ADVANCING COMMUNITY ENERGY PLANNING ALIGNMENT & IMPLEMENTATION FRAMEWORK

QUEST

Pollution Probe

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

QUEST Canada is a national non-profit that supports communities in Canada on their pathway to net-zero. Since 2007, we've been facilitating connections, empowering community champions and influencing decision-makers to implement efficient and integrated energy systems that best meet community needs and maximize local opportunities. We develop tools and resources, convene stakeholders and rights holders and advise decision-makers — all with the goal of encouraging and enabling communities to contribute to Canada's net-zero goals.

Pollution Probe is a national, not-for-profit, charitable organization which is improving the health and well-being of Canadians by advancing policy that achieves positive, tangible environmental change. It is a leader in building successful partnerships with industry and government to develop practical solutions for shared environmental challenges.

1. THE ROLE OF STAKEHOLDERS IN IMPLEMENTING CEPS

Due to increasing concern over climate change and the rapid pace of the energy transition, many Ontario municipalities are developing Community Energy Plans (CEPs) or Climate Action Plans (CAPs)[1] to chart a course of action. These plans are transformative, often envisioning unprecedented shifts in how energy is generated and how it is used in virtually every aspect of community life: how we live, work, travel, learn, and play.

The challenges and barriers facing CEP implementation are similarly daunting – not least among them being the need for all sectors of a community to contribute. Although municipalities are drivers in the development of CEPs, they have direct authority and control over only a small portion of community emissions and energy use and cannot implement these transformative plans on their own. Virtually all sectors and stakeholders of the community have roles to play in the implementation of a plan that re-envisions energy generation and use on a community-wide scale.

> **Aligning stakeholders to implement CEPs in Ontario will help reduce energy planning siloes, where electricity, gas, and transportation are considered separately. This will improve energy planning implementation not only at the community level, but also at the regional and provincial levels.**

The CEP Alignment and Implementation Framework provides an integrated approach that communities can employ to engage and align the efforts and objectives of all relevant stakeholders in order to unlock opportunities for achieving community energy and emission goals and support municipalities in the transition to net-zero. The Framework aims to improve the prospects and mechanics for CEP implementation, ensuring that resources are targeted at initiatives that have strong support, will provide substantial benefits, and address broad community priorities. The Framework is intended to assist all CEP stakeholders by providing clarity on where their contributions should be directed to most effectively meet their own objectives, along with those of the broader community.

This Framework was developed by Pollution Probe and QUEST Canada, based on research on Community Energy Plans as well as interviews with key stakeholders in Ontario communities. While the Framework is laid out in a linear fashion, with later sections building on previous ones, communities are free to employ those aspects of the Framework that address their own areas of particular need or relevance. See the following section, How To Use This Framework, for more information.

---

[1]As time goes on, more cities are switching from developing Community Energy Plans to Climate Action Plans (CAPs). However, while the focus in CAPs is more on climate change, the content and actions in CAPs are similar to CEPs. For this document, we'll be using CEP as a catch-all term to cover both types of plans.

AnyCity

As you proceed through the Framework, you'll continue to come across AnyCity, Ontario, used as an example to guide municipalities through information that could be considered useful in each module. AnyCity, a fictional amalgamation, is a mid-sized, single-tier municipality. Electricity in AnyCity is supplied by a municipally-owned Local Distribution Company (LDC) and most of its buildings are heated by natural gas supplied by Enbridge Gas, the Province's largest gas distribution utility. AnyCity's economy consists of a mix of service sector and a single large industrial facility. Public transit and active transportation infrastructure, while available, are not significantly developed. AnyCity recently completed a Climate Action Plan in which energy is a key component. AnyCity has strong council support for CAP implementation. Key stakeholders were invited to give feedback on the draft plan and were also invited to sit on an advisory committee that will help guide its implementation.

THE CEP ALIGNMENT AND IMPLEMENTATION FRAMEWORK

CEP Elements

Revisit the framework as circumstances change and implementation progresses.

Priority Identification

Determine which CEP objectives should be prioritized to improve efficiency and effectiveness of plan implementation.

Ongoing Improvement and Maintenance

Revisit the framework as circumstances change and implementation progresses.

The Function of the Coordinator

Determine which organization or entity is best suited to play the role of CEP coordinator.

Sectoral Strategy Development

Engage stakeholders in developing new strategies that can achieve CEP objectives.

Stakeholder Identification, Mapping, and Roles

Identify the stakeholders who can drive CEP implementation, how they can contribute, and the roles they are best suited to play.

Figure 1. Framework Structure

The Framework's modules are organized as a linear series: the first identifies and helps organize foundational elements of the CEP, while later modules build upon these foundations to provide more focussed guidance.

However, communities need not proceed through the Framework in a linear fashion; communities can consider and action appropriate modules independently based on their needs and interests.

2. HOW TO USE THIS FRAMEWORK

This Framework is intended to assist communities who have an existing CEP, or have reached a point in its development that the macro goals (see Section 3) have already been identified.

> **Ideally, stakeholders with key roles in CEP implementation are identified early and engaged in the development of the plan with those roles in mind. Integrated planning processes like QUEST Canada's Net-Zero Community Accelerator and resources like the Tamarack Institute's Collective Impact Toolkit can help communities develop outcome-focussed and implementation-ready CEPs.**

PROCESS

The Framework is structured as a series of modules that can help identify and engage community stakeholders to drive the successful implementation of a CEP. Each module provides an overview of its purpose and key considerations, and includes an exercise (or set of exercises) and related worksheet to help action it.
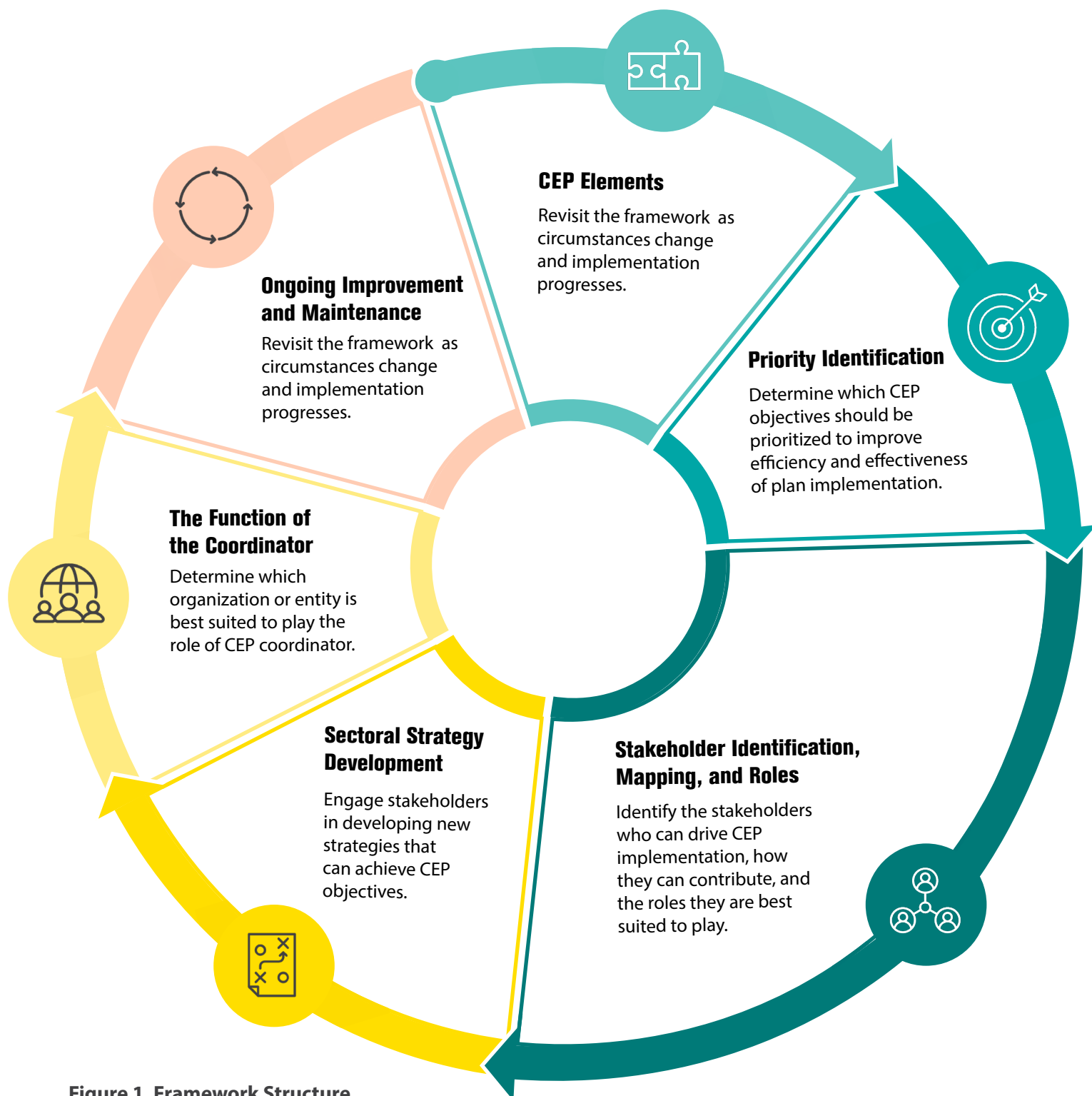
The Framework's modules are organized as a linear series: the first identifies and helps organize foundational elements of the CEP, while later modules build upon these foundations to provide

more focussed guidance. However, communities need not proceed through the Framework in a linear fashion; communities can consider and action appropriate modules independently based on their needs and interests.

Finally, communities are free to take the Framework's modules and related exercises, and the results they generate, and use them as they see fit. The modules can help to provide food for thought, help guide and illustrate the results of collaborative deliberations and thought exercises, or provide determinative and actionable outcomes.

WORKSHEET

A Google worksheet template has been created to help guide and structure many of the exercises in this Framework. The worksheet is a single file with tabs applicable to each module, coded by colour:

CEP ELEMENTS

CEP Elements ▾

COORDINATOR FUNCTION

Coordinator Location Criteria ▾

Coordinator Location ▾

STAKEHOLDER IDENTIFICATION, MAPPING AND ROLES

Stakeholder ID ▾   Stakeholder Gap ID ▾

Stakeholder Characterization ▾

Stakeholder Mapping ▾

Stakeholder Role ID ▾   Stakeholder Mapping ▾

PRIORITY IDENTIFICATION

Prioritization Criteria ▾

Prioritization ▾

Priority Scoring ▾

> A blank template of the worksheet can be created by clicking the link below:
>
> **https://docs.google.com/spreadsheets/d/1bs8GH6aFZ2g8tOHVIVMzi73eLv49gQHHJDI_UnzFGZ8/copy**

Note: Instructions and tips on using appropriate sections of the worksheet are included at the end of each section.

By clicking the link, you will become the owner of the worksheet created. Many of the worksheet's cells include formulae and dependencies – these are protected from alteration, but as the owner, you will be able to change them by disregarding the warning should you wish to do so.

Each tab of the worksheet has a "notes and comments" section which can be used to collect any notes, ideas, questions, or comments you have while working through the relevant module. These sections are highlighted in yellow and can be found towards the bottom or right-hand side of the work area of the sheet.

While we have not specifically called out the crucial role of the public, public engagement in the development of any community plan is imperative.[2] Communities looking for resources on effective public engagement around plan development are advised to refer to Pollution Probe's Energy Ambassadors program.[3] Despite the public not being explicitly called out as a key stakeholder in this Framework, their ongoing support will be crucial to the successful implementation of the CEP.

3	CEP Goal(s):			
4	Sector	Sub-Sector	Objectives	Priority?
32	Planning + Policy	Other		
33	Governance	Monitoring and Evaluation		
34	Governance	Data		
35	Governance	Funding		
36	Governance	Staffing / Capacity		
37	Governance	Other		
38	Misc.	Other		
39				
40	Notes:			
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				

CEP Elements ▾

Figure 2. Notes section at the bottom of a worksheet

Worksheets can be completed by the individual tasked with coordinating or facilitating group engagement in the exercises. This can be done by gathering input from participants in a group exercise or by aggregating information from individual worksheet files completed by members of the group.

[2] Cleland et al. (2016). A matter of trust: the role of communities in energy decision making. Canada West Foundation and University of Ottawa. https://www.uottawa.ca/positive-energy/sites/www.uottawa.ca.positive-energy/files/mattertrust_report_24nov2016-1_web.pdf

[3] https://www.energy-exchange.net/improving-community-engagement-on-energy/

3. CEP ELEMENTS

Before stakeholders' resources and interests can be aligned with the CEP, certain elements of the plan – along with the relationships between them – need to be identified. This section of the Framework seeks to clearly define and relate those core elements.

Elements below the "marco goals" level may exist outside of the formal CEP, but alignment and relationships between them should still be clear and explicit:

MACRO GOALS

GOAL

The goals of the CEP are the broad, long-term outcomes it was developed to achieve. Goals provide overarching direction for the CEP and help a community illustrate its vision for the future as well as the key milestones that are necessary in order to achieve success. These will likely relate to energy and emissions, but can also reflect other priorities of a community. Example CEP goals might include reducing emissions, improving community resilience, and spurring economic investment and development.

OBJECTIVES

Beyond these high-level goals, the CEP will include more defined, sector-specific objectives that, when combined, will enable the community to reach its CEP goal(s). Examples of objectives may include increased building energy efficiency levels, increased amounts of energy generated from local renewable resources, mode-share shifts towards active and sustainable transportation, etc.

TARGETS

Objectives should be linked to concrete, time-bound targets, so that efforts to achieve them can be monitored and evaluated. Progress towards targets should be measured and reported on at predetermined, regular intervals. Reporting is important not only for accountability purposes, but also to provide opportunity to assess the effectiveness of related strategies.

SECTORAL STRATEGIES

STRATEGY

Sectoral strategies are the projects, programs, policies, plans, and/or pathways aimed at achieving the objectives of the CEP. The development of these strategies will involve consideration of a number of factors, including the resources and timeframe available, the scope and scale of the change or progress needed, the existence of successful models or best practices, etc. For example, strategies for achieving objectives related to building energy efficiency might range from raising awareness of existing, high-impact programs to a receptive audience, to the development and implementation of a retrofit financing program supported by mandated and enforced minimum performance-standards under less favourable circumstances. Ideally, the scope, scale, and speed of a strategy should be calibrated to achieve the target associated with the relevant CEP objective.

ACTIONS /ACTORS

Once identified, strategies can be broken down into (early-stage) actions. Though these actions may not be explicitly identified in the CEP, they will need to be identified before implementation can begin. Actions are defined, concrete steps or projects, and should have clear outcomes, or deliverables, as well as timelines. For example, developing a new program might start with conducting a jurisdictional scan to identify best practices, or a feasibility study to assess the practicality and implications of a particular model.

OUTCOMES

PARAMETERS

Sectoral strategies should anticipate and identify the actors who will be involved in their development and/or implementation. Actors who are integral to achieving a particular CEP objective because of their roles in the sector may not have been stakeholders involved in the creation of the CEP. For example, building owners, developers, and tenant associations could provide crucial input into the development of a pilot program focussed on building efficiency upgrades. Some of them may have been involved in the preparation of the CEP, but gaining greater and broader buy-in during the creation and implementation of the sectoral strategy can only improve both the strategy and its acceptance by stakeholders.

TIMELINE

Figure 3. CEP Elements

A CEP that includes all of these linked elements satisfies the criteria of a SMART plan, which is defined by meeting the following conditions:

SPECIFIC | Strategies are well defined and appropriate for their sector

MEASURABLE | Objectives are attached to or expressed as targets or milestones

ACHIEVABLE | Objectives are agreed, understood and articulated in terms that will enable the necessary preconditions for their achievement

RELEVANT | Strategies and actions relate to the overarching goals and objectives of the CEP, along with other community priorities and interests

TIME BOUND | Strategies have schedules, timelines, or are broken into steps or stages

The green tab of the Framework Worksheet can help organize key elements of the CEP and help identify any gaps that may need to be addressed. Common sectors and sub-sectors are pre-identified, but additional sectors can be added by inserting rows and adding information to the relevant cells. Fill in as many cells as possible. As cells are populated with data and information they'll turn green to showcase that the relevant element is captured by the CEP or complementary plans. Towards the end of the exercise, remaining blank cells can illustrate elements that are not clearly or explicitly addressed in the CEP, which may represent gaps to be filled in order to ensure a comprehensive plan.

CEP Goal(s):						
Sector	Sub-Sector	Objectives	Priority?	Targets	Strategy	Actions
Buildings	Municipal	Net zero by 2050	Yes	30% reduction by 2030		
Buildings	New	Net zero by 2050	Yes	Net zero building standard by 2035		
Buildings	Residential	Deep energy retrofits	Yes	50% of residence to undergo retrofit by 2050		
Buildings	Commerical					
Buildings	Institutional / Industrial					
Buildings	Other					
Industry	Equipment and process					
Industry	Other					
Transportation	Municipal (Fleet)					
Transportation	Planning					
Transportation	Active	Promote cycling	Yes	50% of trips under 5km by active transportation by 2035	Develop bike lanes	

CEP Elements ▾

Figure 4. AnyCity CEP Elements Worksheet Tab

AnyCity's council declared a climate emergency, and a CEP was developed to chart a plan of action. The plan has a high-level goal of reducing the community's contribution to global climate change. AnyCity's community GHG emissions inventory identified on-road transportation as the community's largest source of emissions. Because of this finding, the plan includes an objective of electrifying all vehicles with the community, setting interim and sectoral targets and dates, and identifies an Electric Mobility Strategy as the means of achieving the objective. After adding this information to the CEP Elements table, the advisory committee notes that the plan has not yet designated anyone to lead the development of the strategy, illustrating a gap that will need to be addressed.

AnyCity

4. PRIORITY IDENTIFICATION

The CEP should identify objectives within each of the sectors that contribute (or are necessary precursors) to achieving its overarching goal(s). Not all of the plan's objectives should be pursued simultaneously and equally, but they should be addressed strategically. While external opportunities and circumstances will often influence implementation, prioritizing CEP objectives effectively and intentionally can help streamline attention, efforts, and resources, and can have a significant impact on the overall success of plan implementation. Reviewing priorities at regular intervals can facilitate progress on objectives by identifying stalled initiatives and changing circumstances that may require a modification of approach.

1

CHAMPION

Is there a (strong) champion for the objective within the municipality or broader community?

2

ECONOMIC DEVELOPMENT / RETURN ON INVESTMENT

What kinds of positive economic development impacts (attracting investment, creating jobs, keeping energy dollars in the local economy, etc.) could result from achieving the objective? How closely do these positive impacts support community needs and priorities?

3

EQUITY

What level of benefit could advancing or achieving the objective achieve for sectors of the community most vulnerable or in need of support?

4

EXTERNAL SUPPORT

What level of external opportunities and resources (programs, funding, technology, policy alignment, etc.) exist to support potential strategies that can achieve the objective?

5

MARKET READINESS

What is the state of interventions that could achieve the objective? Are there well established best practices that the community can implement? Or are foundational ideas still being worked out with studies or pilot needed or currently underway?

6

MUNICIPAL INTEREST

What is the current level of interest among municipal actors, including decision makers and staff and departments who are instrumental to implementing the strategy and achieving the objective?

7

POLICY ALIGNMENT (INTERNAL)

How aligned is the objective with (other) community interests and priorities, such as economic development or energy poverty reduction. as expressed in the community's adopted plans, strategies, and policies? Such synergies can help secure support and resources.
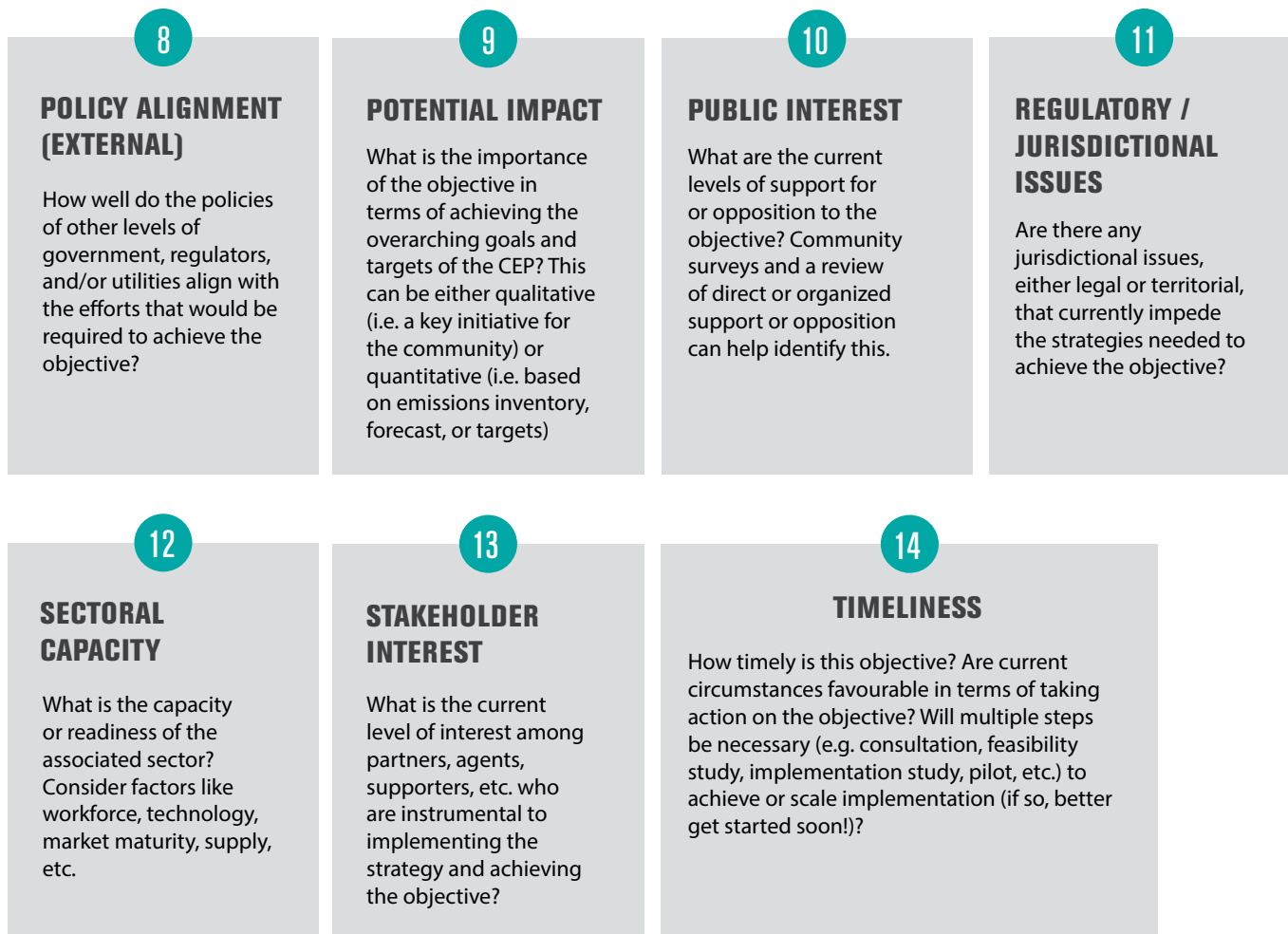
8

POLICY ALIGNMENT (EXTERNAL)

How well do the policies of other levels of government, regulators, and/or utilities align with the efforts that would be required to achieve the objective?

9

POTENTIAL IMPACT

What is the importance of the objective in terms of achieving the overarching goals and targets of the CEP? This can be either qualitative (i.e. a key initiative for the community) or quantitative (i.e. based on emissions inventory, forecast, or targets)

10

PUBLIC INTEREST

What are the current levels of support for or opposition to the objective? Community surveys and a review of direct or organized support or opposition can help identify this.

11

REGULATORY / JURISDICTIONAL ISSUES

Are there any jurisdictional issues, either legal or territorial, that currently impede the strategies needed to achieve the objective?

12

SECTORAL CAPACITY

What is the capacity or readiness of the associated sector? Consider factors like workforce, technology, market maturity, supply, etc.

13

STAKEHOLDER INTEREST

What is the current level of interest among partners, agents, supporters, etc. who are instrumental to implementing the strategy and achieving the objective?

14

TIMELINESS

How timely is this objective? Are current circumstances favourable in terms of taking action on the objective? Will multiple steps be necessary (e.g. consultation, feasibility study, implementation study, pilot, etc.) to achieve or scale implementation (if so, better get started soon!)?

Figure 5. CEP Objective Prioritization Criteria

Review the criteria provided, select the ones that are relevant, and discuss any others that should be included. Laying out the criteria to be employed, and their relative weight (they need not be considered equally) can ensure they are assessed consistently, transparently, in line with community values, and within their broader context. The first blue tab of the Framework Worksheet can be used not only to determine which criteria to use to prioritize CEP objectives, but also to assign their relative importance or weight.

Working with stakeholders during the CEP action planning stage to identify and set priorities

democratically, collectively, and transparently has a number of potential benefits, including the following:

- Increasing stakeholder buy-in and ensuring comprehension and cohesion.

- Bringing additional perspectives to the prioritization exercise, ensuring that thinking is corroborated, assumptions are tested, and gaps are more likely to be identified.

- Providing an early opportunity for stakeholders to self-identify, and identify any resources they can provide.

The blue tabs of the Framework Worksheet can be used to structure a group prioritization exercise. If the CEP Elements tab has been completed, the relevant tab will self populate with CEP objectives to prioritize. This will help prompt discussion of objectives in terms of the relevant criteria and priority ranking, from high to low. Research prior to or after a first round of discussion can help inform rankings, but you can leave some as "uncertain" and come back to them later. This table will generate a score for each objective based on how it was ranked in terms of the relevant criteria. Note that this exercise is meant to be illustrative, not conclusive; it is up to the CEP's governance body with decision making authority over the CEP to make an informed decision as to which objectives should be prioritized and resourced guided by the outcomes of an exercise such as this one, along with factors and considerations important to the community it may not capture.

Once the CEP priorities have been identified and agreed upon, priority objectives should be set out explicitly to guide strategy development, resourcing, and implementation. The outcomes of the prioritization exercise can also suggest follow-up actions, including:

- Advocacy for external policies, opportunities, or resources necessary to support efforts to achieve CEP objectives.

- Amending or updating a community plan, policy, or strategy to align with the CEP.

- Reconciling high and low rankings for particular objectives to understand and address tensions, revisit framing, explore alternatives, etc.

AnyCity

AnyCity's advisory committee met to undertake an objective prioritization exercise for their CEP. With a strong interest in getting implementation underway, they chose Stakeholder Interest, Internal Policy Alignment, and the presence of a Champion as their judging criteria, all weighted equally. Based on their municipally-owned LDC's interest in and willingness to take the lead on the installation of EV charging systems, objectives related to zero-emission vehicles scored highly.

5.1 STAKEHOLDER IDENTIFICATION

As established in Section 1, virtually all sectors and stakeholders of the community should play a role and take an interest in the implementation of the CEP. Before digging into the interconnections between stakeholders and CEP objectives, it is crucial to ensure that all relevant stakeholders have first been identified and engaged. Stakeholder types relevant to CEPs typically include the following:

Other levels of government (regional, provincial, etc.)

Funders

Local energy utilities

Champion business and community groups

Energy service providers

Developers

Other energy stakeholders (such as system operator)

Civic institutions (educational, cultural, faith-based, etc.)

Large energy consumers (such as industries or large property owners)

Experts, advisors, and academics

Advocacy groups and ENGOs

Associations and networks (such as the local chamber of commerce)

Relevant municipal departments, agencies, or corporations

Organizations that represent the public (e.g. citizen assemblies, neighbourhood associations, homeowners associations, etc.)

Figure 6. Stakeholder Types

Stakeholders are often identified and engaged or consulted leading up to the development of the CEP. However, even after the CEP has been developed, it is worth revisiting your list of stakeholders in order to carry out the following:

- Identify any gaps that may impact or hamper implementation.

- Engage stakeholders who may not have been relevant to or interested in developing the plan.

- Determine whether the goals, objectives, and strategies that emerged during the development stage revealed new groups that were previously missed or unanticipated.

14

The orange tabs of the Framework Worksheet can help identify CEP stakeholders and guide communities through the related exercises. Once the CEP Elements tab of the Framework Worksheet has been completed, this table will be pre-populated with those stakeholders or actors identified therein as "leads". In order to accurately identify stakeholders, the CEP should be reviewed at the Objective or Sectoral Strategy level, as unique stakeholders may be involved in individual sectors. For example, for transportation-related strategies, an initial list can be populated with stakeholders from the transportation sector involved in the development of the CEP. Avoid characterizing stakeholders too broadly/generically, as it will make implementing subsequent sections of the Framework more challenging. Try to be comprehensive, pinpointing specific departments, companies, and organizations that can assist with identifying current or likely champions, along with associations or organizations that represent multiple individuals, companies, professionals, or members of a sector in order to reduce the number of contact points while still fostering broad involvement.

Stakeholder	Sector								
	Buildings	Industry	Transportation	Energy	Waste / Water	Education	Planning + Policy	Governance	All
Anycity Hydro	☑	☐	☐	☑	☐	☐	☐	☐	☑
Enbridge Gas	☑	☐	☐	☑	☐	☐	☑	☐	☐
Anycity Staff	☐	☐	☐	☐	☐	☐	☐	☐	☑
Anycity Transit	☐	☐	☑	☐	☐	☐	☑	☐	☐
Anycity Solar	☐	☐	☐	☑	☐	☐	☐	☐	☐
EV Charging Inc	☐	☐	☑	☑	☐	☐	☐	☐	☐
Anycity College	☑	☐	☐	☐	☐	☑	☐	☐	☐

Stakeholder ID ▾

Figure 7. Stakeholder ID Worksheet Tab

After assigning roles to those already involved, relevant gaps can be more easily identified. The Stakeholder Gap ID tab of the Framework Worksheet, which groups the stakeholders identified in the previous exercise into the sector(s) to which they were linked, can assist with such an exercise. Mapping and assigning roles to stakeholders (covered in Sections 5.2 and 5.3) can help as well. The next step is to determine who can fill those gaps, and consider how best to engage them. Municipal staff and CEP stakeholders who are well connected in the sector are well positioned to help answer both questions. Companies and organizations in the sector whose goals are aligned with those of the CEP can be engaged to gain a greater understanding of and access to the sector as well as new potential stakeholders.

	Buildings	Industry	Transportation
Stakeholders	Anycity Hydro	Anycity Hydro	Anycity Hydro
	Enbridge Gas	Anycity Staff	Anycity Staff
	Anycity Staff	Industry	Anycity Transit
	Anycity College		EV Charging Inc
	Anycity School District		
	Anycity District Energy		
	Home Builders Assocaition		
	Residents' Association		
	HVAC Contractors Association		

Stakeholder Gap ID ▾

Figure 8. Stakeholder Gap ID Worksheet Tab

AnyCity

AnyCity's advisory committee met to compile an exhaustive list of parties who could play meaningful roles in the implementation of the CEP and identified the sectors in which they were active or had influence. Flipping to the "Gap ID" tab of the worksheet, they noticed that the list of stakeholders in the transportation sector was short. Municipal staff on the committee decided to connect with their colleagues in the bylaw, permitting, and planning departments to acquire a better sense of which additional transportation organizations and companies they should work with to implement the CEP.

5.2 STAKEHOLDER CHARACTERIZATION

Broad and inclusive stakeholder engagement can help to ensure the development of a comprehensive, representative, and equitable CEP. However, when it comes to implementation, not all stakeholders will be equally invested in the success of the plan, nor will their contributions have the same level of impact. Identifying stakeholders who are committed to and invested in the achievement of the plan's objectives, and those whose participation in and support of plan strategies and actions are key to their effectiveness, can ensure that stakeholder engagement is both efficient and effective. The following exercise can help:

• To characterize a stakeholder's interest or investment in the implementation of theCEP, identify their drivers for engagement: the reasons why they would want to participate in the implementation of the plan and the areas and ways in which their objectives align with those of the plan. They may have an energy or emission plan of their own, or have an interest or a mandate – such as reducing energy cost or use – that aligns with an objective of the CEP.

• To characterize a stakeholder's influence or power to contribute towards the success of the CEP, consider their contribution potential: the resources they can provide towards the implementation of the plan. These could be financial, skills-based, or communications-related. Alternatively, contribution potential could include decision-making control over energy-using or emissions-producing facilities or activities. Stakeholders can also provide popular, cultural, or political influence over parties able to make direct contributions.

AnyCity Hydro is the local distribution company for our fictional example town. Being city-owned, it is responsible to its shareholders and their plans and as a utility it has certain regulatory responsibilities. In addition, it sees the CEP as a business development opportunity. As for its contribution potential, it has the engineering expertise to implement projects and may be the recipient of funding to do so.

STAKEHOLDER	DRIVERS FOR ENGAGEMENT	CONTRIBUTION POTENTIAL
AnyCity Hydro	City owned utility	CDM program support and promotion
	Business development	Enable and support DER solutions including bi-directional EV chargers
	Energy efficiency commitments	Member of Advisory Committee

Figure 9. Stakeholder Influence

The Stakeholder Characterization tab of the Framework Worksheet can be used to characterize each stakeholder identified during the Stakeholder Identification exercise in Section 5.1 based on their "drivers for engagement" and "contribution potential". Hitting <alt> and <enter> after each driver or contribution will help keep them organized and legible within the table by keeping each entry on a separate line.

Once your CEP stakeholders have been characterized based on their drivers for engagement and capacity, a basic stakeholder mapping exercise will help you consider and match potential functions to individual stakeholders. It will also outline how best and how often to engage them. A stakeholder map is a visual, 4-quadrant matrix that can be used to rate stakeholders' interest in, and ability to influence or impact, the successful implementation of the plan. Their placement on the horizontal axis should reflect their level of interest in, and the extent to which they are – or understand themselves to be – impacted by the plan, from lowest on the left to highest on the right. Their placement on the vertical axis should reflect their ability to impact the successful implementation of the plan, from lowest on the bottom to highest on the top.
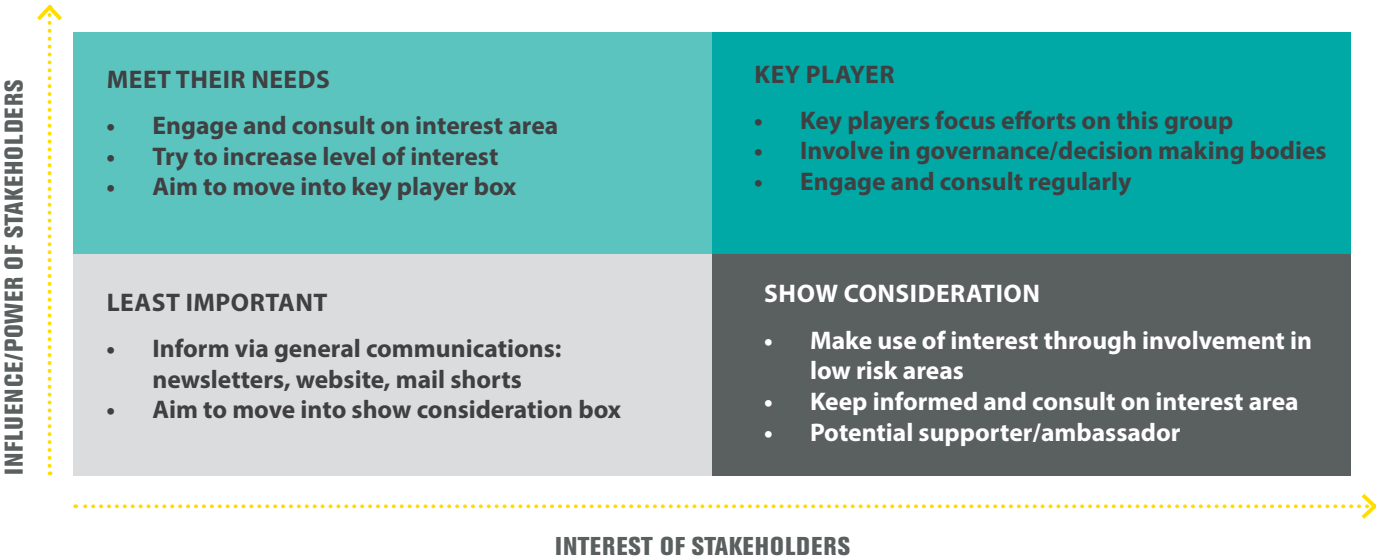

INFLUENCE/POWER OF STAKEHOLDERS

MEET THEIR NEEDS
- **Engage and consult on interest area**
- **Try to increase level of interest**
- **Aim to move into key player box**

KEY PLAYER
- **Key players focus efforts on this group**
- **Involve in governance/decision making bodies**
- **Engage and consult regularly**

LEAST IMPORTANT
- **Inform via general communications: newsletters, website, mail shorts**
- **Aim to move into show consideration box**

SHOW CONSIDERATION
- **Make use of interest through involvement in low risk areas**
- **Keep informed and consult on interest area**
- **Potential supporter/ambassador**

INTEREST OF STAKEHOLDERS

Figure 10. Stakeholder Map

The orange Stakeholder Mapping tab of the Framework Worksheet can be used to assign a level of influence and interest/availability to each stakeholder based on how their "drivers for engagement" and "contribution potential" were characterized during the previous exercise.

	A	B	C	D	
1	**CEP Stakeholder Mapping**				
2					
3			**Map**		
4	**Stakeholder**	**Drivers for engagement**	**Interest**	**Contribution potential**	**Influen**
5	AnyCity Hydro	City owned utility Business development Energy efficiency commitments	High	CDM program support and promotion Enable and support DER solutions including bi-directional EV chargers Member of Advisory Committee	Hi
6	#N/A				
7					
8					
9					

Stakeholder Mapping ▾

Figure 11. Stakeholder Mapping Tab

17

5.3 STAKEHOLDER ROLES

CEPs are transformative and generally address a broad range of complex and ambitious actions and objectives across many sectors of their community. Because of this, a number of important roles are necessary to ensure comprehensive implementation. While the municipality can take on a number of these roles, it cannot fill (nor is it well suited to) all of them. Broad involvement in – and responsibility for – the implementation of the CEP by various stakeholders can provide the expertise, capacity, and resources needed for successful implementation. Roles to consider and recruit for are included in the following table:

FUNCTION	DESCRIPTION	(MINIMUM) INFLUENCE	(MINIMUM) INTEREST
GOVERNANCE	Has decision making authority over the plan, and invests in and is accountable for its progress and success. As an example, the municipality, or at least its Sustainability Department, is well suited to take on a governance role.	HIGH	HIGH
CHAMPION	Affects the behaviour or actions of decision makers or key stakeholders. As an example, a corporate champion, such as a large company with strong ESG goals, is well suited to take on the role of a CEP champion.	MED	HIGH
RETHINKER	Informs or develops new strategies needed to achieve plan objectives. Organizations with strong applied research or program development capacity are well suited to take on this role.	MED	HIGH
REDUCER	Reduces energy consumption and emission production at scale by investing in energy efficiency, demand optimization, low-carbon energy sources or systems, etc. ESCOs, energy-efficiency organizations, and renewable energy developers are well suited to take on the role of reducers.	HIGH	MED
LARGE CONSUMERS	Responsible for significant energy consumption and emissions generation at the community scale. Large property owners and industrial facilities are examples of actors who play such a role vis a vis the CEP.	HIGH	LOW
ENABLER	Responsible for the policies, regulations, conditions, resources, or incentives that drive actions, investments and decision making. All levels of government are well suited to play a role in enabling the implementation of a CEP.	HIGH	MED
ALLY	Publicly supports the objectives of the plan. Community and environmental organizations are well suited to serve as Allies to the CEP.	LOW	HIGH

Figure 12. Stakeholder Roles and Corresponding Interest / Influence

18

The Stakeholder Role ID tab of the Framework Worksheet (which, if you're proceeding through this Framework in order, will have been pre-populated with the stakeholders, along with their levels of interest and influence, from the Stakeholder Mapping exercise in Section 5.2) can be used to assign roles to stakeholders that they are best suited to, starting with those who participated in the development of the CEP, and then moving to stakeholders identified as not already involved in order to bolster implementation efforts or address gaps. The table will include cells highlighted in green that suggest potentially suitable roles based on how stakeholders were characterized during the Stakeholder Mapping exercise. Please note, these suggestions are only meant to provide guidance and are not determinative.

	A	B	C	D	E	F	G	H	I	J
1	**CEP Stakeholder Roles**									
2										
3							**Stakeholder Roles**			
4	**Stakeholder**	**Interest**	**Power / Influence**	**Governance**	**Champion**	**Rethinker**	**Reducer**	**Large Consumer**	**Enabler**	**Ally**
5	AnyCity Hydro	High	High	☑	☐	☐	☑	☐	☐	☐
6	#N/A			☐	☐	☐	☐	☐	☐	☐
7				☐	☐	☐	☐	☐	☐	☐
8				☐	☐	☐	☐	☐	☐	☐
9				☐	☐	☐	☐	☐	☐	☐

Stakeholder Role ID ▾

Figure 13. Stakeholder Role ID Tab

AnyCity

Based on the results of the Stakeholder Mapping exercise, the worksheet suggested that AnyCity Hydro could be a candidate to play many CEP-related roles. However, after reviewing the criteria thoroughly, the advisory committee determined that the LDC was well suited to take on the roles of Governance and Reducer vis a vis the plan.

Once you've assigned roles to stakeholders, it may be worth (re)considering the level and nature of their involvement in the implementation of the CEP. The following table, based on the International Association for Public Participation (IAP2) spectrum[4], can help guide such an undertaking.

[4] (c) International Association for Public Participation www.iap2.org

19

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
STAKEHOLDER PARTICIPATION GOAL	**Provide with balanced and objective information to assist in understanding**	**Obtain feedback on analysis, alternatives, and/or decisions**	**Work with directly through the process to ensure concerns and aspirations are consistently understood and considered**	**Partner with in each aspect of decision making, including the development of alternatives and the identification of a preferred solution**	**Place final decision-making power in their hands**
LEVEL OF INVOLVEMENT	**Keep informed**	**Keep informed, listen to and acknowledge concerns and aspirations, and provide feedback on how input influenced decisions**	**Work to ensure concerns and aspirations are directly reflected in the CEP and provide feedback on how input influenced decisions**	**Look to for advice and innovation in formulating solutions and incorporate advice and recommendations into decisions to the maximum extent possible**	**Implement decisions**
SUITABLE STAKEHOLDER ROLE		**Ally**	**Large Consumer**	**Enabler Reducer Rethinker Champion**	**Governance**

INCREASING STAKEHOLDER INTEREST IN AND INFLUENCE ON THE SUCCESSFUL IMPLEMENTATION OF A CEP ➤

Figure 14. Stakeholder Involvement Spectrum

6. SECTORAL STRATEGY DEVELOPMENT

While all of the stakeholders identified in the previous section play important roles in the success of the CEP, Large Consumers (stakeholders responsible for significant energy consumption and emissions generation at the community scale) are the only ones to combine both a high amount of influence with a (potentially) low interest in contributing to the implementation of the plan.

Optimally, these stakeholders can be encouraged or enabled to become invested in the CEP: becoming champions of the plan, implementing or facilitating energy and emission-reduction initiatives, serving as examples to encourage other Large Consumers to follow suit, and helping develop tailored strategies to maximize the impacts of their contributions. However, even in cases where their interest in the CEP remains low, successful implementation of the plan can be achieved through the development and deployment of strategies that align their objectives, and the efforts and investments they make towards achieving them, with those of the CEP.

Anticipating and meeting the needs of these high-influence, low-interest stakeholders means developing tailored sectoral strategies for activating them and/or incentivizing certain behaviours and investments. Such strategies may, in turn, need to be developed with input from the very sectoral stakeholders they are directed at, a process requiring a tailored engagement strategy of its own. Knowledge of and working relationships within the sector are key in this effort. Municipal staff, volunteers and leaders who work with these stakeholders will not only be familiar with their activities and able to identify potential allies and champions, but also have insights and touchpoints that can be helpful in engaging with or designing strategies to activate them.

In many cases, municipal departments and branches already deal directly and have relationships with many of the Large Consumers who would need to be engaged. These pre-existing connections can further facilitate communication and the

development of effective working relationships with many stakeholders, particularly the Large Consumers who are not frequently involved in energy discussions but can be crucial to achieving the plan's objectives if they buy-in and align their actions and investments with the CEP. Some examples include:
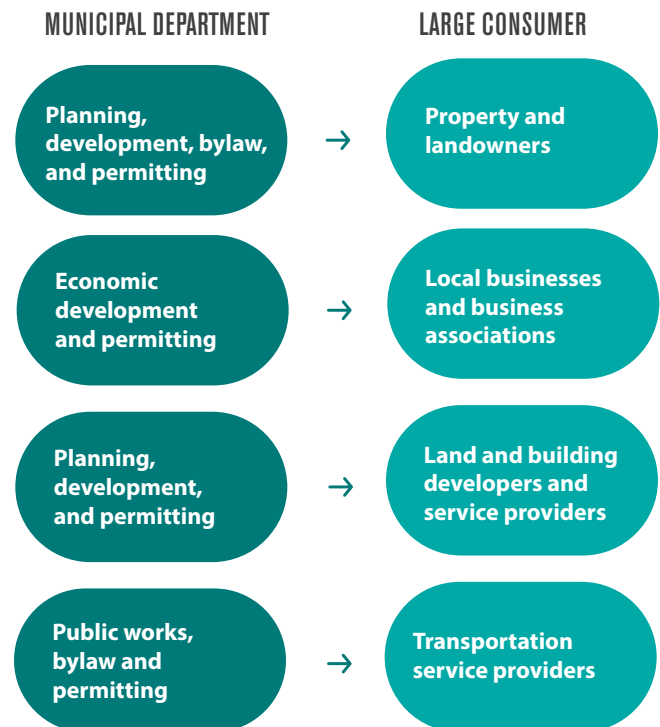
MUNICIPAL DEPARTMENT		LARGE CONSUMER
Planning, development, bylaw, and permitting	→	Property and landowners
Economic development and permitting	→	Local businesses and business associations
Planning, development, and permitting	→	Land and building developers and service providers
Public works, bylaw and permitting	→	Transportation service providers

Figure 15. Example Department Connections to Large Consumer Types

21

The following table/activity can help match stakeholders and actors with the relevant municipal department or departments as a precursor activity to identifying and engaging relevant Large Consumers. Again, the example of AnyCity has been used to provide an example.

SECTOR	Transportation
OBJECTIVE	Electrify all motor vehicles
ALLIES AND CHAMPIONS	ENGOs, LDC, EV owners, public health (air quality)
MUNICIPAL DEPT(S)	Bylaw, Permitting, and Planning
ENGAGEMENT MECHANISM(S) / TOUCH POINT(S)	Vehicle and taxi permitting Parking bylaws Transportation planning Public health messaging
LARGE CONSUMER(S)	Personal vehicles Commercial vehicles Public transit Taxis and Ubers

Figure 16. Municipal Department Large Consumer Connection Activity

Once the internal and external stakeholders relevant to the sectoral objective have been identified, they can be engaged in the process of developing a sectoral strategy that aligns with both their needs and objectives and those of the CEP. In order to reflect both the sectoral nature of these efforts and the (potential) involvement of low-interest and -availability actors, it may be worthwhile creating ad hoc, sector-specific bodies that work for a defined time-period to develop, test, and deliver these sectoral strategies.

The Sectoral Strategy Development Process outlined on the next page is a conceptual Framework for a process that seeks to optimize the potential for sector-specific actors to contribute to the development of a sectoral strategy while minimizing demand on their time.

STEP	COORDINATOR	RETHINKER	RELEVANT MUNICIPAL DEPARTMENT	ALLIES & CHAMPIONS	SECTORAL ACTORS	ACTIVITIES
1	●	●				Research best and promising practices
2	●		●		●	Outreach to sectoral actors to raise awareness and recruit potential allies and champions
3	●	●	●	●		Ideate
4	●	●	●		●	Outreach to sectoral actors to collect data
5	●	●				Strategy design and development
6	●		●		●	Engage sectoral actors for a workshop of draft sector strategy
7	●	●			●	Pilot, test, refine, and implement strategy

Figure 17. Sectoral Strategy Development Process

7. THE FUNCTION OF THE COORDINATOR

Effective coordination of a CEP's implementation is essential to ensuring that stakeholders are contributing productively and that the CEP is moving forward.

In any community, the relationships between stakeholders, both internal and external, will form a complex web, informed by history and experience, perceptions and reputation, personal and professional relationships, dependencies and power, affinities, etc. Navigating these dynamics can be complex, which is why the CEP coordinator role should be defined and located by its function, rather than by organizational structure.

In many communities, the role of the coordinator has been assigned to a municipal staff person who was also involved with the development of the CEP. Such a person can provide continuity, helping to ensure familiarity with the plan, its impetus, and the stakeholders who were involved in its creation; but it is not the only option.

Some communities are turning to external consultants or independent NGOs, or establishing dedicated entities, to coordinate plan implementation and stakeholder activities.[5] The reasoning being that externally-located coordinators will be able to operate more effectively outside of the municipal institution and bureaucracy, can retain a high level of focus and independence, and may have an easier time raising necessary funds.

Potential locations for the coordination function include:

• Internal municipal staff resource (individually or in teams)
• Regional/shared staff resource
• External company/consultant
• External NGO
• Municipally-organized NGO
• Stakeholder-organized NGO

When determining where best to locate the role of stakeholder coordination to maximize effectiveness and efficiency, decision-makers should consider several factors, some of which will be common to all communities, while others may be unique considerations. The following is a set of criteria to consider when determining the best location for the coordination function. Communities should feel free to disregard factors that don't seem important for their circumstances and should consider adding others that are not included in this generic list:

ABILITY TO ADVOCATE

To what extent is the entity able to advocate or lobby for the conditions that could be required for or facilitate the implementation of the CEP? Consider its position, independence, and leverage within relevant frameworks.

ACCESS TO FUNDING

What level of access does the entity have to funding that could facilitate CEP implementation? Consider its ability to access financing, accept donations, source potential revenue streams such as social enterprises or taxes/levies, and eligibility for grant programs administered by foundations and government agencies.

ACCOUNTABILITY

How accountable is the entity or how accountable could it be to CEP stakeholders?

---

[5] Citation: Behand, K. (2020). Using non profits to deliver municipal climate action. Clean Air Partnership. https://www.cleanairpartnership.org/wp-content/uploads/2020/12/Report-7_Using-nonprofits-to-deliver-municipal-climate-action.pdf

ADMINISTRATIVE SUPPORT

How strong are the entity's administrative structures, such as HR and IT, necessary to support the coordinating function?

ALIGNMENT OF INSTITUTIONAL CULTURE

How closely do the norms, values, practices, beliefs, and assumptions that guide the entity align with the goals and objectives of the CEP?

BUREAUCRATIC RED TAPE

To what extent is the entity unburdened by regulations or conformity to formal rules or standards which could hinder or prevent action or decision-making?

CAPACITY

Does the entity have the requisite capacity (i.e. staff resources, expertise, and experience) to coordinate the implementation of the CEP?

CREDIBILITY / REPUTATION

To what extent does the entity inspire confidence, trust, and belief among key stakeholders?

FAMILIARITY WITH THE CEP

How familiar is the entity with the CEP, including its impetus, development, key stakeholders, substance, and supplementary and complementary pieces?

INDEPENDENCE

To what extent is the entity free from outside influences that could affect its ability to coordinate the implementation of the CEP?

PRIORITY OF CLIMATE / ENERGY-RELATED ACTION

How committed is the entity to achieving the goals and objectives of the CEP and how likely is it to take the actions and commit the resources needed to support its implementation?

RELATIONSHIP WITH CEP STAKEHOLDERS

How strong is the relationship between the entity and the CEP stakeholders? Consider awareness, familiarity, and positive (or negative) experiences and/or reputation.

RELATIONSHIP WITH THE MUNICIPALITY

How strong is the relationship between the entity and the municipality and its staff? Consider awareness, familiarity, and positive (or negative) experiences and/or reputation.

STABILITY OF CLIMATE / ENERGY-BASED DECISION MAKING

How firm is the entity's commitment to the implementation of the CEP? Could that commitment be affected by competing priorities or changes in policy or leadership?

Undertaking a force field-type analysis can allow communities to assess the relative merits and deficiencies of available options, identify the most suitable location for the coordinating function, and identify potential resource gaps and needs. A force field analysis provides a framework for considering all of the factors that can influence a decision, whether positively or negatively.

The Coordinator Location Criteria tab of the Framework Worksheet can be used not only to select which criteria to consider in determining where best to locate the role of stakeholder coordination, but also to assign their relative importance or weight.

Once you've selected the appropriate criteria, the Coordinator Location tab of the Framework Worksheet can be used to replicate the push-pull mechanics of the force field analysis, allowing available options to be assessed objectively, consistently, and effectively, in order to identify the best one.

Include all available options, and then assess their relative merits and deficiencies with respect to those generic factors that are relevant and any other factors or considerations relevant to the community.
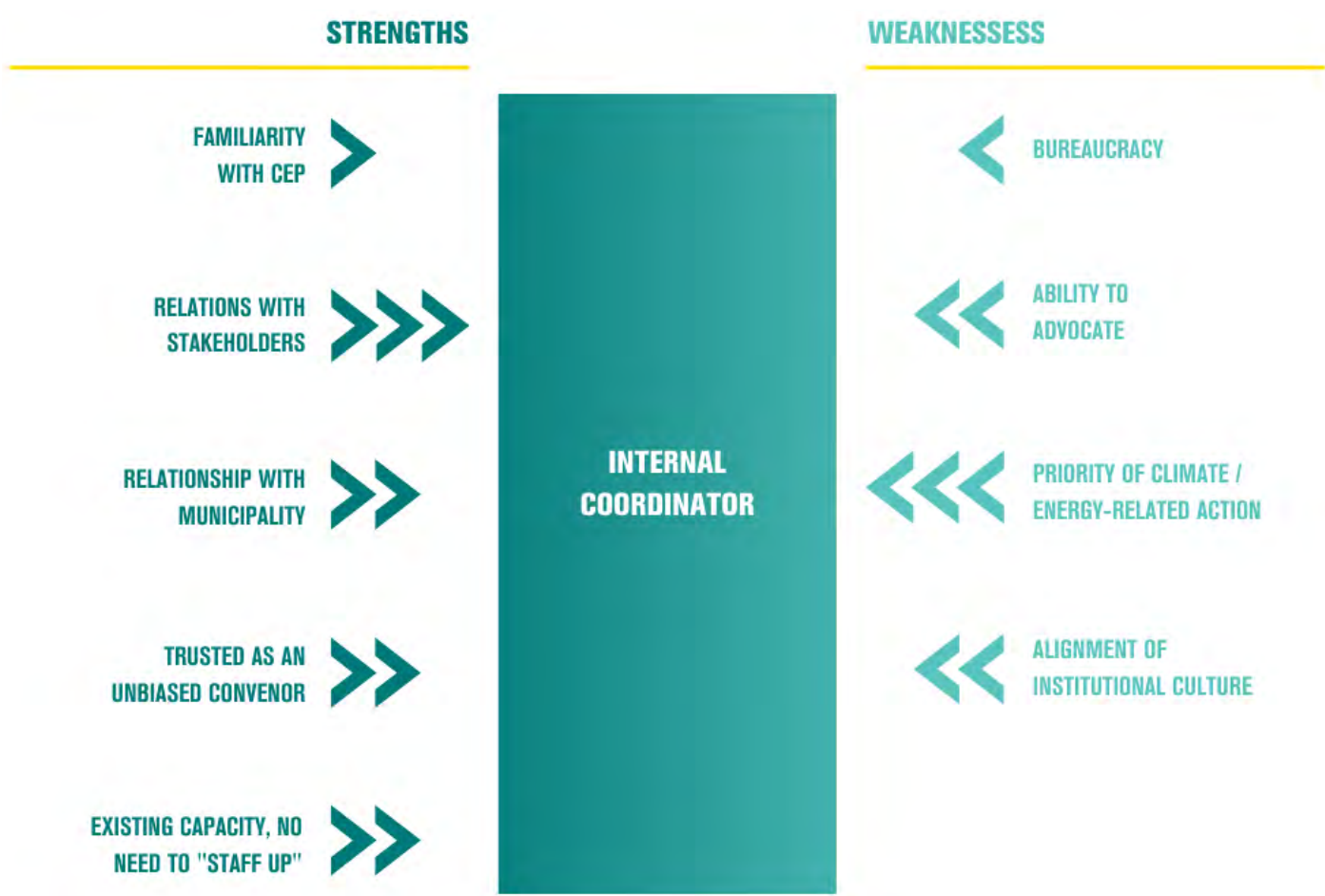

STRENGTHS

FAMILIARITY WITH CEP

RELATIONS WITH STAKEHOLDERS

RELATIONSHIP WITH MUNICIPALITY

TRUSTED AS AN UNBIASED CONVENOR

EXISTING CAPACITY, NO NEED TO "STAFF UP"

INTERNAL COORDINATOR

WEAKNESSESS

BUREAUCRACY

ABILITY TO ADVOCATE

PRIORITY OF CLIMATE / ENERGY-RELATED ACTION

ALIGNMENT OF INSTITUTIONAL CULTURE

Figure 18. Sample Force-Field Analysis of Potential Coordinator

AnyCity's CEP stakeholders met to explore options for potential locations for the CEP coordinator function. They identified the municipal sustainability office and an independent ENGO as options to explore. Together, they identified criteria relating to independence, freedom to act, and relationships as being important considerations. The results of the exercise suggested that while there were benefits to an NGO taking on the role -- notably around lack of bureaucracy and the ability to move faster and advocate -- the sustainability office's connections with the city and existing relationships made it the favoured option.

Regardless of the structure chosen, adequate resourcing is a key consideration when it comes to coordinating stakeholder efforts. Coordinating capacity should be specced, scoped, and scaled according to the ambition of plan objectives and the range and type of stakeholders involved in implementation. Coordinator skills and subject matter expertise and experience should be appropriate to the sectors considered in the CEP and the actors and sectors to be engaged.

8. ONGOING IMPROVEMENT AND MAINTENANCE

Aligning stakeholders to help in the implementation of a CEP does not stop with a complete run-through of the above activities.

As implementation progresses, it is important that everyone continues to know what is expected of them, and how progress is being made. Regular updates on work towards and achievement of CEP objectives and outcomes can help track progress, and focus discussion and prompt stakeholders to provide suggestions on accelerating or re-thinking stalled actions. Presentations to stakeholders, progress reports, and dashboards are among the most common tools for communicating these kinds of updates.

One thing to note is that circumstances within communities are always changing. New opportunities and new players will enter the sector, and will affect the implementation of the CEP. It is thus important to regularly revisit and update the activities conducted here.

The processes undertaken in this Framework should be revisited and renewed at regular intervals: the priority mapping in Section 3 should be reassessed so that it can be adjusted based on changing funding availability or industry, political or community interests; the stakeholders engaged, and their roles vis a vis the CEP, should be re-evaluated as the plan progresses and as new priorities are identified based on new conditions and new opportunities. This is also valuable after the successful completion of some projects from which learnings and new ideas can be applied. Stakeholder mapping and functions will also need to be re-evaluated at regular intervals to ensure that the stakeholders involved in plan implementation are appropriate and sufficient, and that new stakeholders are identified and engaged based on shifting community priorities or circumstances.

9. EXEMPLARS: STAKEHOLDERS LEADING CEP IMPLEMENTATION

SUSTAINABLE WATERLOO REGION'S EMISSIONS REDUCTION PROGRAMS

Sustainable Waterloo Region (SWR) is a social-enterprise, non-profit organization that is implementing key pieces of the Transform WR, the regional climate change mitigation strategy endorsed by all eight area municipalities. In addition to having helped develop the strategy, SWR runs sustainable programs, based on a participant-pay model, that work towards specific objectives of the strategy. One such program is TravelWise, their regional Transportation Management Association (TMA): participating businesses fund the program to identify, develop, and provide resources and services that reduce automobile trips to-and-from work. These programs improve employee travel experiences, reduce transportation-related expenses and congestion, and eliminate GHGs from the largest emission-generating sectors in the region: personal transportation. SWR's work demonstrates how organizations can develop and implement sustainable initiatives that enable communities to meet their CEP objectives.

PACE ATLANTIC CIC

Community Efficiency Financing (CEF) programs enable municipalities to finance energy improvements on private property, and are a program model many communities are looking at to reduce energy use in and emissions from their existing buildings. However, setting up and running an effective CEF program requires capacity, experience, and expertise that many municipalities may not have or be able to develop internally. PACE Atlantic is a new Community Interest Corporation based in Nova Scotia that is working with municipalities to build and implement their programs: they can help get the necessary policies, bylaws, and procedures in place; conduct market research; handle promotion; navigate participants through the program and complementary incentives; work with commercial building owners to develop larger projects; and even source financing. PACE Atlantic's approach illustrates the business opportunities that can both generate CEPs and drive their implementation.

LAKEVIEW VILLAGE NET-ZERO ENERGY READY DEVELOPMENT

Lakeview Village, a mixed-use community being developed on a 177-acre previous brownfield site by a consortium of companies, is being developed as the City of Mississauga's first Master Planned Net-Zero Energy Ready Community. To achieve this goal, the Village's development is being guided by a sustainability framework based on the EcoDistricts Protocol, which requires that its design be based on a pathway to carbon neutrality. The framework aligns with the City's Strategic Pillars for Change as outlined in the Strategic Plan: Our Future Mississauga document, the goals of which include leading and encouraging environmentally responsible approaches and promoting a green culture. The developer's commitment to achieving net-zero is resonating outside of the

community too: in 2022, Lakeview Village received the Award of Excellence for Sustainable Development in the National Urban Design Awards. Lakeview Village demonstrates not just the feasibility, but also the potential benefits, of developments designed to advance community climate goals.

MONTREAL CLIMATE PARTNERSHIP'S ONLINE ENGAGEMENT PLATFORM

The Montréal Climate Partnership was established in 2018 by a group of philanthropic foundations with the City of Montreal and the organization C40 Cities. Its objective is to mobilize key players in the Montréal community to help reduce GHG emissions, fostering collaboration and launching concrete projects. To this end, the Partnership created an online engagement platform for Montreal businesses interested in reducing their emissions. The platform aims to guide businesses and facilitate action by proposing actions adapted to their specific context, suchy as size, location, relationship to property, level of buy-in, and sector. Towards the end of the engagement process, businesses are asked to commit to implementing the actions they've selected within the recommended timelines and completing a short annual report to become an Action Partner: https://climatmontreal.com/en/engagement/

ALECTRA'S GREEN ENERGY & TECHNOLOGY (GRE&T) CENTRE

The Alectra Green Energy & Technology (GRE&T) Centre is the centrepiece of Alectra Utilities' grid innovation and collaboration work. Created in 2019, the GRE&T Centre works with Alectra, industry providers, and local governments to spur the adoption of clean technology by identifying, evaluating, developing and accelerating emerging, clean and customer-friendly energy solutions. Examples include:

- GridExchange, a transactive, blockchain-backed, energy platform that offers customers the ability to participate in an energy marketplace.
- The Advantage Power Pricing Pilot Project, which tested various new Time-of-Use (TOU) price plans and their effect on customer behaviour and energy use.
- A Non-Wires Alternatives Demonstration Project, which aims to design and demonstrate a distribution-level DER market to allow local communities to contribute towards a sustainable and clean energy future.

The GRE&T Centre illustrates the value of utilities collaborating with different parties to test and develop innovative energy solutions to support CEP implementation.

LONDON'S HYBRID HEATING PILOT

In the winter of 2021-22, Enbridge Gas and London Hydro partnered on a limited-time pilot program to test the potential of hybrid heating. Under the pilot, approximately 100 homeowners received $3,200 to replace their existing air conditioning unit with a hybrid heat pump, which was paired with their existing gas furnace. A smart thermostat was installed to switch between the heat pump and natural gas furnace, depending on outdoor temperature and the heating requirement of the home. The system ensures that the most efficient heating measure is being used at any given time in order to maximize energy savings for the homeowner. The pilot ran for the winter, with the results intended to inform future programs. The pilot illustrated the potential of different utilities working together with the city to advance a solution that can meet everyone's needs.[6]

MARKHAM DISTRICT ENERGY

Markham District Energy (MDE) is a district energy utility entirely owned by the City of Markham. MDE has two facilities: the first was constructed in 2000 and provides heat to large businesses, including hotels and IBM Canada, at Markham Centre. In 2008, a five-megawatt combined heat and power plant was added at the site. Since then, MDE has developed a number of new projects and continues to connect new customers including York University's new Markham Campus which will also be connected to the MDE network. Since it began operating, MDE has reduced GHG emissions by 35% within its service area. Currently, MDE is investigating lower carbon options to heating than gas-fired district energy, including heat pumps from waste heat and biomass. MDE demonstrates how city leadership can enable the development of a thermal network that reduces both heating costs and GHG emissions.

---

[6] For more information see https://london.ca/newsroom/feature/new-incentive-program-london-homeowners-helps-reduce-emissions-save-money-hybrid