to impact. As I saw from the case studies and the historical policy review, climate solutions and movements which have co-benefits can have positive ripple effects and inspire networks and collectives to act and contribute to energy transitions.

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Appendices

Interview Questions:

1. First, can you describe the community energy planning processes or projects that you participated in in the _____ neighbourhood(s)?
    - Was there anything that stood out to you about the process compared to other engagements in the city?
    - Do you feel that the city is the right organization to be administering the CEP? Why?
2. Who did you interact with or collaborate with during the CEP project? Specific individuals, organizations, etc.?
    - Was there any group you wish would have been involved…
    - Why do you think they weren't involved?
3. Did you feel that there was adequate opportunity for community members and organizations to be consulted and engaged with?
4. Can you share any examples of when community member perspectives influenced the project decision-making process or final outcomes?
    - How do you think the outcome of the process would have been different if there wasn't any community participation?
5. Can you identify any benefits that were a result of this specific CEP process?
    - Have any lessons from this project influenced other developments and/or planning in the community?
6. Where do you think there are opportunities to strengthen community participation and benefits in future CEP projects in Ontario?

7. Is there anything else you would like to share that we didn't touch on already?

Initial findings from document analysis

Document	Page	Theme	Relevant policy or actions
TransformTO Net Zero Strategy (2021)	8	Community energy	Increase local renewable energy to contribute to a resilient, carbon-free grid – Toronto will work in step with Toronto Hydro to successfully support the growth and prosperity of the city through reliable, uninterrupted electric service provision. By increasing opportunities for local renewable generation to be located within the City's boundary, Toronto will be more resilient and will contribute to a decarbonised provincial electricity grid.
TransformTO Net Zero Strategy (2021)	10	Community energy	50 per cent of community-wide energy comes from renewable or low-carbon sources & 25 per cent of commercial and industrial floor area is connected to low carbon thermal energy sources, by 2030
TransformTO Net Zero Strategy (2021)	12	equity	Design and launch a climate advisory group for 2022 and beyond to ensure implementation of the Net Zero Strategy is equitable and reflects the priorities and interests of the community 22 Develop equity indicators to be reported out as part of the TransformTO implementation status update 2
TransformTO Net Zero Strategy (2021)	14	procedural justice	The 2030 greenhouse gas emission reduction targets and short term actions have been developed through extensive consultation across City divisions and agencies, and with stakeholders and the public. Since 2019, the City has engaged over 5,000 residents, businesses, and other stakeholders to understand key priorities, opportunities and challenges. Consultations in recent years, particularly in 2021, have highlighted the importance of responding to the climate crisis with urgency.
TransformTO Net Zero Strategy (2021)	17	climate justice	The impacts of climate change are being felt in Toronto, and these impacts are creating a greater burden for some residents more than others. The challenge of preventing further climate change is great, and everyone plays a role: the private sector, the nonprofit sector, the community, and all levels of government including the City of Toronto.
TransformTO Net Zero Strategy (2021)	24	community energy justice or climate justice	Guiding principles in figure
TransformTO Net Zero Strategy (2021)	26	participation	Participants were asked to assist the City in prioritizing key climate actions in buildings, energy, transportation and waste, as identified in previous consultations. During this process from late June to early August, 2021, over 1,000 survey responses were received, 10 community discussions were held, and over 100 ideas were posted to the online idea board.

TransformTO Net Zero Strategy (2021)	26	participation, community energy, justice	The results from this round of public consultation align well with the overall themes noted in the previous consultations, listed above. The highest priority actions continue to be building retrofits and fuel switching, support for the Toronto Green Standard sustainable design requirements, increased local renewable energy generation, enhancements to public and active transportation, improved waste management, increased tree canopy, and a greater emphasis on climate in decision making
TransformTO Net Zero Strategy (2021)	26	climate justice	Similar to the previous TransformTO consultation results, participants continue to prioritize aggressive GHG reduction targets and implementation strategies that encourage immediate climate action. There continues to be considerable emphasis on ensuring that climate actions are equitable, particularly for seniors and equity-deserving communities. Participants of this round of consultation also urged the City to consider the impacts of the climate actions on affordability and the cost of living for Torontonians, particularly renters. Many participants shared concerns about the potential for landlords and building owners to significantly raise rents to make up the cost of retrofitting existing buildings.
TransformTO Net Zero Strategy (2021)	38	justice, well-being	impacts of climate change will be felt by all Torontonians, however not everyone will be impacted equally. Climate change is amplifying the vulnerability of some people including those with low incomes, Indigenous Peoples, 2SLGBTQ communities, undocumented individuals, immigrants and refugees, women, seniors, children, people with disabilities, and racialized people. People in these groups often have less power and access to resources and infrastructure, and poverty and marginalization leave people vulnerable to rising energy, food, and housing costs.
TransformTO Net Zero Strategy (2021)	39	energy justice, well-being	In terms of the cost of living, the Net Zero technical modelling indicates that average household energy costs decrease in the Net Zero pathway. In 2050 in the Net Zero pathways, households will be more efficient and, on average, energy costs will be 70 per cent less per month (energy and transportation combined), compared to the Do Nothing Scenario. These savings can be used to finance the building retrofits and electric vehicles. Lower household energy expenditures are particularly meaningful for lower-income households where energy and transportation costs make up a larger proportion of expenses. During Net Zero Strategy implementation, care will need to be taken to ensure equitable distribution of benefits and costs, such as ensuring that the cost of housing improvements does not overburden renters, and that those in rental housing receive the benefits of lower energy costs.
TransformTO Net Zero Strategy (2021)	39	well-being	Torontonians care deeply about health and well-being. In 2018, a City of Toronto commissioned survey of residents found that 91 per cent believe climate change threatens our health and well-being and that everyone needs to take steps to reduce their GHG emissions.
TransformTO Net Zero Strategy (2021)	37	well-being	Benefits of climate action diagram

TransformTO Net Zero Strategy (2021)	39	equity, climate justice	Taking responsibility today for managing climate change will alleviate some of the pressure on future generations, another important aspect of an equitable approach. One method for reflecting the impact of climate change on society is the social cost of carbon (SCC).
TransformTO Net Zero Strategy (2021)	46	distributive justice	Reduced household costs for energy and transportation also represent opportunities for residents to spend money locally, resulting in more resilient neighbourhoods. Other benefits to the local economy are seen from changing travel patterns and modes in the Net Zero pathways, resulting in more visits to and spending at local shops.
TransformTO Net Zero Strategy (2021)	53	community energy justice	Taking action in the buildings sector means making sure no-one is left behind and housing is affordable and healthy. It is evident that retrofitting to net zero will require considerable upfront costs. The main challenge in the residential sector is to prevent or minimize these costs being passed down to tenants and occupants, which could exacerbate housing affordability challenges in Toronto. These affordability challenges are often felt most by Toronto's equity-deserving groups.
TransformTO Net Zero Strategy (2021)	27	procedural justice	Also in 2021, a Net Zero External Advisory Group comprised of 25 diverse stakeholder organizations, including youth organizations, provided input on draft elements of the Net Zero Strategy and equity considerations.
TransformTO Net Zero Strategy (2021)	82	procedural justice	continue to develop more thorough long-term collaborations between the City and key sectors that are traditionally underrepresented in climate action engagement (e.g. equity-deserving communities, Indigenous communities, local development agencies, etc.) which will enable broader engagement of Torontonians in climate action.
TransformTO Net Zero Strategy (2021)	84	procedural justice	internal discussions between Indigenous City employees and the Toronto Office of Recovery and Rebuild engagement report, participants noticed the lack of meaningful engagement and co-development with Indigenous Peoples as a concern in the creation of the Net Zero Strategy. This is a potential barrier for future engagement with Indigenous communities as the lack of trust and respect discourages people from rejoining the conversation.
TransformTO Net Zero Strategy (2021)	85	climate justice	By 2025, the City of Toronto will involve Indigenous Advisory Circles to implement actions and help integrate Indigenous knowledge throughout the Strategy. The inclusion of elders, knowledge keepers, land defenders, rights holders and treaty partners at the decision making table will drive meaningful climate action rather than presenting false solutions that do not address the root cause of climate change. The diverse Indigenous representation (2SLGBTQIA+, Afro-Indigenous, Métis, and Inuit) in advisory groups will ensure their voices are deeply represented and ensure the benefits of our climate actions are felt by communities that have been hit hardest by social and economic injustices.
TransformTO Net Zero Strategy (2021)	40	well-being and justice	Pursuing a Net Zero pathway will see a 99 per cent reduction in local fossil fuel combustion compared to the status quo. This reduction comes from switching vehicles and building heating systems to electric sources. The Net Zero pathway will dramatically reduce local sources of the GHGs that cause climate change and air pollutants that harm our health. A

TransformTO Net Zero Strategy (2021)	77	well-being	The Net Zero pathway generates a broad range of societal benefits with direct and indirect financial benefits which are in addition to the financial analysis described in this report. For example, improved air quality as a result of electrifying transportation could deliver health benefits valued at nearly $750 million per year.7 Improved indoor air quality in dwellings and office space as a result of building retrofits will reduce health care costs and absenteeism at work. Reduced air pollution from the combustion of fossil fuels (on roads, in houses, and in electricity generation) will reduce asthma and chronic obstructive pulmonary disease (COPD). Increased walking and cycling will reduce heart disease.
TransformTO Action Plan 2026-2030	5	justice, well-being	The Plan retains Toronto's original ambition but also takes care not to overburden already challenged members of the community. Each section of the Plan includes equity considerations and the co-benefits of climate action, such as resilience, health and economic prosperity.
TransformTO Action Plan 2026-2030	5	equity	The critical steps were introduced in the Net Zero Strategy and have been updated to reflect new information and advice. The Plan re-orients the City toward more equitable climate action and applies an equity lens in all critical steps. Focusing on equity, advancing reconciliation and encouraging economic development are cross-cutting areas of focus throughout the Plan.
TransformTO Action Plan 2026-2030	7	emissions reduction	Toronto Green Standard for new buildings, and the TTC’s Green Bus Program are among the largest community-wide GHG reductions the City is implementing, according to technical modelling.
TransformTO Action Plan 2026-2030	7	community energy	Increase local renewable energy to contribute to a resilient, carbon-free grid: Action 4: Facilitate installation of new renewable energy capacity and storage and promote innovative practices. Action 5: Develop a plan that identifies the feasible scale of low carbon thermal energy networks (district energy systems) located in the City and engage in understanding how partnerships with the academic and business communities may facilitate their implementation.
TransformTO Action Plan 2026-2030	20	well-being, equity	The City will develop new and enhance existing support resources and programs to enable voluntary action to reduce emissions from all building types. The programs and resources will focus on increasing education and awareness among building owners and tenants and focus on the realization of retrofit benefits (e.g., improved indoor/outdoor air quality, improved thermal resilience, etc.), particularly for equity-deserving or vulnerable communities. Any program enhancements or new offerings will be based on recent building performance data and input from various sectors and the public, while ensuring alignment with other relevant City initiatives and policies. Equity Considerations: New support programs or enhancements to existing programs will focus on increasing accessibility to building retrofit information particularly for equity-deserving communities.

TransformTO Action Plan 2026-2030	20	well-being, community energy justice	A key retrofit measure is fuel switching to an electric heat pump, a technology that provides both winter heating and summer cooling, which can play a critical role in increasing occupant comfort and resilience particularly during extreme heat days for vulnerable populations who do not currently have access to cooling in their homes. Energy or emissions reductions in buildings can also support other benefits such as improved indoor air quality for occupants and local job creation city-wide.
TransformTO Action Plan 2026-2030	21	equity, climate justice	Expand the Home Energy Loan Program (HELP) to more effectively reach equity-deserving groups, with a focus on moderate-income households and fixed-income seniors, by offering preferential and more accessible financing
TransformTO Action Plan 2026-2030	25	community energy	Deliver a distributed energy resources (DER) plan including facilitating battery storage deployment on City owned lands to support Toronto's net zero goal while maintaining grid reliability and energy affordability
TransformTO Action Plan 2026-2030	49	equity, climate justice	This includes, where possible, planning climate actions in such a way that they address existing inequities, mitigating unintended equity implications of the planned climate actions, and clarifying how actions can help create a more equitable city.
TransformTO Action Plan 2026-2030	62	justice	groundwork in relating to its Indigenous communities demonstrates a clear "want" to do better, but the City continues to struggle in meaningful collaboration due to the colonized structure of municipalities
TransformTO Action Plan 2026-2030	67	participation	From November 1, 2024, to January 31, 2025, over 2,838 people participated in the public consultation to inform the Net Zero Strategy Action Plan 2026-2030. Diverse engagement techniques were employed, including an online survey, two webinars, three group discussion sessions, 32 community-led group discussions, and 20 in-person events
TransformTO Action Plan 2026-2030	67	participation	In-person events were held in community recreation centres, at community events, and at malls to engage residents who may not regularly attend a general session on the topic of climate change.
TransformTO Action Plan 2026-2030	85	equity, procedural justice	equity is both a process and an outcome. The approach to equity in this plan is not without challenges. A continued commitment to infusing equity in climate action is a necessary measure to reaching net zero.
TransformTO Action Plan 2026-2030	87	climate equity	Climate equity indicators
Toronto Sustainable Energy Strategy (2009)	14	equity, justice	Unfortunately, even with relatively low energy prices, there are "energy equity" issues that affect many Torontonians. Low-income households (both owner-occupied and leased) tend to spend a much higher percentage of their pre-tax income on utilities (7.7 percent) compared to average income households (3.2 percent). In addition, low income households tend to live in electrically heated dwellings and less energy efficient homes.

Toronto Sustainable Energy Strategy (2009)	14	equity, justice	their utility bills are taxed as part of their monthly rent, which allows them to ignore their energy consumption habits and, therefore, may make them less motivated to reduce their energy use as there is no direct relationship to their lease and rent costs. Tenants also lack control over many of the systems that influence a building's energy efficiency, such as heating and ventilation.
Toronto Sustainable Energy Strategy (2009)	21	community energy	Alongside the aforementioned efforts to address growing electricity and thermal heat demands is planning at the community level. Community Energy Planning ("CEP") provides research, analysis and stakeholder engagement to generate ideas, opportunities and support for sustainable options. CEP describes how energy is used in communities, and how its use affects the community including energy cost, energy security, and environmental impacts. Community Energy Plans show how designing for sustainable energy supports community objectives of greenhouse gas emissions reduction, local job creation and funds retained in community. Community Power Projects are a class of sustainable energy generation projects that are owned, developed and controlled in full or in part (50 percent or more) by residents of the community in which the project is located. The Ontario Sustainable Energy Association defines Community Power proponents to include local residents, farmer collaboratives, co-operatives, First Nations, municipalities, and other institutions working to develop local sustainable energy projects. Anyone can become an individual member. The Province's passage of the Green Energy and Green Economy Act in May 2009 changed existing regulations to make it easier to form community energy co-ops.
Toronto Resilience Strategy (2019)	23	climate justice	Not all communities will be affected equally by climate change. Equity-seeking groups face an unequal distribution of opportunities and resources, and therefore face greater challenges preparing for, responding to, and recovering from climate shocks and stresses.
Toronto Resilience Strategy (2019)	34	climate justice	TransformTO is Toronto's climate action strategy to reduce greenhouse gas emissions by 80% by 2050. TransformTO will reduce local greenhouse gas emissions, improve our health, grow our economy, and improve social equity. The Resilience Strategy makes recommendations to integrate climate resilience into TransformTO's existing short- and long-term strategies in the 2020 to 2023 action plan being delivered in 2019
Toronto Resilience Strategy (2019)	76	energy justice	There is tremendous opportunity to enhance resilience, reduce carbon emissions, improve health and comfort, create jobs, and preserve critical housing supply through deep retrofit. Deep retrofits fundamentally change the operating standard of buildings and make it possible for these buildings to extend their useful lives
Toronto Resilience Strategy (2019)	76	energy justice	Incentives already provided by the City, like through the High-Rise Retrofit Improvement Support Program (Hi-RIS), and other partners are sufficient such that it is economically viable for most tower owners to make initial, smaller and medium-sized retrofits and upgrades that decrease energy use and improve resilience, such as installing more efficient lighting

Toronto Resilience Strategy (2019)	79	energy justice, resilience, well-being	Toronto Community Housing (TCH), a City-owned corporation, is the largest social housing provider in Canada and the second largest in North America. TCH has 2,100 buildings and 50 million square feet of residential space, which represent a $9 billion public asset, including 170 towers with 8 or more storeys.TCH is undertaking deep retrofit at 21 of its apartment towers, funded by the Province of Ontario through the Social Housing Apartment Improvement Program (SHAIP), the Social Housing Apartment Repair Program (SHARP), and by the Energy and Environment Division at the City through a Sustainable Energy Program loan. They are making resilience, energy efficiency and quality of life improvements, including: installing efficient toilets, shower heads and faucets; upgrading heating and ventilation systems; installing efficient lights and adding light sensors in parking garages; replacing single pane windows; installing suite temperature controls; and exchanging window air conditioning units with more efficient in-unit air conditioning. They are also improving insulation by adding over-cladding to the exterior of 12 of the 21 buildings, creating a more comfortable environment inside; improving indoor air quality, including temperature, in the winter and summer; and significantly reducing gas consumption. Construction began late fall 2018 and will continue into 2020.TCH is also installing Combined Heat and Power (CHP) generators at 40 sites and upgrading emergency generators in 2020. The emergency generators upgrades will allow tenants to shelter in place during loss of external power. The CHP generators will generate electricity onsite, reducing the dependence on TCH's most costly utility.
Toronto Resilience Strategy (2019)	91	climate justice	The actions presented here are focused on the two hazards that pose the greatest and fastest growing risk to residents – flooding and extreme heat. The City's own investments and plans must be resilient to climate change while City partners and Toronto's businesses and residents must also be supported to be more resilient. Applying an equity lens, these efforts should focus on the populations who are most vulnerable to each hazard.
Toronto Resilience Strategy (2019)	129	participation	Divisions should be supported to expand their current civic engagement capacity and activities through an expansion of the current function within the City Manager's Office as a larger centre of excellence that promotes best practices and supports excellence in civic engagement across the organization. This would ensure Toronto keeps pace with other Canadian cities that are establishing central civic engagement functions and investing in tools for public engagement. A strategic approach would increase opportunities for Divisions, communities, and neighbourhoods to learn from one another, share data, leverage coordinated resources, foster better relationships with residents, increase value for money, and improve customer service outcomes.

Toronto Resilience Strategy (2019)	136	equity	The Energy and Environment Division (EED) was recognized in 2018 as leaders in integrating equity into their work. EED established an Equity Action Team and worked to ensure an equity lens is applied to programs and policy development. EED embedded equity principles into TransformTO, the City's climate mitigation plan. They also provided all staff with multiple training sessions on equity, including on the City's Equity Lens, and the KAIROS blanket exercise on the nation-to-nation relationship between Indigenous and non-Indigenous peoples in Canada.