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SPECIAL ISSUE — COMMUNITY ENERGY PLANNING IN CANADA:
INSIGHTS AT THE NEXUS OF RESEARCH AND PRACTICE

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THE CEP CROSSWALK: A COMMUNITY ENERGY PLANNING TOOL FOR INTER-DEPARTMENTAL ALIGNMENT AND STAKEHOLDER ENGAGEMENT

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Résumé

La planification énergétique communautaire est une pratique encore en cours de maturation, qui a un grand potentiel pour aider à atteindre les objectifs climatiques, à stimuler le développement économique et à réaliser des avantages sanitaires et sociaux. Au Canada, les plans énergétique communautaire (PEC) rencontrent souvent des obstacles à la mise en œuvre qui peuvent être atténués grâce à l'utilisation d'outils améliorés pour la collaboration et l'aide à la décision. Des outils de planification et de collaboration sont nécessaires afin d'aider le personnel municipal à améliorer la qualité et la quantité de l'engagement des parties prenantes au cours du processus du PEC, à fixer des priorités et à accroître la collaboration interministérielle sur les objectifs climatiques et énergétiques. Dans cet article, nous présentons le document de concordance PEC, un outil conçu pour soutenir le processus de planification énergétique communautaire en identifiant les « points de contact » entre les principes régissant le développement de la PEC, les documents d'orientation politique, la législation, les documents de planification existants relatifs à l'énergie et au changement climatique d'une juridiction donnée. Nous discutons de la méthode utilisée pour construire le passage pour piétons et partageons les points de vue des praticiens de l'énergie communautaire de la municipalité régionale de Halifax et de la ville d'Oakville qui l'ont utilisée au profit de leurs processus de planification énergétique communautaire.

Mots-clés: énergie communautaire, engagement des parties prenantes, planification, outil

Abstract

Community Energy Planning is a still-maturing practice that has great potential to help achieve climate goals, stimulate economic development, and realize health and social benefits. Community Energy Plans (CEPs) in Canada often encounter barriers to implementation that can be mitigated through use of enhanced collaboration and decision support tools. Planning and collaboration tools are needed to help municipal staff improve the quality and quantity of stakeholder engagement during the CEP process, set priorities, and increase inter-departmental collaboration on climate and energy goals. In this paper, we present the “CEP Crosswalk,” a tool designed to support the Community Energy Planning process by identifying points of contact between the principles governing the development of the CEP, and the guiding policy documents, regulations, and existing energy- and climate change-related planning resources of a given jurisdiction. We discuss the method used to construct the CEP Crosswalk and share insights from Community Energy practitioners at the Halifax Regional Municipality and the Town of Oakville who used it to benefit their Community Energy Planning processes.

Keywords: community energy, stakeholder engagement, planning, tool

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INTRODUCTION

The IPCC (2018) has indicated that transformational change to the world's energy systems will be required to limit the globe's average warming to 1.5°C above pre-industrial temperatures and avoid the worst effects of climate change. Policy at the national and sub-national levels in Canada now reflect efforts to achieve deep emissions cuts and improve adaptation outcomes (ECCC, 2016). Canada is in the fortunate position to act as a leader by developing and de-risking scalable methods, tools, and solutions to energy and climate issues that can be applied in other jurisdictions.

One area in which this is occurring is the field of community energy planning. Community energy plans (CEPs) are essential to understanding energy flows within a community, improving the efficiency of local service provision, and reducing the reliance on fossil fuels within community energy systems (Huang et al., 2014). A CEP pursues these objectives, and the overall long-term sustainability of a community's energy system, through evaluation of land use planning and community design practices (Church & Ellis, n.d.) Community Energy Plans are typically developed by and for a local government or municipality in concert with utilities and major energy consumers (Gustaffson et al., 2015; St. Denis & Parker, 2009). Generating a CEP is an inherently interdisciplinary process, cutting across all facets of municipal operations (Gustaffson et al., 2015; QUEST, 2013). A successful collaborative process engages fully with the local/municipal government (internal stakeholders) and with multiple community groups and higher orders of government (external stakeholders) to deliver key service types such as social welfare and environmental protections more sustainably.

While the connection between energy use and climate change is clear, CEPs typically have a different emphasis than climate change plans. In addition to measures intended to reduce greenhouse gas emissions (GHGs), CEPs often include objectives related to economic development, energy

security, public health, and development of alternative, clean technologies (QUEST, 2015b). While CEPs are less often concerned with some risks and biophysical impacts associated with climate change, such as biodiversity loss or coastal erosion, some jurisdictions have generated combined CEP/climate plans in an attempt to produce an integrated response to energy and climate change issues.

Municipalities and community stakeholder groups may or may not have developed their own corporate energy plans or climate action strategies, and even where these exist, they can be narrowly scoped or siloed within the various organizational units rather than integrated across the stakeholder spectrum (Robinson & Gore, 2005; UN-Habitat, 2015). Aligning visions and incorporating the guiding principles of a CEP or climate plan across internal and external stakeholder groups can be expected to assist all parties to identify and resolve conflicts and leverage synergies. Ideally this can lead to more effective community energy planning, and in turn, lower-carbon, and more resilient communities. Tools and methods are still needed to help facilitate these discussions, connect siloed municipal departments, and improve internal staff engagement (Romero-Lankao et al., 2018; QUEST, 2015a).

In this paper, we present the 'CEP Crosswalk,' a tool developed to address this need identified by the literature. The CEP Crosswalk provides municipal community energy planners and stakeholder groups with a method of identifying points of contact or intersections between their respective strategies, plans (e.g., Official Plans, Master Plans, etc.), policies, or regulations (e.g., Bylaws, Administrative Orders, Directives), and to visually communicate the results of the analysis. The CEP Crosswalk can be used to assess alignment between documents, policies and regulations within an organization such as a municipality, between multiple organizations, or between multiple levels of government within a jurisdiction.

Starting with a series of established principles and objectives of effective climate and energy planning, the Crosswalk facilitates an analysis of the guiding

documents of relevant organizations to: (a) identify the current approaches to climate and energy-related issues; and (b) assess the degree to which they align with the established principles and objectives. These results can then feed directly into a subsequent stakeholder engagement process, highlighting interactions between organizations (and in the case of municipalities, between their constituent departments/business units) and creating opportunities for enhanced integration of policies across organizations. We will refer to the analytical method as the CEP Crosswalk *tool*, and the results generated for use in stakeholder engagement as the CEP Crosswalk *document*.

The CEP Crosswalk document serves as a discussion tool and a central clearing house – one that is evergreen in nature – where stakeholders can access and review information from different organizations during the CEP process, organized by thematic areas. The CEP Crosswalk has been developed for application in the field of climate and community energy planning. However, it is intended to be adaptable to other cross-cutting planning initiatives such as transportation, economic growth, or health care strategies. Indeed, more focused ‘crosswalk’ tools and templates are used to compare evolving standards within and between government organizations, including within Canada and the United States (Health Canada 2009; United States Census Bureau 2020; United States Environmental Protection Agency 2017).

This applied research paper will highlight the need for a climate and community energy planning tool to facilitate inter-departmental collaboration and stakeholder engagement, introduce and outline how to use the CEP Crosswalk tool, and present insights shared by practitioners at the Halifax Regional Municipality (HRM) and the Town of Oakville (Oakville) who have used the CEP Crosswalk to support their CEP initiatives. We propose that the CEP Crosswalk tool can improve an integrated planning process such as developing a CEP by: providing a framework for stakeholder engagement and collaboration, help stakeholders identify shared

values and common interests, help integrate climate and energy planning principles into the plans of multiple stakeholders, and reveal opportunities for new or ongoing collaboration on shared goals.

THE NEED FOR A SUPPORT TOOL FOR COLLABORATION IN COMMUNITY ENERGY AND CLIMATE CHANGE PLANNING

In Canada, municipal governments have direct control (through municipal operations) or exert some influence (through funding, policy, taxes, or regulation) over approximately 50% of national greenhouse gas emissions (FCM, 2015; Robinson & Gore, 2005). Municipalities are also exposed to the front lines of climate change impacts such as sea level rise, flooding, and heat waves. Indeed, with over 80% of Canadians living in urban areas (Statistics Canada, 2018), municipal governments must take leading roles in addressing climate risks from both adaptation and mitigation perspectives, and in managing the transition of their local energy systems.

Municipalities have significant capacity to effect transformational level climate action due to their large influence over decisions on infrastructure, transportation, waste management, and energy (Gustaffson et al., 2015; Romero-Lankao et al., 2018). Understanding the jurisdiction a municipality has and the authority it can exercise is important; it will define what a municipality can readily do in terms of its operations and from a regulatory perspective (Tozer, 2013). For example, regional transportation and energy projects can fall under the purview of provincial governments, and municipalities may not wield much influence from an operational or regulatory perspective; however, they may still hold influence as a key stakeholder.

Gaining clarity on the municipality’s jurisdiction early in the planning process by reviewing relevant planning, policy, and regulatory documents can help members of the planning team educate and establish a common understanding with community stakeholders and the public during consultation regarding the vision and scope of the CEP and identify areas where the municipality can be most

effective in advancing energy and climate adaptation and/or mitigation policies. On the other hand, it can identify areas where engaging higher orders of government to address certain goals may be a more effective approach (e.g., grid regulation, regional transportation).

The origins of community energy planning as an intentional practice go back to the early 1980s (Pitt, 2010), but started becoming more common at the local level throughout the 1990s (Neves, Leal, & Lourenço, 2015), primarily as a means for achieving incremental energy and GHG reductions (Pitt, 2010; Town of Bridgewater, 2018). Indeed, municipal CEPs underpin national and provincial policies to achieve GHG reductions, such as Canada's Pan-Canadian Framework on Clean Growth and Climate Change (ECCC, 2016) or Nova Scotia's Climate Change Action Plan (NSE, 2009), but also have important roles to play in supporting other societal goals such as increasing energy security, local resilience, and supporting development of clean technologies (QUEST, 2015a).

Community Energy Plans now often include focus on elements that are increasingly seen as co-benefits of a transformational change in the energy system, such as economic development, improved land use policies, and public health (Town of Bridgewater, 2018). These farther-reaching drivers/co-benefits of CEPs such as increased livability of urban spaces, improved air quality, and cost savings can be attractive to a broader diversity of stakeholders, helping to achieve greater buy-in (Tozer, 2013). These additional social, economic, and environmental considerations are common elements of Canadian CEPs (St. Denis & Parker, 2009) and are essential to help CEPs achieve broad support and create real movement toward a more sustainable society (Neves et al., 2015).

The CEP process involves engagement with stakeholders, typically both those internal and external to the municipality (St. Denis & Parker, 2009), including the large energy producers and/or consumers in the region (Gustaffson et al., 2015), and higher orders of government (QUEST, 2015b). Engaging with the right groups and communicating

efficiently is required for an effective process (QUEST, 2013). Without effective methods for engagement and communication, city-level governance on climate and energy can be siloed and uncoordinated, resulting in policies and plans driven by competing frames and having conflicting priorities (Romero-Lankao et al., 2018). Integration between a CEP and the municipal Master Planning Strategy, for example, is critical to avoid silos and ensure success (Huang et al., 2014).

In QUEST's (2015a) review of 50 Canadian municipal CEPs, alignment between the priorities of CEPs and other community planning documents was identified as a key to successful implementation. In a study of several Canadian municipalities implementing CEPs, Tozer (2013) found that collaboration between municipal departments was an important contributing factor to successful implementation (see also CIP, 2018). Including the experience and capacity of external stakeholders in the CEP planning process was also highlighted as a key to success. Many municipalities lack staff with significant experience in community energy planning (Tozer, 2013) and thus would benefit from a more collaborative planning process. This speaks to the fact that transforming energy systems involves more than a series of technical analyses and decisions; it is an integrated social process (Tozer, 2013). In the same study, some cities did have plans on the overlapping but distinct themes of energy, climate, and sustainability, but struggled to implement them as an integrated effort, emphasizing the importance of inter-departmental cooperation.

The Canadian Institute of Planners (2018) has endorsed a policy of collaborating across sectors to establish integrated, collaborative responses to climate risks, create shared dialogue, and avoid silos. However, work is still needed to connect municipal departments that may be siloed and to facilitate conversations about shared goals (Romero-Lankao et al., 2018). Methods for internal staff engagement are one of the most important types of decision support tools for CEP development in Canada (QUEST, 2015a). The CEP Crosswalk has

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been designed with these considerations in mind to support best practices in Canadian climate and community energy planning.

METHODS

This section will provide the reader an abbreviated description of the process used to generate the CEP Crosswalk and apply it to the CEP process in HRM, supporting development of HalifACT 2050 – Acting on Climate Together (HRM, 2020). The project was initiated under a partnership between HRM, Dalhousie University, and the Community Energy Knowledge-Action Partnership (CEKAP). The Crosswalk project was funded by CEKAP, and was conceptualized and developed by members of HRM’s core planning team, including municipal employees and a graduate student from Dalhousie University. The full CEP Crosswalk developer’s guide is available online (CEKAP, 2020).

This decision-support and stakeholder engagement tool is intended to help municipal representatives in the early stages of community energy planning to reveal, through document analysis, how municipal planning documents and stakeholder policies will affect the objectives of the CEP, and vice versa. Both the engagement process and the document are intended to be iterative and evergreen. The document addresses barriers to CEP implementation noted in the literature (CIP, 2018; Neves, 2015; Robinson & Gore, 2005; Romero-Lankao et al., 2018; Tozer, 2013) by supporting municipal intra- and inter-departmental communication, collaboration, transparency, and integration of both sustainability and CEP principles into policy documents and processes ‘owned’ by each team or department. Importantly, the CEP Crosswalk document also serves as a visual aide to quickly communicate the degree of alignment of existing

strategies, plans, policies, and practices with overarching climate and energy objectives (e.g., a corporate GHG mitigation goal, transportation efficiency targets, economic targets, community health outcomes, etc.)

As noted in the literature (e.g., QUEST, 2015a) integration between a CEP and key municipal plans is critical to ensure success. The CEP Crosswalk tool was formulated on this premise, drawing from examples of crosswalk approaches to compare and contrast similar standards or regulations, for example, in government and other organizations (e.g., BakerHostetler, 2021; ECQA Center, n.d.; Health Canada, 2009; Microsoft, 2020; US EPA, 2017; US Census Bureau, 2020). Notably, the CEP Crosswalk presented here builds on these standards- and legislation-focused crosswalk examples by adding a dimension for alignment of policy documents, etc., with key CEP principles. This is, to the authors’ knowledge, the first time such a novel crosswalk approach has been applied in a municipal community energy planning context.

Using the CEP Crosswalk tool did not require a detailed assessment or inventory of specific actions within each selected strategy, plan, policy or regulation. Often, specialist knowledge is required to identify and reason through the various implications of a particular action to the municipality’s climate or energy-related objectives. A closer reading of individual actions can be completed later as part of a more detailed planning process in collaboration with the appropriate subject matter expert(s), where required. The analysis presented herein focused on the alignment of the vision statement(s), and the guiding and/or operational principles that govern the actions of the strategy, plan, policy or regulation under review (Figure 1).

Figure 1. Directing Attention When Using the Crosswalk Tool.

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The Crosswalk was completed by following six main steps (Figure 2).

Figure 2. The Crosswalk Development Process.

Establish Guiding Principles: The process included a review of established principles of climate and energy planning put forward by groups like United Nations (2015), QUEST (2015a, 2013), and the Province of Nova Scotia (2011) and, using the team’s best judgment, selecting those that were appropriate to guide HRM’s development of a combined climate action and community energy plan. Guiding principles may also be developed by members of the core planning team, carried forward from previous municipal climate plans, developed through stakeholder visioning exercises, or some combination of the above as required to suit the scope and intent of a given planning exercise. In this instance, principles from HRM’s stand-alone 2007 CEP were also adapted and carried forward to ensure continuity with previous efforts and current municipal planning documents, including the 2014 Regional Municipal Planning Strategy and its policies which had been informed by those principles. Principles should reflect local needs, realities, and values, and therefore may vary by jurisdiction and/or the stakeholders engaged. Moreover, principles may be modified as the planning process moves forward, with principles being added, removed, or reformulated as necessary, and ultimately integrated into the larger

CEP Crosswalk document. These guiding principles form the analytical lens through which all strategies, plans, policies and regulations are evaluated.

Document Identification: A list of documents was created, composed of documents that were anticipated to have an impact on the community energy and climate-related goals encompassed by HalifACT 2050. A total of approximately 35 documents were compiled, including municipal plans, corporate policies, provincial and federal policies and regulations, municipal bylaws and Administrative Orders, existing energy- and climate change-related plans, and the policies of key energy stakeholders in the municipality. Reviewing all relevant documents was not realistic and it was appropriate to prioritize the list based on anticipated impact to the timely development and implementation of HalifACT 2050. A total of 20 documents were selected for analysis, focused on those originating within the municipality.

Document Analysis: A colour-coded Microsoft Excel table was created to record the results of the analysis (though any similar tabular software would suffice). Document names were listed one per row down the first column of the table, and guiding principles were listed as column headings in the top row of the table. This is referred to as the “Crosswalk Master Layout” and is intended to display the high-level results of the analysis. This layout resembles examples of other crosswalk tools (e.g., Health Canada, 2009; Microsoft, 2020; US EPA, 2017) given that the main criteria for comparison are arranged along the top row of the table.

Using a similar layout of rows and columns, a dedicated Excel sheet was also generated to provide additional detail for each document. Key statements identified in each document were then coded, according to how well they aligned with each guiding principle (Table 1). A “traffic light” colour scheme was used to visually depict the level of alignment between a particular statement and the overarching principle/objective, with red used to indicate contradiction at one of the spectrum, and green used to indicate agreement at the opposite

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CROSSWALK DOCUMENT		Mitigation & Community Energy Planning Principles								
		Original Goals of CEP (2016 Update)								Economic Development
Planning Principle		Improve Energy Efficiency of Buildings	Increase Transportation Choice and Efficiency	Increase Industrial Energy Efficiency	Encourage Energy Efficient Land Use Planning and Neighbourhood Site Planning	Increase Efficiency of Infrastructure	Increase Energy Security and Diversify Energy Supply	Educate and Engage Stakeholders & the Public	Demonstrate Local Government Leadership	Support Economic Development in HRM
	Plan Name									
Regional Plan	1. HRM Regional Municipal Planning Strategy									
Climate Plans	2. Corporate Plan to Reduce Greenhouse Gas Emissions 2012-2020									
	3. HRM Community Energy Plan									
	4. HRM Climate SMART Climate Change Risk Management Strategy									

Figure 3. Crosswalk Master Layout.

end. These individual codes were recorded on the dedicated Excel sheet for each document. Most documents contained multiple statements that were related to a given principle. Further observations by the Crosswalk analyst regarding implications of the statements, or what the document did *not* state, were also recorded in the dedicated Excel sheets. Each statement and/or analyst observation was entered into a new cell and coded separately, extending the column downward as necessary.

After the document was reviewed as described above, a key word search was completed to help identify statements in the plan that may have been overlooked. A short list of key words related to each principle was generated and used as a guide to conduct the search. For example, the words *stakeholder*, *public*, *engage*, *participate*, and *consult* were used as potential proxies for the principle “Educate and Engage Stakeholders and the Public.” Additional statements found that related to the principle were coded and added to the dedicated Excel sheet.

After completing the review of each document, the individual codes for each column were averaged using the analyst’s best judgment, and a single colour code, again based on a “traffic light” scheme,

was selected to represent the overall alignment of the document with each guiding principle. This single colour code was used to represent the summarized results in the Crosswalk Master Layout (Figure 3).

Table 1: CEP Crosswalk Colour Coding Scheme

LEGEND
Plan (reasonably) does not embody the principle
Plan contradicts principle
Plan does not embody or mention the principle, or is ambiguous
Plan supports the principle indirectly, or in a minor way
Plan explicitly supports the principle in its vision and actions

It is natural that not all documents should reflect all guiding principles. For example, a transportation plan may not be expected to “Increase Building Efficiency.” In such cases, the column was coded grey.

Interpreting Results: The summarized results displayed in the Crosswalk Master Layout offered insights at two scales. Firstly, the colours within the individual rows revealed the degree of alignment

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between a given document and the CEP principles. Mostly green cells indicated a strong alignment; mostly orange and red cells indicated significant room for improvement. Second, by scanning each column and reviewing the relative number of green vs. orange and red cells, it was easy to identify how well the individual principles were generally represented within the corpus of documents analysed.

Basis for Engagement: The CEP Crosswalk Document and a short memo summarizing key findings were distributed to members of the internal HalifACT 2050 steering committee to communicate the anticipated points of intersection between the HalifACT 2050 plan under development and existing plans within other departments. For example, by looking at the appropriate row in the Crosswalk Master Layout and the dedicated Excel sheet for the Transportation plan, staff from the Transportation department were able to see how their plan was poised to affect HalifACT 2050, and vice versa. They were then well positioned to offer feedback on the analysis. The discussion to further explore the relationship between the two plans had been initiated.

Continual Improvement: The Crosswalk was intended to be a living, evergreen document and be updated iteratively based on discussions occurring throughout the planning and implementation processes. In this instance, HRM stored it on a shared drive location in order that it be accessible to internal stakeholders. As updated revisions were posted, previous iterations were archived.

Going forward, principles may be added, removed, or modified by the core project team as required. Additional documents may also be analysed and added to the CEP Crosswalk. Codes applied during the initial coding process may be re-interpreted after further reflection or discussion with stakeholders and document owners. To ensure long-term maintenance of the CEP Crosswalk and related documents, a member of the core project team may be designated ownership of the tasks described above.

RESULTS

A CEP Crosswalk document was completed for HRM in the winter of 2018/2019 by the authors, near the beginning of the planning process for HalifACT 2050. Members of the CEP team at Oakville completed a CEP Crosswalk document in the summer of 2019 to support development of their Community Energy Plan. Below, we first discuss some of the high and mid-level findings generated by the HRM CEP Crosswalk, and then describe how the CEP Crosswalk was adapted to add value to Oakville's process.

Halifax Regional Municipality

For HRM, a total of 20 documents were analysed using the CEP Crosswalk tool. The CEP Crosswalk was generated using the method described above, focusing on alignment between the guiding principles and objectives of HalifACT 2050, and those of existing plans from other municipal units.

The first observation was that the subset of HRM municipal strategies, plans, policies and regulations reviewed were, generally speaking, reasonably well -aligned with the CEP principles selected to govern HalifACT 2050. Most documents analysed did not contradict the principles and objectives used to guide the analysis, but did show at least some opportunity to be better aligned with these principles/objectives as the documents are updated or replaced over time. The team was pleased to see that the 2014 Regional Municipal Planning Strategy (RMPS) contained implicit and explicit support for many of the principles and objectives shaping HalifACT 2050. Rationale for pursuing such principles, as identified in the RMPS, included increasing efficiency of infrastructure and buildings, adopting an integrated approach to land-use planning, and addressing hazards by increasing resiliency.

It was also identified that in several plans, climate-related implications were not actually considered explicitly. This could be observed by scanning the row in the Excel layout associated with a specific plan, and noting the relatively few green-coded

cells, and more yellow and orange-coded cells. The opportunity to improve in these areas was noted. These notes will be useful when collaborating with other departments (such as transit or waste management) on action planning later in the process.

The analysis revealed that existing municipal climate and energy-related plans did not emphasize economic development as part of their strategy. This was identified as a possible shortfall of previous approaches and an opportunity for improvement within the current process. HalifACT 2050 intends to emphasize the economic benefits of a CEP in order to generate broader buy-in and collaboration, and directly confront the notion that climate action and economic development are a zero-sum game.

The CEP principle “Observe the Precautionary Principle” was represented throughout some documents, including the RMPS, but not explicitly well-represented in several other of HRM’s plans. This was noted by scanning the column for that principle within the Crosswalk Master Layout, and observing only a few green-coded cells, with several more yellow and orange-coded cells. Most plans seemed to either not embody the principle or were ambiguous on it with respect to their policies. This observation generated useful discussion amongst the planning team over what the precautionary principle would look like as exhibited in the policies and actions of a transportation or waste-management plan. The authors realized that this had probably not been considered previously. The answers were not immediately clear, but reading the region’s plans using that principle as a lens allowed the authors to formulate new questions and begin to sketch an answer. Similarly, the principle “Distribute Costs and Benefits Equitably” was considered explicitly in only one of HRM’s plans; only one cell in the column was coded green. This suggested to the team that a shift in societal values had not yet been explicitly reflected in the region’s policies, and that HalifACT 2050 would be a good opportunity to exhibit leadership in this

regard. A column of yellow and orange cells can draw attention to a policy blind spot.

The analysis also offered some more concrete findings that will be valuable in generating actions for HalifACT 2050. One of the guiding principles carried forward from HRM’s 2007 CEP is “Increase Industrial Energy Efficiency.” The HRM RMPS describes an intent to develop business parks in the region, but the Crosswalk analyst observed that there was an opportunity to pursue renewable energy or energy efficiency projects (such as district heating) in conjunction with the business park development that was not mentioned. A note was made in the individual Excel sheet for the RMPS and the appropriate cell was coded orange: “Plan does not embody or mention the principle, or is ambiguous” to draw attention to this opportunity and flag it for later discussion with the broader planning team.

HRM’s 2016 public transit plan, the “Moving Forward Together Plan” was reviewed. The plan outlines four guiding principles that are focused primarily on provision of improved transit service. With respect to the CEP principle “Increase Energy Security and Diversify Energy Supply,” the 2016 public transit plan does not consider the impact of changing fuel prices/availability, or the prospect of electrification or alternative fuel use in transit vehicles. The results of the word search revealed that the word “fuel” does not appear in the document. The plan does not focus significantly on emissions reductions, but the word “emission” appears once, where the plan notes that an increase in Park & Ride (i.e., carpooling) facilities may help to reduce the number of vehicles on the road and therefore cut emissions (Halifax Transit, 2016). The opportunity to collaborate with Halifax Transit to avoid path dependency of diesel engines by investing in a diversity of vehicle types, such as natural gas, ethanol, or electric-powered, and by purchasing sustainably-produced biofuels for its fleet, was noted. The plan does align well with the CEP principle of “Educate and Engage Stakeholders and the Public,” having carried out a 10-week stakeholder engagement process and

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allowing direct stakeholder collaboration in forming the plan's mission statement. In the dedicated Excel sheet for the Plan, these details were noted, and a page reference for the Plan was provided should the HalifACT 2050 team desire more detailed information about the stakeholder engagement process that was undertaken.

Prior to distributing the CEP Crosswalk document to all internal stakeholders, a draft was reviewed by staff from the municipal departments responsible for implementing each of the plans and strategies reviewed. A specific period for feedback and revisions was provided, with reminders. This validation step served not only to ensure the document's accuracy, but also to reinforce ongoing interdepartmental engagement in the CEP process, as well as the concept of "shared ownership" over municipal climate and energy-related goals. Notably, the greatest response was from staff in departments with a more direct focus on municipal plans and planning policies. Staff from operational departments either failed to respond in the allotted period, or responded with no revisions.

The Town of Oakville

Oakville completed stakeholder engagement in three stages over the course of 2019 in support of its CEP process. According to a member of the Climate Action team interviewed for this paper, the first stage was to provide stakeholders with introductory and background information related to the CEP (called "Inform"), second was identify and engage with existing policies that are relevant to the development of the CEP ("Involve"), and third was to identify policy gaps, generate language that the CEP would use to address those gaps, and propose the solutions to stakeholders ("Consult") (D. Ergun, personal communication, November 26, 2019).

The second stage of consultation, "Involve," identified relevant policy statements that would affect the CEP development process. The Crosswalk was used to analyze four documents: the Conservation and Demand Management Plan, the Official Plan, and the Northeast and West Secondary Plans. The Crosswalk tool was modified

slightly by using the strategic objectives identified for Oakville's CEP to form the analytic lens, rather than the CEP planning principles identified by the authors and used by HRM. Relevant plan statements were copied into the individual Excel sheets to provide a condensed summary of important material, and the colour coding offered readers a quick interpretation of the implications of those statements.

The completed Crosswalk was used to generate a results memo that was distributed amongst the project team in order to efficiently communicate a summary of relevant statements, without team members having to peruse inherently long and complex documents. The CEP team is being led by professionals with science and engineering backgrounds, and the Crosswalk was found to be useful in concisely delivering relevant information that is otherwise couched in the somewhat specialized and technical vernacular of planners (D. Ergun, personal communication, November 26, 2019). This allowed members of the broader project team to quickly come up to speed with respect to the municipal policy implications of developing the CEP. The team found value in this condensed summary of planning statements that allowed them to quickly become oriented in the municipal policy framework (D. Ergun, personal communication, November 26, 2019). The results were promising, indicating that Oakville does indeed have strong existing policy support for the strategic objectives of the CEP. However, they also identified a gap between supportive language in the official plan and a lack of concrete action in the community. This raised the question of why these planning objectives have not yet been put into action, initiating an analysis of local barriers to implementation and furthering the dialogue on climate and energy-related action in Oakville.

DISCUSSION

The analyses described above focused on internal planning documents. The CEP Crosswalk documents produced were shared with members of internal stakeholder committees, which included members of various municipal departments/

business units. In HRM the CEP Crosswalk has, and will continue to be used to frame conversations around how municipal departments can work together to achieve their respective goals. For example, at the time of writing, the 2014 RMPS is undergoing its 5-year review. The HalifACT team intends to use the CEP Crosswalk document to help communicate how changes and updates to the RMPS may be poised to affect their climate and energy objectives. The results have also been shared with other municipal departments, which has helped them to see how their operations are connected to climate change and community energy planning.

Canadian municipalities are trending away from CEPs that focus on execution of isolated energy-related projects, and moving towards CEPs that seek integration of CEP principles into policy and decision making across the organization (Tozer, 2013). Many municipalities are relatively inexperienced in implementing such integrated CEPs and would benefit from a structured way to administer cross-departmental communication and stakeholder collaboration (Tozer, 2013). The CEP Crosswalk tool described in this paper offers such a method, supporting municipalities in identifying and analysing the organizational policies that will be relevant to CEP planning and implementation. Documents belonging to external stakeholders may add value to the process by expanding the planning context beyond the municipal organization out into the community. A natural next step would be to assess alignment with planning and policy documents from higher orders of government.

Integrating CEP principles across the municipal organization is an inherently interdisciplinary exercise and requires effective communication, and maintaining continuity and engagement of a busy cross-departmental team, many of whom are not focused directly on climate and energy-related matters. Lack of familiarity with the relevant policy materials, and difficulty perceiving the intersections between climate and energy-related matters and a given department's focus (e.g., finance), can be barriers to effective participation of some teams and their respective members. But these barriers are not,

and should not be seen as insurmountable. The CEP Crosswalk can support effective cross-departmental communication and engagement by offering a digestible summary of the policies within the municipality's planning documents, thereby making it easier for team members to become (and remain) informed, and to actively participate. It may also minimize the potential disruption caused by the turnover of core staff in a given department by making it easier for a new staff member to become informed.

The difference in engagement of staff in planning-oriented departments, compared to staff in operational departments during revisions to the HRM CEP Document, may provide an important signal regarding the CEP Crosswalk document's overall accessibility. That is to say, municipal staff more directly tasked with thinking about the scope and application of different policies, may more readily see a role for themselves, and their particular expertise, in such a CEP process. There is also the very real possibility that staff, including managers, in operational departments are simply too busy being focused on the efficient operation of various municipal services to engage in such a policy-focused consultation. The authors did not follow up on either of these observations to explicitly test these hypotheses, and these may be valuable questions for future research.

Financial restrictions have been a challenge for many municipalities in Canada attempting to implement climate strategies (Robinson & Gore, 2005). Distributing ownership and responsibility of climate and energy-related actions across municipal departments also distributes the cost, alleviating budgetary and staffing constraints and making implementation less vulnerable to changes in funding to a single department. The Crosswalk is intended to help facilitate this implementation strategy by achieving buy-in from other municipal departments early in the process and highlighting opportunities for their operations to support the CEP.

Part of the intent behind the CEP Crosswalk is that the exercise eventually precipitates conversations

not only around how the specific policies of each department interact, but also about the priorities and values driving those policies. The CEP Crosswalk tool seeks to create a transparent and inclusive process by: (a) explicitly stating and sharing the values, visions, and principles that are driving the development of the CEP, and (b) identifying the same in the plans of other municipal departments or energy stakeholders in the region, and then bringing the two together. Documenting the drivers of the CEP and other planning documents may help staff members to better understand the social context of their organizations and the motivations of the leaders within it.

Understanding the underlying visions, guiding principles, and values that drive the actions of a municipal department can reveal some of the cultural/behavioural barriers to climate action (Burch, 2010a) that can exist within organizations. For example, perhaps a CEP Crosswalk document reveals that a municipal department's leadership has not been considering climate or energy goals in its operations, and is focussed solely on providing quality of service. Reaching across departmental boundaries with a demonstrated attempt to understand others' priorities can only enhance opportunities for cooperation (*sensu* Kotter & Rathgeber, 2016). It can also highlight previously overlooked areas for alignment with climate and energy goals, including opportunities to improve the cost effectiveness of operations and/or improve community well-being through energy efficiency initiatives. The Crosswalk document may reveal shared aims that translate into new opportunities for municipal departments or even external partners to collaborate on climate and energy actions. Leadership that spans municipal departments is one of the most effective facilitators of climate action (Burch, 2010b).

This understanding may be even more valuable when engaging external stakeholders, whose cooperation is vital for successful implementation of a CEP (Gustaffson et al., 2015; QUEST, 2015a). The values and organizational culture of external stakeholders such as a large industrial energy

consumer may be quite different than a municipality's and shared understanding will be important to foster shared action and accountability. The Canadian Institute of Planners (2018) supports collaboration across sectors to create an integrated response to climate risks, create shared dialogue, and avoid silos. The Crosswalk process invites this cooperation by laying the groundwork for a dialogue about the relationship between the values and goals of the respective organizations, and how these translate into action.

Linear planning processes tend to produce planning "products" that sit on shelves (Gustaffson et al., 2015). Like a good CEP or climate action plan, the CEP Crosswalk is intended to be a living document subject to cyclic revisions (Figure 2). When municipal plans from other departments are due to be updated, the CEP Crosswalk's stored summary of standing issues can ensure that CEP principles are considered during the update cycle. This timing ensures that discussions with planning teams from other departments are most likely to be fruitful. The design of the Crosswalk is also intended to be flexible and scalable. As mentioned, Oakville simplified their analytic lens by using the relatively smaller number of strategic objectives that structure their CEP, and that worked for them. Adjusting the Crosswalk into a tool designed to suit local purpose should improve its usefulness and is encouraged.

CONCLUSION

Developing a CEP is sometimes about doing "what works", and the CEP Crosswalk has been designed to offer a flexible approach that will work in a variety of contexts. It addresses barriers to CEP implementation noted in the literature and described above (CIP, 2018; Neves, 2015; Robinson & Gore, 2005; Romero-Lankao et al., 2018; Tozer, 2013). Used as intended, it has the potential to improve the community energy planning process in a variety of ways, some more obvious and some more subtle, as discussed above. As seen in the two examples presented in this paper and given the variability in local approaches to municipal planning, it is likely that results of implementing the Crosswalk will vary by jurisdiction. We believe that the Crosswalk's

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potential to support and improve planning processes is greater than can be demonstrated by the results presented of the two cases above, which are still early in their planning processes. Its main contributions to the CEP process that we anticipate will be generalizable across jurisdictions are to:

- Highlight specific opportunities for municipal departments and external stakeholders to clearly identify and collaborate on shared goals;
- Help integrate community energy and climate planning principles across the municipal organization; and,
- Facilitate improved quality and quantity of stakeholder engagement between municipal departments and with external stakeholders, including conversations about shared values and goals;

For these contributions to be realized, appropriate staffing is essential. The CEP Crosswalk is intended to be highly collaborative and different approaches to its use may be effective; however, we believe it works best when managed closely by a dedicated task owner. A core member of the CEP team could complete the initial analysis and be responsible for communicating results and managing updates.

We believe the potential for the tool to improve planning processes is significant. For maximum effectiveness, we emphasize that the CEP Crosswalk must not be considered a community energy planning product, but rather a foundational part of the community energy *process*.

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