

1. Sustainability Commission Agenda

Documents:

[1-SUSTAINABILITY_AGENDA_2017-09-11.PDF](#)

2. Sustainability Commission Packet

Documents:

[SEPTEMBER 11TH SUSTAINABILITY COMMISSION PACKET.PDF](#)

CITY OF YPSILANTI
SUSTAINABILITY COMMISSION AGENDA
REGULAR MEETING
MONDAY, SEPTEMBER 11, 2017
7:00 P.M. - 8:30 P.M.

Meeting Location:
Ypsilanti City Hall
1 S. Huron St.
Ypsilanti, MI 48197

I. CALL TO ORDER

II. ROLL CALL

Emily Drennen	P	A
Nancy Heine	P	A
Natalie Sampson	P	A
Thomas McKee	P	A
Leah Vanlandingham	P	A
Brett Zeuner	P	A
Julia Bayha	P	A
Keith Michalowski	P	A
Thomas Kovacs	P	A

III. CONSENT AGENDA

- A. Approval of Agenda
- B. Approval of Minutes from previous meeting

IV. AUDIENCE PARTICIPATION/COMMISSION RESPONSE (3 minutes per individual)

V. PROCLAMATIONS/PRESENTATIONS (maximum of 10 minutes per presentation)

VI. ACTIVE BUSINESS

- A. Review and approve Commission Bylaws
- B. Sustainability Plan sub-committee update
- C. Outreach sub-committee update
- D. MGC Challenge sub-committee update

VII. NEW BUSINESS

VIII. AUDIENCE PARTICIPATION/COMMISSION RESPONSE (3 minutes per individual)

IX. PROPOSED BUSINESS (for next meeting)

X. NEXT MEETING DATE

Monday, October 2, 2017

XI. ADJOURNMENT

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XI. ADJOURNMENT

CITY OF YPSILANTI SUSTAINABILITY COMMISSION

MEETING MINUTES

AUGUST 7, 2017

CALL TO ORDER

The regular meeting of the City of Ypsilanti Sustainability Commission was called to order by Chairman Michalowski at 7:18 PM at the Downtown Ypsilanti Farmers Market, 16 South Washington Street.

ROLL CALL

PRESENT: Heine, Sampson, McKee, Vanlandingham, Zeuner, Bayha (7:27 PM), Michalowski, Kovacs

ABSENT: Drennen

ALSO PRESENT: Council Member Bashert (Council Liaison), Mayor Edmonds, City Manager McClary (Staff Liaison)

A quorum was present for the conduct of business.

CONSENT AGENDA

Item B – Approval of Minutes of the June 5, 2017, regular meeting of the Ypsilanti Sustainability Commission was removed from the Consent Agenda for separate discussion.

MOTION BY HEINE, SECOND BY KOVACS, TO APPROVE THE CONSENT AGENDA AS FOLLOWS:

A. APPROVE MEETING AGENDA AS AMENDED.

VOTE: Unanimous

MOTION: Carried

ITEMS REMOVED FROM CONSENT AGENDA FOR DISCUSSION

Item B – Approval of Minutes of the June 5, 2017, regular meeting of the Ypsilanti Sustainability Commission.

It was noted that Section V. 3. of the minutes is an incomplete sentence with some information missing. Chairman Michalowski will review his notes to determine the language that should be inserted.

MOTION BY HEINE, SECOND BY KOVACS, TO APPROVE THE MINUTES OF THE JUNE 5, 2017, REGULAR MEETING OF THE YPSILANTI SUSTAINABILITY COMMISSION AS AMENDED.

VOTE: Unanimous

MOTION: Carried

AUDIENCE PARTICIPATION

No comments from the public were received.

PROCLAMATIONS/PRESENTATIONS

- A. INTRODUCTION OF CITY MANAGER - Chairman Michalowski introduced City Manager Darwin McClary. McClary gave a brief overview of his work experience and family.
- B. HAWAII SUSTAINABILITY CONFERENCE UPDATE – VanLandingham presented a synopsis of the conference and discussed sustainability goals, including zero hunger, equality, community engagement, peace, justice, and strong institutions. VanLandingham recommends that the commission consider registering with the UN as a sustainability working group.

Kovacs stated that the commission needs to make sure that there is no conflict with the Ypsilanti Sustainability Commission's goals and purposes under the city ordinance.

MOTION BY KOVACS, SECOND BY MCKEE, TO POSTPONE ACTION ON THE REQUEST TO REGISTER AS A SUSTAINABILITY WORKING GROUP UNTIL THE COMMISSION'S SEPTEMBER REGULAR MEETING.

VOTE: Unanimous

MOTION: Carried

VanLandingham will send information to the commission and prepare a resolution for the next meeting.

- C. 2017 MICHIGAN GREEN COMMUNITIES CONFERENCE UPDATE – McKee presented a synopsis of the conference and stated that the main value of the conference was the opportunity to network with other communities who are undertaking sustainability efforts. He will provide a bullet point list of key concepts from the conference for the commission.

ACTIVE BUSINESS

- A. REVIEW AND APPROVE COMMISSION BYLAWS – VanLandingham suggested that the commission consider suspending Roberts Rules of Order. She feels the commission can accomplish more without formal rules. No action taken.
- B. SUSTAINABILITY PLAN SUBCOMMITTEE UPDATE – The commission discussed the need to separate the Sustainability Plan Subcommittee into three separate working subcommittees of the commission: (1) Sustainability Plan Subcommittee, (2) Michigan Green Communities Challenge Subcommittee, and (3) Community Outreach Subcommittee.

MOTION BY VANLANDINGHAM, SECOND BY KOVACS, TO SEPARATE THE SUSTAINABILITY PLAN SUBCOMMITTEE INTO THREE SEPARATE SUBCOMMITTEES AS FOLLOWS: (1) SUSTAINABILITY PLAN SUBCOMMITTEE, (2) MICHIGAN GREEN COMMUNITIES CHALLENGE SUBCOMMITTEE, AND (3) COMMUNITY OUTREACH SUBCOMMITTEE.

VOTE: 5 ayes, 3 nays (Heine, Sampson, Bayha)

MOTION: Carried

- C. MICHIGAN GREEN COMMUNITIES CHALLENGE UPDATE – McKee will provide more information for the commission to consider.

NEW BUSINESS

- A. ANTI-IDLING POLICY – No action taken.
- B. PENINSULAR DAM – No action taken.

AUDIENCE PARTICIPATION

No comments were received from the public.

PROPOSED BUSINESS FOR NEXT MEETING

VanLandingham requested that a discussion item on community volunteering be added to the next agenda.

Kovacs requested that an agenda item titled “Committee Reports” be added to all future agendas with each subcommittee of the commission to be listed to give reports.

Mayor Edmonds requested that the commission consider holding a joint meeting with the city council in October or November to receive a presentation on the Washtenaw County Solid Waste Master Plan.

NEXT MEETING DATE

The next meeting of the Sustainability Commission is currently scheduled for Monday, September 4, 2017, at 7:00 PM. However, the meeting will need to be rescheduled to Monday, September 11, 2017, due to observance of the Labor Day holiday.

ADJOURNMENT

MOTION BY MCKEE, SECOND BY VANLANDINGHAM, TO ADJOURN THE MEETING OF THE SUSTAINABILITY COMMISSION.

VOTE: Unanimous MOTION: Carried

The meeting of the Sustainability Commission was adjourned at 9:21 PM.

Respectfully submitted,

Darwin D. P. McClary
City Manager/Acting Recording Secretary

BY-LAWS OF THE
SUSTAINABILITY COMMISSION – CITY OF YPSILANTI

INTRODUCTION

The City of Ypsilanti is committed to lead by example, promote public participation and engage in community partnerships that improve our quality of life and protect the natural systems that sustain life for present and future generations.

Sustainability Commission Mission

ARTICLE I. NAME AND PRINCIPAL CONTACT

The name of the organization shall be the City of Ypsilanti Sustainability Commission (hereafter referred to as "Commission").

Sustainability Commission Composition

Nine voting members, serving for staggered three year terms, and two non-voting youth members serving one year terms.

ARTICLE II. PURPOSE AND OBJECTIVE

The Commission was established by Ordinance 1280, City Code Section 2.171 et seq.-as a fundamental component of the City's programs in sustainability and environmental leadership.

Section 1. The Commission shall act as an advisory body to the City Mayor and Council in the development or initiation of programs or actions that will enhance and create sustainable practices within the community.

Section 2. The Commission shall:

- a. Create a model of sustainability through efforts to advocate, educate and promote the social, economic and environmental health of the community now and into the future.
- b. Broaden the lens and scope of energy and environmental needs in the future such as wind, solar, clean air, water and improving infrastructure.

Commented [1]: I feel this subject was brought up but I do not recall it's result. My wife recently went to a training and came back with the term "one voice". I can see both sides of the argument. Having to wait to comment on an undecided issue is tedious, but the alternative can get conflicting.. below is an example of a one voice principal from a stock corporate reference:

The Board Speaks with One Voice or Not at All

A board is a corporate entity entrusted by its owners with the authority to govern and lead the organization. If the board is to lead, then on each given issue, it must speak with a single voice. The strength of this voice arises from the diversity of viewpoints and intentions its members bring to the board, as well as from the way the board focuses this multiplicity into unity. This one-voice principle doesn't require or imply unanimity. On the contrary, the board must embrace all the diversity it can on behalf of the ownership. Differences among trustees are not only respected, but encouraged.

Rarely will a vote be unanimous. Those board members who lose a vote, however, must accept that the board has spoken and that its decision is now to be implemented.

The board should not present conflicting messages to its ownership or its staff.

Any thoughts?

- c. Recognize natural resources as chief assets of the City of Ypsilanti and encourage responsible stewardship of these assets.
- d. Collaborate with citizens, employees, employers, service providers and other governmental agencies and educational agencies to share ideas.
- e. Create a Sustainability Plan.
- f. Review the City of Ypsilanti's Climate Action Plan and Alternate Fuel Policy along with the Michigan Green Communities Challenge and other plans and policies and to continue the work of said plans and policies.
- g. Prioritize sustainability policies.

ARTICLE III. MEMBERSHIP AND APPOINTMENT

Section 1. The voting members of the Commission shall include representatives that have a professional affiliation with, or expertise in, one or more of the following areas:

- a. Energy
- b. Sustainable land use and transportation
- c. Open space and land preservation
- d. Green building practices
- e. Air quality/climate
- f. Water quality
- g. Recycling/waste reduction
- h. Environmental justice
- i. Education
- j. Small and/or local business
- k. Green jobs/workforce training
- l. Human/environmental health
- m. Agriculture/food security
- n. Community, grassroots environmental efforts
- o. Finance and governance

Section 2. Staff from the City of Ypsilanti shall attend in a nonvoting capacity to serve as a liaison between the City Mayor, City Council and the Commission.

Section 3. The Commission shall, by a majority of a quorum of the Commission at a proper meeting, supervise and direct the business and affairs of the Commission, except as otherwise expressly provided by law or these bylaws.

Section 4. Place language directly from the ordinance 2.172 d and 2.173 Appointment per the ordinance 2.1726D.

Section 5. The Commission may recommend candidates to the Mayor for appointment.

Section 6. Vacancies shall be filled by the following process:

- a. The Mayor; is notified of the vacancy by the City Clerk;
- b. The Commission may request nominations, review applications, and make recommendations to the Mayor;
- c. Mayor selects members to serve on the Commission;
- d. The City Council confirms the appointment; and
- e. A person appointed to fill a vacancy shall serve the balance of the unexpired term.

Section 7. Members shall serve for a term of three (3) years and may be reappointed for one (1) subsequent three (3) year term subject to the following:

- a. Terms will be based on the city's fiscal year, July 1 – June 30.
- b. Any member may resign at any time by giving written notice of such resignation to the Chair of the Commission and to the Mayor through the Office of the Mayor.
- c. The Mayor may remove any member according to law.
- d. The Commission Chair and Vice-Chair, elected by majority vote of the commission at the beginning of each fiscal year, shall serve in the office of chair or vice chair for one year terms.
- e. The City Council, upon recommendation of the Mayor, may remove a member for official misconduct, willful neglect of duty, extortion, habitual drunkenness, conviction of being drunk, or conviction of a felony.

ARTICLE IV. MEETINGS

- a. Meetings of the Sustainability Commission shall be held on the first Monday of each month except when a holiday or other special circumstance requires a change in meeting time. When possible, the re-scheduled meeting day will be the second Monday of the month. The time of the meeting being 7:00 P.M.
- b. Special meetings may be held at the call of the Chair, or in her or his absence, the Vice-Chair.
- c. All meetings shall be open to the public and subject to the Open Meetings Act.
- d. The Chair or Vice-Chair may authorize a telephone or e-mail poll of the members of the Commission for the purpose of canceling a meeting.
- e. Three un-excused absences shall create a vacancy in the office and, after 14 days' notice to the absent member, the Mayor shall fill the vacancy by appointment with the consent of City Council.

ARTICLE V. AMENDMENTS

These bylaws may be amended by two thirds vote of a quorum of members attending a meeting called to consider the question of amendment. Notice of the meeting shall be announced at a regular meeting not less than 14 days before the meeting to amend, and a copy of the meeting notice and the proposed amendments must be furnished each member, in writing, by personal service, first class mail or e-mail.

Ordinance No. 1280 - An ordinance to establish a Sustainability Commission 1. THE CITY OF YPSILANTI HEREBY ORDAINS That The Ypsilanti City Code is hereby amended by adding a new Division 5 Sustainability Commission, to Chapter 2 Administration, Article IV Boards and Commissions, as follows: Division 5. SUSTAINABILITY COMMISSION Section 2.171 Sustainability Commission Rationale City Council by resolution 2016-258, dated November 14, 2016 set forth the reasons for a Sustainability Commission, including: a. To create a model of sustainability through efforts to advocate, educate and promote the social, economic and environmental health of the community now and into the future. b. To broaden the lens and scope of energy and environmental needs in the future such as wind, solar, clean air, water and improving infrastructure. c. To recognize natural resources as chief assets of the City of Ypsilanti and encouraging responsible stewardship of these assets. d. To collaborate with citizens, employees, employers, service providers and other governmental agencies and educational agencies to share ideas. e. To create a Sustainability Plan. f. To review the City of Ypsilanti's Climate Action Plan, Alternate Fuel Policy, the Michigan Green Communities Challenge, and other plans and policies and to continue the work of said plans and policies. g. To prioritize sustainability policies. Section 2.172. Created Pursuant to Ypsilanti City Charter section 9.03, a commission is hereby created known as the Ypsilanti Sustainability Commission, a. to consist of nine regular members, serving for staggered three year terms, and two non-voting youth members serving one year terms. two non-voting youth members to serve one year terms. S:\Clerk's Office\Ordinances\2017 Ordinances\Adopted Ordinance Sustainability Commission.doc b. There shall be a staff person assigned to the commission. c. There shall be a Council liaison appointed to the Commission by City Council. d. Commissioners shall be city residents, except that not more than three commissioners may be non-residents of the city of Ypsilanti. Section 2.173 Appointment Commissioners shall be appointed by the Mayor with the approval and confirmation of a majority of city council. Non-resident commissioners shall require a finding of the best interest of the city and approval and confirmation of not less than five affirmative votes of city council members. Section 2.174 Duties Duties of the Ypsilanti Sustainability Commission shall be to: a. Establish by-laws, subject to the approval of the City Council. b. Elect officers including a Commission chairperson. c. Establish a meeting schedule and meet at least quarterly. d. Take action to fulfill the reasons and rationale for the Sustainability Commission set out in Section 2.171, above. e. To report Commission actions and findings and make recommendations to City Council at least annually. 2. Severability. If any clause, sentence, section, paragraph, or part of this ordinance, or the application thereof to any person, firm, corporation, legal entity, or circumstances, shall be for any reason adjudged by a court of competent jurisdiction to be unconstitutional or invalid, such judgment shall not affect, impair, or invalidate the remainder of this Ordinance and the application of such provision to other persons, firms, corporations, legal entities, or circumstances by such judgment shall be confined in its operation to the clause, sentence, section, paragraph, or part of this Ordinance thereof directly involved in the case or controversy in which such judgment shall have been rendered and to the person, firm, corporation, legal entity, or circumstances then and there involved. It is hereby declared to be the legislative intent of this body that the Ordinance would have been adopted had such invalid or unconstitutional provisions not have been included in this Ordinance. 3. Repeal. All other Ordinances inconsistent with the provisions of this Ordinance are, to the extent of such inconsistencies, hereby repealed. 4. Savings Clause. The balance of the Code of Ordinances, City of Ypsilanti, Michigan, except as herein or previously amended, shall remain in full force and effect. The repeal provided herein shall not abrogate or affect any offense or act committed or done, or any penalty or forfeiture incurred, or any pending fee, assessments, litigation, or prosecution of any right established, occurring prior to the effective date hereof.

Draft Ideas for Definition of Sustainability for City of Ypsilanti's Sustainability Action Plan
From First SAP Subcommittee Meeting on Thursday, August 17th, 2017 6:30 PM
Please make suggestions and comments before Tuesday, September 5th

Three Pillars of Sustainability

- Ecological/
- Economic
- **Social**

Key Themes

- Equity
- Systems Thinking
- Growing
- Future Generations
- Pragmatic
- Equitable path

Public comment at first meeting - "Preserving a balance in the ecosystem while maintaining industrialization"

Public comment at first meeting - "Pragmatically allocating social, environmental, and economic resources while considering past, current, and future issues facing our community."

Commissioner Zeuner's suggested definition:

"Achieving a balance of ecological, social, and economic considerations to provide for an equitable path for the growth of our society, that uses our resources, both natural and social, for the betterment of current and future generations, while remaining conscious of historical context."

8/18/17 - 4:50PM

Synthesis of Commissioner Kovacs and Commissioner Michalowski's suggestions:

"Achieving a balance of ecological, social, and economic considerations to provide for an equitable path for the growth and improvement of our society in the uses of our resources, remaining conscious of the historical context, while ensuring the availability and vitality of those resources for future generations."

Commented [1]: This is Beth Bashert: This is a great start, thank you for your work. I have 1 comment, which may or may not be helpful. Can/Should we change Social to Community? Some sustainability definitions have Community as a 4th leg. I think it could overlap with Social enough that it works in place of is and might be more Ypsi appropriate.

Commented [2]: Looks good. Is this adapted from any one of 1000s of definitions. Seems okay to do if we acknowledge. Or, is this Ypsi-specific? If so, what makes it Ypsi-specific? Can we be even more concise? What about: "Achieving ecological, social, and economic balance in the use of our shared resources with recognition of historical context and a standard of equity across current and future generations."



MICHIGAN GREEN COMMUNITIES CHALLENGE TECHNICAL GUIDE

Prepared by Michigan Green Communities in Collaboration with SEEDS as part of the Michigan Energy Office Community Energy Management Grant Program

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PURPOSE

This technical guide provides examples, resources, and step-by-step instructions to complete components of the Michigan Green Communities (MGC) Challenge. The MGC Challenge serves as a roadmap to help communities undertake sustainability projects and to begin tracking progress.

The MGC Challenge consists of two key sections: 1) Action Items and 2) Reporting Metrics. To be certified as a bronze-level community, communities will only need to complete “Section 1: Action Items.” Communities seeking certification at the silver or gold level will need to complete both “Section 1: Action Items” and “Section 2: Reporting Metrics.” Certification requirements for all levels are below:

Certification Requirements	
Bronze	Complete 6 of 12 bronze action items
Silver	Complete 6 of 12 bronze and 6 of 12 silver action items Complete 10 of 22 reporting metrics
Gold	Complete 6 of 12 bronze, 6 of 12 silver, and 6 of 12 gold action items Complete 15 of 22 reporting metrics Complete one of the following: participate on the MGC Steering Committee, serve on a MGC resource team, or complete a MGC case study

MGC CHALLENGE ACTION ITEMS

ACTION ITEM #1 – FINANCING ENERGY EFFICIENCY

BRONZE: Implement a program to encourage local government staff and elected/appointed officials to reduce environmental footprint at work.

Programs that qualify include (but are not limited to): employee engagement/training programs around energy efficiency or recycling, incentives for employees, commuter challenge to encourage sustainable transportation, an internal policy to set energy efficient heating and cooling temperatures, or recycling challenges across city departments.

Michigan Examples:

- [Muskegon County's Sustainability Plan](#) includes an action item to provide “Energy and resource conservation training program for County employees.”
- The [LiveGreenLansing program](#) encourages all Lansing businesses and their employees to take the pledge to promote sustainability in Lansing. The website even provides a page of tips to employ at work.
- [Traverse City Smart Commute Week](#) is a program run by a local non-profit that encourages alternative modes of transportation.

Resources:

- [Environmental Protection Agency \(EPA\) Bring Your Green to Work: Green team checklist](#)

SILVER: Implement an internal revolving loan fund, or similar financing tool, for local government energy projects.

Internal revolving loan funds serve as a tool to increase municipal energy efficiency projects. These loan funds are a sustainable source of funding, where all energy savings from a project return to the loan fund. These funds help support future projects, and help make the case for broader energy efficiency work by demonstrating savings.

Michigan Examples:

- [Ann Arbor's Municipal Energy Fund](#) was established in 1998 and is a source of continued funding for internal energy projects, such as lighting upgrades and renewable energy projects.
- [Dearborn's Adopt-a-Watt program](#) used sponsorships from local businesses, individuals, and non-profits to finance lighting upgrades.

Resources:

- US Department of Energy (DOE) [Revolving Loan Fund Guide](#)
- US EPA Guide to [Energy Efficiency in Local Government Operations](#)
- National Renewable Energy Laboratory [Revolving Loan Funds “Basics and Best Practices” Presentation](#)
- [Financing Strategies for Municipal Energy Efficiency](#), University of Michigan Masters Project Report

GOLD: Implement a Property Assessed Clean Energy (PACE) financing program, or a similar program, to support community energy efficiency and renewable projects.

PACE legislation for commercial properties is enabled in the state of Michigan. PACE allows property owners to invest in energy efficiency and pay back through a special assessment on the property. PACE programs can be administered through a local government, non-profit, or a private entity.

Michigan Examples:

- [Ann Arbor's PACE program](#) is run by the municipality and was the first program in Michigan. The first round of the program financed over \$500,000 in local energy efficiency projects.
- [Kalamazoo County's PACE program](#) was approved in 2015 and is administered by a private company.

Resources:

- [List of PACE programs](#)

ACTION ITEM #2 – ENERGY AND WATER BENCHMARKING

BRONZE: Conduct energy audits on some government facilities and/or begin to track local government energy use and/or water use systematically, using ENERGY STAR Portfolio Manager or another similar tool.

SILVER: Track local government energy use and/or water use for all local government buildings, using ENERGY STAR Portfolio Manager or another similar tool.

GOLD: Track local energy and water use for all local government buildings, using ENERGY STAR Portfolio Manager or another similar tool and upgrade/retrofit local government buildings to increase energy efficiency and/or conserve water.

Energy audits on municipal buildings help identify where to target energy efficiency improvements. To complete this item, your community must have performed audits on some government facilities OR started to track energy use in municipal buildings. ENERGY STAR Portfolio Manager is an interactive tool that allows for the tracking of energy and water use, over multiple buildings. This tool also helps users to recognize when buildings are underperforming and is free to use.

Michigan Examples:

- The [Michigan Clean Energy Report](#), released in 2015 by Michigan Saves, profiles energy efficiency projects completed in Alpena, Holland, Kalamazoo, Marquette, Pontiac, Saginaw, and Ypsilanti.

Resources:

- [Introduction to Portfolio Manager](#)
- EPA [Finding Money for Your Energy Efficiency Projects paper](#)

ACTION ITEM #3 – SUSTAINABILITY AND CLIMATE PLANNING

BRONZE: Establish an internal government sustainability team or a community sustainability team to coordinate sustainability initiatives.

Both internal and external sustainability teams help build support for taking action at the local government level. These teams look very different across communities. A community team could be a commission or a partnership between local non-profits. An internal team could involve staff members from across city department or may be an extension of an existing department.

Michigan Examples:

- [Oakland County](#) established an internal Facilities Management Green Team in 2008 to evaluate energy usage throughout the buildings and facilities operated by the department.
- [Farmington Hills](#) has a Commission for Energy and Environmental Sustainability that advises City Council on sustainability.
- [Meridian Township](#) supports the Meridian Energy Team which includes energy experts and staff members.

Resources:

- [Report from Green Impact](#), “Green Teams: Engaging Employees in Sustainability”

SILVER: Adopt a community sustainability plan, climate action plan, climate adaptation plan, or incorporate sustainability targets and indicators into an existing community master plan that has measurable targets.

Communities approach sustainability planning in a variety of ways. To complete this action item, a community must adopt a standalone plan that supports sustainability, or incorporate sustainability into an existing master plan. This plan can focus on climate, energy, or more broadly on sustainability.

Michigan Examples:

- [Grand Rapids](#) has a long-established sustainability plan, including progress report updates.
- [Ann Arbor](#) adopted a sustainability framework as part of its City Master Plan.
- [Ypsilanti](#) adopted a Climate Action Plan in 2012 with a grant from the Michigan Department of Environmental Quality.
- [Resilient Grand Haven](#) is sponsored by the City of Grand Haven and Grand Haven Carter Township and includes a review of the Municipal Master Plan.
- The [Imagine Flint Master Plan](#) includes elements of sustainability throughout the plan.

Resources:

- [Climate Action Planning Implementation Guidebook for Small Cities](#) – Prepared by Michigan Suburbs Alliance and WARM
- [Land Information Access Association’s Planning for Resilient Communities project](#)
- National League of Cities - [Creating An Environmental Sustainability Plan: A How-To Manual For Local Governments](#)

GOLD: Incorporate sustainability, energy, and/or climate metrics into capital improvements planning.

Once a sustainability or climate plan is in place, the next step is to incorporate sustainability into the decision-making process. The capital improvements planning (CIP) process generally involves prioritizing to distribute funding across local government assets. Integrating sustainability metrics into the CIP process introduces sustainability to all potential projects.

Michigan Examples:

- [Ann Arbor](#) scores potential CIP projects based on whether the project furthers goals from the sustainability framework.

ACTION ITEM #4 – NATURAL FEATURES PLANNING

BRONZE: Implement a program to protect natural features, such as wetlands, tree canopy, or water resources.

This action addresses policies and programs that protect, enhance, or maintain natural features in the community. Natural features may include (but are not limited to): watersheds, stormwater management, private or publicly-owned trees, water conversation, coastal areas, open space, or greenbelts.

Michigan Examples:

- Bingham, Centerville, Cleveland, Elmwood, Kasson, Leelanau, Leland, Solon, and Suttons Bay Townships are all partners on the [Lake Leelanau Watershed Protection Plan](#).
- [Lansing](#) works with regional partners as part of the Greater Lansing Regional Committee on Stormwater Management to help protect water resources.
- [Grand Rapids](#) is a partner of a Citizen Forester program, which helps train volunteers to care for trees in Grand Rapids.

Resources:

- [Networks Northwest](#) offers many resources and model ordinances for Michigan communities.

SILVER: Adopt a natural features plan or ordinance to protect natural features, such as wetlands, tree canopy, or water resources.

This action addresses adopted plans and ordinances that protect, enhance, or maintain natural features in the community. Natural features may include (but are not limited to): watersheds, stormwater management, private or publicly-owned trees, water conversation, coastal areas, open space, or greenbelts.

Michigan Examples:

- [Muskegon's Master Plan](#) includes a natural features inventory and identifies actions and policy recommendations to protect and enhance natural features.
- The [City of St. Joseph](#) passed a no-build ordinance to protect its shoreline.

Resources:

- [Policy and Planning for Coastal Communities webpage](#) from Michigan Seagrant
- [Developing an Approvable Watershed Management Plan](#) webpage from Michigan Department of Environmental Quality (MDEQ)

GOLD: Adopt a community forestry plan and urban tree canopy goal.

Adopting a community forestry plan helps prioritize maintaining and enhancing the quality of trees in your community. The plan may address publicly-owned street trees and/or private trees. The plan can be an internal, staff-facing plan, or a plan officially adopted by your community's legislative body. The plan does not need to be a standalone plan and can be embedded in another plan (e.g., climate action plan, sustainability plan, master plan); however, the plan must set an urban tree canopy goal.

Michigan Examples:

- The City of Ann Arbor recently adopted an [Urban and Community Forest Management Plan](#).
- Grand Rapids completed an [assessment of urban tree canopy](#) cover in 2015.
- The City of Birmingham adopted a [Public Tree Management Plan](#) in 2012.

Resources:

- Michigan Department of Natural Resources (MDNR) [Urban and Community Forestry Program website](#)
- American Planning Association (APA) [Planning for Urban and Community Forest website and resources](#)
- US Department of Agriculture [i-Tree Tools for Assessing and Managing Community Trees and Forests](#)

ACTION ITEM #5 – WASTE REDUCTION

BRONZE: Implement a program to encourage recycling and waste reduction.

To complete this action, your community must implement a program to encourage recycling and waste reduction for employees and/or residents. Programs may include, but are not limited to: incentives for recycling, educational materials for employees and/or residents, recycling competitions internally or communitywide, offering smaller trash carts/bins for employees and/or residents, providing recycling to residents and/or businesses.

Michigan Examples:

- [Mygrcitypoints](#) in Grand Rapids is a program that offers local rewards to encourage community members to recycle.
- [Meridian Township](#) holds a number of recycling events, including RecycleRama and a regional recycling event.
- [Monroe County](#) provides access to information and resources to help residents recycle and live sustainably through an online portal, EcoVille.

Resources:

- EPA [Resource Conservation and Recovery](#) – A Guide to Developing and Implementing Greenhouse Gas Reduction Programs
- Michigan Recycling Coalition [Professional Resources for Municipalities](#)
- MDEQ [Recycling 101 Guide](#)

SILVER: Implement communitywide residential and commercial recycling programs.

This action requires that communities offer recycling options to both commercial and residential customers. This program may be run by the local government or through a franchise agreement.

Michigan Examples:

- [Kent County](#) runs a Recycling and Education Center that accepts single-stream recycling for residents. The County also includes a search tool on its website to help residents identify how to recycle items.
- Farmington Hills is part of the [Resource Recovery and Recycling Authority of Southwest Oakland County](#) (RRASOC) along with other nearby communities.
- [Delhi Township](#) offers curbside recycling to residents through a joint program with Granger.

Resources:

- MDEQ [Recycling in Michigan: Successful Recycling Programs, Best Practices, and Diversion Potential Report](#)
- Michigan Recycling Coalition [Professional Resources for Municipalities](#)

GOLD: Implement a communitywide composting program.

This action requires communities manage a communitywide composting program. This program may be run by the local government or through a franchise agreement. The program may be a curbside collection program or may through another program, such as community drop-off locations.

Michigan Examples:

- Emmet County Recycling, in partnership with 20 local restaurants and florists, conducted a [Food Scraps Pilot Project](#) in 2015 to pilot composting.
- Marquette offers a [community drop-off location for organic waste recycling](#).
- Ann Arbor provides seasonal [curbside compost](#) pick-up, including food waste, for residents.

Resources:

- EPA [How to Establish Recycling and Composting Programs](#)
- [MDEQ Composting Resources](#)

ACTION ITEM #6 – LID AND GREEN INFRASTRUCTURE

BRONZE: Implement a program to encourage low-impact design and/or implement a green infrastructure project.

This action item addresses actions that mitigate impacts on natural systems and encourage the use of natural processes to increase infiltration, reduce run off, and improve water quality. Examples of

green infrastructure and LID projects include, but are not limited to, rain gardens, green roofs, vegetated swales, and permeable pavement.

Michigan Examples:

- The City of Detroit is [installing green infrastructure](#) to help manage stormwater runoff.
- [Rain gardens](#) installed along Michigan Avenue in Lansing help capture stormwater.
- City Hall in Farmington Hills features a [green roof system](#).
- Southeast Michigan Council of Governments (SEMCOG) maintains a [database of case studies](#), featuring green infrastructure and green streets projects in Michigan.

Resources:

- MDEQ Funding Resource for [Financing Green Infrastructure in Michigan](#)
- SEMCOG [Green Infrastructure Resources](#)
- Huron River Water Council (HRWC) [Barriers Preventing Implementation of Green Infrastructure in Washtenaw County, Michigan](#)
- EPA [Green Infrastructure Resources](#)
- [Great Lakes, Green Streets Guidebook](#)

SILVER: Provide incentives for property owners to decrease impervious surface.

To complete this action, communities need to incent property owners to decrease impervious surface on their property. This may include incentives for rain gardens, rain barrels, permeable pavement, and rainwater harvesting.

Michigan Examples:

- The City of Ann Arbor provides [residential](#) and [commercial](#) stormwater credits to property owners that take action to reduce stormwater runoff.
- The City of Grayling implemented a [rain garden adoption program](#) to incent property owners to help maintain installed rain gardens.
- Kalamazoo County offers an [incentive to residents to install rain gardens](#), by offering to cover partial costs for membership to the Kalamazoo Area Wild Ones.

Resources:

- EPA [Encouraging Low Impact Development: Incentives Can Encourage Adoption of LID Practices in Your Community](#)
- EPA Municipal Handbook: [Managing Wet Weather with Green Infrastructure – Incentive Mechanisms](#)

GOLD: Adopt a policy or ordinance that encourages green infrastructure and/or discourages impervious surface.

For credit for this action, communities need to adopt a policy, program, or ordinance related to green infrastructure or to reducing impervious surface. For instance, an ordinance requiring property owners capture a percentage of stormwater onsite discourages impervious surface. Likewise, an ordinance requiring green infrastructure on new street construction or reconstruction encourages green infrastructure projects.

Michigan Examples:

- Ann Arbor adopted a [Green Streets Policy](#) in 2014 establishing requirements for stormwater infiltration on new and reconstructed public streets.
- Sault St. Marie adopted a [Community Improvement Plan](#) that sets a guideline of incorporating green infrastructure when public funds are used.
- The Green Grand Rapids Master Plan Update directs for the use of [green infrastructure](#).

Resources:

- City of Ann Arbor [Stormwater Utility Case Study](#)
- EPA Municipal Handbook: [Managing Wet Weather with Green Infrastructure – Green Streets](#)

ACTION ITEM #7 – RENEWABLE ENERGY

BRONZE: Implement a program to encourage renewable energy projects (e.g., renewable energy, zoning overlay districts, and/or solar/wind ordinance).

This action may be either an internal program to encourage renewable energy in local government facilities or may be a community-facing program. The program does not need to be run by the local government, but the local government should be a partner or directly benefit from the program. Policies supporting renewable energy projects also meet the requirement for this action item.

Michigan Examples:

- The City of Ann Arbor developed [azenergy](#), an online website and branding effort, to promote energy efficiency and the use of renewable resources to residents and businesses across the city of Ann Arbor.
- [Farmington Hills](#), [Holland](#), and [Houghton County](#) are all participating in the Georgetown Energy Prize and are undertaking projects and programs to encourage energy efficiency and renewable energy use.
- Saginaw County, Midland County, and Bay County are working with [Solarize Michigan](#) to bring down the costs of at-home solar energy by using bulk buying, competitive bidding and community education.
- Novi City Council adopted a [solar panels ordinance](#).

Resources:

- [Southeast Michigan Regional Energy Office \(SEMREO\) Policy Library](#), including sample wind and solar ordinances
- [Michigan Association of Planning \(MAP\) Wind Energy Information Resources](#), including model ordinances and resolutions
- [Michigan Siting Guidelines for Wind Energy Systems](#)
- Networks Northwest Energy Efficiency and Renewable Energy – [Practices and Policies for Local Governments](#)
- [DOE Renewable Energy Resources](#)

SILVER: Implement at least one local government renewable energy project (e.g., solar thermal, solar photovoltaic, geothermal, wind, district heating and cooling systems, biodigesters, biomass, or energy storage system).

To meet this action, complete a renewable energy project on a local government facility or property. The project does not need to be financed or administered by the local government, but the local government should be a partner or directly benefit from the project.

Michigan Examples:

- Delhi Township uses a [biodigester](#) to help turn poo to power.
- [Ypsilanti](#) worked with a group of volunteers to become the first city hall in Michigan with solar power.
- Washtenaw County [installed solar hot water heaters](#) on the Washtenaw County Jail.

Resources:

- SEMREO [Renewable Energy Case Studies](#)
- DOE [Solar Energy Resource Center](#)
- National Renewable Energy Laboratory (NREL) [Learning About Renewable Energy](#)

GOLD: Implement at least one community renewable energy project (e.g., solar thermal, solar photovoltaic, geothermal, wind, district heating and cooling systems, community solar, bio digesters, biomass, or energy storage system).

To meet this action, complete a renewable energy project that directly benefits the community. The project does not need to be financed or administered by the local government, but the local government should be a partner on the project.

Michigan Examples:

- The Lansing Board of Water & Light, City of East Lansing, City of Lansing and Michigan Energy Options are partnering to provide Lansing Board of Water & Light electric customers to offer [community solar](#).
- Wyandotte is looking at incentives for [residential geothermal services](#).

Resources:

- [A Guidebook for Community Solar Programs in Michigan](#)
- Great Lakes Renewable Energy Association (GLREA) [Community Solar Resources](#)

ACTION ITEM #8 – ENERGY EFFICIENT LIGHTING

BRONZE: Create an inventory of local government-owned street lighting.

This action is completed if the local government has an accurate inventory of their street lights.

SILVER: Develop a plan to replace local government traffic signals, street lighting, and/or parking illumination with energy efficient lighting technologies (e.g., LEDs and other technologies of equal or greater efficiency).

To complete this action, the local government must have a plan in place to upgrade or replace lighting fixtures with energy efficient technologies. The plan may be internal or adopted by the local government's elected body.

GOLD: Replace the majority of traffic signals, publicly- and utility-owned street lighting, and/or parking illumination with energy efficient lighting technologies (e.g., LEDs and other technologies of equal or greater efficiency).

This action requires that the local government has made significant process on using energy efficiency lighting technologies. Cost savings from a lighting efficiency project can be captured and reinvested in future efficiency projects via a revolving loan fund.

Michigan Examples:

- [Huron County upgraded to LED lighting](#) for its county building and health department.
- Grand Traverse County has [installed LED street and area lighting](#), among other lighting efficiency upgrades.

Resources:

- DOE [Lighting Facts program](#) includes standardized information on LED lighting products
- EPA ENERGY STAR program [certification for efficient light bulbs and fixtures](#)

ACTION ITEM #9 – FUEL EFFICIENCY

**BRONZE: Conduct an inventory and efficiency audit of the government vehicle fleet.
Reducing fuel use in the government fleet depends on tracking energy use.**

This action requires an inventory of the local government fleet, including fuel use.

SILVER: Adopt a fuel efficiency target for the government fleet, including an implementation plan for reaching this target.

To check this action, communities must set a tangible target for fuel efficiency (e.g., percentage reduction or similar) and have a plan to achieve this target. The plan may be internal or adopted by the local government's elected body.

Michigan Examples:

- The City of Auburn Hills developed a [comprehensive fleet analysis](#) with help from Clean Energy Coalition.
- The City of Ann Arbor [adopted a Green Fleets Policy](#) covering its municipal vehicle fleet.

Resources:

- DOE [Clean Cities Coalitions](#)
- DOE [Clean Cities Technical Assistance](#)

GOLD: Adopt an anti-idling policy for government fleet and/or a communitywide policy.

Idling policies help reduce fuel usage both in local government operations and within the community. Completing this action requires either an internal-facing policy, or a community-facing policy.

Michigan Examples:

- Mount Clemens and Sylvan Lake have adopted [anti-idling ordinances](#).

Resources:

- EPA [Compilation of State, County, and Local Anti-Idling Regulations](#)
- DOE [Clean Cities IdleBox Toolkit for Idling Reduction Projects](#)

ACTION ITEM #10 – NON-MOTORIZED PLANNING

BRONZE: Implement a program to encourage non-motorized transportation and/or install infrastructure to support non-motorized transportation.

This action applies both to installed infrastructure and to programs that educate, encourage, or incent community members to use non-motorized transportation. Non-motorized infrastructure includes, but is not limited to: bicycle lanes, sidewalks, enhanced crosswalks, bicycle parking, sharrows, and grade-separated non-motorized traffic lanes. Adopting a complete streets policy would also meet this action.

Michigan Examples:

- The City of Detroit recently installed its [first protected bicycle lanes](#).
- Macomb County installed [HAWK \(High-intensity Activated crossWalk\) signals](#) to enhance pedestrian safety on Gratiot Avenue.
- Houghton adopted a [bike parking ordinance](#).

Resources:

- Michigan Department of Transportation (MDOT) [Bicycle and Pedestrian Terminology](#)
- US Department of Transportation (USDOT) [Bicycle and Pedestrian Resources](#)
- Ann Arbor Downtown Development Authority [Downtown Street Design Manual](#)

SILVER: Adopt a non-motorized transportation plan.

This action requires a non-motorized plan transportation plan adopted by the local government's elected body.

GOLD: Implement non-motorized plan and show measureable results (e.g., added infrastructure, an increase in non-motorized commutes).

To complete this action, the local government must have an adopted non-motorized transportation plan and achieve measurable results or targets referenced in the plan.

Michigan Examples:

- The Charter Township of Union worked with area partners to develop the [Greater Mt. Pleasant Area Non-Motorized Plan](#).
- Oakland County's [Trails Master Plan](#) aims to create a connected system of trails and greenways.
- The City of Royal Oak adopted a [Non-Motorized Transportation Plan](#) as part of its City Master Plan.

Resources:

- SEMCOG [Bicycle and Pedestrian Travel Resources](#) , includes links to plans in southeast Michigan
- [Michigan Complete Streets Coalition Policy Center](#), includes links to ordinances and plans
- EPA [Guide to Sustainable Transportation Performance Metrics](#)

ACTION ITEM #11 – ENERGY EFFICIENCY FOR LOW-INCOME RESIDENTS

BRONZE: Promote an energy efficiency program for low-income residents.

Completing this action requires an educational or incentive-based program targeted at low-income residents. This program does not need to be financed or administered by the local government, but the government should be a partner and/or should actively promote the program to community members. For example, county governments or local utilities often administer direct-install energy efficiency programs to replace lighting and other fixtures with more energy efficient fixtures. If a local government promotes these programs, it may receive credit for this action.

Michigan Examples:

- The City of Ypsilanti promotes [weatherization programs](#) offered through Washtenaw County.
- EcoWorks facilitates the [Michigan Energy Efficiency for All campaign](#) strives to improve the health and quality of life of families in affordable housing.

Resources:

- [DTE Energy Low-Income Programs](#)
- [Consumers Energy Low-Income Programs](#)
- [MDHHS Michigan Energy and Weatherization Resources](#)
- [Enterprise Green Communities Resident Engagement Tools](#)

SILVER: Install a renewable energy project and/or energy efficiency upgrades in government- or privately-owned affordable housing.

To receive credit for this action, the local government must complete a renewable energy project at an affordable housing site, or the local government must implement energy efficiency upgrades within an affordable housing site. The affordable housing may be owned by the local government or the affordable housing may be privately owned. The local government does not need to finance or administer the program, but the local government must be an active partner on the project.

Michigan Examples:

- The Ann Arbor Housing Commission installed a [42-kW rooftop solar installation](#) at one of its public housing site.

GOLD: Adopt a plan, policy, or program for energy efficiency or renewable energy in low-income housing.

Meeting this action requires the local government to have a formal plan, either internal or adopted by the local government's elected body, to increase energy efficiency and/or use of renewables within low-income housing.

Michigan Examples:

- Michigan State Housing Development Authority (MSHDA) [piloted a benchmarking program](#) within affordable housing properties.

Resources:

- American Council for Energy-Efficient Economy (ACEEE) [Best Practices in Developing Energy Efficiency Programs for Low-Income Communities and Considerations for Clean Power Plan Compliance](#)
- [Energy Efficiency for All Program Design Guide](#)
- Community Economic Development Association of Michigan (CEDAM) [Utility Data and Energy Efficiency Pilot Programs](#)

ACTION ITEM #12 – GREEN BUILDING PRACTICES

BRONZE: Develop a green purchasing policy.

A green purchasing policy supports the procurement of products and services that reduce impacts on the environment. Meeting this action requires an internal or formally adopted green purchasing policy.

Michigan Examples:

- Villages of Lexington and Ontonagon have adopted [green purchasing policies](#).

Resources:

- National Association of State Procurement Officials [Green Purchasing Guide](#)
- EPA Sustainable Marketplace: [Green Products and Services](#)
- Sustainable New Jersey – [Adopt a Green Purchasing Policy by Ordinance](#), including a sample policy

SILVER: Develop a green building policy for local government facilities.

To complete this action, a local government must have an internal-facing policy for green building. This may include policies for rehabilitation and/or new construction. This policy does not need to directly reference green certifications programs (such as LEED, Living Building Challenge, Green Globe, etc.) but should reference energy standards.

Michigan Examples:

- State of Michigan Executive Directive 2005-04 requires [energy efficiency targets and benchmarking](#) of energy use in State-managed or occupied buildings.
- [City of Novi utilizes LEED standards](#) in government-owned facilities and encourages LEED in private development.
- Sterling Heights [incentivizes LEED certification](#) for private developments.

Resources:

- American Institute of Architects [State and Local Green Building Incentives](#)
- [City of Ann Arbor Municode](#)

GOLD: Achieve green building certification for a local government building.

This action requires a local government to receive green building certification for a building owned by the local government. Green building certification programs include but are not limited to: LEED, Living Building Challenge, Green Globe, and Energy Star.

Michigan Examples:

- Grand Rapids's Technical Services Building was [LEED Certified after a 2014 renovation](#).
- The City of Farmington Hills has a [LEED Gold Certified](#) city hall building.

Resources:

- [ENERGY STAR Portfolio Manager](#)
- [U.S. Green Building Council](#) (LEED Standards)

REPORTING METRICS

ENERGY:

REPORTING METRIC #1 - TOTAL ANNUAL MUNICIPAL ENERGY CONSUMPTION. (BTU)

Before starting: determine whether you will calculate annual energy consumption based on the most recent calendar year or your municipality's most recent fiscal year. In many cases, using the fiscal year will coordinate well with various departments' other data and reporting needs. Depending on the number of facilities your municipality owns or operates, you may wish to consider a utility bill tracking service to monitor building energy use.

Part 1 – Building Electricity

Step 1 – If you do not already have records of electrical usage (in kWh, a.k.a. kilowatt-hours), ask your account representative at your local electric utility if they can supply a spreadsheet with monthly or annual electricity use for municipally-owned or operated buildings.

Step 2 – Sum building-level electricity use for the year to determine the total municipal building electricity use in kilowatt-hours (kWh).

Step 3 – Multiply the kWh total by 0.003412 to calculate total building electricity use in millions of BTUs (MBTU).

Part 2 – Building Natural Gas

Step 1 – If you do not already have records of natural gas usage (in CCF or therms), ask your account representative at your local natural gas supplier if they can supply a spreadsheet with monthly or annual natural gas use for municipally-owned or operated buildings.

Step 2 – Sum building-level natural gas use for the year to determine the total municipal building natural gas use in CCF or therms.

Step 3 – If your natural gas data is in CCF, multiply the total by 0.104 to calculate total building natural gas use in millions of BTUs (MBTU). If your natural gas data is in therms, multiply the total by 0.1 to calculate total building natural gas use in millions of BTUs (MBTU).

Part 3 – Streetlights and Traffic Signals

Step 1 – If your municipality has streetlights that are metered, use available bills or a usage summary from your electricity provider to sum the kWh usage from each month of the year. If your municipality has not recently added or removed many streetlights, you may be able to simply multiply one month's kWh usage by 12 to calculate an annual total.

Step 2 – If your municipality's streetlights are not metered, request a streetlight inventory that shows the number of streetlights at different wattages.

Step 2a – For each wattage level (100W, 250W, 400W are common wattages), multiply the wattage by the number of streetlights and divide by 1000 to get a kilowatt (kW) total.

Step 2b – Sum the kW total for each wattage level from Step 2a to arrive at a kilowatt (kW) total for ALL unmetered streetlights.

Step 2c – Multiply the kW total from 2b by 4,200 to calculate an annual kWh total for unmetered streetlights.

Step 3 – If your streetlight bill lists the total traffic signal wattage (in watts), multiply this by 8.766 to determine the total annual traffic signal kWh. If in kilowatts (kW), multiply by 8,766.

Step 4 – Sum the kWh totals from Steps 1, 2c, and 3 to calculate an annual kWh total for streetlights and traffic signals

Step 5 – Multiply the kWh total from Step 4 by 0.003412 to calculate the annual MBTU total for streetlights and traffic signals.

Part 4 – Fleet Vehicle Fuel Use

Step 1 – Ask your fleet manager for an annual summary of fleet vehicle fuel use by fuel type in gallons (i.e., gasoline, diesel, biodiesel [B20, B100, etc.], ethanol, CNG, propane, etc.)

Step 2 – For each fuel type, multiply the number of gallons used by the corresponding MBTU factor from the table below:

<u>Fuel</u>	<u>MBTU</u>
Gasoline	0.1140
Diesel	0.1295
E85 Ethanol	0.8179
B20 Biodiesel	0.1273
B100 Biodiesel	0.1183

Step 3 – Sum the MBTU quantities for all fuel types to calculate the total annual fleet vehicle energy use in MBTU.

Part 5 – Total Municipal Energy

Sum up the results of Parts 1-4 to determine total annual municipal energy consumption.

REPORTING METRIC #2 - TOTAL ANNUAL COMMUNITYWIDE ENERGY CONSUMPTION. (BTU)

As with municipal energy use, you will need to decide whether to calculate annual energy consumption based on the most recent calendar year or your municipality's most recent fiscal year.

Step 1 – Contact your local electric utility and request an annual total of electricity use for your municipality. This should be in kilowatt-hours (kWh) or megawatt-hours (MWh). Multiply this number by 0.003412 (if in kWh) or 3.412 (if MWh) to calculate the communitywide electricity consumption in million BTUs (MBTU).

Step 2 – Contact your local natural gas utility (this may be the same as your electric utility) and request an annual total of natural gas consumption. This should be in hundred cubic feet (CCF) or therms. Multiply this number by 0.104 (if in CCF) or 0.1 (if therms) to calculate the communitywide natural gas consumption in millions of BTUs (MBTU).

Step 3 – (If applicable.) If your community has a significant number of homes heated by propane, you may want to contact your local propane supplier(s) to request an annual total of gallons of propane sold in your community. Multiply this number by 0.0915 to calculate the communitywide propane consumption in millions of BTUs (MBTU).

Step 4 – (Optional.) If you want to include an estimate of communitywide transportation energy use, contact your regional council of governments (COG: i.e., SEMCOG, etc.) and request an estimate of annual vehicle miles traveled (VMT) for your community. Multiply the VMT total by 0.00933 (see note below) to estimate total annual communitywide transportation energy consumption.

Step 5 – Sum the results of Steps 1-4 above to calculate the total communitywide energy use in million BTUs (MBTU). When reporting this metric, indicate whether or not transportation is included.

Note: The 0.00933 MBTU per mile factor in Step 4 above is based on assuming 50% of miles from diesel vehicles with an average fuel economy of 10 MPG and 50% of miles from gasoline vehicles with an average fuel economy of 20 MPG.

REPORTING METRIC #3 - ANNUAL ENERGY SAVINGS FROM MUNICIPAL BUILDING AND/OR LIGHTING UPGRADES. (BTU)

Step 1 – Contact facility manager(s) and/or department heads to generate a list of energy conservation measures taken with municipal buildings or streetlights.

Step 2 – For each energy conservation measure, decide whether you will determine savings based on actual (observed) reductions in energy use or predicted (calculated) savings. Using predicted savings is often helpful when facility programming or usage patterns have changed. Complete step 3a OR 3b for each measure accordingly.

Step 3a – To calculate savings based on ACTUAL reductions, subtract annual facility (or streetlight) usage for one year AFTER implementation from one year's usage BEFORE implementation.

Step 3b – To calculate savings based on PREDICTED reductions, consult materials provided at the time of implementation. There may be information from an equipment manufacturer, installer, or energy services company that estimates electricity (kWh) or natural gas (CCF or therms) savings for the energy savings measure. If not, you may need to make some assumptions about savings based on similar projects.

Step 4 – Take the result of step 3a or 3b for each energy saving measure and multiply by 0.003412 (if in kWh), 0.104 (if in CCF), or 0.1 (if in therms) to calculate the savings in MBTU.

Step 5 – Sum the results of step 4 to determine the total annual energy savings from municipal building and/or lighting upgrades in millions of BTUs (MBTU).

REPORTING METRIC #4 - TOTAL ANNUAL LOCAL GOVERNMENT RENEWABLE ENERGY GENERATION. (KWH)

Step 1 – Identify all local government facilities that are generating renewable energy, which is usually electricity but may or may not be metered. Complete step 2a OR 2b for each facility, depending on whether or not the generating facility is metered.

Step 2a – If renewable energy generation is metered and data is logged electronically, consult the data logs to determine annual generation (kWh) for the facility. If metered but not logged, you may need to take periodic manual meter readings to determine annual generation (kWh).

Step 2b – If renewable energy generation is NOT metered, multiply the nameplate capacity in kilowatts (kW) by 1,140 for solar/PV or 2,630 for wind to estimate the annual generation (kWh). See note below.

Step 3 – Sum the results of steps 2a or 2b for each generation source to calculate the total annual local government renewable energy generated in kWh.

Note: The factors in Step 2b above are based on capacity factors of 13% for solar (PV) generation and 30% for wind.

REPORTING METRIC #5 - TOTAL ANNUAL LOCAL GOVERNMENT RENEWABLE ENERGY PURCHASED. (KWH)

Step 1 – Contact facility manager(s) and/or department heads to identify all local government facilities that are purchasing renewable energy, which may be from the local electric utility or from a third-party supplier of renewable energy certificates (RECs).

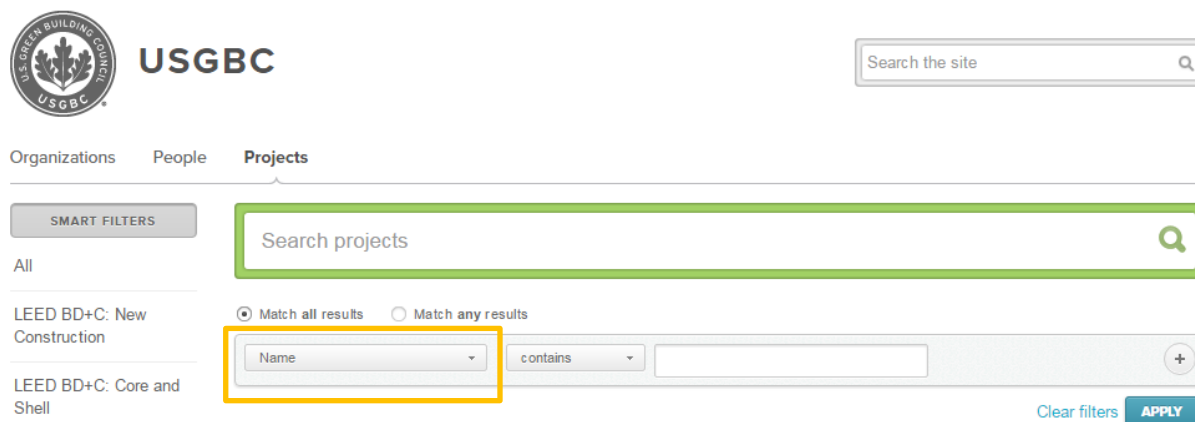
Step 2 – Refer to utility bills or the REC supplier contract to determine the annual kilowatt-hours (kWh) of renewable energy purchased for each facility.

Step 3 – Sum the results of step 2 to calculate the total annual local government renewable energy purchased in kWh.

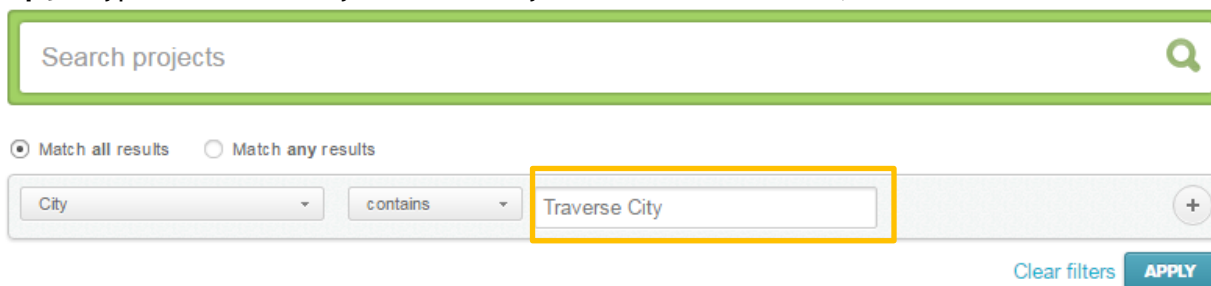
REPORTING METRIC #6 - NUMBER OF CERTIFIED GREEN BUILDINGS WITHIN THE BOUNDARIES OF THE LOCAL GOVERNMENT, INCLUDING COMMERCIAL AND RESIDENTIAL. (LEED, ENERGY STAR, OR OTHER SIMILAR CERTIFICATION PROGRAMS)

Step 1 - Visit USGBC LEED projects site (<http://www.usgbc.org/projects>).

Step 2 – Select “City” from the “Name” dropdown menu, as shown below.

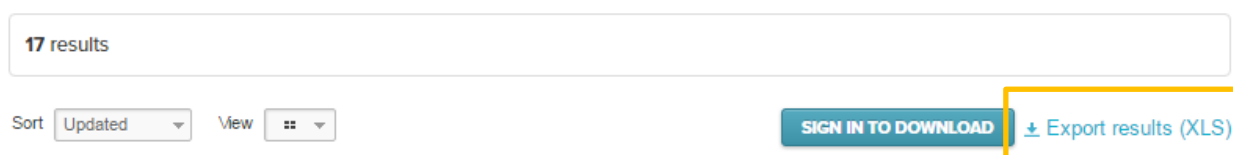


Step 3 – Type in the name of your community in the blank search field, as shown below.



Step 4 – Use the “Apply” button to show results.

Step 5 – Export results by selecting the “Export results (XLS)” link, as shown below. This will export results into an Excel spreadsheet.



Step 6 – Use the spreadsheet to determine the number of LEED buildings within your community.

REPORTING METRIC #7 - MOST RECENT COMMUNITYWIDE GREENHOUSE GAS EMISSIONS INVENTORY.

Report most recent greenhouse gas emissions inventory results.

Resources for conducting an emissions inventory:

- EPA [Greenhouse Gas Equivalencies Calculator](#)
- DOE Energy Star Portfolio Manager [Technical Reference: Greenhouse Gas Emissions](#)
- ICLEI Greenhouse Gas Protocols

RESOURCE MANAGEMENT:

REPORTING METRIC #8 - MATERIALS RECYCLED COMMUNITYWIDE. (TONS/YEAR)

Step 1 – Contact local recycling provider (e.g., solid waste/recycling staff person, franchise operator, Materials Recovery Facility (MRF) staff) for weights of recyclable materials on trucks. Weights are typically provided by month or by pick up days.

Step 2 – Sum data per year. If needed, translate weights to tons.

REPORTING METRIC #9 - MATERIALS COMPOSTED COMMUNITYWIDE. (TONS/YEAR)

Step 1 – Contact local composting provider (e.g., solid waste/recycling staff person, franchise operator, compost center staff) for weights of compostable materials on trucks. Weights are typically provided by month or by pick up days.

Step 2 – Sum data per year. If needed, translate weights to tons.

REPORTING METRIC #10 - MATERIALS LANDFILLED OR INCINERATED BY LOCAL GOVERNMENT. (TONS/YEAR)

Step 1 – Contact local waste provider (e.g., solid waste/recycling staff person, franchise operator, landfill operator) for weights of landfilled materials on trucks. Weights are typically provided by month or by pick up days.

Step 2 – Sum data per year. If needed, translate weights to tons.

REPORTING METRIC #11 - PERCENT IMPERVIOUS SURFACE COMMUNITYWIDE.

Option 1: Near-Infrared or Infrared Aerial Photography

Communities use a variety of methods to calculate impervious surface. To conduct a highly accurate assessment, consider a computer analysis of near-infrared or infrared aerial photography of your community. This type of analysis can distinguish between impervious and pervious surfaces.

- [City of Ann Arbor Example](#)
- [City of Ann Arbor Impervious Surface Calculation Sanborn Case Study](#)

Option 2: Spatial Analysis

The Impervious Surface Analysis Tool (ISAT), a custom suite of easy-to-use scripts for ArcGIS, prepared by NOAA, is used to calculate the percentage of impervious surface area within a geographic area. [The tool and more information are available online](#). ESRI ArcView and ESRI Spatial Analyst are needed to use this tool.

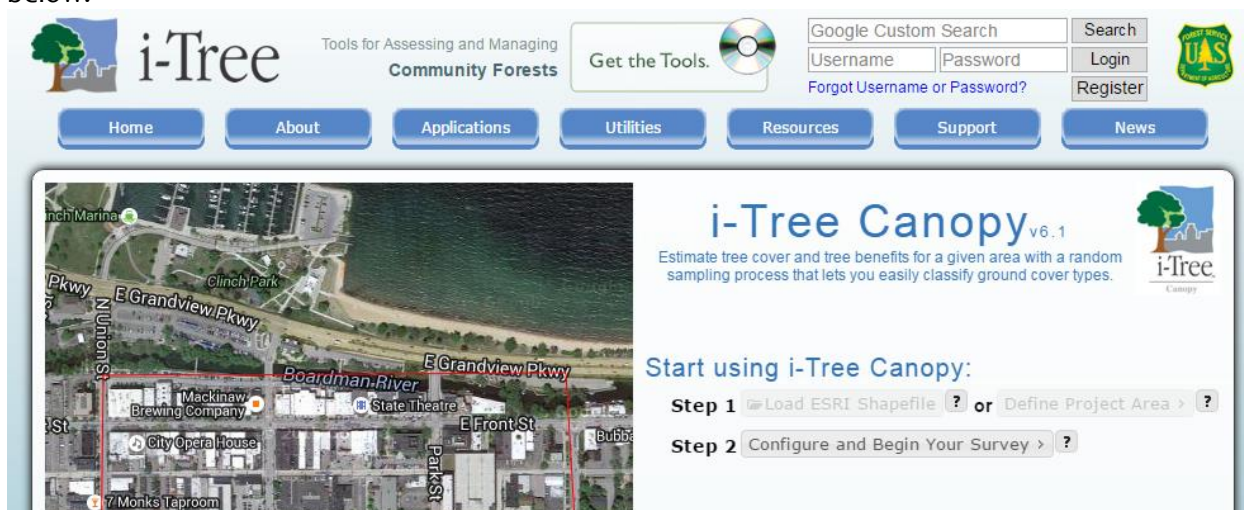
Option 3: Photo-Interpreted Estimates

[i-Tree](#) provides a tool that estimates tree and other surface area cover using Google Earth imagery. This is a relatively quick and easy way to estimate impervious surface for your community. [View the i-Tree Methodology](#).

REPORTING METRIC #12 - PERCENT TREE CANOPY COVER COMMUNITYWIDE.

[i-Tree](#) provides a tool that estimates tree and other surface area cover using Google Earth imagery. This is a relatively quick and easy way to estimate impervious surface for your community. [View the i-Tree Methodology](#).

Step 1 – Go to the i-Tree Canopy tool online - <http://www.itreetools.org/canopy/>. See screenshot below:



Step 2 - Import a file for the boundary of your community (e.g., city boundary). Boundary files can be located on the [US Census website](#), if your community does not have this readily available.

Step 3 – Select “Configure and Begin Your Survey.”

Step 4 - Name the cover classes you want to classify (e.g., tree, grass, impervious). Tree and Non-Tree classes are included by default, but additional classes may be added.

i-Tree Canopy v6.1

On this page, please configure the cover classes you wish to sample. The default is Tree and Non-Tree, but you may add many other classes such as water, impervious, grassland, etc., as well as different types of tree cover, such as deciduous and evergreen.

Save Load ? Help

Cover Class	Abbreviation	Description
1 Tree	T	Tree, non-shrub
2 Non-Tree	NT	All other surfaces

View 1 - 2 of 2

Next >

Step 5 – Select “Project Location” (e.g., “Michigan – Grand Traverse”) for your community. This will help more accurately allocate tree benefits. This step is not necessary, and you may simply select the “Skip and Begin Survey” button to move progress forward.

i-Tree Canopy v6.1

If you are assessing more than one class of tree canopy, use this page to assign appropriate tree benefit valuations to each of them. There must be at least one cover class that represents only tree canopy to estimate benefits.

Save Load ? Help

Skip and Begin Survey >

Select Project Locations

- ☐ Clare
- ☐ Clinton
- ☐ Crawford
- ☐ Delta
- ☐ Dickinson
- ☐ Eaton
- ☐ Emmet

Selected Locations

- United States of America
 - Michigan
 - Grand Traverse
 - All
 - Rural
 - Urban

Benefit Options

Which represent Tree Canopy?

☒ T - Tree

☐ NT - Non-Tree

Currency: USD

Denomination: \$

Measurement: English

Units:

Step 6 – Survey “Tree,” “Non Tree,” and other defined classes by adding new points, as shown in the screenshot below. Adding more points improves accuracy.

i-Tree Canopy v6.1

Percent Cover (±SE)

0.00 ±0.00

0.00 ±0.00

Id	Cover Class	Latitude	Longitude
1	Non-Tree	44.75773	-85.63187

View 1 - 1 of 1

Step 7 – When finished, select the “Report” button to see results.

REPORTING METRIC #13 - ANNUAL MUNICIPAL WATER CONSUMPTION. (GALLONS)

Step 1 – Contact your municipal or local water utility for this information.

REPORTING METRIC #14 - ANNUAL COMMUNITYWIDE WATER USE. (GALLONS)

Step 1 – Contact your municipal or local water utility for this information. Some water utilities may service multiple jurisdictions. Be sure to request data for your community only.

REPORTING METRIC #15 - ANNUAL COMMUNITYWIDE WASTEWATER. (GALLONS)

Step 1 – Contact your municipal or local wastewater treatment facility for this information. Some treatment facilities may service multiple jurisdictions. Be sure to request data for your community only.

REPORTING METRIC #16 - TOTAL ACRES OF PARKLAND.

Step 1 – Contact local parks department or park management staff for this information. ArcGIS can be used to calculate the area of parks, if a spatial map of the parks exists.

TRANSPORTATION:

REPORTING METRIC #17 - NUMBER OF VEHICLES IN GOVERNMENT FLEET.

Step 1 – Contact fleet or facilities staff for this information. This number should include ALL vehicles within the fleet.

REPORTING METRIC #18 - NUMBER OF HYBRID ELECTRIC AND ELECTRIC VEHICLES IN GOVERNMENT FLEET.

Step 1 – Contact fleet or facilities staff for this information. This number should include ONLY hybrid electric and electric vehicles within the fleet.

REPORTING METRIC #19 - NUMBER OF ALTERNATIVE-FUEL VEHICLES IN GOVERNMENT FLEET.

Step 1 – Contact fleet or facilities staff for this information. This number should include ONLY alternative-fuel vehicles within the fleet. Alternative fuel(s) include:

- Compressed natural gas
- Biodiesel
- Propane
- Ethanol

REPORTING METRIC #20 - ANNUAL FUEL SAVINGS THROUGH GREEN FLEET UPGRADES. (GALLONS OF PETROLEUM-BASED FUEL REDUCTION)

Step 1 – Contact fleet or facilities staff for this information.

Step 2 – If information is not yet compiled, request annual fuel use data from fleet or facilities staff. Ensure data covers two full years of fuel use data. Ensure data is disaggregated by fuel type.

Step 3 – Establish first full year of data as the baseline year.

Step 4 – Sum all petroleum-based fuel used in the baseline year.

Step 5 – Sum all petroleum-based fuel used in the second fuel year of fuel use.

Step 6 – Subtract Y2 from BASE to produce the difference in gallons of petroleum-based fuel from the baseline year to year two.

Step 7 – Report the difference, if the difference shows a reduction (e.g., if year 2 shows less fuel use than the baseline year).

REPORTING METRIC #21 - PERCENT SUSTAINABLE COMMUTES BY MODE TYPE.

Step 1 – Visit <http://factfinder.census.gov/> to access US Census data for your community.

Step 2 – Select the “Advanced Search” feature by selecting “Advanced Search” and then the “Show Me All” button.



Step 3 – Type “commuting” in the search box and select “S0801: Commuting Characteristics by Sex.”

To search for tables and other files in American FactFinder:

1 Enter search terms and an optional geography and click GO

Step 4 – Click the “Go” button.

Step 5 – Refine your search by typing your community into the search box and select your community.

ID	Table, File or Document Title	Dataset	About
☒ S0801	COMMUTING CHARACTERISTICS BY SEX	2014 ACS 5-year estimates	i
☐ S0801	COMMUTING CHARACTERISTICS BY SEX	2014 ACS 1-year estimates	i
☐ S0801	COMMUTING CHARACTERISTICS BY SEX	2013 ACS 5-year estimates	i

Step 6 - Click the “Go” button.

Step 7 – Ensure the most recent 5-year American Community Survey (ACS) Year Estimate is selected. 5-year estimates are most accurate.

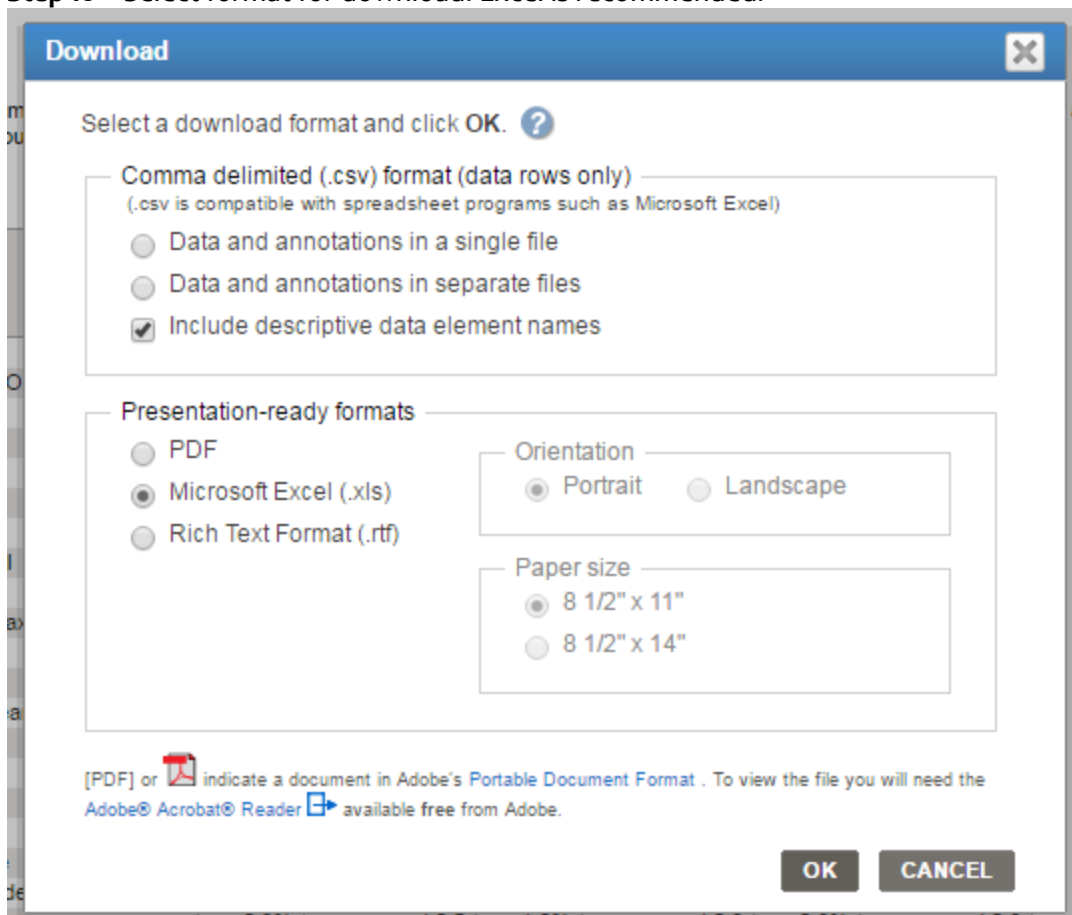
1 Selected: [View](#) | [Download](#) | [Compare](#) | [Clear All](#) | [Reset Sort](#)

	ID	Table, File or Document Title	Dataset	About
☒	S0801	COMMUTING CHARACTERISTICS BY SEX	2014 ACS 5-year estimates	i
☐	S0801	COMMUTING CHARACTERISTICS BY SEX	2014 ACS 1-year estimates	i
☐	S0801	COMMUTING CHARACTERISTICS BY SEX	2013 ACS 5-year estimates	i
☐	S0801	COMMUTING CHARACTERISTICS BY SEX	2013 ACS 3-year estimates	i
☐	S0801	COMMUTING CHARACTERISTICS BY SEX	2013 ACS 1-year estimates	i

Step 8 – Click the hyperlink for “Commuting Characteristics by Sex” for the most recent ACS 5-year estimate. This will bring up a report for your community.

Step 9 – Click the “Download” button at the top of the screen to download the report.

Step 10 – Select format for download. Excel is recommended.



Step 11 – Enter data by mode type for walked, biked, and public transportation.

For example:

Walked – 1%

Biked - .1%

Public Transportation – 1.4%

REPORTING METRIC #22 - INSTALLED NON-MOTORIZED INFRASTRUCTURE. (MILES)

Step 1 – Contact transportation, project management, public works, or engineering staff for installed miles of bike lanes for the most recent calendar year or fiscal year.

Step 2 - Contact transportation, project management, public works, or engineering staff for installed miles of sidewalk for the most recent calendar year or fiscal year.

APPENDIX

ACTION GUIDE: SUSTAINABILITY/GREEN TEAMS

Establish an internal government sustainability team or a community sustainability team to coordinate sustainability initiatives.

Action Importance: Successfully creating a more sustainable community is a multifaceted task, requiring a unified vision and effective collaboration between several areas of expertise. Sustainability/Green teams usually consist of an internal government team or a community team, comprised of representatives from the community.

Action Involvement: Whether the team is internally- or externally-facing, a staff member or the elected body will need to be charged with organizing and providing resources to the team. For instance, an energy commission will need a staff person to schedule and run meetings; additionally, an internal green team is more successful if a staff person or department is willing to lead the effort.

- **Internal Team:** By collaborating across government departments and evaluating the policies, programs, and practices of each department, a government sustainability team can identify opportunities to improve governmental operations across the board, making them more efficient and sustainable. A government sustainability team should strive to involve a diverse array of government officials, staff members, and departments.
- **Community Team:** A community sustainability team can have extraordinary power in building grassroots support for sustainable initiatives and provides an avenue for residents looking to get involved or take actions on their own. A community sustainability team should strive to involve a diverse array of community members, businesses, faith groups, and institutions.

Achieving the Action: Creating a sustainability team can occur in a number of ways, and the right approach depends on community context.

- **Internal Team:** Can be achieved through an official resolution, ordinance, or through staff direction. A government sustainability team can be created as an extension of an existing department or commission, which then incorporates members from other departments as recommended above. The purpose, roles and responsibilities of both the team as a whole and its individual members should be clearly defined and agreed upon. While extensive funding is not needed to form the sustainability team, identifying sources that can help support team efforts will be helpful. Functionally, the government sustainability team might start by identifying current government sustainability efforts and assets, and then develop short and long-term plans to improve the sustainability of government practices.
- **Community Team:** Can be achieved through an official resolution, ordinance, or through staff direction. Like the internal team, the creation of a community sustainability team can occur through different channels. It can form more organically by individual groups and institutions approaching one another to collaborate on sustainable projects and is not always led by the local government. The community team may also take the form of an official advisory body appointed by the local government's elected body (e.g., energy commission, sustainability committee).

Additional Resources: There are several governments in Michigan that have created sustainability teams and there is a great deal of flexibility in how these teams are structured. Tailor the team to meet your community's resources and needs.

One example of an **internal team** comes from Monroe County, which established their Green Team through the Solid Waste Program and funding from a Resource Recovery Fee paid by solid waste disposal facilities within the county. Broader support for the program came initially from administration at the county, facilities management, and the health officer. Monroe County has found that the Green Team can operate without much supervision, so long as members and employees continue to promote and participate in efforts and activities. Starting out with an emphasis on waste, the emphasis has recently shifted toward energy efficiency.

The following gives a brief idea on the timeline and scope of their work:

2007: Departments within the county nominate a staff member to the Green Team. Preparations within the health department, facilities management, and county administration are made internally, in order to estimate waste generation, number of employees, and types of bins needed.

2008: The members of the Green Team are finalized and an RFP is issued and a contract signed for waste and recycling services to 11 county owned buildings. Additionally, government staff receive training and the appropriate bins and signage to help facilitate the new behaviors.

2009: The program is implemented at all county facilities and Monroe County applies for Energy Efficiency and Conservation Block Grant (EECBG) funding, receiving more than \$600,000. 2010 – Present: The original program is extended to schools in the county. The EECBG funding shifts the efforts of the Green Team to energy efficiency opportunities, and the county utilizes the ENERGY STAR Portfolio manager to track usage.

One example of a **community sustainability team** exists in Grand Rapids in the form of the Community Sustainability Partnership (CSP). This group exists as a network of non-profit and for-profit organizations that are committed to sustainability efforts in their planning and operations. The members of this partnership are committed to environmental integrity and the promotion of social equity, while improving economic prosperity. The CSP has expanded to include more than 200 partners and includes leadership from the city of Grand Rapids, local higher education institutions, the West Michigan Sustainable Business Forum, the Grand Rapids Chamber of Commerce, and industry leaders. More information can be found on their [website](#).

ACTION GUIDE: ENERGY BENCHMARKING

Track local government energy use and/or water use for all local government buildings, using ENERGY STAR Portfolio Manager or another similar tool.

Action Importance: Tracking energy use and monitoring progress is the first step to increasing energy efficiency. Having this process organized in a clear, systematic way helps preserve and protect data as local government staff changes hands. Tracking data in a clear manner helps local governments identify the needs and priority areas to take action to reduce energy use.

Action Involvement: This action can be accomplished with relatively small resources, but a staff member or volunteer needs to be charged with collecting and entering data. Facilities staff will likely need to be engaged, as well as local utilities.

Achieving the Action: Successful completion of this action item is not dependent on use of ENERGY STAR Portfolio Manager, but there must be a documented systematic system to earn the credit. ENERGY STAR Portfolio Manager is an interactive tool that allows for the tracking of energy and water use, over multiple buildings. This tool also helps users to recognize when buildings are underperforming and is free to use.

ENERGY STAR Portfolio Manager is a free tool that provides an easily accessible path to begin tracking energy use. Many energy benchmarking pay-for-service tools also communicate directly with Portfolio Manager.

Additional Resources:

Visit the EPA [ENERGY STAR Portfolio Manager Benchmarking Starter Kit](#) to learn more. The site includes a printable [quick start guide](#), a [data collection worksheet](#) to give you an idea of what data is needed, and a link to the [training section](#) which includes videos and how-tos to get you started.