

A GUIDE TO ENERGY EFFICIENCY PLANNING FOR RURAL MICHIGAN COMMUNITIES

PREPARED BY:

Western Upper Peninsula Planning and
Development Region (WUPPDR)

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1. INTRODUCTION TO MUNICIPAL ENERGY EFFICIENCY PLANNING IN RURAL MICHIGAN COMMUNITIES



The purpose of this guidebook is to aid Michigan communities interested in pursuing energy efficiency investments that can help save taxpayers money, free up general fund resources to invest in other community priority areas, and help communities tackle environmental and sustainability goals. It provides a step-by-step, straightforward framework with tools to help your local government create its own plan for energy efficiency investments and programming. These plans can be a standalone strategic document, or an additional section of your community's master plan as defined by the Michigan Planning Enabling Act (PA 33 of 2008).

While there are many helpful guides available to communities seeking to develop plans for energy management and energy efficiency, the authors often fail to consider the unique challenges of energy planning in rural local

Additional Guidebooks to Support Community Energy Efficiency Planning Efforts:

- [U.S. Department of Energy Guide to Community Energy Strategic Planning](#)
- [Rocky Mountain Institute Community Energy Resource Guide](#)
- [Energy Efficiency and Renewable Energy in Low-Income Communities: A Guide to EPA Programs](#)
- [Energy Efficiency in Local Government Operations: A Guide to Developing and Implementing Greenhouse Gas Reduction Programs](#)
- [International Energy Agency Energy Efficient Communities: Case Studies and Strategic Guidance for Urban Decision Makers](#)

governments. When compared to larger metropolitan areas, some rural local governments lack the resources (e.g. time, money, staffing, expertise, etc.) to develop and implement complex energy programs and projects. In addition, many rural communities face decreasing and aging populations and antiquated infrastructure making large capital investments in energy projects by local governments politically and economically challenging. And in Michigan, rural communities are often served by a myriad of utility types: investor-owned utilities, rural cooperatives, and municipal-operated utilities. These different utility types can influence the types of resources available for energy efficiency investment and impact the amount of control the local unit of government has during the planning process when it comes to data access and funding options.

While these barriers are significant, rural communities are not without their planning advantages. Smaller communities often have tight, identifiable social networks making community engagement more accessible and visioning efforts more inclusive. In larger communities (think Chicago), local governments can be a labyrinth making it challenging to access key leadership when develop such plans. In rural communities, it can be much easier to get local agency heads and decision makers together to form planning committees. This can help accelerate the planning and decision-making process. Aging infrastructure presents an excellent opportunity for energy efficiency investment since the infrastructure must be replaced and newer technology is often already much more efficient. Finally, rural local governments often qualify for special sources of funding from agencies such as the USDA's Rural Development Program and the Rural Energy for America Program (REAP) reducing financial barriers to efficiency projects. See **Section 7** for a detailed overview of financing sources for energy investment.

FREQUENTLY USED ACRONYMS

BTU: British Thermal Unit

CEP: Community Energy Plan

CIP: Capital Improvement Plan

CLT: Community Leadership Team

ESCO: Energy Services Company

kWh: Kilowatt Hour

MEAP: Municipal Energy Action Plan

WHAT IS COMMUNITY ENERGY PLANNING?



Community energy planning (CEP) is a process in which local leaders proactively plan and make investments in (e.g. money, time, and other resources) the built infrastructure and programming to influence the sources of its energy, how the energy is obtained, how the energy is used, and the environmental, social and economic effects of its use of energy. Like many community planning processes, CEPs help communities establish goals for community energy acquisition and use by engaging stakeholders, identifying resources to help implement the plan, and establishing mechanisms for measuring progress toward obtaining the plan's goals. According to the Department of Energy's *Guide to Community Energy Strategic Planning*, energy plans should be:

- An organic and flexible document with the capacity to evolve over time as both the community and the energy landscape changes (e.g. shifts in energy technology costs, changes in population, changes in political administration, etc.)
- Proactive by outlining actions based on clearly articulated government and community priorities
- Comprehensive by considering a wide range of community priorities and assets
- Structured by providing detailed action steps to implement the plan and measure progress toward the community's energy goals
- Long-term by creating a multi-year action plan and considering the long-term effects of energy investments
- Enduring by establishing community commitment and ensuring that the plan continues despite changes in local leaders and administration.

THE CASE FOR ENERGY EFFICIENCY INVESTMENTS

This guidebook focuses on helping local governments develop a plan for municipal investments in energy efficiency projects and programs. Energy efficiency is but one potential area of emphasis when it comes to municipal energy management – albeit a very important one. Other options include, but are not limited to, energy sourcing and self-generation options, renewable energy integration and incentivization, zoning reviews for energy management, regulatory enforcement (e.g. energy-specific building codes), and more.

The rationale for this guidebook’s exclusive focus on planning for energy efficiency investments for municipal-controlled assets is straightforward. First, investments in energy efficiency projects have higher returns on investment compared to other types of energy projects such as solar and wind generation. On average, for every dollar invested in energy efficient end-uses, four dollars are returned to the local unit of government. If energy costs increase, these returns accelerate. Second, energy efficiency economic returns are incredibly predictable and measurable. Third, energy efficiency is often politically palatable and meets little resistance or opposition regardless of political affiliation. Fourth, many municipal services are extremely energy intensive. For example, energy costs often make up 25 to 30 percent of a utility’s total operation and maintenance costs. Combined with a tendency for rural governments tendency to utilize aging infrastructure, there is an abundance of opportunity for energy savings.

HOW DOES ENERGY PLANNING FIT WITH OTHER PLANNING EFFORTS?

Developing a CEP can be a standalone planning effort, but ideally the process and final product should be integrated into the local government’s master plan, capital improvement plan (CIP), and other economic development strategies. Incorporating the CEP into other institutionalized planning efforts ensures energy planning becomes a mainstay in your community’s strategic efforts and is integrated into critical discussions pertaining to land use development, economic development, transportation, climate change, etc.

In Michigan, communities are required to assess existing master plans used for land use and zoning every five years to determine if a new plan is required. Master plans are statutorily required to contain several specific sections. Although “energy” is not a required section,

COMMUNITY ENERGY PLANNING PROCESS OVERVIEW

1. IDENTIFY & BRING TOGETHER KEY LEADERS

ASSEMBLE A LEADERSHIP TEAM TO MANAGE THE CEP PROCESS. THE LEADERSHIP TEAM CAN CONSIST OF: LOCAL ELECTED OFFICIALS, GOVERNMENT STAFF, CONCERNED CITIZENS, UTILITY REPRESENTATIVES, AND OTHER EXPERTS.

2. BUILD SHARED VISION & ENERGY GOALS

DEVELOP VISION & GOALS TO HELP LEADERSHIP TEAM'S ENERGY PLANNING EFFORTS

3. DEVELOP COMMUNITY ENERGY BASELINE

COLLECT ENERGY CONSUMPTION DATA FOR MUNICIPAL ASSETS. CONDUCT FACILITY AUDITS.

4. PRIORITIZE STRATEGIES

USE BASELINE DATA TO IDENTIFY STRATEGIES TO MEET GOALS & VISIONS

5. DEVELOP COMMUNITY ENERGY ACTION PLAN

DEVELOP AN ACTION PLAN WHICH IDENTIFIES SPECIFIC PROJECTS, RESPONSIBLE PARTIES, & NECESSARY RESOURCES

6. SEEK COMMITMENTS TO THE PLAN

GET ACTION PLAN ADOPTED BY LOCAL GOVERNMENT; INTEGRATE PLAN WITH EXISTING PLANNING EFFORTS (E.G., MASTER PLANS)

7. MEASURE PROGRESS & SHARE RESULTS

MEASURE PROGRESS & ADAPT ACTION PLAN AS OPPORTUNITIES AND RESOURCES CHANGE. ESTABLISH REGULAR OPPORTUNITIES TO SHARE RESULTS WITH STAKEHOLDERS.

Source: Modified from Rocky Mountain Institute
Community Energy Resource Guide

municipalities can elect to include a section on energy and energy efficiency for facilities under their jurisdiction, or to broaden this out to larger land use policy. Doing so will help to ensure the energy content is reviewed and updated at least every five years. A municipal CEP should also be integrated into the local government's CIP if the CEP recommends large-scale capital investment projects. In Michigan, any community that has adopted a master plan (except a township that does not own or operate, jointly or alone, a water supply or sewage disposal system) is required to annually prepare a CIP. A CIP is a multi-year planning instrument used to identify needs and financing sources for public infrastructure improvements. As such, projects identified during the CEP process should be included in your CIP to ensure that your community is setting aside the necessary resources to finance energy efficiency investments.

CEP PROCESS OVERVIEW

In the planning world, there is a common saying: a plan is only as good as the process used to develop it. This guide encourages local governments to follow the process outlined below in order to enhance the probability the plan is put into action and achieves support from key stakeholders in the community. The process on the left is scalable and can be tailored based on the availability of resources and time constraints. Communities with additional financial resources may find it advantageous to hire external consultants to manage the plan's development; however, a CEP can be entirely created by a leadership team comprised of local government staff and volunteers.

CASE STUDIES IN THE GUIDEBOOK

Throughout the guidebook, examples of the CEP process are provided from three case studies in Michigan's Upper Peninsula. These case studies are intended to help highlight real world opportunities and challenges faced by communities and planners when developing strategies for energy efficiency investment. The featured Michigan communities are the Village of L'Anse (population: 2,011), the Village of Ontonagon (population: 1,494), and Grant Township (population: 219). Each community elected to develop a CEP during summer 2019 and was supported by planning consultants funded by the Michigan Department of Environment, Great Lakes, and Energy. **Figure 1** shows the location of these case studies.

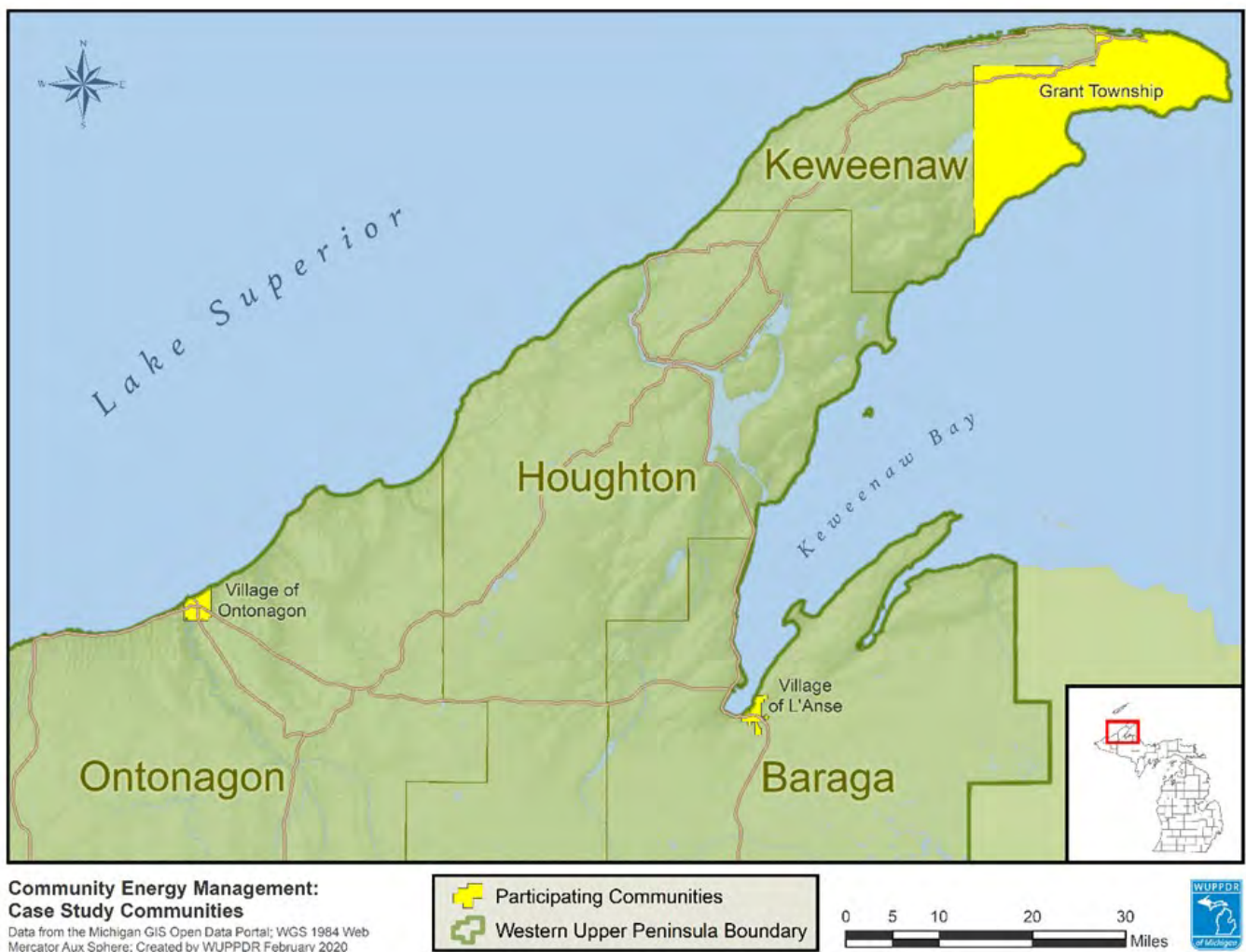
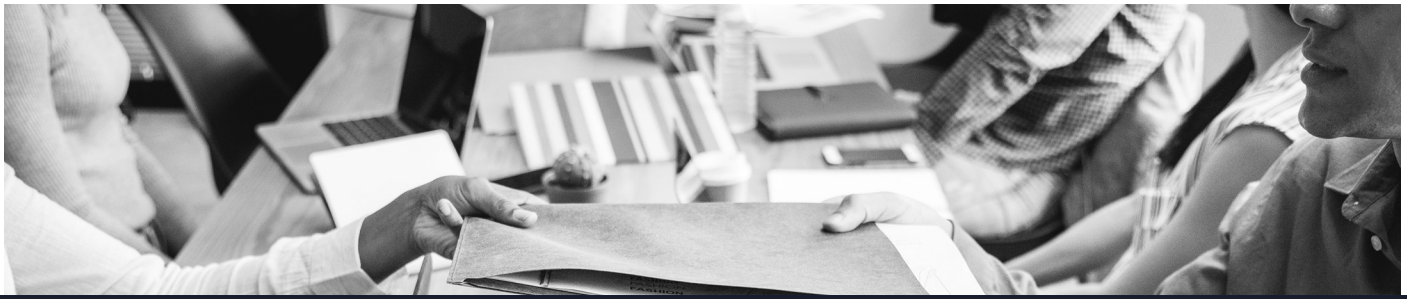
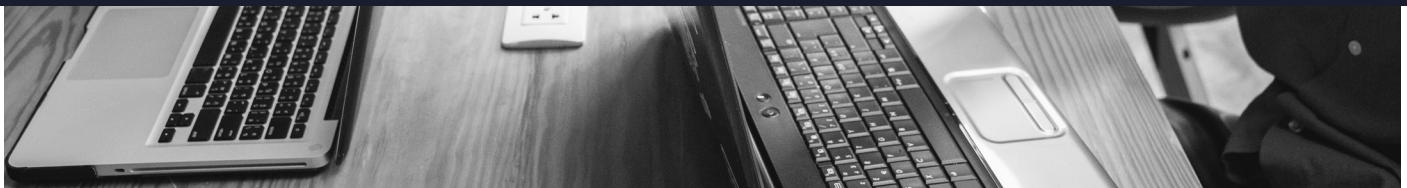


Figure 1. Community Energy Planning Case Studies



2. CREATING AND ENERGIZING A COMMUNITY LEADERSHIP TEAM



The first step in the CEP process is to establish a community leadership team. This group is tasked with overseeing the CEP's development, integrating government resources to assemble the plan, engaging key stakeholders, and ensuring the plan is put into action.

For municipal energy plans, the leadership team is often established after the local unit of government determines a need for a CEP. Many reasons can stimulate such a need. These reasons can include:

- Energy efficiency, as part of a larger sustainability goal, becomes a priority
- Capital facilities and asset management practices require a deeper understanding of energy efficiency opportunities
- Energy prices increase and the government seeks opportunities to reduce utility expenses
- Grant funding sources for energy initiatives require a CEP

No matter the reason, it is important that the local government establish a clear directive for the leadership team to give guidance on the groups planning efforts. This directive should provide the leadership team the following pieces of information:

- The official role of the leadership team
- Primary goal of the CEP
- Official timeline of the CEP's completion
- Ground rules for engaging key stakeholders, community officials, and the general public
- Requirements and processes for plan adoption and implementation
- Opportunities and processes from feedback and review by government officials
- Resources available for the leadership team to complete the CEP (e.g. finances to support hiring consultants, available meeting spaces, etc.)

COMMUNITY LEADERSHIP TEAM

The community leadership team (CLT) for a municipal-oriented CEP is a group of local government officials, community leaders, and subject matter experts charged with overseeing the CEP process. The leadership team can be a specially appointed taskforce or a subcommittee of an existing board or commission. While the leadership team is charged with developing the plan, it is generally only able to make recommendations to a local unit of government. It is up to the local government's leadership to sanction the plan (either through adoption or some other form of process) and put it into action. Nonetheless, the leadership team's role is critical as it will determine much of the content and data embedded within the plan as well as the key findings and recommendations for implementation.

WHO SHOULD BE INVOLVED?

There is no magic size or composition required when forming a CLT, and in rural communities, the pool of available volunteers is often limited. When forming a leadership team for a municipal CEP, it is important to consider recruiting representatives from the several sources. **Figure 2** provides suggestions.

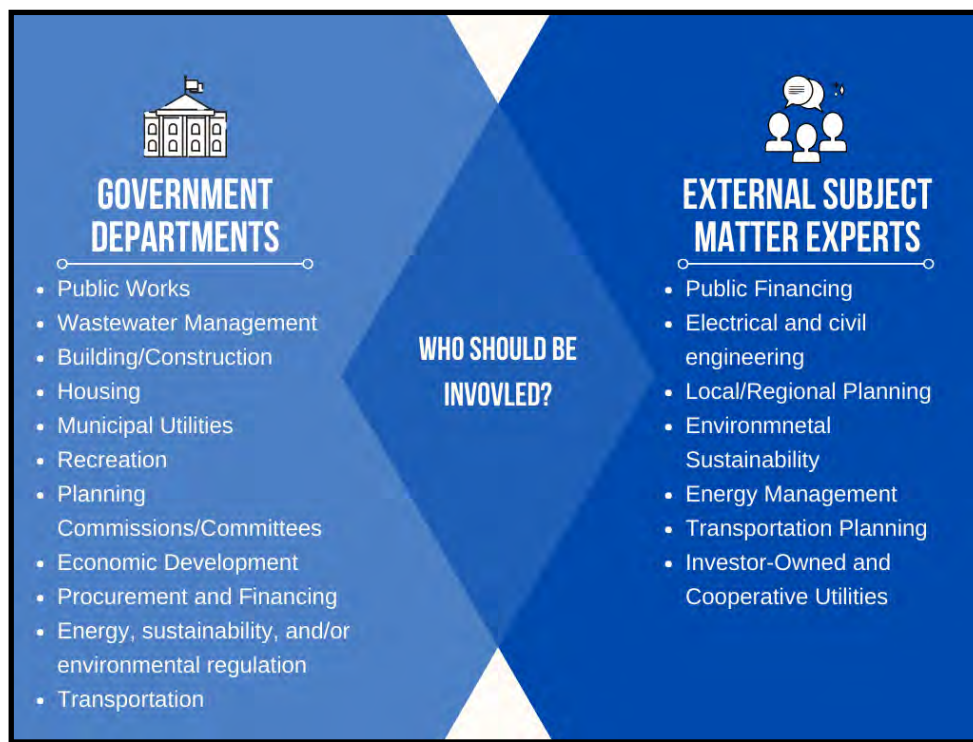


Figure 2. Potential CLT Members

RESPONSIBILITIES OF THE LEADERSHIP TEAM

The primary role of the leadership team is to manage the overall CEP planning process and help engage stakeholders throughout the process. The table below provides a quick overview of typical leadership team responsibilities.

Table 1: Leadership Team Responsibilities

RESPONSIBILITIES	EXPLANATION
Project Scope & Priorities	Determine type of CEP (municipal-focused or community-scale) and lead process to establish goals and vision
Managing the Process	Oversee timelines and coordinate tasks to complete CEP process
Engaging Stakeholders	Identify and engage stakeholders, subject matter experts and partners to enhance CEP inclusivity and leverage external resources to improve plan product
Collecting Data	Work with utilities, government agencies and subject matter experts to collect data for community energy baseline and to identify priority action items

PROJECT SCOPE & PRIORITIES

Determining the CEP's scope is the first responsibility of the leadership team. The question is simple: what should the CEP achieve? Agreeing on the answer is often a challenging task, however. The leadership team, with the guidance of other key stakeholders, answers this question by setting the course for all downstream planning activities.

MANAGING THE PROCESS

The CEP process is multifaceted and requires a good deal of coordination between multiple municipal agencies, stakeholders, and subject matter experts. The leadership team is tasked with establishing a planning timeline and coordinating data collection, stakeholder engagement, action plan development, plan adoption, and outcomes measurement. While the leadership team is tasked with oversight of the overall project, it is recommended that a **"plan manager"** be designated to serve as the lead administrator for the process.

Plan Manager

The U.S. Department of Energy *Guide to Community Energy Strategic Planning* recommends that a plan manager be designated to oversee the day-to-day activities of developing a CEP. This individual is a key link between the leadership team, the local unit of government, subject matter experts and key stakeholders and should be a strong administrator with adequate time and resources to successfully orchestrate the plan's development. Desirable skills include strong oral and written communication, effective meeting facilitator, high level of organization and attention to detail, a high level of connectivity with key stakeholders, proficiency with data collection and analysis, and a general understanding of municipal operations.

ENGAGING STAKEHOLDERS

Identifying and engaging stakeholders is a key task for the leadership team. Even for municipal focused CEPs, there are many stakeholders who are affected and impacted by municipal energy consumption. By making the CEP process more inclusive, the leadership team will leverage additional community resources and help improve buy in to the plan's recommendations. The following section will discuss in-depth stakeholder engagement.

COLLECTING DATA

One of the key tasks of the leadership team is collecting and analyzing data to help inform the development of an action plan for investment in municipal energy efficiency projects and programs. The leadership team should work with local officials to access energy consumption data for municipal assets and create a community energy baseline. This allows the leadership team to understand energy consumption by use and energy type and identify priorities for investment. The leadership team will work with local utilities and local officials to collect and analyze this information.

COMPILING THE PLAN

Once the data collection process is completed, the leadership team will compile a list of prioritized action items for community officials to pursue. The action plan will include parties responsible for completing the tasks, timelines, estimated costs, and sources of potential funding. The action serves as a roadmap for the projects and programs the community will pursue to achieve the energy vision and goals articulated in the plan.

PUTTING THE PLAN INTO ACTION

If the CEP is a standalone plan, the leadership team should submit the completed document to the local unit of government for adoption. If the CEP is part of a larger master planning process, the leadership team should submit it to the local government's planning commission. Once a plan is adopted by the local unit of government, implementation of the action items usually falls to local officials. However, the leadership team can still play an important role in working with local officials to secure the necessary resources for proposed projects and programs as well as sharing the results of those projects with stakeholders and the public.



3. IDENTIFYING AND ENGAGING STAKEHOLDERS



Effective community engagement harnesses the ideas and support of community members, stakeholders, local subject matter experts, and interest groups in order to identify a vision and implementation strategy for your CEP. Even under a municipal-focused CEP, it is important to tap into these groups as their input can help shape the CEP's content and build support for funding the plan's recommendations. Without effective stakeholder engagement, the plan may fail to be adopted by government bodies or garner the cooperation of important gatekeepers within your community.

Engagement is *not* a binary status: either a stakeholder is engaged, or it is not. Instead, engagement should be viewed as a continuum. According to the [Economic Developers Council of Ontario](#), the engagement continuum spans five distinct stages:

1. **Inform** - Informing is passive and involves a one-way flow of information;
2. **Consult** - Consulting is reactive. Information is shared and stakeholders are asked to react to it;
3. **Involve** - Involving allows the community to influence priorities. You present the problem and the community comes up with solutions to fix it;
4. **Collaborate** - Collaborating means that the community is a partner from the beginning. Together you decide upon the key issues, and how best to tackle them;
5. **Empower**- Empowering means leadership comes from the community while your organization and others support them

Many communities throughout Michigan have adopted public participation plans to help establish processes and strategies to more effectively communicate with its citizens and interest groups during planning efforts and significant community projects. In addition, the State of Michigan also sets statutory obligations for specific planning efforts (e.g. a community's master plan) which may overlap with developing a CEP.

WHAT IS A STAKEHOLDER?

The term “stakeholder” is a term used frequently in local planning efforts, but its meaning is often subjective and open to interpretation by plan managers and community officials. For the purpose of this guide, we use “stakeholder” as a term to describe any person or group affected by or with an interest in the projects recommended within the CEP. Your community selection of plan focus (either a municipal or community CEP) helps to give some guidance on who to include as a stakeholder during the planning process with a community CEP having a more robust set of affected parties. However, there is a significant amount of flexibility afforded the planning team when it comes to identifying which stakeholders to engage and strategies used to engage them.

WHY ENGAGING STAKEHOLDERS LEADS TO SUCCESS

Because the topic of energy management is often perceived as technical and complex, plan managers and community officials may hesitate to invest in broad community engagement efforts. After all, high return energy efficiency projects can be identified by auditing firms or your local utility. However, engaging stakeholders is important because:

- The CEP will affect multiple agencies within your local government during the implementation phase.
- Municipal staff have historical knowledge of facilities and equipment that is very useful for project planning.
- Engagement efforts build internal and external support for the planning process and identify potential planning “blind spots” that the plan manager should be aware of.
- It will identify and build a working relationship with “gatekeepers”—individuals with the capacity to enhance or restrict access to critical resources like utility information and decision makers.

Outside of internal municipal stakeholders, your community is likely filled with individuals and groups affected by or have an interest in the CEP and its planning process. Examples include energy and environmental conservation groups, local energy services companies interested in performing energy efficiency contract work, local utilities, municipal facilities user groups (e.g. clubs that use the municipal hockey rink), groups concerned with government fiscal efficiencies, and more generally, taxpayers.

UNIQUE ENGAGEMENT CHALLENGES AND OPPORTUNITIES IN RURAL COMMUNITIES

Compared to urban areas, rural communities have fewer people to work with. This has ramifications for plan managers and CEP organizers when developing stakeholder engagement strategies. Community engagement efforts, energy-specific or not, face several challenges that plan managers should be aware of when starting out. These include, but are not limited to:

- Skepticism among officials about the value of public engagement given the complexity of the topic or historic low participation rates in planning efforts.
- Historically poor participation rates during public engagement efforts.
- Resistance among officials to alternative public engagement strategies (e.g. public forums, social media, etc.).
- Limited access to broadband preventing the use of video conferencing tools which could be used to increase remote participation during public forums
- Communities with abundant seasonal residents may struggle to reach this segment of the population depending on the time of year.
- Communities may lack the resources to fully utilize proposed engagement strategies. Tools like surveys and charettes requires subject matter experts for implementation and data analysis, and this may be lacking in smaller communities.
- Skepticism among the public that their participation and feedback will be incorporated into the outcomes of the planning process.

Despite these challenges, rural communities come with a host of advantages when it comes to engaging stakeholders. Smaller municipalities often have fewer departments and organizational levels. This is the case with the Village of L'Anse, the village manager is also the head of the community's municipal utility. In the Village of Ontonagon, village council members often sit on multiple critical community boards. In both cases, these stakeholders can represent multiple community perspectives and often have a more holistic understanding of the opportunity and effects of community energy planning. In addition, rural communities are often known for their well-connected networks which facilitate communication and outreach efforts. Working through channels such as local newspapers and radio stations can help distribute information more efficiently than in urban areas.

IDENTIFYING CRITICAL STAKEHOLDERS

Identifying your stakeholders is a critical first step to developing a coalition of support for your CEP and establishing a process for valuable input and capacity for implementation. The following questions will help identify stakeholders that you should consider when beginning the CEP process.

- Which individuals or groups within our community are most likely to support the development and implementation of our CEP? Who will likely be opposed or difficult to convince?
- Which of our community's local leaders have a substantial interest in this topic and/or have influence over local decision making and key resources?
- Who are the "gatekeepers" to necessary information, influential individuals, or necessary processes (e.g. planning commission) required for the CEP to be developed and implemented?
- Which political, governmental or community-based organization are likely affected (positively or negatively) by significant energy projects on municipal assets?
- Who has the ability and resources to help implement the plan once it is created?

The stakeholder matrix included in the Appendix section is a tool intended to help plan managers and the CEP planning team to identify stakeholders. The suggested stakeholder groups are simply a starting point for discussion and can be amended to meet your CEP's specific needs.





TOOLBOX FOR ENGAGING STAKEHOLDERS

There are virtually unlimited options for engaging stakeholders in the planning process. But the most important aspect plan managers and leadership teams should understand is that choosing only one option likely prevents large segments of your community from becoming involved. A mix of engagement strategies will cultivate participation from different segments of a community gleaned unique insight and higher levels of involvement. Below you will find a description of some helpful engagement tools.

COMMUNITY MEETINGS & FORUMS

Local governments are often familiar with hosting public hearings to both share information with and solicit feedback and ideas from community members. However, they are less familiar with using community meetings and forums. These differ from public hearings in that they are not required by legislation and are not required to follow the common public hearing format. These meetings are often less formal and allow for increased participation from attendees. Meetings can be run by local officials or staff, but plan managers and members of the leadership team can also take the lead. An important component beyond informing attendees is actively listening to the feedback from stakeholders. These events can be held in local venues other than municipal buildings at venues like local schools, community spaces, theaters, and even large restaurants. It is important that the meeting is adequately advertised through a variety of channels such as the local newspaper, municipal website and social media accounts, radio, and mailing efforts.

TASK FORCES & ADVISORY COMMITTEES

Task forces and advisory committees are way to empower stakeholders during the CEP process and enhance community members level of involvement. Task forces and advisory committees are given specific mandates to provide recommendations to the local government on CEP contents and managing the planning process. These committees are often temporary and disband after the CEP or task is complete. However, they can be ongoing and tasked with CEP maintenance, project implementation oversight, and progress reporting. Members may be selected based on their expertise, interest, and background as they relate to the focus of the individual steering committee.



INTERVIEWS

Interviews are a great tool to gain in-depth insight from key stakeholders. Unlike surveys, which are often restricted to structured question sets with fixed response options, interviews can provide a wealth of qualitative information based on the interviewee's expertise and level of interest. In general, the information collected during interviews are kept confidential unless requested otherwise.

SURVEYS

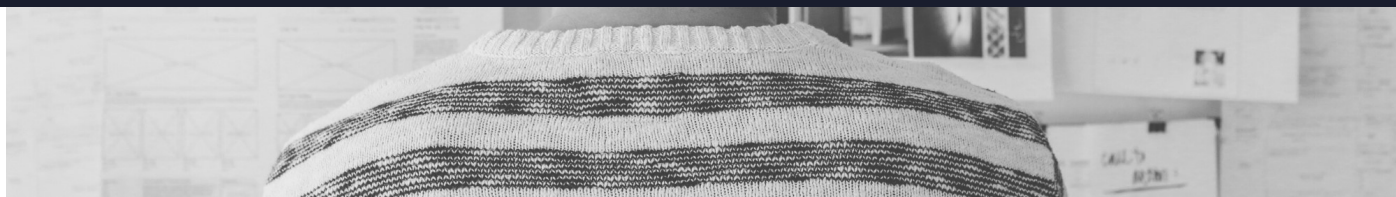
A survey (also referred to as a questionnaire) is used to collect standardized information from stakeholders. When done correctly through appropriate sampling methods, surveys allow researchers to make conclusions (draw inferences) about a target population from a relatively small sample of survey responses. The anonymous nature of surveys allows individuals to express potentially unpopular opinions or dissent which can be difficult to do in public forums. Participating in surveys can be more convenient than other forms of community input like forums or interviews. Surveys can be distributed through a variety of methods (e.g. online, mail, in-person, etc.). Implementing and analyzing a survey may be a challenge for some communities; however, partnerships with local universities, regional planning agencies, and community groups can help with survey design, distribution, and analysis.

SITE TOURS

Facility site tours are a great way to inform the CLT and plan manager of energy efficiency opportunities as well as other capital improvement needs. These tours, often led by facility managers, allow participants to gain a unique perspective and new insight on the built environment and this may generate new project ideas or identify unforeseen challenges.



4. DEVELOPING AN ENERGY VISION



Articulating a well-crafted, succinct vision statement is often one of the most overlooked and undervalued steps in any planning process. While it may be tempting to rush through this step to progress to other activities like outreach and action planning, teams will miss an important opportunity to engage stakeholders and establish a strategic foundation which will help guide the energy planning process.

WHAT IS AN ENERGY VISION?

A vision statement, or in this case your energy vision, is a brief description of what your team or community would like the municipality's use of energy to look like in the next ten to twenty years. This describes where you want to go and what you want to be. If you were a mountain climber, it would be like picturing yourself on the mountain's summit before you start your ascent.

Good vision statements are clear and simple. The point of a vision statement is to build a shared understanding within an organization and its external stakeholders. So, what's the point of having a vision statement that no one can remember? Most vision statements are a few sentences long and use carefully selected adjectives to create a vivid description.

EXAMPLE CEP VISION STATEMENTS

"The Village of L'Anse will be a regional leader in energy security & efficiency by promoting economic energy development. Residents, property owners, & visitors will experience a high quality of life resulting from these energy improvements."

"The Village of Ontonagon endeavors to create a sustainable energy plan in the most efficient & environmentally sound manner for future generations."

WHY DEVELOP AN ENERGY VISION?

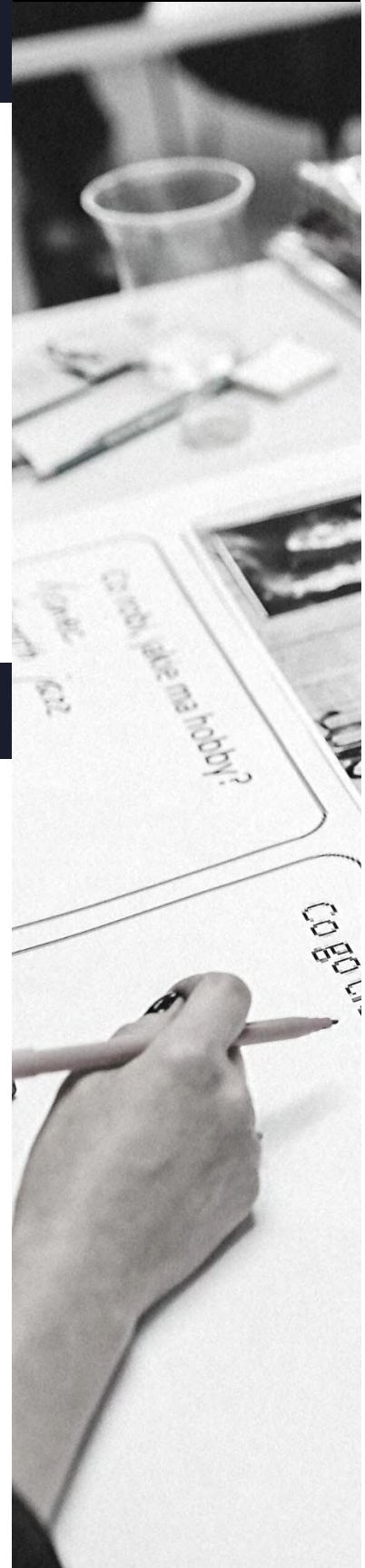
A vision statement is important because it:

- Motivates team members and stakeholders toward a common purpose
- Creates a shared understanding between team members and outside stakeholders of what is supposed to be accomplished
- Builds trust and confidence between the CLT and the community
- Attracts new resources and partnerships to your cause
- Is used to select goals, objectives, and actions and allocate resources in order to make this vision a reality

HOW TO BUILD AN ENERGY VISION

Crafting a vision statement requires an iterative, thoughtful process between the CLT, stakeholders, and perhaps the broader community to build a shared understanding of “your future best self”. It will likely require multiple drafts before you reach a satisfactory version.

- **Start with existing plans:** Reviewing existing planning documents, like your community’s master plan, is a great place to start. These documents may have an established vision statement for your community, and it makes sense to use this as a jumping off point for your CEP.
- **State your scope:** As noted early in the guide, a critical first step for the CLT is to determine if the CEP is municipally focused or community wide. This scope should be the focal point of the vision statement.
- **Focus on the Future:** Don’t get mired in where you are today. This vision should look forward well into the future.



-
- **Make it ambitious but attainable:** The best vision statements encourage organizations and individuals to strive for lofty goals, so aim high! But visions should not be so far-fetched that it deters stakeholders from getting on board.
 - **Solicit input from stakeholders:** Try inviting them to a brainstorming session or use a community forum to identify guiding principles used to develop the statement. This helps to make the process more inclusive, generate additional ideas, and lay the foundation for future collaborative efforts.
 - **Leverage your energy vision:** Once you have a final statement, be sure that it continues to play a role throughout the CEP process. Include on meeting agendas, stakeholder outreach messages, planning documents, etc. By having this in the forefront of your efforts, it will help focus the CLT's decisions and the CEP's implementation.

As you navigate creating a vision statement, here are a few missteps worth avoiding:

- **Excessive group writing workshops:** Members of your CLT are likely busy individuals so spending multiple meetings working out the perfect text may frustrate members of your team. Instead, try assigning the "drafting" to the plan manager or someone or another member of your team who's willing to compile feedback into draft statements.
- **Lengthy statements:** Your vision should be simple and accessible. Lengthy and overly specific vision statements with multiple qualifications creates confusion among readers and makes it difficult to remember.
- **Copying other vision statements:** Reviewing other vision statements is a great way to get the creative juices flowing but copying an existing statement and replacing the name of the community with yours doesn't do much for team building or stakeholder engagement. If there's an example or two that seem to be a good fit, let it serve as a foundation. But be sure to go authentically go through the process so you don't miss out on the benefits of this planning step.



5. CREATING A MUNICIPAL ENERGY PROFILE



In order to identify effective strategies and investments to fulfill your energy vision, it is important to understand how your municipality uses energy. Almost all local government operations, from clerical office duties to sewage treatment, consume energy. Factors that influence the amount of energy your government consumes, and the amount of energy expenses passed along to taxpayers include:

- The energy type (e.g. electricity, natural gas, etc.) used to achieve a government function
- The amount or frequency of a required government function (e.g. miles of roads plowed each winter, gallons of water treated for municipal drinking water, etc.)
- The efficiency at which facilities or equipment convert energy to achieve these functions

Developing an energy profile for your municipality will help your leadership team understand the amount and expense of energy for these functions and guide your team as you wade through various options when establishing investment priorities for energy waste reduction. It will also establish an energy baseline to help track progress made after energy efficiency investments and programs are implemented.

WHAT IS A MUNICIPAL ENERGY PROFILE?

The municipal energy profile provides a summary of a government's energy consumption by activity, function, or facility. While this is useful to identify potential energy efficiency projects, it will also be used to establish a baseline to track progress as you implement your CEP and establish energy conservation and cost reduction goals. The sophistication and amount of detail of an energy profile will vary based on your team's access to data and availability of financial expertise and software resources. However, it is not necessary for your team to spend thousands of dollars in order to create a useful assessment tool. A simple analysis of your



utility bills can provide a significant amount of useful information and there are several free tools available to aid in data analysis and communication. A list of data and analytical resources for creating an energy profile is provided at the end of this chapter.

When compiling your community energy profile, it will be beneficial to involve your municipal administrator, facilities manager(s), and finance/treasury department. If they are not already members of your CLT, you will want to solicit their assistance to access information such as: property history, facility size and use, facility energy use, and energy cost. These inputs are used to develop a snapshot of your current and historical municipal energy use.

ASSESSING CURRENT ENERGY USE & SUPPLY

The following steps provide an example outline for rural governments to develop a municipal energy profile.

- 1. Facility Inventory:** Develop an inventory of facilities to be included in the municipal energy profile. The inventory is a list of facilities or assets under municipal management that use heat or power. The inventory includes relevant information like description of the facility or asset, building size, building age, if the facility/asset is used year-round or seasonally, recent upgrades which impact asset energy consumption, etc. Much of this information can be compiled from municipal documents such as a community master plan, capital improvement plan, and meetings with municipal staff and facility managers. This is a useful practice to help your CLT become familiar with the assets included in the assessment and identify any special circumstances that may impact overall energy performance. Additional information to collect during this step:
 - List of previously completed energy efficiency investments (within the past 5 years) or planned building improvements that will affect its energy use (positively or negatively).
 - A list of metered accounts from your local electric and heat utilities.
 - Unique events that may have impacted a facility's energy use over the past two years (e.g. building addition; temporary building closure; on-site renewable energy project; change of facility use, etc.).
 - Building or facility size (total square footage).

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- 2. Acquiring Energy Data:** Data for your baseline can come from several sources like utility bills, asset management databases like the U.S. Environmental Protection Agency's [Portfolio Manager](#), or real-time energy use studies provided by energy service companies (ESCOs) which can provide a range of energy services such as energy efficiency projects, retrofitting, energy infrastructure outsourcing, power generation and energy supply, and risk management. For most municipalities, utility bills are a good place to start.

Ideally, your CLT will gather energy consumption and cost data for each facility or asset included in your inventory. Collecting data at the facility-level will allow your CLT to compare properties and identify high cost and high consuming properties. Most assets will either use power (electricity) or heat (for space heating or industrial processes), and some use both. However, you may not be able to get energy data for each asset if they are not separately metered.

Depending on your municipality's document retention policy, several years' worth of utility data will be available. Utilities can also provide this data upon request as well. It is best practice to create blended cost and consumption averages using at least two years' worth of data for each asset under review. This helps to ameliorate outliers that dramatically increase or decrease normal energy use like a particularly severe winter, changes to a utility's billing practices, deviations in normal asset operating procedures, etc.

- 3. Comparing Facilities:** Once you have gathered utility data for your facilities, you are ready to do a preliminary comparison to identify primary targets for more in-depth audits. The U.S. Department of Energy's [Energy Data Calculation & Summary Tool](#) is a free resource for CLTs to compare facilities' energy consumption and cost data by inputting information from utility bills into a worksheet which converts this information into common data points: British thermal units (Btu) and cost per Btu. For large energy amounts MMBtu (1 million British thermal units) is used. Standardizing this data makes it easier to compare facilities despite differing energy sources and building operations. This

Table 2: Standardizing Energy and Costs

Metric	Electricity	Natural Gas	Heating Oil	Propane
Cost	\$/Yr	\$/Yr	\$/Yr	\$/Yr
Energy Use	kWh/Yr	Therms/Yr	Gallons/Yr	Gallons/Yr
Conversion	Convert to MMBtu	Convert to MMBtu	Convert to MMBtu	Convert to MMBtu
Building Area	Total sq ft	Total sq ft	Total sq ft	Total sq ft
Standardized Use	MMBtu/sq ft	MMBtu/sq ft	MMBtu/sq ft	MMBtu/sq ft
Standardized	\$/sq ft	\$/sq ft	\$/sq ft	\$/sq ft

Source: U.S. Department of Energy Community Energy Strategic Planning Guidebook

information can be further refined using buildings' approximate square footage to determine metrics like heating cost per square foot. Once inputted into the U.S. Department of Energy's [Energy Data Calculation & Summary Tool](#), additional data analysis can be conducted to help target facilities for additional energy investigation. **Figure 3** below provides an example output highlighting a community's largest energy consuming and energy cost assets. As the example demonstrates, three facilities account for nearly 86% of the government's energy costs and 88% of total energy consumption making them prime targets for additional analysis through in-depth audits and potential energy efficiency investments.

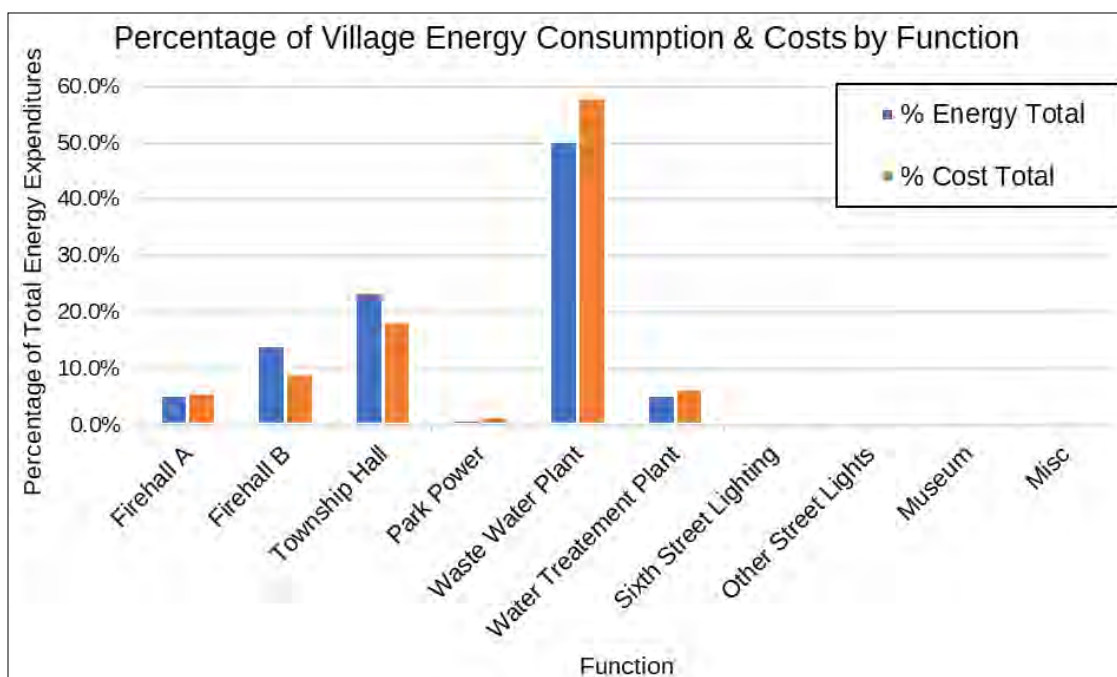
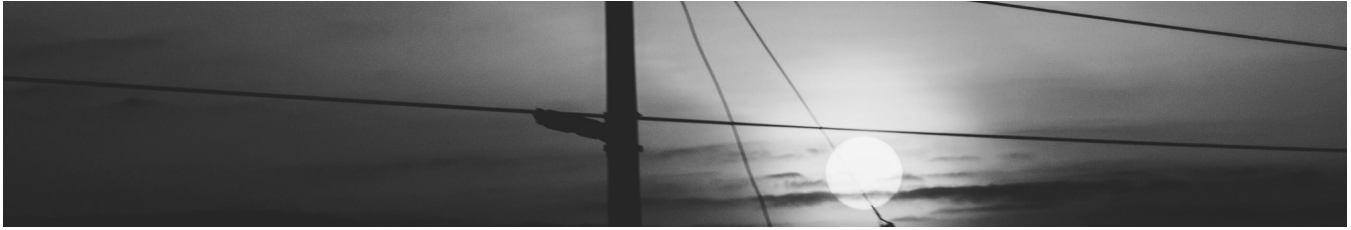


Figure 3: Example Energy Baseline Comparison

- 4. Ground-Truthing Results:** Utility bills can tell a compelling story of a government's energy use, but it is important for CLTs to recognize this approach's limitations and pitfalls.
- Multiple facilities may be combined under one electrical or natural gas meter making it challenging to interpret the actual energy consumption by a specific facility.
 - A municipality's internal record keeping may be misleading because of inaccurate utility account labeling. This can lead to confusion when assigning costs and consumption figures to a specific facility or set of assets.
 - Intergovernmental agreements regarding shared assets and facilities which redistributes utility costs between governments may under/over represent a facility's consumption and costs.
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- Irregular meter reading or meter estimates by local utilities may push costs and energy data into incorrect fiscal years or accounting time periods.
- Energy credits generated by renewable power projects may artificially lower facility utility bills and mask cost savings opportunities.

It is important for CLT members to meet with facility managers and financial department officials once the preliminary baseline is created in order to identify and discuss any inconsistencies or inaccuracies. This can help to inform the interpretation of the baseline's results even if better data is unavailable.

BENCHMARKING

Facility energy benchmarking is the practice of comparing the energy consumption of a building to measure performance of a building over time, relative to other similar buildings, or to specific standards like building energy codes. Several tools and resources are available to CLTs seeking to assist their communities with monitoring building performance and identifying potential capital improvement projects related to facility energy efficiency:

U.S. Environmental Protection Agency's [ENERGY STAR Portfolio Manager](#) is a free, interactive energy management tool for municipalities seeking to track and benchmark building energy performance. Using municipal utility bills, Portfolio Manager compares your community's building energy performance to properties similar in size and function to assess opportunities for improvement and verify the effect of energy efficiency investments.

U.S. Office of Energy Efficiency & Renewable Energy [Standard Energy Efficiency Data \(SEED\) Platform](#) is a tool which eliminates many of the technical barriers to combining various data sources (e.g. building use, equalization/assessment data, audit data, utility data, benchmarking results, etc.) for actionable decision making and reporting requirements.

U.S. Energy Information Administration [Commercial Buildings Energy Consumption Survey \(CBECS\)](#) is a national sample survey that collects information on the stock of U.S. commercial buildings, including their energy-related building characteristics and energy usage data (consumption and expenditures).



CONDUCTING FACILITY ENERGY AUDITS

Once your team has completed its preliminary assessment work and identified its priority facilities, you may choose to conduct an energy audit for those properties. An **energy audit** is an assessment process conducted by energy professionals to identify equipment and operational improvements that will save energy, reduce energy costs, and sometimes improve equipment and facility performance. Audits are a very useful tool that can help your team identify, prioritize and plan for energy efficiency improvements. Energy audit help to:

- Establish an energy consumption baseline (current usage), typically for an entire building or property; however, an entire portfolio of properties can be included
- Quantify energy usage according to specific functions or activities (e.g. space heating, lighting, water heating, mechanical processes, etc.)
- Benchmark with similar facilities under similar conditions such as climate, use, size, etc.
- Identify existing energy and energy cost reduction opportunities

Energy audits can vary in terms of the intensity of information and data collection required and specificity and accuracy of energy and cost savings resulting from the audit's recommended energy conservation measures. The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) categorize commercial energy audits into the following three tiers.

- **ASHRAE Level 1 Walk-Through Analysis/Preliminary Audit:** Sometimes referred to as a simple or walk-through audit, this level includes a brief review of facility utility bills by an energy services professional and a walk-through of the facility and review of equipment to identify operational and equipment inefficiencies. A report is generated by the auditor which outlines low-cost/no-cost improvements or recommendations for further analysis. Estimates are made for energy savings and improvement costs; however, these are usually based on national or state averages and aren't extremely precise. These audits are good for identifying major problem areas, but additional analysis may be needed to fully understand the economic and energy savings benefits of specific investments. Facilities that utilize specialized equipment for major municipal operations (e.g. waste treatment facilities) are often beyond the scope of this level.

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- **ASHRAE Level 2 Energy Survey and Analysis:** This audit includes the activities covered under a level 1 audit, but also includes more thorough and accurate energy savings and improvement cost calculations. This audit identifies and reviews all appropriate energy efficiency improvements for a facility and creates a detailed financial analysis for each potential improvement. The analysis includes implementation cost estimates, operating cost savings and projected payback periods/return on investments. A level 2 audit often requires additional information such as facility utility records for the past two to three years and specific equipment energy consumption information.
 - **ASHRAE Level 3 Detailed Analysis of Capital-Intensive Modification:** This audit expands on the level 2 audit to project cost and energy savings for capital intensive projects. The audit conducts intensive energy modeling to produce estimates with a high level of confidence. During this process, auditors may temporarily collect real-time energy consumption data for facility operations and equipment usage in order to build out an energy profile that reflects both annual and daily variations. Using this information, auditors can generate extremely accurate projections for energy conservation investments. This level of specificity and certainty can be helpful to governments which plan to pursue external sources of financing to pay for energy efficiency upgrades.

SELECTING AN ENERGY AUDITOR

Once your team has determined the facilities to be audited and types of audits needed, it is advised that you engage a professional energy services company (ESCO) to complete the process. Your procurement policies will guide your selection of a contractor; however, it is important to note that engaging in a competitive selection process will showcase the range of qualifications, competencies and costs associated with the energy auditing process. The selection of an energy auditor usually includes identifying potential auditors, defining the scope of work and requesting bids, assessing qualifications, and contracting with an auditor. A sample RFP is provided in the Appendix.

In rural communities, finding multiple qualified auditors can be a challenge. In some cases, an auditor will need to be hired from outside the area because there will be no qualified auditors locally. The result is often a more expensive audit because of the extra travel costs. In order to minimize this extra expense, governments can choose to package multiple facility audits into the bidding process. This will reduce the travel costs per audit, making each audit less expensive. It can also potentially attract additional project bids since the potential award size is larger.



COMMUNICATING RESULTS

Now that your CLT has completed its preliminary assessment and municipal energy profile, it is important to synthesize your progress to date with key stakeholders and members of local leadership. This is an opportunity to build consensus for the goals, objectives and specific projects that will be included in your CEP action plan. Your team may choose to share its progress and findings through a formal report, public presentation, series of meetings with specific stakeholders or in another format. However, some basic best practices to follow include:

- Tailor the contents of your presentation or report to your target audience (e.g. elected officials, general public, funding agencies, etc.). Energy is a complex and technical topic, and some audiences may find it difficult to follow a deep dive into facility performance and consumption data.
- Create an executive brief to be distributed to local official that highlights the key findings and the overall process for conducting the municipal energy profile.
- If your efforts involved a large array of stakeholders, be sure to include this information to demonstrate the collaborative nature of the effort.
- Don't hide gaps of information that limited the CLTs analysis. Acknowledge these limitations and challenges to increase the process' transparency.
- Be sure to clearly define technical terms and acronyms.
- Visual aids, charts, graphs and images help to communicate key points and findings more effectively and efficiency than long narrative.
- Clearly outline the CLT's next steps and planning timeline.

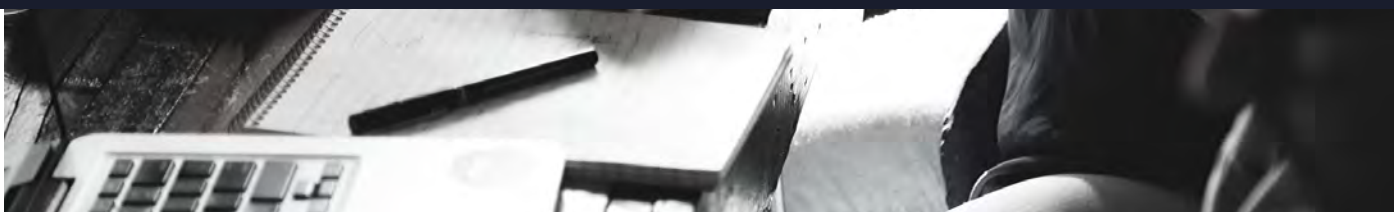
RESOURCES FOR CREATING AN ENERGY PROFILE

Additional resources and tools for developing a community energy profile are listed below. This list is not comprehensive, and there are additional tools that may be of use as your team.

- **U.S. Environmental Protection Agency ENERGY STAR Portfolio Manager** is an online tool used to benchmark energy consumption for commercial and industrial buildings, track energy and water use and estimate greenhouse gas emissions. An ENERGY STAR Score is provided to communicate how well your property is performing relative to similar properties.
 - **U.S. Environmental Protection Agency Power Profiler** is an online database that allows users to enter in their zip code and compare their local air emissions rates for electricity against the national average, as well as the air emission impact of your electricity use.
 - **U.S. Energy Information Administration Commercial Buildings Energy Consumption Survey (CBECS)** is a national sample survey that collects information on the stock of U.S. commercial buildings, including their energy-related building characteristics and energy usage data (consumption and expenditures). Data from the survey can be used to estimate your properties' energy use and benchmark it to similar properties.
 - **Long-range Energy Alternatives Planning (LEAP) system** is a tool for organizations and communities to participate in integrated resource planning, greenhouse gas mitigation assessment and low-emissions development strategies.
 - **U.S. Department of Energy Building Performance Database** provides public access to anonymized real-building data for customizable queries and peer-to-peer comparisons.
 - **U.S. Department of Energy Building Energy Asset Score** is a national standardized tool for assessing the physical and structural energy efficiency of commercial and multifamily residential buildings. The Asset Score generates a simple energy efficiency rating that enables comparison among buildings and identifies opportunities to invest in energy efficiency upgrades.
 - **U.S. Department of Energy State & Local Energy Data (SLED)** provides zip code level data on renewable energy resource potential, transportation, buildings, and industry energy consumption, natural gas and other fuel source costs, greenhouse gas emissions and electricity generation.
 - **U.S. Department of Energy Low-Income Energy Affordability Data (LEAD) Tool** is designed to help states, communities and other stakeholders create better energy strategies and programs by improving their understanding of low-income housing and energy characteristics.
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6. DEVELOPING AN ENERGY ACTION PLAN



Now that your CLT has completed its municipal energy profile, you are ready to review the data and establish your municipal energy action plan (MEAP). This section of your CEP often receives the most attention by community officials and stakeholders. The plans vary in the level of detail and specificity, but they usually include (at minimum) a list of specific projects (or actions) intended to help your community make progress toward specific goals.

In this guide, we recommend that your CLT follow a strategic planning process that adopts a “goals, strategies, and actions” approach. However, keep in mind that in the world of strategic planning, the vernacular (e.g. goals, objectives, strategies, tactics, actions, etc.) is not concrete. However, the primary point is to establish high (macro) level goals and then develop a plan using more specific (micro) components that methodically support the attainment of these desirable outcomes.

MEAPs are often multi-year in length, ranging from 3 to 10 years. The process is intended to help your CLT, community leaders, and stakeholders build consensus and buy-in for projects identified in the MEAP and allocate the necessary resources (e.g. time, funding, expertise) to make the projects come to fruition.

To develop you MEAP, your CLT will:

- Develop concise, measurable goals for your municipality’s energy usage
- Identify implementable strategies assigned to specific departments or individuals to help achieve these goals
- Establish a timeline for completing or implementing your strategies
- Estimate the costs and funding resources for your strategies



- Share your MEAP with stakeholders and community leaders to solicit feedback and support
- Legitimize your MEAP through adoption by your local unit of government
- Establish procedures for evaluating your progress and updating the MEAP

ESTABLISHING GOALS FOR THE ENERGY PLAN

Like most planning initiatives, goals form the foundation for your CLT's MEAP. **Goals** can be defined as high level, medium- or long-term targets that will help achieve the vision developed by your CLT and stakeholders early in the CEP process.

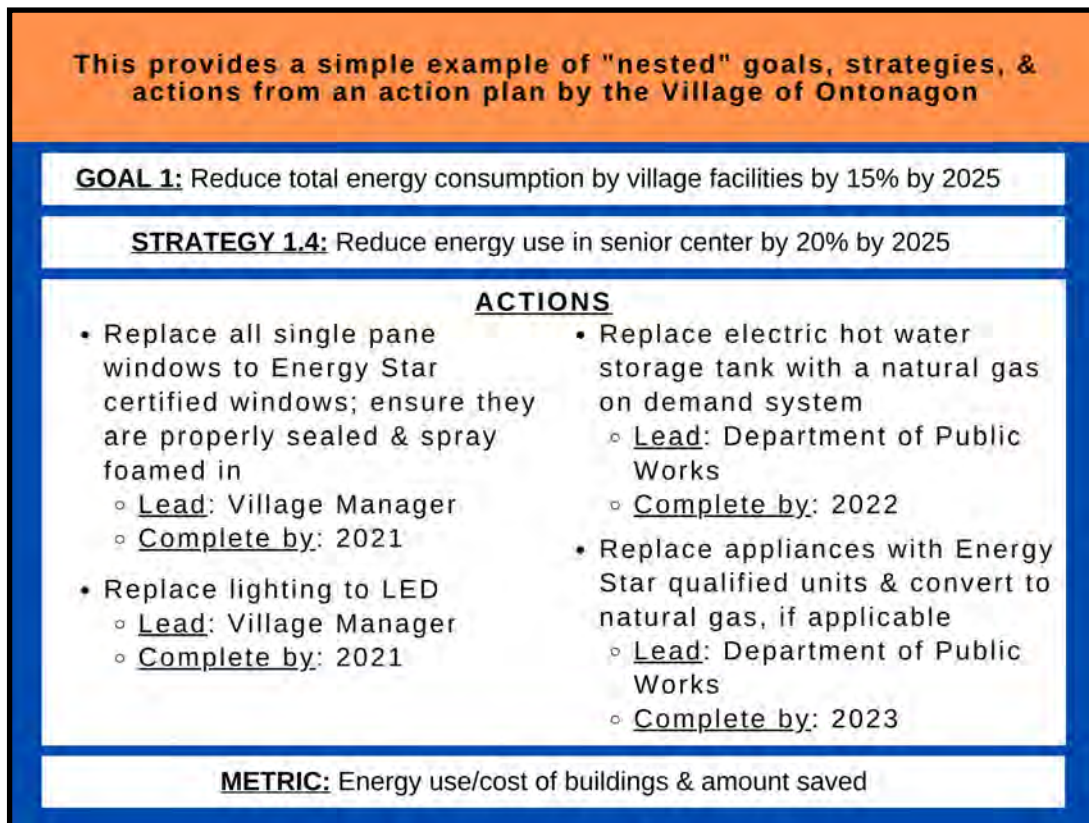
To help with developing your MEAPs goals, consider using the “SMART” goal concept:

- **Specific**: Set clear goals. They let your team know what you're trying to achieve so that it is easier to identify helpful strategies and action items. For example: “Reduce energy cost by reducing municipal building energy consumption.”
- **Measurable**: Setting a measurable target will help your CLT and leadership understand the rate of progress achieved by adopted strategies or action items. For example, your CLT can set a goal to cut municipal greenhouse gas emissions by 50% by 2030. Be sure that the metric used in the goal (50% of greenhouse gas emissions) is the indicator that will be used to monitor progress.
- **Attainable**: The proverbial “moonshot” can be exciting, but unachievable goals can depress your team's motivation leading to frustration and failure. Goals should be ambitions but realistic.
- **Relevant**: Goals need to be connected to achieving your municipal energy vision.
- **Time-bound**: Set a target deadline for the goal's completion. While these dates are not necessarily set in stone, doing so will help to plan your strategies and plan's timeline.

Once you have your goals drafted, it's good practice to review them as a whole and ask, “do any of these goals conflict with each other?” In other words, does achieving Goal A negatively affect Goal B? If you identify incongruent goals, you may choose to adopt mitigating strategies or amend your goals.

STRATEGIES AND ACTION ITEMS

Once your goals are established, you should identify specific strategies that will achieve your desired MEAP outcomes. A **strategy** is an approach you can use to make progress toward a goal. Strategies are considered “mid-level” components of a strategic plan. Like goals, you can create “SMART” strategies for more effective planning. **Actions** are specific projects, programs, or policies that make progress toward implementing strategies which help achieve goals.



Prioritizing strategies and actions can be a challenge. Given that our communities often lack the time and finances to implement all the actions and strategies identified, we are forced to choose which ones are acted upon first. For rural communities, funding resources may dictate which projects gets our attention. For example, a grant may be available for a local lighting project, so that action item may move to the front of the queue. However, in cases where the decision isn't made for us, a screening matrix is a useful tool. A **screening matrix** is a form of multi-criteria decision analysis (MCDA) where projects or strategies are ranked based on a set of criteria and criteria scores. The table below provides an example screening matrix process to determine which action items will be prioritized in the MEAP for a strategy.

In this example, a rural community's CLT is prioritizing improvements to its water distribution system. The CLT has identified three potential action items and six evaluative criteria. The action items will be evaluated using each criterion and then assigned a criterion score. For example, the CLT has decided to use the projected cost of the action item as an evaluative criterion. In this scenario, low cost projects are preferred. The projects are assigned a score (low cost = 3, medium cost = 2, and high cost = 1). After assigning scores to all the projects using all the criteria, a total score is tabulated. The highest score is considered the most favorable and highest prioritized project. In this scenario, the Operation Building's HVAC replacement would receive the highest priority with a score of 15.

Strategy: Reduce total energy use (BTUs) of municipal water system by 20% of baseline by 2025.

Table 3: Example Screening Matrix

Actions	Criteria						Total Score
	Cost	Energy Savings	Difficulty of Implementation	Funding Available	Additional Operational Benefits	Payback Period	
Pump Upgrade	Medium	Medium	Low	No	Moderate	Moderate	11
LED Lighting	Low	Low	Low	Yes	Marginal	Rapid	14
Operation Building HVAC	Medium	High	Medium	Yes	Marginal	Moderate	15
Scoring Weights	Low = 3 Med. = 2 High = 1	Low = 1 Med. = 2 High = 3	Low = 3 Med = 2 High = 1	Yes = 3 No = 0	None = 0 Marginal = 1 Moderate = 2 Significant = 3	Rapid = 3 Moderate = 2 Long-term = 1	

GROUND-TRUTHING THE PLAN

Once a draft MEAP is complete, it is important that the CLT seek feedback from community officials and stakeholders. It is important to identify the departments or agencies which will be directly affected by MEAP projects and programs and meet with these stakeholders before moving forward with finalizing the plan. Seek answers to the following questions:

- Are the vision statement and goals stated in the plan reasonable and supportable? Why or why not?
- Are the actions described in the MEAP reasonable and supportable? Why or why not?
- What changes, if any, would they like to see in the MEAP?
- Does the timeline in the MEAP seem reasonable?
- Do the financing sources for projects and programs seem reasonable?
- Will their department/agency support the MEAP implementation?
- What potential barriers or challenges do they anticipate when implementing the MEAP?

PLAN ADOPTION

Once the plan is finalized, the CLT should recommend it for approval by the appropriate municipal governing body. Doing so helps to demonstrate that the CEP is supported by the local government and establishes a commitment to implementing the plan. In Michigan, it is common for the local elected body to issue a resolution of adoption. An example adoption resolution is provided in the Appendix. When preparing to have the plan adopted:

- Review your local unit of government's public meeting procedures and requirements. Check for submission deadlines, public review periods, meeting dates, etc.
- Offer to meet individually with members of the adopting body to answer any questions prior to the public meeting.
- Consider giving a public presentation of the plan and the planning process during the adoption meeting to inform attendees of the CLT's work, purpose of the plan, and next steps.
- Be sure to have a CLT representative attend the meeting in case questions come up. Usually plans don't make it to an adoption meeting unless the governing body is prepared to support it. However, members of the public and the governing body may have questions or request changes to the plan.

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- Prepare handouts for attendees that provide details on the plan's purpose, the planning process and your CLT's next steps. These should be short, high-level, and informative.
 - Invite members of the media and other stakeholders who assisted in developing the plan. Prepare a press release providing details of the plan, the planning process and the plan's adoption. Of course, don't send it out until the plan is adopted.

EVALUATING THE PLAN

Your CEP will need to include a strategy for assessing the results of implementing the MEAP. While it may be tempting to skip over this step, monitoring progress will help to identify necessary strategy changes and validate progress toward the plan's goals. Your evaluation plan should:

- **Identify the parties and resources necessary for assessment:** Assessment takes time, expertise, and, in some cases, financial resources. Be sure to specify who is responsible to collect the necessary information on progress and any additional necessary resource this person or committee will need to complete this task.
 - **Metrics for how progress will be measured:** For each action item, your team will need to identify how progress will be measured. Data points (e.g. energy saved, greenhouse gas emissions reduced, etc.) used to measure progress are called **key performance indicators** (KPI). Good KPIs are accessible, easily measured, and accurately measure your progress.
 - **Establish the timeline for assessment:** It is common for plan reviews to be conducted annually, semi-annually, or even monthly. The frequency of evaluation is contingent on your CLT's capacity and resources.
 - **Methods for sharing results:** It is important that your CLT update key stakeholders like municipal departments, governing bodies, and the general public on progress made by the actions and projects undertaken. Options include annual reports and presentations, press releases to members of the local media, creating a webpage on the local governments website to provide status updates, sharing the results of projects on social media, etc.
 - **Specify the procedures required to amend the CEP and MEAP:** No matter how thorough the process used to create the CEP and MEAP, you will need to make changes at some point. As conditions and circumstances change, some projects will ultimately need to be removed and new one's will be added or updated. Clearly outline these procedures and the individuals/agencies/committees with the authority to make these changes to avoid unnecessary challenges and delays.
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7. FINANCING TOOLBOX FOR ENERGY EFFICIENCY INVESTMENTS



Now that your CLT has developed an action plan to achieve your municipal energy goals and objectives, you likely have a series of projects, policies and programs that require financial support in order to implement. For many rural governments, securing financing for projects, even ones that are sound financial investments, can be a challenge. This section will cover several funding options for municipal energy projects; however, it is important to note that funding mechanisms regularly change, and additional options may be available.

FUNDING TOOLBOX FOR ENERGY EFFICIENCY INVESTMENTS

Traditional Government Funding Mechanisms

- Capital Reserve Funds
- Fund Balance
- Bonding
- Taxes and Enterprise Fees
- Lending Instructions
- Public-Private Partnerships

Energy-Specific Financing Options

- Performance Contracting
- Lease Agreements
- Utility Rebate Programs
- Private Federal Tax Incentives
- On-Bill Financing

Analytical Tools

- Cash Flow Opportunity Calculator
- Portfolio Manager

Additional Recommendations for Financing Energy Conservation Projects

- Project Bundling
- Energy Efficient Incentives
- Economic and Community Development Integration
- Utility Financing

State and Federal Financing Options

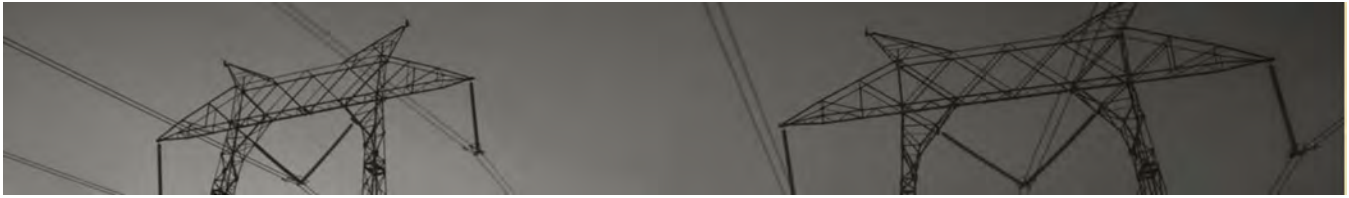


TRADITIONAL GOVERNMENT FUNDING MECHANISMS

- **Capital Reserve Funds:** A local government account or inter-departmental account reserved for long-term capital investment projects or a large, unanticipated expense
- **Fund Balance:** A local government's surplus revenue over expenses which is typically an unrestricted fund.
- **Bonding:** Tax-exempt government bonding, including general obligation bonds or revenue bonds.
- **Taxes and Enterprise Fees:** Special taxes or fees on non-energy-related services, or from organizing energy services as enterprises for which fees are collected. Local governments which operate municipal utilities could choose to establish an enterprise fee from local utility customers on behalf of the local government.
- **Lending Institutions:** Third party financial institutions such as banks which offer short or long-term debt financing. Alternative options include "green banks" which are financial institutions dedicated to investing in ecologically sustainable projects. In Michigan, local governments can take advantage of funding from [Michigan Saves](#), a nonprofit dedicated to making energy improvements easier for all Michigan energy consumers. Michigan Saves offer low-interest loans for energy efficiency and renewable energy projects in addition to other financing options.
- **Public – Private Partnerships:** Local governments can enter into agreements with local organizations, businesses, or charitable institutions to support energy conservation investments in public facilities through donations or debt financing. In many rural Michigan communities, popular public assets like the local ice-rink, parks, marinas, and other recreation venues are managed and owned by the local governments. Working with local clubs, businesses and other groups can help raise capital for energy efficiency projects and improve the quality and long-term viability of public space.

ENERGY-SPECIFIC FINANCING OPTIONS

- **Performance Contracting:** Local governments enter into an agreement with a qualified energy services company (ESCO) that guarantees the energy cost savings of the project. If the project fails to achieve the energy savings targets, the ESCO is typically required to pay the difference. These types of contracts often require extensive energy modeling and analysis by the ESCO. The project's energy savings are used to pay for the cost of the project over terms up to 20 years. Under this arrangement, ESCOs typically identify or serve as the long-term financier of the project; however, local governments are likely able to secure financing terms as more favorable rates.
- **Lease Agreements:** In Michigan, tax-exempt lease purchase (TELP) agreements allow local governments to enter a multi-year energy installation contract with an ESCO that provides for automatic renewal unless positive action were taken by the legislative body to terminate the contract. Payments under a lease-purchase agreement are considered a current operating expense subject to annual appropriations. Governments can make payments under a lease-purchase agreement from any legally available funds, or from a combination of energy or operational savings, capital contributions, future replacement costs avoided, or billable revenue enhancements that result from energy conservation improvements, provided the legislative body had determined that those funds were sufficient to cover (in aggregate over the full term of the contractual agreement) the cost of the energy conservation improvements. What makes them attractive for locals is the fact that they are not considered debt and payment can be stopped if the local governments do not have the necessary funding or the project does not achieve the promised results. Upon completion of the agreement's payment terms, the local government usually assumes ownership of the equipment. Unlike bonding, no referendum vote is required.
- **Utility Rebate Programs:** Utilities often offer rebate programs for energy efficiency investments. Under a traditional rebate program, local governments are reimbursed for a pre-determined portion of an energy conservation project after the project is installed. In Michigan, utilities are required to enact energy optimization programs for their customers, and local units of governments can participate. [Efficiency United](#) is program that many Michigan utilities participate in to meet this requirement and offers a suite of rebate opportunities throughout the year. For an up-to-date list of rebates, visit their website at efficiencyunited.com. If your utility is not part of the Efficiency United program, contact the utility company directly to identify any offerings.



- **Private Federal Tax Incentives:** Many capital investments generate tax credits for entities with a federal tax obligation. While local governments don't pay federal income taxes, they may be able to enter into an agreement with project developers so that the developers are able to use the project's tax incentives to lower their private tax liability. These projects typically require that the developer own, for a fixed period, the installed equipment so that the developer can take advantage of the tax credit before transferring the asset to the local government. These types of arrangements have been used extensively in the renewable energy industry.
- **On-Bill Financing:** In Michigan, utilities may choose to offer their customers an opportunity to pay for energy conservation projects via an online surcharge on their monthly utility bill. Under this arrangement, the utility acts as the primary project financier (or works with a third-party lending institution) and allows the cost of the project to be paid over a set term through an additional fee on the customer's bill. While this practice is not common in Michigan for many utilities, it is growing in popularity across the country.

ANALYTICAL TOOLS

- [The Cash Flow Opportunity Calculator](#): Developed for EPA's ENERGY STAR program, the tool uses building-specific data to help decision-makers quantify the financial benefits of energy efficiency investments. The calculator estimates how much new energy efficiency equipment can be bought with anticipated savings, compares the benefits of financing equipment immediately or waiting to use cash from a future budget, and evaluates money lost by waiting for a lower interest rate.
- [Portfolio Manager](#): EPA's ENERGY STAR measurement and tracking tool allows users to assess energy and water consumption across an entire portfolio of buildings in a secure online environment.



ADDITIONAL RECOMMENDATIONS FOR FINANCING ENERGY CONSERVATION PROJECTS

- **Project Bundling:** Combining multiple energy conservation projects together under one financial package can generate a host of benefits. By combining multiple projects, governments can lower their transaction costs while potentially securing better financing rates and credit ratings when issuing bonds. It also can attract financing for projects with marginal energy savings or long payback periods thanks to an acceptable combined return. Also consider bundling energy efficiency projects with non-energy efficiency projects. The energy savings can help offset some or all the borrowing costs for the non-energy project.
- **Energy Efficiency Incentives:** Some local governments incentivize energy efficiency investments within departments by allocating a portion of the energy cost savings to discretionary department funds with the remaining savings being re-invested in new energy conservation projects. This can help to achieve staff buy-in for energy efficiency initiatives.
- **Economic and Community Development Integration:** Many funding sources are available to help communities achieve their economic and community development goals. By including environmental sustainability and energy efficiency within your community's broader development planning efforts, energy efficiency projects.
- **Utility Financing:** Local governments which operate a municipal electric utility can use this government service as a mechanism for financing municipal energy efficiency projects through addition fees and surcharges. These utilities are often eligible for additional federal financing to implement rural energy efficiency programs. Public Benefit Funds (PBFs) are tariffs placed on regulated utility bills to fund projects that offer a public benefit like energy efficiency investments. They must be legislated or approved by a utility's regulating body.

STATE AND FEDERAL FINANCING OPPORTUNITIES

State and federal agencies are often a source of financing and technical assistance for local government energy efficiency investments, particularly when combined with other capital improvement projects. The size and scope of these programs regularly change, so local governments are advised to contact the following agencies directly to learn about the latest program offerings.

State of Michigan Resources

- [Michigan Department of Environment, Great Lakes, & Energy](#)
 - [Community Energy Management Incentive Program](#)
- [Michigan Department of Agriculture & Rural Development](#)
 - [Michigan Rural Development Fund Grants](#)
- [Michigan Department of Natural Resources](#)
- [Michigan Economic Development Corporation Community Development Programs](#)
- [Michigan Department of Transportation](#)

Federal Resources

- [U.S. Department of Energy](#)
 - U.S. Department of Agriculture Rural Development
 - [Energy Efficiency & Conservation Loan Program](#)
 - [Electric Infrastructure Loan & Loan Guarantee Program](#)
 - [Rural Economic Development Loan & Grant Program](#)
 - [Strategic Economic & Community Development Program](#)
 - [Rural Community Development Initiative Grant](#)
 - [Community Facilities Direct Loan & Grant Program](#)
 - [Multi-Family Housing Direct Loans](#)
 - [Multi-Family Housing Loan Guarantees](#)
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APPENDIX

1. Stakeholder Matrix
2. Sample Energy Auditor Request for Proposal
3. Sample Community Energy Plan Adoption Resolution

STAKEHOLDER MATRIX

Use this matrix to help identify individuals and organizations in your government and/or community that have interests in the development of energy initiatives.

Sector	Areas of Impact			
	Energy Efficiency in Buildings and Facilities	Energy Efficiency in Transportation	Energy Supply	Economic Development
Government Plan				
Community-Wide Plan also includes:				
Residential				
Commercial				
Non-Governmental				
Institutions				
Utilities: Electric and Fuel				
Environmental Interests				
Elected Officials and Their Policy Staff				

SAMPLE ENERGY AUDITOR REQUEST FOR PROPOSAL

Sample Request for Proposal:

Community Energy Management Facilities Energy Audits

Guidelines and Requirements for Submittal

Request for Proposals for Energy Audit Contractor

Section One: Introduction and Instructions

1.1 Purpose of the RFP

This Request for Proposals (RFP) is issued by [Name of Local Unit of Government] (herein after referred to as “Commission”). The purpose of this RFP is to identify and establish a contract with a qualified energy services professional to conduct a series of public facilities and small business facilities energy audits in [Geographic Scope] to identify opportunities for energy efficiency investments.

1.2 Contact Person, Telephone, Fax Number, and Email

[Contact information for Local Government]

1.3 RFP Schedule of Events

This schedule of events represents the Commission’s best estimate of the schedule that will be followed for this RFP. If a component of this schedule such as the deadline for receipt of proposals is delayed, the rest of the schedule will be shifted accordingly.

The estimated RFP schedule is as follows:

- RFP issued: March 20, 2019
- Deadline for questions: April 1, 2019
- Proposals due: April 15, 2019
- Contract award notice: May 21, 2019

1.4 Proposal Submission Format and Deadline

The proposal must be submitted by e-mail attachment in PDF format. The email subject line shall read: “Bid for CEM Energy Auditor” and the proposal PDF file name shall be labeled as “Proposal_CEMAuditor_NameOfCompany” (insert your company’s name for “NameOfCompany” in the file name). The e-mail body text and subject line shall NOT include the bid amount.

The proposal shall be submitted by [Date]. Upon receipt of your proposal, Commission staff will send an acknowledgement email to the email address provided on the proposal’s cover letter. If you do not receive a confirmation of receipt from our office within 24 hours, please call [Phone Number]. Commission assumes no responsibility for delays caused by any delivery service.

1.5 Questions and Addenda

Questions regarding this RFP shall be submitted in writing to [Name, Position], at [Contact Information]. The deadline for questions is [Time] [Date].

Section Two: Project Information

2.1 Introduction

The Commission is seeking to develop a municipal energy management plan for [Community Name] to identify opportunities for energy efficiency investments. The Commission is seeking a qualified energy services contractor to complete energy audits (up to ASHRAE Level II) for the project for public and small business facilities in [Geographic Scope] to assist with the development of this plan.

2.2 Project Goals

The objective of this project is to identify energy saving solutions through a series of audits to develop and implement a comprehensive package of energy savings measures and related infrastructure improvements. Audits will help [Name of Local Government] to:

- Achieve significant long-term cost savings through reduced energy and water use, and related operating cost savings;
- Upgrade old and/or inefficient systems;
- Maintain consistent and reasonable levels of occupant comfort;
- Maintain building functionality and compatibility with existing equipment;
- Provide additional benefits that directly result from energy related services and capital improvements, reduced maintenance needs, etc.

2.3 Scope of Work

An Energy Audit is a systematic assessment, survey, and analysis to determine a property's energy needs and identify opportunities to reduce energy expense and carbon footprints based upon the observed current physical conditions of a property and other associated information. The successful proposer/team will evaluate and propose applicable Energy Conservation Measures (ECM's) using ASHRAE Level I or II equivalent audits (to be determined based on the needs of the facility/property manager) including but not limited to:

- Heating ventilation & air conditioning (HVAC) system optimization, retrofit, upgrade, or replacement;
- Water heating system optimization, retrofit, upgrade, or replacement;
- Interior and exterior lighting retrofit or replacement;
- Outside, street, and area lighting retrofit or replacement;
- Applications to control, dim, monitor, and help maintain interior and street lighting LED retrofit investment;
- Building Automation System (BAS) installation, upgrade, or expansion leveraging existing technology;
- Building envelope upgrades;

- Infrastructure improvements that reduce energy and/or reduce operating costs through the use of renewable energy sources such as solar energy (optional)

An interview should be conducted with each site's facility manager (or designee) during the audit to discuss current issues needing immediate attention and to determine the level of audit needs. In cases of facilities under public management, only one site interview may be necessary. The site management will provide any information about location of HVAC and appliances, type of fuel utilized in the building, pertinent documentation, plans, recent citations, and any other related information to the selected provider for use in analyzing the property needs.

An Energy Audit Analysis report will be provided by the selected contractor for each audit completed. The report will contain the following information:

- Date of when the audit was completed
- A description of the procedures and software used to complete the audit
- A description of the facility audited
- A list of ECMs explored during the audit
- ASHRAE Level I audits
 - Identify and provide a savings and cost analysis of low-cost/no-cost ECMs
 - Provide a list of more capital-intensive improvements that merit further consideration,
 - An initial judgment of potential costs and savings for each ECM
 - An estimation of energy savings potential for each ECM
 - A recommendation of which ECMs should be pursued by the facility owner
- ASHRAE Level II audits
 - A fuel use analysis for audited facility
 - Building benchmarking to gauge overall performance including an analysis of facility energy end-use estimates
 - A projection of ECM cost and savings (energy and dollar value), return on investment, and payback period estimates
 - A recommendation of which ECMs should be pursued by the facility owner

The report will be provided to the Commission in an electronic, PDF format at the completion of the audit. Descriptive photos pertinent to the energy audit will be included in the final report. This report will become the property of [Name of Local Government].

2.4 Qualifications for the Energy Audit Provider

The energy services professional for these assessments must possess valid and current licenses and certifications necessary to comply with the Scope of Work, as listed above and

as regulated by all applicable state, county, and/or local laws and ordinances. The provider must have proven experience in effectively conducting energy audits and energy audit analyses incorporating the tasks and information mentioned on the Scope of Work as well as be knowledgeable about any environmental standards or concerns impacting the audit. The provider must have complete knowledge of the current standards, details, and critical dimensioning related to energy requirements and efficiencies for public and small business (light industry and commercial) properties.

2.5 Timeline

The selected contractor will begin work by the month of June 2019 with a kick-off call with project partners; provide monthly updates to the Commission on the status of the number of audits completed in each community; with the expectation that audits to be completed by the end of July 2019.

Section Three: Proposal Format and Content

The proposal shall contain the following information:

- Cover Page: Provide title of proposal, name of company, primary contact information for the proposal, and date of proposal.
- Project Team: Provide a list and brief qualifications of the individuals included in your proposed project team. State, at a minimum, the educational background of each individual, list of relevant certifications of each employee participating in the project, years of relevant experience, length of employment with your organization, and previous project experience.
- Similar Projects: Provide a list and descriptions of similar project undertaken by the organization.
- Proof of general liability insurance.
- Cost Breakdown: Provide a per-audit fee (ASHRAE Level I and Level II) (**required**) and any other cost information you deem appropriate (optional).
- Brief sample of energy audit reports for ASHRAE Level I & II.

Section Four: Selection Criteria

The default selection criterion, if and when all other factors are equal, will be cost, with the lowest-fee proposal selected. Other factors that may be considered include:

- Previous and current experience with comparable projects
- Past performance for Commission or similar organizations
- Understanding of the project objectives
- Qualifications of personnel
- Knowledge of the local and regional economies

Section Five: Other Items

5.1 Authorized Signature

An individual authorized to bind the Offeror to the provisions of the RFP must sign all proposals.

5.2 Commission Not Responsible for Preparation Costs

Commission will not be responsible for any cost associated with the preparation, submittal, presentation, or evaluation of any proposal.

5.3 Proposal Not Binding Contract

Submission of a proposal, in response to this RFP, does not constitute entry into any binding contract with the Commission.

5.4 Right to Reject Any and All Proposals

Commission reserves the right to reject any and all proposals received.

5.5 Conflict of Interest

Offerors must disclose and describe the nature of any known actual or potential conflicts of interest between either the firm or its proposed project team and the Commission, or any other conflicts that reasonably may significantly interfere with completion of the video. Lack of disclosure may result in cancellation of any award by the Commission.

5.6 Offeror's Certification

By signature on the proposal, the Offeror certifies that it complies with:

- The laws of the State of Michigan.
- All applicable local, state, and federal laws, codes, and regulations.
- All terms, conditions, and requirements set forth in this RFP.
- A condition that the proposal submitted was independently arrived upon without collusion.
- **A condition that the offer will remain open and valid at least until the**

SAMPLE COMMUNITY ENERGY PLAN ADOPTION RESOLUTION

Sample Resolution of Adoption

[NAME OF COMMUNITY] MUNICIPAL ENERGY PLAN [YEAR] *Name of Governing Body*

WHEREAS, the [Name of Governing Body] has undertaken a planning process to determine the energy needs of government facilities and operations and opportunities for energy efficiency investment, and

WHEREAS, the [Name of Governing Body] began the process of developing a Municipal Energy Plan in accordance with the guidelines and best practices developed by [Name Resource] and made available to local communities, and

WHEREAS, residents of [Name of Community] were provided with a well-advertised opportunity during the development of the draft plan to express opinions, ask questions, and discuss all aspects of the Municipal Energy Plan, and

WHEREAS, the public was given a well-advertised opportunity and reasonable accommodations to review the draft plan for a period of at least 30 days, and

WHEREAS, a public hearing was held on [Date] at [Location] to provide an opportunity for all residents of the planning area to express opinions, ask questions, and discuss all aspects of [Community Name] Municipal Energy Plan, and

WHEREAS, the [Name of Governing Body] has developed the plan as a guideline for reducing energy consumption by municipally-owned buildings, equipment and operations, and

WHEREAS, after the public hearing, the [Name of Governing Body] voted to adopt said [Name of Community] Municipal Energy Plan.

NOW, THEREFORE BE IT RESOLVED the [Name of Governing Body] hereby adopts the [Name of Community] Municipal Energy Plan [Year].