Guidebook to Ensuring Process Sustainability in the Implementation of Local Government Energy Efficiency and Electrification Initiatives

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Introduction

The governing body of a small municipality is tasked with ensuring the smooth function of public services on what tends to be a limited operating budget and staff capacity. As a result, local government staff often find themselves tasked with a range of different responsibilities to manage. Thus, a local government staffer must be an effective steward of their personal time to ensure that essential functions of government are provided to citizens. Given the breadth of duties a local government official must perform, it is easy for well-intentioned goals such as sustainability to fall by the wayside in times of staff turnover or low capacity. However, pursuing and implementing sustainability initiatives at the local level aligns with a local government's duty of responsibly stewarding taxpayer dollars and ensuring the smooth function of public services. As such, local government staffers should take care not only to pursue sustainable initiatives, but they should also take steps to ensure the process of implementation is sustainable over time.

This document is designed to help local government officials develop process sustainability for implementing environmental sustainability initiatives relating to energy efficiency and/or electrification (EE/E). The document covers each step in the implementation process, from establishing lines of communication to taking outcome measurements. Additionally, the document includes a section on further measures that local governments can take to strengthen process sustainability. While the document is intended to be comprehensive, it also recognizes that each local government has unique operational situations and characteristics. Thus, readers of this document are encouraged to reflect on how the steps included in the implementation of environmental sustainability initiatives might be adapted to best fit the reality of their local government's situation.

Step 1: Establish Clear Lines of Communication

Local government EE/E initiatives may manifest through a variety of modes such as climate action plans, internal memos, and council resolution. Such documents tend to include a set of goals that can range from modest to ambitious. Regardless of what the goal is or how it was set, it is crucial that robust lines of communication be developed between those who developed the goals and those who will be tasked with their implementation. If an EE/E goal is established, but the staff who need to implement it are either unaware of or unwilling to pursue it, the goal will remain little more than an aspiration. By establishing clear lines of communication and responsibility between the goal's designers and its implementors, an EE/E initiative is much more likely to be successfully implemented.

When establishing lines of communication for local EE/E initiatives, consider all the local government officials and staff members who may play a role in their implementation. The list below is intended to help you get started, though it is not comprehensive.

- Municipal Manager and staff (if the municipality follows a council/manager form of government)
    - The Manager is generally responsible for implementing the policies of the council. So, the manager and their staff will play a large role in implementing EE/E initiatives.
- Chief Elected Official (Mayor, President, Supervisor, etc.)
    - The Chief Elected Official plays a role in crafting policy and representing municipal initiatives to the council and the public. This official can play an important role in guiding local policy decisions to support EE/E initiatives, such as budgeting decisions, zoning changes, and filing resolutions.
- Citizen Committees
    - Some municipalities may have close relationships with volunteer committees comprised of citizens who care about a specific issue. Citizen Committees related to sustainability can provide a valuable source of knowledge and volunteer effort to help get initiatives started.
- Department Heads
    - The actual implementation of EE/E initiatives will often fall on the heads of specific departments who manage programs or facilities that an initiative might pertain to. For example, an effort to electrify the municipality's fleet of vehicles or retro-commission buildings would likely fall under the purview of the Department of Public Services, necessitating close communications with the head of that department.
- Department Employees
    - While a department head will often lead the implementation of initiatives within their department, these initiatives will often be carried out by department-level employees. Ensuring that these employees understand the scope and motivation behind the EE/E initiative is key to facilitating effective communication.

Example: Implementing EE/E in the City of Rockford

The City of Rockford, Michigan follows a council-manager form of government, and the City's most recent Master Plan endorsed the Sustainability and Climate Action Plan (S-CAP) created by the Sustainability Committee (SusCom). The Rockford S-CAP sets a goal for the city to achieve net-zero carbon emissions by 2050 and thus requires a range of efforts relating to building energy efficiency, fleet electrification, and on-site renewable energy production. In this example, responsibilities for implementing the S-CAP are distributed among the following groups:

- Sustainability Committee
    - Research and develop an ambitious yet achievable climate action plan to reduce emissions at the local level.
- City Mayor

- Endorse the Sustainability Committee's S-CAP by incorporating it into City policy documents such as the Master Plan and works with the City Council to approve or deny requests for funding to implement certain EE/E projects.

- City Manager and Staff
  - Direct implementation of the S-CAP by coordinating with the relevant departments and evaluating and making the final decisions on most potential projects.
- Department of Public Services Head
  - Implement the goals of the S-CAP by revising budget requests, making purchasing decisions, and understanding what assets are due for upgrades.
- Department of Public Services Building Supervisor
  - Maintain City-owned property and alert the Department Head when repairs are needed.

As this example demonstrates, implementing EE/E initiatives associated with the S-CAP goes far beyond developing a plan. To make progress on reducing emissions, each of these actors needs to understand the responsibilities of the others and know who to contact about specific issues or requests for information.

Example: Implementing EE/E in the Village of Milford

Like Rockford, the Village of Milford, Michigan follows a council-manager form of government. However, the Village does not have a citizen-led committee leading efforts on sustainability. Rather, the Village Manager's office worked with the energy utility, DTE, to craft an Energy Master Plan that seeks to reduce consumption by 30% by 2030. In this case, responsibilities for implementation are dedicated in the following manner:

- Village Manager and Staff
  - The Assistant Village Manager coordinates implementation among different actors within Milford.
- Village President and Council
  - The President and Council evaluate and approve requests for funding to pay for EE/E initiatives above a certain dollar amount.
- Department of Public Services Head
  - Responsible for identifying and evaluating specific projects that would improve energy efficiency or reduce consumption.
- Department of Public Services Employee
  - Maintain Village-owned property and alert the Department Head when repairs are needed.

In sum, gathering such a wide range of people to communicate at the same time is not easy, but is a valuable way to build momentum for EE/E projects. Salt Lake City, Utah, used meetings across City departments to align goals and help implement energy management plans for different departments. Ensuring that all these groups are aware of the responsibilities and activities of the other and know who to reach out to about a particular issue, can relieve the burden on individual people to serve as a liaison between everyone.

Step 2. Assess Overall Need

Once a clear line of communication and understanding of responsibilities has been established, the next step in implementing an EE/E project is to determine what municipal assets are most in need of an upgrade. Such determinations can be made either by developing an energy benchmarking database on which the energy efficiency of all relevant assets can be tracked, or by paying careful attention to the O&M details of specific vehicles. This section discusses how both options can be used.

Develop an Energy Benchmarking System

One of the most comprehensive ways to assess which assets are best suited for EE/E upgrades is to create an energy benchmarking system. This system can be as simple as recording data in an excel spreadsheet and updating it over time or using a free online platform such as the Energy Star Portfolio Manager, which is used by many municipalities and private companies to track building-level energy consumption. The exact information required for a benchmarking system varies by building type, but all buildings generally require the property name, address, total gross floor area, year built, occupancy, number of buildings, and 12 consecutive months of energy consumption data. EnergyStar has created a starter kit to help users understand their platform and its functions. For customers of DTE, the utility has created a document explaining how to link their DTE Energy Data Hub software with EnergyStar Portfolio Manager. For customers of Consumers Energy, the utility offers consultations to get started with the EnergyStar Program Process. Energy Benchmarking played a key role in Salt Lake City, Utah's efforts to improve the energy use intensity of its municipal buildings by 20% between 2012 and 2025. Ann Arbor, Michigan and Detroit, Michigan have both adopted ordinances requiring buildings above a certain footprint to report energy benchmarking data to the local government, enabling a better understanding of energy consumption in those cities.

The energy benchmarking process can be managed in a few different ways. First, the head of the Department of Public Services can lead the process by coordinating with their departmental staff to analyze the city's building stock. If the Department of Public Services lacks the capacity to manage a comprehensive benchmarking process on their own, individual departments can be tasked with conducting their own benchmarking process. If that too proves too onerous for the municipality, a third option is to gamify the benchmarking process by creating a voluntary

initiative that municipal employees can participate in. The City of Norfolk, Virginia, used a voluntary initiative to get staff to conduct energy benchmarking within their offices.

Pay Attention to Asset Details

If the municipality does not have the capacity to undertake any of the approaches to energy benchmarking listed in the section above, another option is to pay attention to asset details and use them as an indicator of when to pursue EE/E upgrades. Three characteristics of an asset can help determine whether it is ready for an upgrade:

1. The age of the asset
    a. Is the asset near the end of its useful life?
2. The O&M cost of the asset
    a. How much does annual O&M of the asset cost? Could that money be better spent on a replacement or upgrade that would enhance efficiency and reduce O&M costs?
3. Ongoing or upcoming renovations
    a. Is the asset already undergoing renovations for a project unrelated to energy efficiency, or are plans for renovation underway? If so, see if EE/E upgrades can be amended into the renovation plans to improve avoid future large-scale renovations on the asset.

Studying these details of existing assets can help identify when an EE/E upgrade may be beneficial, but this method has drawbacks compared with the benchmarking method. First, an asset can be quite old but still function properly, meaning it may not be evident that the asset could benefit from an EE/E upgrade. Second, waiting for O&M costs to increase to the point where they eclipse the cost of a new asset may result in money being wasted if the cost increase is not caught quickly enough. Third, waiting for unrelated renovations results in a reactive rather than proactive EE/E upgrade process, which may result in more effective initiatives being overlooked.

Step 3: Identify Relevant Financial Incentives

Prior to conducting a comprehensive analysis of the financial viability of a given EE/E measure, one should check for available financial incentives that could reduce the measure's overall cost. Financial incentives for EE/E initiatives will typically be available from three sources: the energy utility serving the municipality, the state government, and the federal government. For example, DTE and Consumers Energy offer rebates that will help offset the costs of hundreds of different products related to EE/E. Additionally, Michigan's Department of Environmental, Great Lakes, and Energy (EGLE) offers a Community Energy Management Program and is developing a Residential and Commercial Energy Efficiency Revolving Loan Fund (EERLF) to support local governments. While the federal government does not offer clean energy incentives

at the time of writing, tax credits, grants, and other incentives to pursue EE/E upgrades may be available in the future. Communities can stay up to date on state and local funding programs that may assist EE/E initiatives by following the MI Funding Hub, a website that provides information on state and federal funding opportunities for a range of uses.

Step 4: Assess The Financial Viability of The Initiative

Once an appropriate project and its associated financial incentives have been identified, it is best practice to assess the overall financial viability of the project. If the EE/E project is of a smaller scale, such as upgrading light fixtures from fluorescent bulbs to LEDs, calculating the financial viability of the project can be done with relatively little effort. However, larger projects with a higher monetary and time investment will likely require securing several bids from installers and consulting with a representative of the energy utility or another energy efficiency expert to accurately estimate the cost of the project, its estimated energy savings, and its overall financial viability. Key values to look for when assessing the financial viability of an EE/E project include the net implementation cost (total costs minus total incentives), net present value, and break-even point. Readers are encouraged to utilize the *Local Government Financial and Carbon Emissions Analysis Tool* that accompanies this document to gather these values.

This stage in the process can also be utilized to assess the carbon emissions reduction potential of a given project. Key values to look for in this analysis include the total carbon emissions reduced over the lifetime of the project and the price per mega-ton of emissions reduced. These values can also be calculated using the *Local Government Financial and Carbon Emissions Analysis Tool.*

Step 5: Pursue Council Approval (If Necessary) and Check Relevant Ordinances

Once a project is determined to be financially viable and able to proceed with implementation, the next step for municipal staff is to determine the proper steps for purchasing the equipment, labor, and other items associated with the project. In doing so, it is critical to be aware of the municipality's purchasing policy. For example, in Rockford, Michigan, the City Manager is the purchasing agent for the city but is still subject to the purchasing guidelines of the City Charter and City Council. As such, city staff should be sure to understand whether they need approval from the Council prior to proceeding with an EE/E project.

Another important detail to check prior to proceeding with an EE/E project is to ensure that the project complies with local ordinances. While violation of municipal codes or ordinances is unlikely in the case of energy efficiency and most electrification projects, it can become a problem for on-site electricity generation projects. For example, if a municipality wants to pursue rooftop solar production on its buildings, city staff should verify that the municipality has

created an ordinance for doing so. The same principle applies for other types of on-site energy production.

Step 6: Post Implementation Measurement

After all approvals for the project have been received, a bid has been selected, and the project has been constructed it is time to transition into measuring the impact of the project on energy usage and expenditures. Measuring the impacts of an EE/E project has numerous benefits. First, city staff can compare expected energy savings to real energy savings, which may help develop a more accurate assessment of the savings generated by future projects. Second, recording statistics from a particularly beneficial EE/E project can help garner support for future efforts at the municipal level. Third, measuring the impact of the project is critical for determining the extent to which the project supported the sustainability goals of the municipality. Measurements should be recorded in the municipality's benchmarking database (if one was created in Step 2) or otherwise should be noted in a separate document to maintain for future reference. Additionally, some utility rebates require that the energy performance of the project be monitored for a full year after implementation before the rebate is paid out, further enhancing the importance of measuring implementation outcomes.

Step 7: Developing Sustainable Processes

Implementing EE/E measures can provide numerous benefits for local government, such as reduced utility bills, cleaner air, and more efficient buildings. However, it is not enough to implement a project that increases the sustainability of the local government's operations. Local government officials must also focus on ensuring that the *process* by which measures are implemented is sustainable as well, meaning that projects can be reliably implemented despite turnover in elected officials, city staff, or broader changes in the community. Developing a guidebook such as this one that details the steps involved in implementing EE/E measures is one way to develop a sustainable process, though a range of other efforts can also be implemented to ensure that sustainability initiatives stand the test of time.

Approach 1: Council-Level Resolutions

One way to assess process sustainability, ensuring that projects supporting initiatives such as EE/E continue over time, is to examine the documents that gave rise to the initiative in the first place. If an initiative does not have a guiding document and is something that is pursued due to the desires of a specific elected official or local government staff member, then it is likely to end when the person who initiated it leaves their position or loses interest. Similarly, if an initiative is based on a document such as a climate action plan, but the plan has not been endorsed by elected officials or local government staffers, it will likely not be implemented effectively. Even if a document such as a climate action plan is endorsed by a local government through its Master Plan, the local government is not required to comply with it.

One common solution to ensuring process sustainability used by many local governments is to adopt a resolution that commits to achieving a certain goal. Examples of this approach include

the City of Norfolk, Virginia adopting a resolution committing to reduce energy consumption by 20% relative to 2012 levels, the City of East Lansing, Michigan resolving to source 100% of the city's electricity from renewable energy by 2030, and the City of Petosky, Michigan adopting a resolution to secure 100% clean energy for its government operations by 2035. Some cities have taken this idea even further and encoded sustainability goals as local ordinances, such as the City of Saint Paul, Minnesota's energy benchmarking ordinance.

While adopting a resolution or ordinance does not guarantee that a given initiative will be achieved, it does signal institutional support for the initiative that can extend beyond the tenure of a single elected official or staff member. Local governments concerned about long-term process sustainability should consider whether the goals of the initiative they are trying to preserve can be translated into a resolution or ordinance.

Approach 2: Leveraging Monetary Savings

For initiatives such as EE/E which not only yield environmental benefits but also help local governments save money on energy and O&M costs, local governments can pursue process sustainability by leveraging the savings gained from past EE/E projects to help fund future ones. Several local governments in the United States have used versions of this measure to build momentum towards EE/E projects. King County, Washington created a Fund to Reduce Energy Demand (FRED) to give county agencies a sustainable financing tool that would help them pay for energy reduction measures by financing projects that would result in a payback to the county government. Agencies repay the county government with the utility bill savings created by the project. The City of Hillsboro, Oregon created a Sustainability Revolving Fund (SRF) and seeded it with $51,000 sourced from savings generated by previous EE/E upgrades and facilities management funds. Within three years, the SRF invested over $45,000 in five projects that resulted in $57,000 of savings returned to the fund. The City of Louisville, Kentucky adopted a resolution to create an Energy Innovation Fund that was seeded from savings generated by previous EE/E measures like the Hillsboro approach. The Energy Innovation Fund has supported projects that are combined to generate $3,200,000 in avoided utility costs and reduce the energy consumption of city facilities by 7.5% compared to a 2019 baseline.

Where approaches such as Council Resolutions can contribute to process sustainability by ensuring support for the effort resists turnover within the local government, measures to leverage monetary savings support process sustainability by ensuring that the local government possesses the resources necessary to pursue EE/E projects. The ability of local government staff to utilize utility savings to fund new EE/E projects becomes increasingly important as the low-cost EE/E upgrades are completed and only larger-scale projects remain.

Approach 3: Developing Buy-In

An additional means for a local government to ensure process sustainability in achieving its sustainability goals is to cultivate buy-in from a wide range of city officials and staff. Embedding sustainability in the core beliefs and everyday behaviors of people working in the local government can help ensure that sustainability initiatives remain a priority even through periods of turnover. The City of Norfolk, Virginia used this measure to expand sustainability in its local government operations by creating the *Watts Going Down Energy Efficiency Campaign*. The initiative involved creating videos about specific energy savings measures that city staff could view, placing signage around city-owned buildings to encourage energy efficiency, facilitating giveaways, and organizing "Energy Treasure Hunts" which acted as a streamlined energy assessment of city-owned buildings.

One avenue for local governments in Michigan can generate staff excitement in EE/E projects is by participating in the annual *Michigan Battle of the Buildings* organized by the Michigan Green Building Collaborative. Competitors must benchmark their building using the EnergyStar Portfolio Manager (a further incentive to conduct benchmarking as discussed in step two) and seek to achieve the greatest year-over-year percent change in weather normalized source energy use intensity, meaning they have generated the greatest energy efficiency improvements of all competitors within that building's use type. The City of East Jordan earned recognition in the 2023 competition for energy efficiency improvements made at a municipally operated pump house, and the City of Kentwood earned recognition for improvements to their district library.

Developing buy-in is a particularly valuable approach for local governments that want to pursue sustainability initiatives but lack the staff capacity to undertake large efforts. Not only does an initiative such as "*Watts Going Down*" support process sustainability by getting local government elected officials and staff more involved in sustainability initiatives, it also supports process sustainability by making sustainability initiatives a collective rather than individualistic effort relying on a single or small group of local government employees.

Approach 4: Hiring Dedicated Staff

The final approach for pursuing process sustainability included in this guidebook is the hiring of dedicated staff for local government sustainability measures. Sustainability is an inherently broad concept that can encompass everything from departmental purchasing to utility use and building design. As a result, tasking an existing local government staff member with pursuing sustainability initiatives in addition to their primary responsibilities can harm process sustainability, as achieving initiatives will likely take a back seat to the staff member's main duties. Hiring a dedicated staff member tasked with handling sustainability initiatives can require significant initial investment from the local government, as it means finding space in the budget for a new employee and dedicating time to the hiring and job training process. However, this investment can be justified in the value contributed by a sustainability manager, which can result

in significant savings on utility bills, more efficient local government operations, and the achievement of sustainability goals.

Several local governments have utilized dedicated employees for achieving their sustainability initiatives. The City of Norfolk, Virginia, hired an energy project coordinator and data analyst to lead the City's efforts to reduce its energy consumption by 20%. The City of Louisville, Kentucky hired an Energy Manager to audit the city's utility bills and building energy consumption as the city sought to achieve 100% clean energy consumption in its facilities. Salt Lake City, Utah, has a full Sustainability Department dedicated to pursuing sustainability initiatives.

In sum, hiring a dedicated staff member to pursue sustainability initiatives may assist in ensuring process sustainability but necessitates an investment of money and time. However, local governments have flexibility in hiring the role they are looking for. A previous report on hiring sustainability staff authored by 2024 Catalyst Leadership Circle Fellow Samuel Howard notes that sustainability staff members could be full-time, part-time, volunteers, consultants, shared employees with other local governments in the region, or the responsibilities of a sustainability staff member could be added to an existing employee.

Conclusion

In conclusion, implementing EE/E initiatives at the local government level should not be handled by only a single person completing a single project. Successful implementation of EE/E initiatives necessitates robust lines of communication between relevant actors, assessing areas of greatest need, identifying available financial incentives, conducting a financial analysis, ensuring compliance with local purchasing policies and ordinances, measurement, and implementing measures to ensure the initiatives can be sustained over time. Following the steps outlined in this guidebook and considering the measures in Step 7 will help local governments establish process sustainability that can ensure the long-term success of EE/E and other sustainability initiatives.