2009
Wisconsin Energy Independent Community Partnership

25 x 25 Plan for Energy Independence

City of Marshfield

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Overview

A. Wisconsin Energy Independent Community Partnership

Introduction

The Wisconsin Office of Energy Independence (OEI) administers energy programs to assist Wisconsin to profitably and sustainably promote energy efficiency and renewable energy resources. The goal of the Wisconsin Energy Independent Community Partnership administered by the OEI is to effectively increase energy independent assessments for Wisconsin communities. Currently, there are many communities across the State of Wisconsin interested in implementing and adopting renewable energy and energy efficient projects. This program will assist 10-15 communities that could be potential pilots or models for completing an energy independence assessment, allowing the community to then move forward with energy efficiency and/or renewable energy projects.

Definition

Energy Independent Community (EIC) – a community that is willing to set a goal of "25 by 25" to increase our energy independence, and promote a sustainable energy policy for the State of Wisconsin

Objectives

The objectives of the Wisconsin Energy Independent Community Partnership are to:

Increase the use of renewable energy and renewable fuels by 25% by 2025 in across the State of Wisconsin.

Increase and promote public awareness regarding the benefits of increased energy conservation, energy efficiency, and renewable energy use by counties and municipalities around the state. These benefits include and are not exclusive to: clean air and water, intelligent land management, rural and urban economic development, as well as state and national energy independence.

Eligible Participants

Applicant must be a Wisconsin county, city, village or town that has shown willingness to improve the community's efforts related to energy conservation, efficiency and potential renewable opportunities. Applicants, if they are responsible for their own municipal water, sewer, or electrical system, must be in compliance with all appropriate state and federal regulations.

B. City of Marshfield

The City of Marshfield became an Energy Independent Pilot Community in 2009. Throughout 2009 the City has been completing the municipal energy independence assessment that is resulting in this plan that provides the City the direction to reach the 25 by 25 goal.

Marshfield is located in the geographical center of Wisconsin, in portions of Wood and Marathon counties. The City is home to approximately 20,000 residents and enjoys recognition for its world class medical facilities and

overall quality of life. The City is served by State Highways 13 and 97, and US Highway 10.

Historically, Marshfield grew and developed as a railroad community. Several railroad corridors bisect the City and the early street grid was laid out parallel to the railroads. Central Avenue is the primary arterial route through the community and growth has occurred concentrically around the downtown business district. Veterans Parkway is another important arterial that brings traffic to the core of the City.

Marshfield has received many accolades and is recognized for its high quality of life. The City is proud to be considered the "Best Place to Live in Wisconsin and Eighth Best Place to Live in America" according to Bizjournals.com. In 2000, Demographics Daily recognized Marshfield for its excellent health care, schools, supply of good jobs, and small-town character. Other qualities considered were vitality, connection to cultural mainstream, and low cost of living. Thanks to the world-class health care provided by Marshfield Clinic and Saint Joseph's Hospital, Marshfield ranked in the top 10 for health care and was also in the top 50 for the education and freedom from stress categories.

Marshfield is considered part of the central Wisconsin "Ruro-plex." This term was coined by former governor Lee Dreyfus and describes the three-county / four-city community of Marshfield, Wausau, Stevens Point, and Wisconsin Rapids. A central theme of this regional growth center concept is economic and employment growth that exceed the State's average.

Marshfield has witnessed steady growth for most of the past 40 years. The 2000 Census marked the first time in recent history in which the City's population decreased. Current estimates indicate, however, that the population is again growing with over 400 new residents since the 2000 Census. According to the U.S. Census, as of 2004, the entire City of Marshfield had an estimated population of 18,644. Since 1980, the City's growth rate (2.8 percent) has been slower than that of Wood County (3.8 percent), Marathon County (13.1 percent) or the State (14.0 percent). In addition to the residential population, Marshfield swells to an average population of 27,300 on a daily basis, an increase of 45%, due to in-commuters and visitors. As of 2002, there were 8,617 residential housing units and 517 businesses located within the city boundaries of Marshfield. Marshfield residents are proud of their clean environment, safe community, their large and beautiful parks and their world-class medical facility.

C. Sustainable Marshfield Committee

The City of Marshfield has made great strides toward sustainability in recent years in large part due to the vision and progressive actions of Marshfield's Common Council. This is evidenced in multiple ways, but probably the most important is the recent passage of the 25x25 resolution (Appendix C), adopting the Wisconsin Energy Independent Community 25x25 partnership. This resolution was introduced by members of the Sustainable Marshfield Committee, and passed by the city council unanimously. This is just one demonstration of the City of Marshfield's commitment to move the community toward achieving sustainability.

The Sustainable Marshfield Committee itself was formed under the direction of the Common Council. On March 24, 2006, the Common Council of the City of Marshfield authorized the creation of an exploratory committee to evaluate the eco-municipality concept and how it could apply to government, businesses and residents in their community. This committee began meeting in June 2006; the committee was comprised of the Mayor, two Aldermen, seven city employees and thirteen business and citizen representatives from across the community. City Administrator Mike Brehm requested UW-Extension assistance in developing a work plan for the committee. The committee met approximately monthly from June 2006 to February 2007. Marathon and Wood County Community Resource Development Educators, and a University of Wisconsin SHWEC specialist, partnered to design a process by which the committee could learn about community sustainability approaches and gather information about the priorities in their community. The extension agents coached the group in an exercise exploring opportunities and challenges for Marshfield; as a result, the group created subcommittees around three focus areas with recommendations concerning transportation, water quality/quantity and green building. The recommendations were incorporated into a final report (see Appendix D).

The exploratory committee members presented their findings to the Common Council on February 27, 2007. At this meeting, the Marshfield Common Council passed a resolution 9-0 (one alderman was absent) endorsing The Natural Step process and defining Marshfield as an "Eco-Municipality". The Natural Step process seeks to reduce dependence on fossil fuels and extracted underground materials, reduce dependence on manufactured substances which can accumulate in the environment, reduce dependence on activities that harm life-sustaining ecosystems and meet the hierarchy of present and future human needs fairly and efficiently. The Resolution also created a standing Sustainable Marshfield Committee meeting on a monthly basis to advise the Mayor and Common Council on sustainability-related issues.

Since this date, the Sustainable Marshfield committee has a long list of accomplishments and current initiatives. Some of them include:

- engaged in two strategic planning sessions with the purpose of evaluating progress and setting priorities
- made presentations about sustainability to several area organizations and at events
- successfully promoted and introduced resolutions establishing Neighborhood Electric Vehicle usage and Fertilizer usage ordinances
- contribute a monthly news article relating to sustainability for the Marshfield News-Herald
- Supported and made recommendations for the upcoming new LEED certified fire station in the City
- currently developing sustainability dashboard indicators to monitor community progress towards sustainability
- working to advance a resolution to enact stricter well head protection legislation in the State.

The City recognizes that sustainability and economic development go hand in hand. The Economic Development strategic planning process included members of the Marshfield Area Chamber of Commerce and Main Street Marshfield as well as city government. Sustainability was determined to be one of three over-arching goals within the current Economic Development Strategic Plan. Under this particular goal area, action items address the topics of the environment, economic development and quality of life as it relates to Marshfield becoming a healthy, sustainable city. This central incorporation of sustainability into the overall planning process to grow the City's economic base demonstrates a willingness to weave sustainability throughout government functions. It provides an excellent platform in which to plan for the future of the community while making sustainability a basis for decision making.

D. Vision

In January 2008, the Sustainable Marshfield Committee held a strategic planning session to determine the focus of the Committee (See Appendix E). The group participated in a visioning exercise by imagining what Marshfield would look like in 22 years. The following are characteristics the City would have:

- Larger population; more green development
- Fully integrated bike/trail system
- Planned unit developments integrating high, medium and low end housing options
- All City buildings running on sustainable power sources
- Self sufficient community regarding food, fuel, and fiber
- More pervious surfaces
- Local/native plantings
- At least 10 green roof projects launched
- Children more connected to the environment
- All City building are Energy Star Certified
- The City has adopted full cost accounting for capital purchases
- The City has a sustainability dashboard that includes CO2 emission and energy use monitoring
- There is a community garden
- All government entities/departments working together towards sustainability
- Integrated public transport system

As part of this Energy Independent Community planning process it is important to engage the community of Marshfield as a whole, and not simply address the municipal end. A public visioning session was held in May of 2009 at the Marshfield Public Library. The purpose of the session was to learn what sustainability means to Marshfield residents and to find out how they see the City moving forward to become a more sustainable community.

Seven focus areas where identified and participants were asked to create vision and action statements for each area. Each focus area is listed below along with the respective vision and action statements. Highlighted items were not voiced at the meeting, but are recommended by MSA.

Public Outreach & Education

Vision Statement:

Citizens are aware and are concerned about current environmental and social issues and they know how they can benefit from a sustainable community. Citizens are knowledgeable about sustainability efforts and are consistently thinking about how their decisions will affect future generations. Information on sustainability is accessible to all citizens young and old through the education system, digital and traditional media sources. Sustainable conversations are expanded and people feel they are part of the solution.

Action Steps:

- Utilize public access TV and radio stations educate people about the issues
- Offer classes in continuing education at the UW on sustainability issues
- Work with grocery stores on packaging to reduce packaging
- Keep people informed by all means possible; use all media sources
- Advertise and promote sustainable Marshfield-Billboards, Schools, etc.
- Utilize voting ballots to promote and make changes
- Ban plastic shopping bags in stores
- Take educational events to businesses and provide ways employees and community members can make a difference: ways to recycle, reduce energy use, reusable shopping bags, turn off the lights
- Utilize the most current trends within computer technology and media
- Establish a City Office of Sustainable Practices to promote and educate citizens
- Work with K-12 schools to create sustainability curriculum

Transportation

Vision Statement:

Marshfield has a safe and effective transportation network that enables residents and visitors alike to travel locally and regionally by a variety of co-existing modes—including car and carpool, walking, biking, and public transportation. With the increase of effective alternative modes, 20% of residents that live and work in the City utilize transportation other than the automobile to get to work. Passenger train service is an option when traveling to larger metropolitan areas in the region and there is a sophisticated carpool system for those who commute to work in Marshfield. This transportation network is affordable, convenient, and accessible to residents of all ages and differences in mobility.

Action Steps:

- Implement flex fueling at all filling stations
- Create a taxi service with hybrid vans
- Institute a park and ride network with website to connect people and an incentive program
- Improve on street bike lanes, even through construction
- Expand city mass transit
- Work to develop public transportation
- Encourage people to buy energy efficient cars

- Encourage walking for health/energy conservation
- Build bike/walking paths that are safe and can reach the main parts of the City
- Establish a planned bus route for the City

Land Use

Vision Statement:

Marshfield places a high priority on infill development and smaller lot size instead of expanding City boundaries for new development. As the City develops, plenty of green space is incorporated into designs. There are plenty of multiple housing units that have an independent housing flair and there are more parking garages than parking lots. There are tighter controls on the use of lawn chemicals in the City and more regulation of manure management surrounding the City.

Action Steps:

- Start to slow up using the up green areas for new building; think infill first
- Work with surrounding communities to share renewable energy resources to save money
- Enforce manure spreading regulations
- Utilize Prairie Run as the template for future development
- Ban chemicals being applied to lawns
- Place a moratorium on expansion of municipal boundaries
- Increase city wide density, and stop expansion of infrastructure
- Encourage Plan Unit Developments with clustered housing & more open space
- Change the zoning to reduce single family lot size (maximum 8,000 sq. ft.)
- Build creative multiple housing units built to protect sprawl
- Require large businesses to have parking garages, not lots
- Continue to expand the City's green space
- Create a storm water ordinance to control run-off
- Convert storm water holding ponds to a recreational use

Solid Waste

Vision Statement:

The residents, businesses, and government of Marshfield utilize the most efficient and effective methods available to reduce, reuse, compost, and recycle waste. The City of Marshfield has reduced the amount of waste disposed in landfills by 50% and solid waste is part of the K-12 curriculum for sustainability.

Action Steps:

- Require all electronics to be recycled and remove disposal fees
- Create a free hazardous waste recycling program and offer more clean sweeps
- Paint disposal improved; latex is recycled
- Ban grass clippings and food waste from the landfill
- Work with businesses to provide products in minimal packaging

- Create a composting system that includes all local restaurants and incorporates neighborhood composting facilities at several location in the City
- Ban plastic bags at retail stores and Styrofoam containers from restaurants
- Encourage legislation that requires manufactures to pay for electronic recycling
- Contract with a company to recycle all numbers of plastics
- Increase cost to dispose of garbage
- Promote prescription drop-off at police department

Energy

Vision Statement:

Marshfield values new technologies and education programs to encourage energy reduction, while incorporating smart and efficient use of energy from diverse, local, renewable sources. New development and infrastructure systems are designed and operated for low life-cycle cost using the most cost-effective energy efficiency methods available. Improvements in efficiency and new energy sources are reducing total carbon dioxide emissions associated with buildings and transportation in the City.

Action Steps:

- Many businesses and homes will have solar panels, solar hot water heat, and geothermal
- The City will provide incentives for installation of renewable energy sources
- The City will hire at least 10 Energy and Conservation Coordinators
- Require building plans that include renewable energy components
- Increase the use of methane digesters within the City including one installed at the wastewater treatment facility
- Incorporate City utility bills that show an incentive for using less energy
- Institute demand management for electric use as well as automatic metering. Ensure users get credit for being enrolled in the demand management program
- Create a geothermal public utility
- Organize multiple solar or wind energy systems to fuel individual neighborhoods
- Install more solar hot water heating systems for residential buildings
- Require daylighting for new city buildings
- Promote Focus on Energy credits for residents and businesses
- Provide informational kits for residents to conserve water and energy
- Require energy audits on new buildings and increase the number of audits done each year
- Price electric power to create incentives for conservation
- Increase the use of wind energy for public buildings

***The following two areas were not discussed at the visioning meeting due to time limitations. Suggested visions and actions are provided by MSA.

Water

Vision Statement:
Marshfield has plenty of clean groundwater and existing surface water resources are clean as well. The City understands how its practices affect and are affected by other communities in the Central Wisconsin River Basin. The City values efficiency, safety and quality in the pumping and use of groundwater and in the design and maintenance of storm water management.

Action Steps:

- Continue to explore options for clean water
- Continue to update and incorporate recommendations in the Wellhead Protection Plan
- Encourage/support Groundwater Guardians to include a community wide water conservation campaign

Economy

Vision Statement:
Marshfield has a growing and diversified local economy that provides jobs to local residents. The City has a thriving, lively, walkable downtown and residents value locally-produced goods and services.

Action Steps:

- Continue to support local farmer's markets
- Highlight sustainable actions by local businesses on the City website
- Continue to support the efforts of MACCI and Mainstreet Marshfield
- "Buy Local" project started by Leadership Marshfield

What was measured? Why?

The City of Marshfield started their energy data collection process in an effort to ultimately create the City's baseline energy usage. The baseline is used as a starting point to create energy reduction goals for both the municipality as a whole and for individual buildings and infrastructure. In the future, the City will be able to track a multitude of energy usage to determine the amount of actual energy savings after project implementation. Long term tracking will show long term gains over time by the municipality to save both energy and tax dollars.

Data collection covered municipal buildings, infrastructure and fleet and covered a three year period from 2006-2008. Monthly data collection included kWh, therms, and cost for individual buildings from 2006-2008. The data collected on the city fleet including the vehicle type, make, and model, type of fuel used, total miles traveled, gallons and cost per year from 2006-2008. Lighting data included street lighting, public parks, and the municipal airport. Lastly, infrastructure data also included the municipal wastewater treatment facility and the drinking water utility.

Marshfield Utilities provides the electric energy and WE Energies provides the natural gas for the City of Marshfield. The staff from Marshfield Utilities was eager to assist in the electric (kWh) and cost data collection process. The data collection was complicated by the fact that accounts, meters, and physical addresses of buildings are not consistently tracked between the City of Marshfield and Marshfield Utilities. In addition, energy usage and cost is not tracked within a central location at the City of Marshfield, but rather by individual departments. Originally the City looked to WE Energies to provide the historical natural gas (therms) and cost needed, but the City ran into customer service issues with the large company and in the end had individual City departments provide the data. Each City department provided the vehicles, miles driven, gallons used, and cost for the gas and diesel fleet vehicle usage.

Overall data collection was completed primarily through City Departments and Marshfield Utilities. At the start of this process the City tracked energy dollars as part of each departments budgeting process, but did not track actual energy usage data. This data collection effort overall is a substantial accomplishment in tracking the municipal energy usage, however it was determined at the onset that some smaller municipal energy users would not be part of the process at this time. It is the City's intention and a goal of this plan to incorporate all energy usage in the future.

Discoveries/Surprises

2008 Energy Usage and Cost

Once all data was collected and compiled, it was sent to the Energy Center of Wisconsin for analysis (See Appendix A for more baseline data information). The table below shows the City's 2008 energy usage and cost. The bulk of the City's energy budget is being spent on buildings and infrastructure, while almost 26% of the energy cost is from fleet vehicles. These results are in-line with other 25x25 communities.

2008 Energy Baseline	Energy Use (MMBtu)	% Usage
Buildings	19,592	40%
Outdoor Lighting	6,192	13%
Water	10,630	22%
Fleet	12,628	26%
Total Usage	49,041	**
Total Cost	$865,709	

**The sum of percentages does not total 100% due to rounding.

Energy Reduction Goal

In November of 2008 the Marshfield City Council adopted the Wisconsin Energy Independent Community 25x25 Partnership, thereby encouraging the use of 25% of renewable energy by 2025. As part of the Energy Center of Wisconsin's data analysis, an energy reduction goal has been set for the City of Marshfield.

The City of Marshfield is assuming an annual municipal energy usage growth rate of .10% over the next 16 years. This is based on research by the Energy Center of Wisconsin. The Center used a .2% estimated population growth rate from the Wisconsin Department of Administration. They then assumed that generally building energy consumption is essentially flat as municipalities grow -- the energy use of new buildings is mostly offset by energy reductions from modernizing existing stock and building closings. The energy consumed by infrastructure and, to a lesser extent, fleet can reasonably be modeled as proportional to population growth, and hence this method of projecting municipal energy growth gives the .10% growth rate for the City of Marshfield.

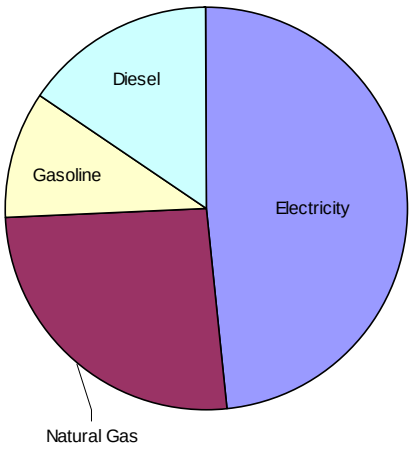
Assuming this growth rate, the energy use baseline for 2025 will be 49,041 MMBtus. The City of Marshfield energy reduction goal for 2025 is therefore 12,470 MMBtus, or 25% of the City's energy consumption. This translates into 3,654,861 kWh, or 124,704 therms, or 100,568 gallons of gas, or 89,715 gallons of diesel, or some combination of those fuels.

2008 Energy Use Details

The data collected can further be analyzed by end use, CO_2 emissions, and by selected buildings. The table and chart below show that electricity is largest energy consumption type for the City with natural gas and fleet fuel tied at 26%.

Total Consumption by Energy Type

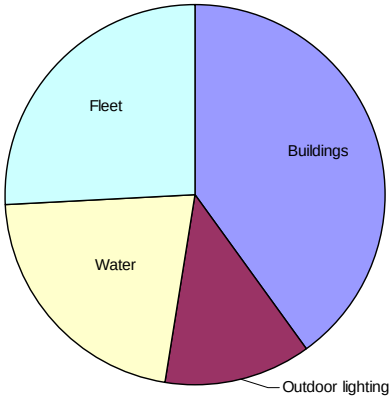
Energy Type	Percent of Total (Btus)
Electricity	48%
Natural Gas	26%
Gasoline	10%
Diesel	16%



Further analyzing the data shows the largest part of the City's energy usage is attributed to buildings, which is in line with statistics that show building are the largest chunk of our energy consumption. This is typical for most municipalities and also is where the City maybe able to make the largest reductions in use.

Total Consumption by End Use

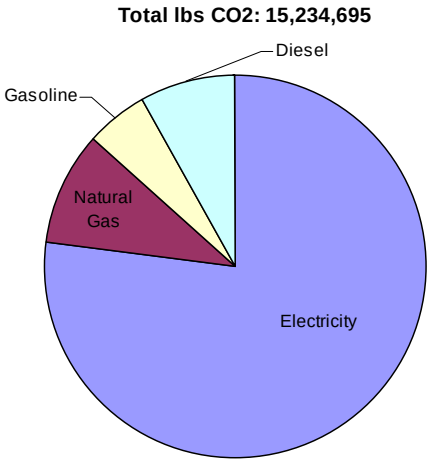
Energy End Use	Percent of total (Btus)
Buildings	40%
Infrastructure	34%
Lighting	13%
Water	22%
Fleet	26%



Electricity by far is the largest producer of CO2 emissions for the City of Marshfield.

Total CO2 Emissions by Energy Type

Energy Type	Percent of total CO2
Electricity	77%
Natural Gas	10%
Gasoline	5%
Diesel	8%



A closer look at specific City buildings shows the energy use per cubic foot of selected buildings. It is important to note details specific to City of Marshfield uses. Wildwood Park has high natural gas use for the zoo animals and swimming pools are always a high heat use. The fire department has the highest electric and natural gas usage for conventional city buildings; another good reason for a new LEED certified fire station. The concession buildings and warming shelters have higher electric usage; this is due to the outdoor lighting at these recreation facilities, not the building itself. So although City Hall is one of the largest city buildings by cubic feet, it is not one of the largest energy users in the city.

Energy Intensity of Selected Buildings

Building	kWh/ft3	therm/ft3
Mac Park Concession Bldg**	31.3	0.00
Wildwood Park	24.7	5.91
Steve J Miller Park Warming Shelter**	23.1	0.00
Fire Department	15.2	2.12
Police Dept	13.2	0.59
City Hall	12.9	0.45
Fairgrounds-Office Bldg	12.1	0.19
Firearms Training Facility	11.1	0.00
Hefko Swimming Pool	10.8	3.87
Library	8.9	0.12
Wildwood Station	7.2	0.33
Fairgrounds-Jr. Fair Expo Bldg	2.1	0.13
Oak Ave Community Center (Old Armory)	1.1	0.54

**See rationale in above paragraph

Total Projects Considered

Broad Brush List
In March of 2009 the Sustainable Marshfield Committee selected projects that may be viable energy reduction options for the City of Marshfield. Then in June of the same year the Committee prioritized the projects into either renewable energy production or energy reduction projects. Projects by priority are listed below. They will be evaluated by the Committee in the upcoming months, with the assistance of the Energy Center of Wisconsin and Focus on Energy.

Renewable Energy Production Priority Projects:
1-P. Fleet Vehicle Policy--Includes alternate fuels, vehicle idling policy, potential NEV vehicle, hybrid vehicles
2-P. Geothermal for City Buildings
3-P. Solar Collector for City Buildings
4-P. Community Wind Farm
5-P. Methane Production
6-P. Biomass Boiler
7-P. Local landfill with Methane Production

Energy Reduction Priority Projects:
1-R. South Central Avenue Streetscape Project
2-R. Municipal Lighting upgrades; LED lighting for traffic and street lights, updating building lighting, eliminate lighting where possible
3-R. LEED certification for municipal buildings--Certification for both new buildings and remodels.
3-R. Energy star certification for city buildings
4-R. Natural Landscaping of City Property
5-R. Integrated Alternate Public Transportation System--Includes "complete streets initiative", Safe Routes to School program, encouraging biking or walking to work, shuttle bus, taxi efficiencies, etc.

Specific Projects
The above list was then adjusted after discussions with staff to create specific projects that could be quantified for energy savings, cost, implementation time, and life expectancy of the project. Below are the projects and descriptions that were submitted to the Energy Center of Wisconsin in an effort to meet the 25x25 goal.

Renewable Energy Production Projects:
- **City fleet conversion**—19 non-emergency hybrid vehicles phased in over 16 years.
- **Conversion to biodiesel**—Install a biodiesel dispensing system.
- **Geothermal @ Fire Station**—The geothermal component of the new fire station.
- **Geothermal @ Library**—Install a geothermal component as part of the library expansion project.
- **Geothermal @ City Hall**—Install a geothermal system at City Hall.

- **Solar collector @ Library**—Install a photovoltaic system as part of the library expansion project.
- **Solar collector @ City Hall**—Install a photovoltaic system at City Hall.
- **Solar collector-hot water @ Fire Station**—The solar hot water system component of the new fire station.
- **Solar collector-battery recharge @ Fire Station**—The solar battery recharge system component of the new fire station.
- **Solar collector-hot water @ Zoo**—Install a photovoltaic system at the zoo to assist with the large heating components of displays including the Lynx, Cougar, and Grizzly Bear. Project could potentially include the Ludwig Building if feasible.
- **Solar collector –hot water@ Swimming Pool**—Install a photovoltaic system to heat the pool and bath house.
- **Swimming pool cover**—Install a thermal pool blanket and reels to reduce heat loss and evaporation. (Data calculations in this plan include an install date of 2011, however discussions need to take place regarding the viability of the current pool prior to implementing this project.)
- **Community wind farm**—Install 12 wind generators near Bakersville. This project is spearheaded by the MACCI Energy Council and would provide a renewable energy purchase option to the City.
- **Purchase Green Power (10%)**—This represents the current requirement of utilities to purchase 10% of their power from renewable sources. It is an assumption that this percentage will increase in future years, thereby automatically assisting the City in reaching the 25x25 goal.

<u>Energy Reduction Projects:</u>

- **Bi-fold doors @ Fire Station**—Bi-fold door component of new fire station.
- **South Central Ave Tree Planting**—This includes the 166 trees that were planted along Central Avenue as a part of the recent reconstruction.
- **LED Streetlights**—This project would convert all city street lights to LED. In this plan the project is phased in from 2015-2018. Marshfield Utilities owns the streetlights, thus would implement this project. However implementation would mean increased energy savings for the City and therefore it is an important project for the City to support.
- **Natural Landscaping @ Fire Station**—Landscaping component of the new fire station.
- **Natural Landscaping @ Library**—Include natural landscaping component during the library expansion project. This would eliminate the need for lawn mowing, saving both energy and time.
- **EECBG Projects**—These are a number of projects that were submitted as part of the grant application to the Office of Energy Independences' Energy Efficiency Conservation Block Grant Program. The application was submitted in mid-November, 2009 and an award would fund the following energy saving projects:
    - City Hall Plaza lighting replacement
    - Police Department boiler replacement
    - City Hall air conditioning replacement-7th floor
    - City Hall air conditioning replacement-4-6th floors
    - City Hall HVAC control modifications-4-7th floors
    - City Hall HVAC control modifications-B-3rd floors

- Police Department lighting upgrades
- City Hall Plaza variable speed drives on pumps (20HP)

Pathways to 25 x 25

There potentially could be many pathways for the City to reach its 25x25 goal. However based on projects submitted, and Energy Center of Wisconsin calculations there are two options that stand out. (Appendix B contains data sheets and scenario charts for the following two options.)

Option 1

This option has the highest likelihood of implementation to reach the 25x25 goal. If fully implemented the City would surpass the 25x25 goal by 11%. These are the projects that are selected by the City to implement, considering further project feasibility analysis. An implementation schedule is included later in the plan.

- Purchase 25% renewable electricity
- Geothermal at Fire Station
- Geothermal at Library
- Solar collector at Library
- Solar collector at City Hall
- Solar at Fire Station-hot water
- Solar at Fire Station--battery recharge
- Hefko Pool Cover
- Bi-fold doors at fire station
- Tree Planting
- Natural Landscaping at Fire Station and Library
- Geothermal at City Hall
- Solar at Hefko Pool
- Convert non-emergency fleet to hybrid
- Convert diesel fleet to biodiesel
- EECBG Projects

Option 2

Option 2 has a lower likelihood of implementation, but is definitely a goal to strive for in the future. In this scenario the amount of renewable energy purchased is reduced to 10% and in addition to the implementation of the projects in Option 1, the community wind farm would also be implemented. Option 2 would exceed the 25x25 goal by 2.5 fold.

It is important to note that while the City would benefit from the wind farm project, it is not a City owned project and the renewable energy would be purchased by the City.

Potential Renewable Feedstocks

These pages provide an introduction to the siting of biofuel facilities such as feedstock resources, existing operations, and constraints associated with facility siting and operation such as land use, infrastructure, environment, community character, etc. Maps and text give a broad overview of conditions in Wisconsin on a statewide basis, providing a snapshot of where opportunities for facilities may exist at a regional level or where constraints may be significant. While this section provides information on where resources are available, it does not provide insight to whether those resources are already being utilized or not.

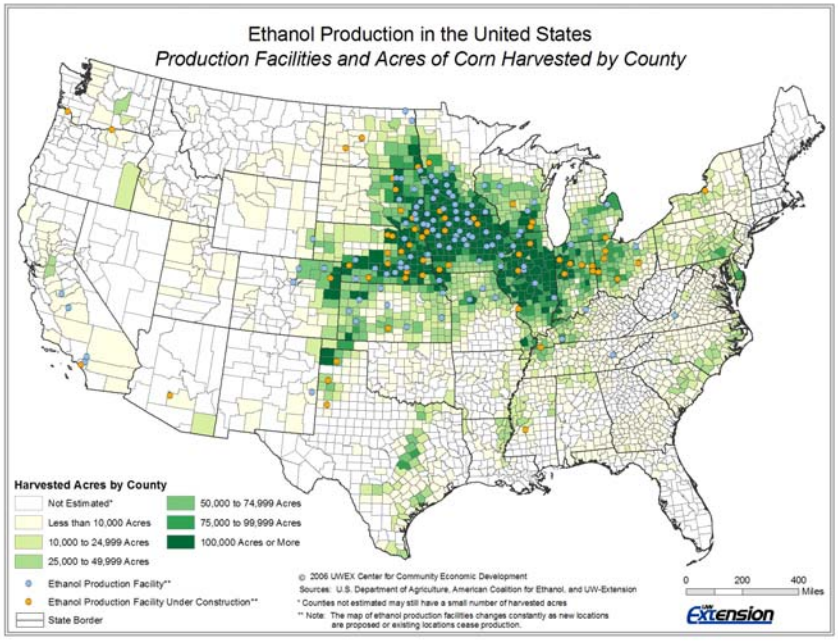
Renewable feedstocks include inputs such as corn, soybeans, apple pomace, beet molasses, and wood residues, among others. Advantages to using these inputs are many including a lowered demand for crude oil, recycling of CO2, and a lessened dependence on politically unstable nations for feedstock supply. This section looks at the prime potential feedstocks for the City of Marshfield.

Biofuel Production Facilities

The following national maps show the locations of existing biodiesel and ethanol production facilities, as well as facilities under construction, along with selected feedstocks. Note that these maps may not reflect changes in the biofuel industries due to feedstock prices, demand for biofuels, and other market conditions.

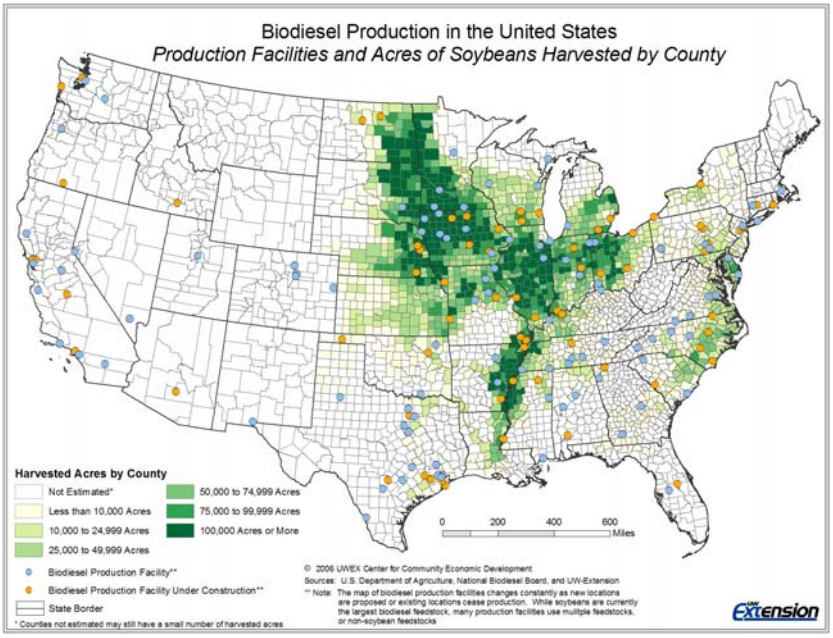
Ethanol

Ethanol production is central to the Midwest region, as seen on the map below. The ethanol production site in Necedah (60 miles to the south) is nearest to the City of Marshfield. Although Wisconsin is a large corn producer for ethanol, the corn production is much less compared to other Midwest states.



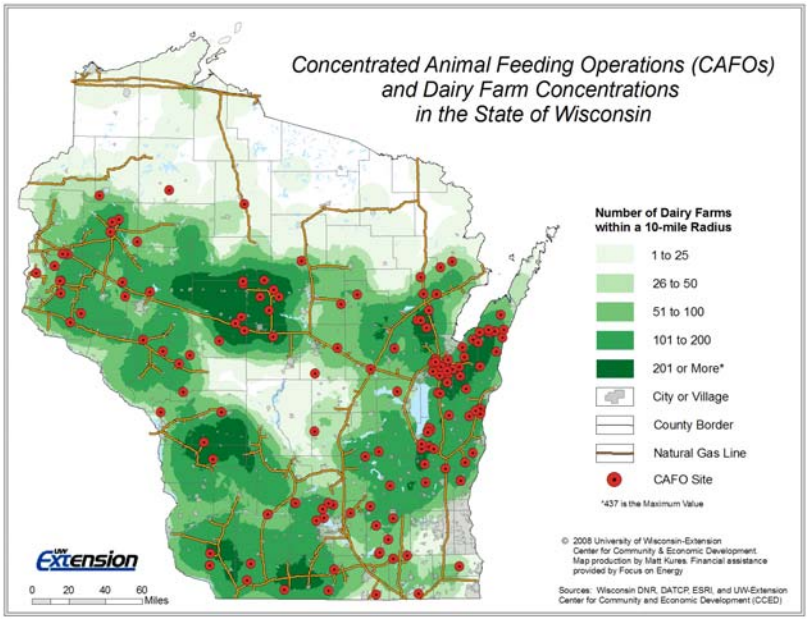
Biodiesel

There are a number of biodiesel production facilities in Wisconsin that Marshfield could utilize. Wisconsin has less acreage in soybeans than corn, and again, other Midwest states out produce Wisconsin in this crop.



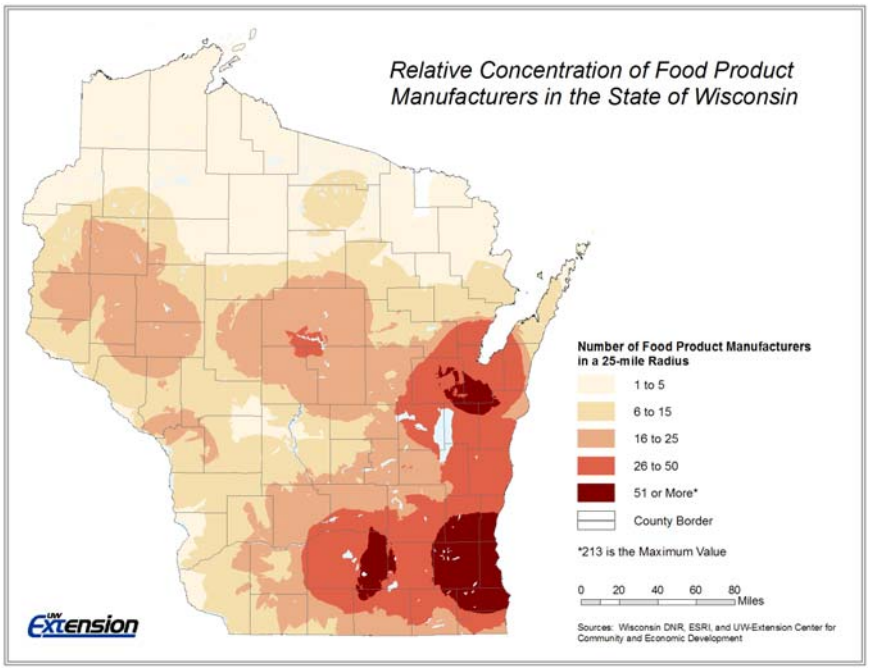
Concentrated Animal Feeding Operations (CAFO) and Active Dairy Producer Density

Methane produced through manure digestion is a potential bioenergy source for both electricity generation and biogas. Most manure digesters in the United States are found on large animal operations, many of which are classified as CAFO's (operations with 1,000+ animal units) . Other manure digestion efforts have looked at the feasibility of centralized projects that incorporate the waste of multiple mid-sized animal facilities. The map below examines the distribution of CAFO's in Wisconsin, as well as the number of active dairy producers within an 10-mile radius of any location in Wisconsin. Marshfield is in the largest, most concentrated area of dairy farms in the state. Within that area there are over 10 CAFO's located in northern Wood, western Marathon, eastern Clark, and southern Taylor Counties.



Food Product Manufacturing

In 2007, Wisconsin had almost 1,000 food product manufacturers. Residues from these facilities could provide feedstocks for a variety of renewable energy technologies, both on and off-site. While many of these manufacturers are located near Wisconsin's agricultural lands, a large number of value-added industries are also found in Wisconsin's urban areas. Food product manufacturing facilities are based on the Quarterly Census of Employment of Wages dataset disseminated by the Wisconsin Department of Workforce Development. There is a relatively dense concentration of manufacturers at the intersection of Wood, Portage, and Marathon Counties that may provide residues to the City of Marshfield.



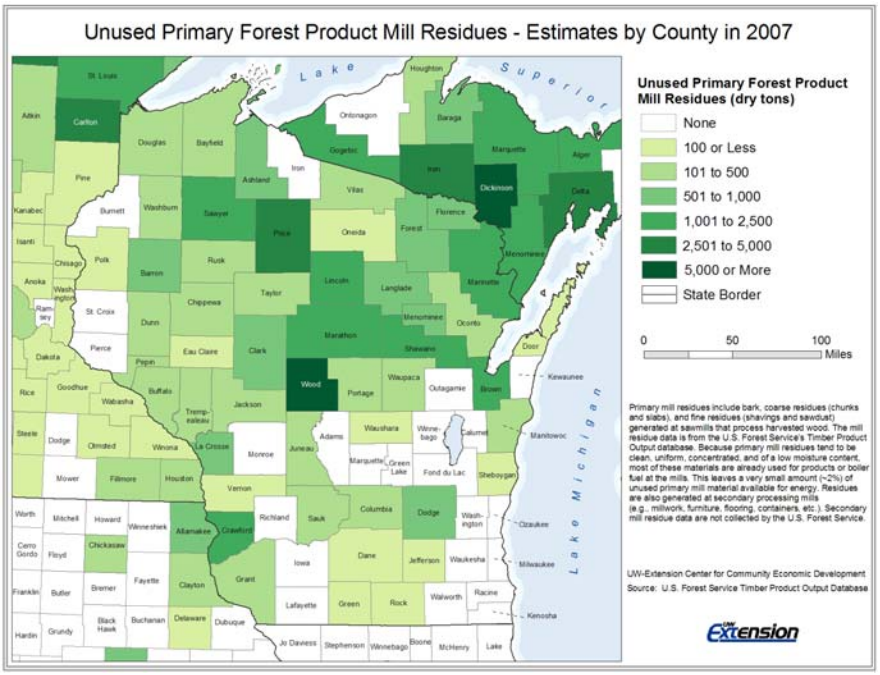
Forest Resources

Forest resources can be used for renewable energy production in several manners. Research is examining how wood residues from logging, forestry management and land development could become commercially-viable feedstocks for cellulosic ethanol production. Wood waste is being used in come co-generation facilities to produce heat and power. Other opportunities include bio-refining and energy production as part of forest product manufacturing processes. Technologies such as Value Prior to Pulping (VPP), Black Liquor Gasification (BLG), and wastewater digestion at on-site wastewater facilities are being explored as ways to produce renewable energy. The following maps explore aspects of Wisconsin's forest resources and forest product industries that may be important to the Marshfield area including recoverable primary mill residues and the locations of the timber product manufacturing facilities. In addition, more information is available on the acres of timberland, volume of growing stock, roundwood extraction, and estimates of recoverable logging residues for a more in depth analysis.

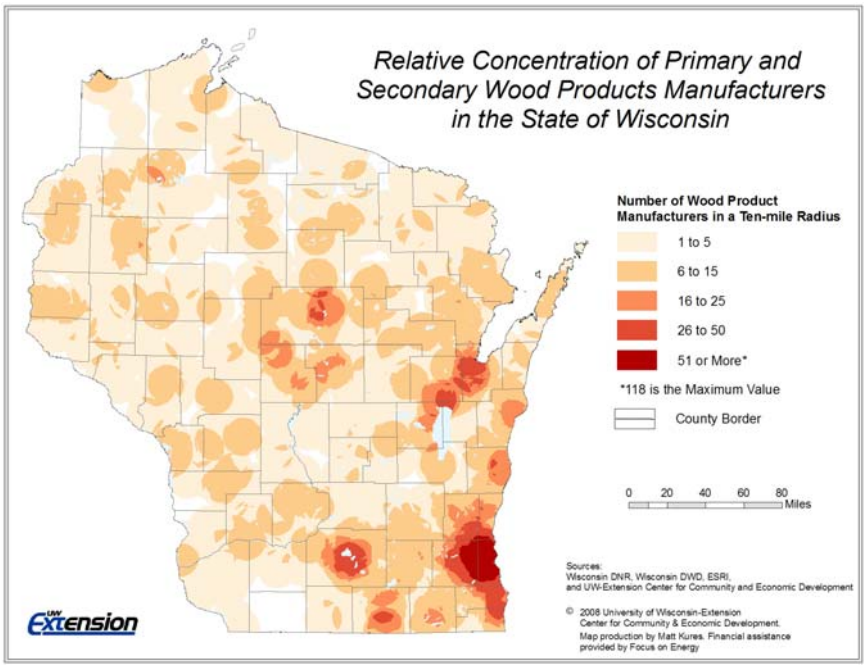
Unused Primary Forest Product Mill Residues

Primary mill residues include bark, coarse residues (chunks and slabs), and fine residues (shavings and sawdust) generated at sawmills that process harvested wood. Because primary mill residues tend to be clean, uniform, concentrated, and of a low moisture content, most of these materials are already used for products or boiler fuel at the mills. This leaves a very small amount (~2%) of unused primary

mill material available for energy. Wood County has the highest production rate of unused mill residues in the state with over 5,000 or more dry tons produced. This could be a potential source of fuel and should be further explored by the City.



Relative Concentration of Primary and Secondary Wood Products Manufacturers in the State



In mid-2008, Wisconsin had 668 wood product manufacturers, 278 paper mills and 370 wood furniture manufacturers. Residues from these facilities could provide feedstocks for a variety of renewable energy technologies, both on and off-site. While many of these manufacturers are located near Wisconsin's forests, a large number of value-added industries are also found in Wisconsin's urban areas. Forest product manufacturing facilities are based on the Quarterly Census of Employment of Wages dataset disseminated by the Wisconsin Department of Workforce Development. There is a moderate concentration of wood product manufacturers in Wood and Portage Counties that may provide additional residues for the City of Marshfield.

Environmental Issues

Numerous environmental and aesthetic issues may arise from the siting and operation of bioenergy facilities. The types and magnitude will depend on the nature of the operation. State and federal permits may be required, particularly for air and water aspects. Very large proposals may trigger the need for a formal environmental impact statement under the National or Wisconsin Environmental Policy Act. Developers and entrepreneurs should get in touch with regulatory agencies early in the process so applicable environmental regulations are understood and obeyed. Water quality and quantity, along with air quality, aesthetics, and greenhouse gas issues should all be considered and further researched when investigating alternative energies.

Existing Unknowns – Necessary Information for Future

While this plan outlines future projects for the City to reach its 25x25 goal, there are in depth details and information that was not included in the scope of this plan. This section outlines those details that will need to be addressed in the future.

- **Windfarm Project**—There are a number of unknowns yet for this project. Installation of a met tower and a wind study is the next step in the process. Data received from the tower will determine if there is a viable wind source and how the project might proceed from that point.
- **Library Expansion**—The timing and size of the future Marshfield Library expansion will have a definite impact of the photovoltaic and geothermal options for these library projects.
- **Methane Digesters**—One type of project not included in this plan is a medium size methane digester. The feasibility of this type of digester is currently being investigated by the MACCI Energy Council and the University of Wisconsin Agriculture Research Station. If and when this technology becomes feasible, the City may wish to utilize this abundant resource by implementing one or more digesters.
- **Biofuel Usage**—More information is needed in the future regarding biofuel usage. The information provided by UW Extension on biofuel potential does not provide any information on how much of the existing fuel is currently being utilized.
- **Future Political Climate**—The past political climate in Marshfield has supported the sustainable movement, but future political support is always unknown.
- **Funding**—Funding for implementation is generally a challenge for communities. Implementation of the projects in this plan will most likely shift due to more incoming data and funding deficits/opportunities.
- **Engineering Studies**—Studies have not been completed for the projects in this plan. Engineering studies will provide a more detailed look at feasibility and cost for each project.
- **Future Legislation**—As the sustainability movement continues to push through the political climate, future legislation is eminent. Carbon trading and required purchasing of renewable energy will have large impacts on Marshfield's plan to reach its 25x25 goal.
- **Technology**—As technology changes move forward at a rapid pace projects will be modified and feasibility will be determined based on a new set of standards.
- **New Fire Station**—It should be noted that as the old fire station comes off line and the new station comes on there will be energy savings that is not calculated in this plan. Only significant components of the new station are included in this plan.

Action Steps – Immediate & Long - Term

This section contains specific project implementation recommendations. It includes renewable and energy saving projects that have been discussed throughout this plan and also adds actions for community outreach and internal City operations that may also be implemented to further the City's sustainability goals. The estimated costs listed do not include City Staff time.

Project Implementation Recommendations
Listed below are the renewable and energy reduction projects discussed throughout this plan.

Renewable Energy Actions	Timeframe	Responsible Party	Estimated Cost
City Fleet Conversion	2011-2025	City Staff	$570,000
Convert to Biodiesel	2011	City Staff	$50,000
Geothermal at Fire Station	2010	City Staff	$133,050
Geothermal at Library	2013	City Staff	$500,000
Geothermal at City Hall	2016	City Staff	$1,000,000
Photovoltaic at Library	2013	City Staff	$200,000
Photovoltaic at City Hall	2012	City Staff	$280,000
Solar at Fire Station-hot water	2010	City Staff	$15,000
Solar at Fire Station-batteries	2010	City Staff	$20,848
Solar at Zoo-hot water	2013	City Staff	$50,000
Solar at Swimming Pool-hot water	2012	City Staff	$50,000
Swimming Pool Thermal Cover (Age of pool needs to be considered prior to implementation)	2011	City Staff	$60,000
Wind Farm	2012	MACCI Energy Council	$12,000,000
Purchase of Green Power (10%)	2010-2025	City Staff	Included in current electric purchase
Energy Reduction Actions	**Timeframe**	**Responsible Party**	**Estimated Cost**
Tree Planting (Central Ave.)	2010/2024	City Staff	$67,800
LED Street Lights	2015-2018	Marshfield Utilities	$1,031,000
Natural Landscaping at Library	2013	City Staff	$10,000
Natural Landscaping at Fire Station	2010	City Staff	$15,300
Bi-Fold Doors at Fire Station	2010	City Staff	$438,960
EECBG Project List*	2010	City Staff	$290,000

*The EECBG Project list is a number of projects that were submitted as part of the grant application to the Office of Energy Independences' Energy Efficiency Conservation Block Grant. The application was submitted in mid-November, 2009 and an award would fund the following energy saving projects:

- City Hall Plaza lighting replacement
- Police Department boiler replacement

- City Hall air conditioning replacement-7th floor
- City Hall air conditioning replacement-4-6th floors
- City Hall HVAC control modifications-4-7th floors
- City Hall HVAC control modifications-B-3rd floors
- Police Department lighting upgrades
- City Hall Plaza variable speed drives on pumps (20HP)

Community Education & Outreach

October 3, 2009 the Sustainable Marshfield Committee hosted the first Marshfield Green Living & Energy Expo. In conjunction with Mid-State Technical College, Marshfield Utilities, UW Extension, and MSA Professional Services, Inc. the Expo brought in a crowd of nearly 600 people. The festivities included vendors providing product information, both adult and kids workshops, electronics recycling, and free lunch!

Education & Outreach Actions	Timeframe	Responsible Party	Estimated Cost
Initiate a "Sustainability Corner" on the front page of the City website to provide update on City successes	2010, Ongoing	City Staff with SMC	No cost
Coordinate with local schools to provide sustainability workshops for students	2010, Ongoing	SMC	Low cost
Continue successful Green Living & Energy Expo	2010 annual or 2011 bi-annual	SMC	$3,000
Establish a Green Partner Program for residents, business owners, contractors, and organizations to publically recognize they support green principles and are working to create awareness within the City	2011	SMC	Low cost
Organize a Natural Step study circle	2010 and beyond	SMC	No cost

Internal City Operations

City staff and Sustainable Marshfield Committee members attended a two-day Natural Step Training in 2009. The objective of the training was to establish a common understanding and shared language for sustainability among City decision makers, giving them practice in using the strategic sustainability framework in a collaborative way. It also offered useful examples of processes and tools that other local governments are using to institutionalize sustainability in their operations and management. A Memorandum of Understanding has been drafted by the group to document what was learned and how the group will move forward in the future.

Energy Star® is a U.S. Environmental Protection Agency program helping businesses and individuals fight global warming through superior energy efficiency. One aspect

of the program includes the Energy Star Portfolio Manager—EPA's no-cost online energy management tool. The City of Marshfield received training on the portfolio manager at the September 2009 Energy Independent Communities Meeting. Using this program will assist the City in assessing the energy use of municipal buildings to identify the best opportunities for improvement. It will also track performance over time, and document savings results.

Below are actions that the City can implement to further imbed sustainability into all aspects of City government.

Internal City Actions	Timeframe	Responsible Party	Estimated Cost
Implement Energy Star Portfolio	2010, Ongoing	City Staff	No cost
Shift to Lifecycle Cost Accounting	2011, Ongoing	City Staff	No cost
Implement a cross department sustainability team to forward sustainable internal operations	2010, Ongoing	City Staff with SMC	No cost
Implement a paper reduction policy	2010	City Staff	Cost savings
Standardize a green purchasing policy	2010	City Staff	Cost savings
Form base code update with sustainability modifications	2011	City Staff	$150,000
Energy audits for all city buildings	2010-2011	City Staff	No cost if utilize Focus on Energy
Create a performance target system to evaluate and monitor internal sustainability goals	2010, Ongoing	City Staff with SMC	No cost

Commitment to Continual Improvement

By adopting this plan, the City of Marshfield has made a commitment to itself to consider and value the long term sustainability of the community. An important aspect of this commitment is continued, annual efforts to track progress toward the vision and the targets established by this plan, and to recommit to a set of actions each year that will result in further progress.

Initial Adoption occurred on: January 26, 2010

Annual Updates should be completed prior to the City's budgeting process each year.

1) Sustainable Marshfield Committee (SMC) will update with assistance from City staff (Begin in June)
2) SMC reviews prior year action plan to celebrate successful completed efforts and select actions for the next year

3) SMC prepares a brief report summarizing successes of the past year and proposed revisions to the Marshfield 25x25 Plan. Revisions will include an updated action plan, and may include amendments to the rest of the project plan.
4) SMC presents its annual report to the City Council (September)
5) City Council convenes a public hearing on the updates to the 25x25 Plan
6) City Council renews the updated 25x25 Plan by resolution (October/November)

Energy Independence Team Members

Sustainable Marshfield Committee:
Marty Anderson
Georgette Frazer
Sue Meyer
Gordie Earl
Carl Scott
Michelle Adamski
Randy Lueth

City Staff:
Chris Meyer, Mayor
Mike Brehm, Administrator
Amy Krogman, Mayor's Secretary
Dan Knoeck, Director of Public Works
Roland Donath, Building Inspector
Dick Pokorny,
Brian Panzer, Street Superintendent
James Schmidt, Fire Chief
Ed Englehart, Director of Parks & Recreation
Lori Belongia, Library Director
Joseph Stroik, Police Chief

Plan Assistance:
Peter Manley, Wood County University of Wisconsin Extension
Amy Peterson, MSA Professional Services

Appendix A: Baseline Energy Consumption Data

Note: Only summary baseline data is included in this appendix. The baseline data is best utilized in the electronic spreadsheet in which it was developed.

In order to determine Marshfield's 2025 municipal energy use baseline, we need to estimate the rate at which we can expect municipal energy usage to grow.

This value will differ for every community.
Possible values are listed below. To run this baseline tool, please select one of those values, or determine your own, and enter it (as a percent) into the green box.

0.1%

0.2%	Marshfield's estimated population growth rate
0.1%	Population growth rate discounted by percent of energy attributable to buildings
5.0%	Annual growth rate of Marshfield's municipal energy usage, 2006 to 2008

(As a way to perform a reality check on your estimate, an annual growth rate of 4.2% would mean doubling your energy consumption by 2025.)

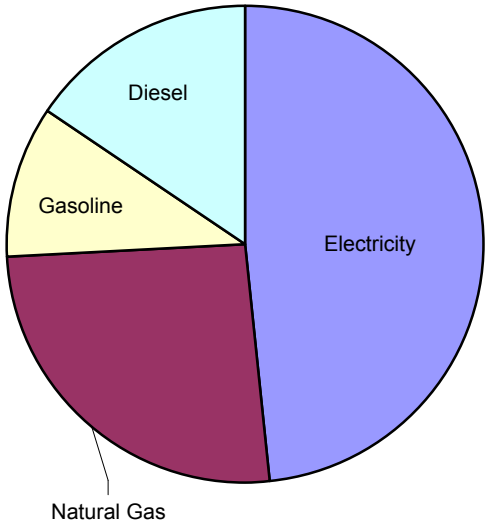
Once you have entered a growth rate, please proceed to the next tab.

Your 2008 energy usage baseline is	49,041	million (MM) Btus.
That baseline is comprised of	6,929,037	kWh,
	127,713	therms,
	40,351	gallons of gasoline,
and	54,852	gallons of diesel.
By assuming an annual growth rate of	0.10%	,
in 2025 your energy use baseline will be	49,882	MMBtu.
Your 25% energy reduction goal for 2025 is therefore	12,470	MMBtu,
or	25%	of your 2008 consumption.
This translates into	3,654,861	kWh or
	124,704	therms or
	100,568	gallons gas or
	89,715	gallons diesel or
		some combination
		of those fuels.

Marshfield 2008 Energy Baseline: Additional Info

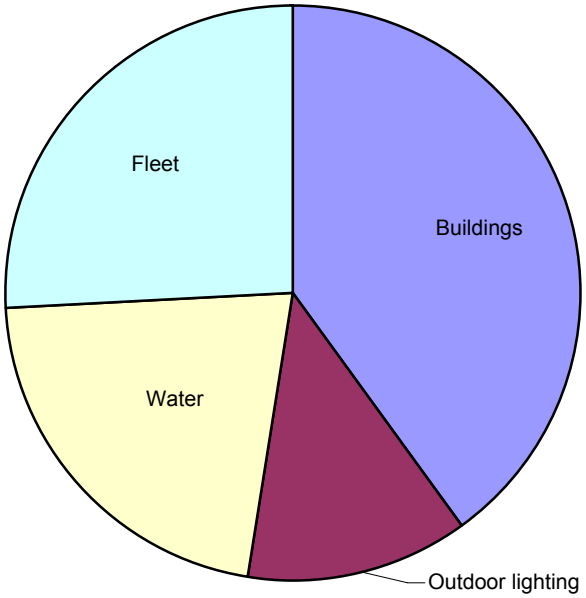
Total Consumption by Energy Type

Energy type	*Percent of total Btus*
Electricity	48%
Natural Gas	26%
Gasoline	10%
Diesel	16%



Total Consumption by End Use

Energy end use	*Percent of total Btus*	
Buildings	40%	
Infrastructure	34%	
Lighting		*13%*
Water		*22%*
Fleet	26%	

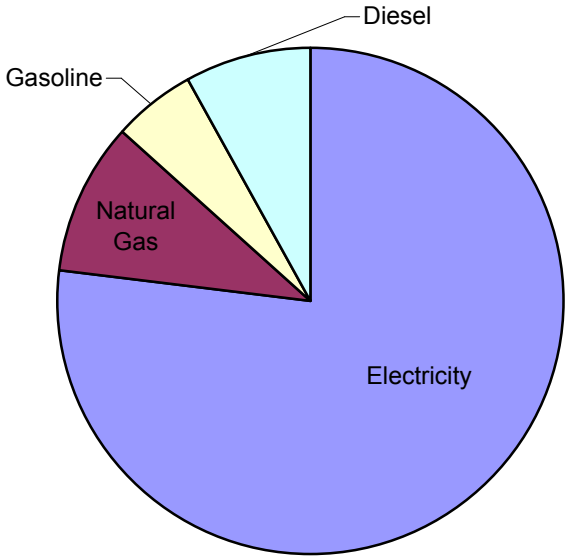


Marshfield 2008 Energy Baseline: Additional Info

Total CO2 Emissions by Energy Type

Energy type	*Percent of total CO2*
Electricity	77%
Natural Gas	10%
Gasoline	5%
Diesel	8%

Total lbs CO2: 15,234,695



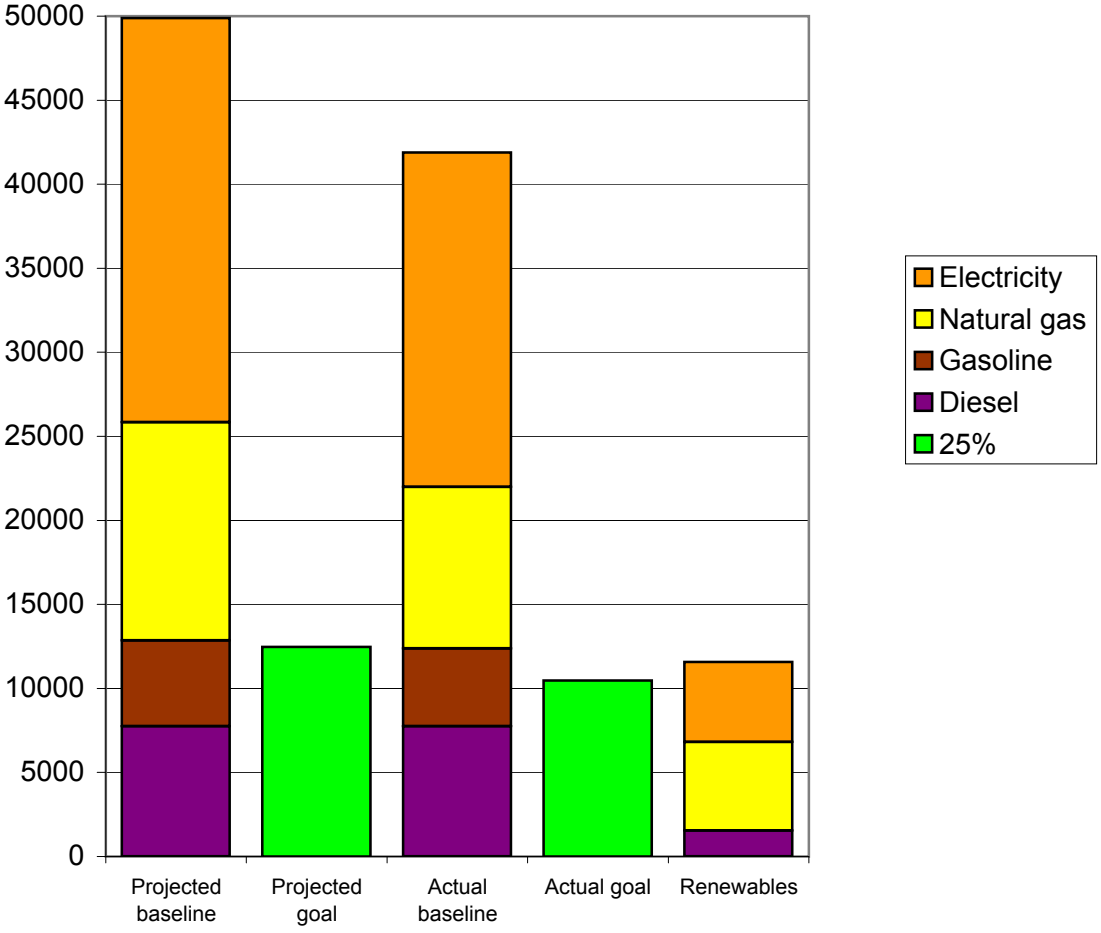
Energy Intensity of Selected Buildings

	kWh/ft3	*therm/ft3*
Wildwood Park	24.7	5.91
Hefko Swimming Pool	10.8	3.87
Fire Department	15.2	2.12
Mac Park Concession Bldg	31.3	0.00
Police Dept	13.2	0.59
City Hall	12.9	0.45
Steve J Miller Park Warming Shelter	23.1	0.00
Fairgrounds-Office Bldg	12.1	0.19
Wildwood Station	7.2	0.33
Oak Ave Community Center (Old Armory)	1.1	0.54
Library	8.9	0.12
Firearms Training Facility	11.1	0.00
Fairgrounds-Expo Bldg	2.1	0.13
Senior Center by Library	5.3	0.00

Appendix B: Measure Analysis Results

Note: Only summary results data is included in this appendix. The results data is best utilized in the electronic spreadsheet in which it was developed.

2025 Energy Use

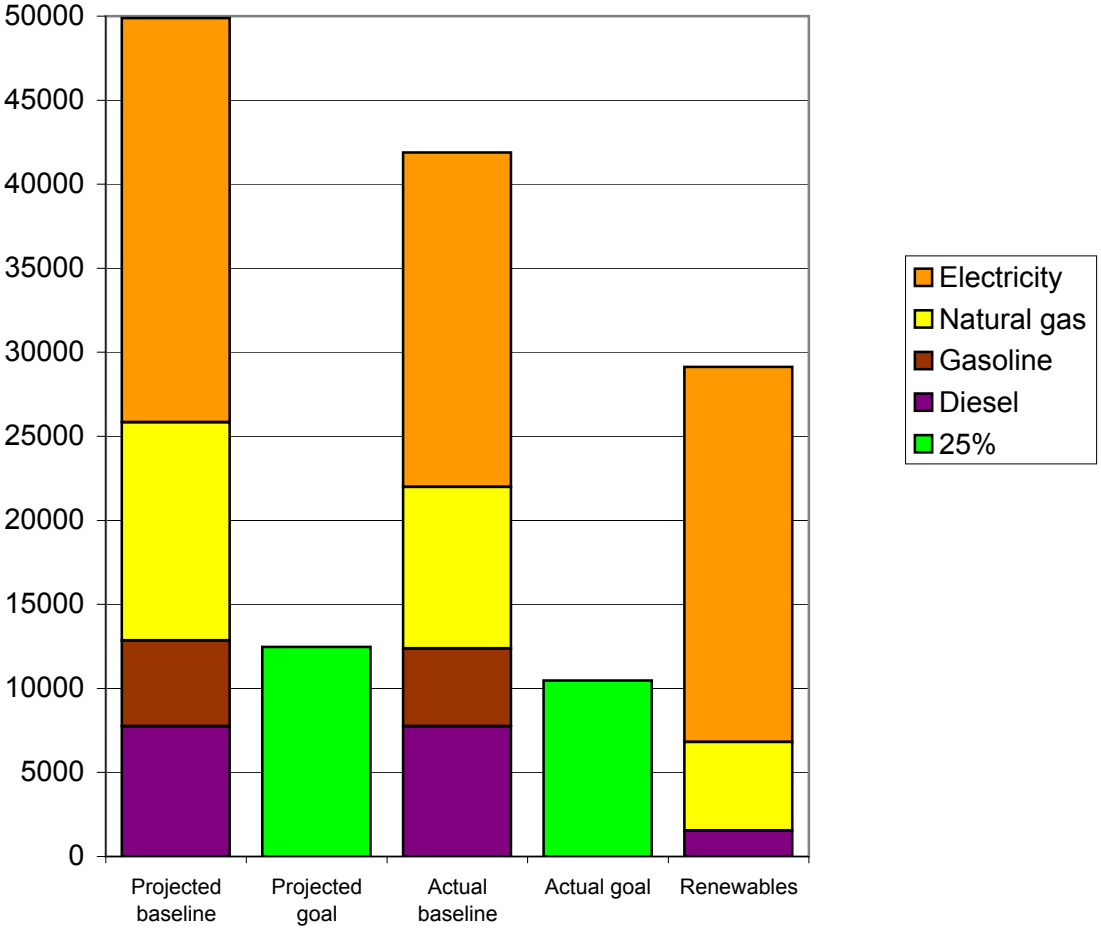


Percent of 25% goal achieved: 111%

Measures

		Name
25%	R	Wisconsin RPS
0	R	Purchased renewable electricity
on	R	Geothermal at Fire Station
on	R	Geothermal at Library
on	R	Solar collector at Library
On	R	Solar collector at City Hall
on	R	Solar at Fire Station-hot water
on	R	Solar at Fire Station--battery recharge…
On	E	Swimming Pool Cover
Off	R	Windfarm
on	E	Bi-fold doors
on	E	Tree Planting
On	E	Streetlights
on	E	Natural Landscaping
on	E	Natural Landscaping
On	E	Geothermal at City Hall
Off	E	Old Fire Station
On	R	Solar at Zoo
on	R	Solar at Hefko Pool
On	E	Convert Fleet-Hybrid
on	R	Convert to biodiesel
on	E	EECBG Projects

2025 Energy Use



Percent of 25% goal achieved: 278%

Measures

		Name
10%	R	Wisconsin RPS
0	R	Purchased renewable electricity
on	R	Geothermal at Fire Station
on	R	Geothermal at Library
on	R	Solar collector at Library
On	R	Solar collector at City Hall
on	R	Solar at Fire Station-hot water
on	R	Solar at Fire Station--battery recharge…
On	E	Swimming Pool Cover
On	R	Windfarm
on	E	Bi-fold doors
on	E	Tree Planting
On	E	Streetlights
on	E	Natural Landscaping
on	E	Natural Landscaping
On	E	Geothermal at City Hall
Off	E	Old Fire Station
On	R	Solar at Zoo
on	R	Solar at Hefko Pool
On	E	Convert Fleet-Hybrid
on	R	Convert to biodiesel
on	E	EECBG Projects

Measure name	Bi-fold doors		
Measure description	Install bi-fold doors at Fire Station		
Total installed cost	$ 438,960.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	6603	therms (nat gas)	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2010	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Convert to biodiesel		
Measure description	Convert city diesel fleet to use B20 biodiesel		
Total installed cost	$ 50,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	11160.04483	diesel fuel	
Measure life	10	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2011	100%	

***Use 74,000 gallons now; use will be the same but GHG output will be less.

Measure name	EECBG Projects		
Measure description	Install all EECBG projects		
Total installed cost	$ 50,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	178909	kWh	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
--	4999	therms (nat gas)	
Measure life	20	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2010	100%	

Measure name	Geothermal at City Hall		
Measure description	Install a geothermal heating unit at City Hall		
Total installed cost	$ 1,000,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	18024	therms (nat gas)	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2016	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Geothermal at Fire Station		
Measure description	Install a geothermal heating system in the Fire Station		
Total installed cost	$ 133,050.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	10714	therms (nat gas)	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2010	100%	

Measure name	Geothermal at Library		
Measure description	Install a geothermal unit at the public library		
Total installed cost	$ 500,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	14420	therms (nat gas)	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2013	100%	

Measure name	Natural Landscaping		
Measure description	Install natural landscaping at the fire station		
Total installed cost	$ 15,300.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	100	unleaded fuel	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	100	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2010	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Natural Landscaping		
Measure description	Incorporate natural landscaping at the library to eliminate mowing		
Total installed cost	$ 10,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	75	unleaded fuel	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	40	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2013	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Solar collector at City Hall		
Measure description	Install a photovoltaic system at City Hall		
Total installed cost	$ 280,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	129230	kWh	
Measure life	50	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2012	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Solar at Fire Station--battery recharge…		
Measure description	Install a solar system for battery recharge		
Total installed cost	$ 20,848.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	15815	kWh	
Measure life	20	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2010	100%	

Measure name	Tree Planting		
Measure description	Plant 166 trees on south central avenue		
Total installed cost	$ 67,800.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	185420	kWh	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	60	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2010	0%
2024	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

***kwh savings was based on mature trees.

Measure name	Streetlights		
Measure description	Convert city streetlights to LED		
Total installed cost	$ 1,031,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	848004	kWh	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	25	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2015	25%
2016	25%
2017	25%
2018	25%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Solar at Zoo		
Measure description	Install solor hot water at zoo		
Total installed cost	$ 50,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	14876	therms (nat gas)	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2013	100%	

Measure name	Solar collector at Library		
Measure description	Install a photovoltaic system at the Library		
Total installed cost	$ 200,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	96923	kWh	
Measure life	50	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2013	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Solar at Hefko Pool		
Measure description	Install solar hot water at Hefko Swimming Pool		
Total installed cost	$ 50,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	10388	therms (nat gas)	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.
Measure install date	Year	% completion	The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).
	2012	100%	

Measure name	Solar at Fire Station-hot water		
Measure description	Install a solar hot water system at the fire station		
Total installed cost	$ 15,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	2212	therms (nat gas)	
Measure life	30	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2010	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Windfarm		
Measure description	Install 12 wind generators near Bakerville		
Total installed cost	$ 12,000,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings		units	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated	100,000,000.00	kWh	
Measure life	35	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2012	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Measure name	Swimming Pool Cover		
Measure description	Install a thermal swimming pool cover on Hefko pool		
Total installed cost	$ 60,000.00		What it costs to install this measure. If it's an upgrade to something already planned—i.e., building a library but now building it to LEED standards—then this is the difference between the costs of the standard design and the energy-efficient design.
Financial incentives			If you expect financial incentives such as grants to be applied to this measure, you can include their sum here. (*Total installed cost* should *not* include any potential grants.)
Annual energy savings	4240	therms (nat gas)	The energy saved by an energy efficiency measure or the energy generated by a renewable measure, stated in whichever units are appropriate—kWh, therms, etc. This will typically be either/or.
Annual energy generated		units	
Measure life	6	years	How long the measure will accrue energy savings or generate energy before it must be replaced.

Measure install date

Year	% completion
2011	100%

The year you expect energy savings/generation from the measure to come online. If completed in one year, enter just one year, and 100% beside the year. Otherwise, use the table (i.e., streetlights replaced over many years).

Appendix C: 25x25 Resolution

RESOLUTION NO. 2008-48

WHEREAS, the City of Marshfield, through the Marshfield Utility Commission serves the electrical needs within Marshfield; and

WHEREAS, the Marshfield Utility Commission is encouraging and promoting the use of electricity and transportation renewable resources; and

WHEREAS, the Wisconsin Office of Energy Independence encourages the use of 25% of renewable energy through the Wisconsin Energy Independent Community Partnership initiative by 2025 (25X25).

NOW, THEREFORE, BE IT RESOLVED, that the City of Marshfield hereby adopts the Wisconsin Energy Independent Community 25X25 Partnership.

DATED THIS 25th DAY OF November, 2008.

ADOPTED: 11-25-08

Chris L. Meyer, Mayor

APPROVED: 11-25-08

Deb M. Hall, City Clerk

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11/20/2008

Appendix D: Sustainable Marshfield Committee Report

February 27, 2007

SUSTAINABLE MARSHFIELD COMMITTEE REPORT
FEBRUARY 27, 2007

Executive Summary:

On March 14, 2006 the Common Council authorized the establishment of a committee to evaluate the Eco-municipality concept, to see how it can be applied to the city, businesses within our community and to city residents as well and report back to the Common Council the committee's findings and recommendations.

The Sustainable Marshfield Committee (SMC) began meeting in June 2006. The SMC consisted of the Mayor, two Aldermen, seven city employees and thirteen business and citizen representatives from throughout the community. The meetings were facilitated by agents of two different County University of Wisconsin Extension Offices with technical assistance from a statewide specialist of UW-Extension.

Later in the process the SMC organized three subcommittees to focus on specific topics. These topics included transportation, water quality/quantity and green buildings. The charge of these three subcommittees was to further evaluate in detail these topics and make recommendations on the same.

The following is a summary of the three subcommittees' findings and recommendations:

Sustainable Marshfield Transportation Subcommittee

Mission Statement:
It is the mission of the Sustainable Marshfield Transportation Subcommittee to develop recommendations that move residents and non-residents from point A to point B in a more sustainable manner.

Introduction:
Three areas of emphasis were chosen by the SMC for further exploration and recommendation development. One of the areas of emphasis was transportation. The Transportation Subcommittee met on multiple occasions to research potential actions the City of Marshfield could implement to make transportation within the city more sustainable. The following report details these recommendations and briefly outlines an action plan for implementation.

Plan of Action:
The Transportation Subcommittee recommends that the City of Marshfield pursue the following activities:

Alternate Fuels for Fleet Vehicles. Currently the City of Marshfield has a fleet of 49 vehicles (this does not include construction equipment) and to be a leader in the promotion of a cleaner fleet the city needs to consider the use of alternate fuels.

The current dump trucks could be utilizing bio-diesel. Bio-diesel is less toxic and more biodegradable than No. 2 diesel, but should not be used in older fleet vehicles.

Consideration should also be given for the gasoline powered vehicles by requiring future purchases to have the option of an alternative fuel but still maintain the option of using conventional gasoline. This would allow the user to utilize cleaner fuels when available and also use gasoline when the alternate fuel is not available, such as traveling outside the city limits.

There are many different types of alternate fuel options such as compressed natural gas (CNG), ethanol (E85), electricity, hydrogen, liquid natural gas (LNG), liquefied petroleum gas (LPG) and methanol (M85). Each of these options has specific advantages and disadvantages ranging from lower emissions and a reduced dependency on foreign oil to availability of alternate fuels from a local source. Additional research will be required before a specific direction can be chosen.

Fleet Vehicle Idling Policy. Implement a Vehicle Idle Policy that limits the length of time that stationary vehicles are allowed to idle. The unnecessary idling of vehicles and equipment wastes fuel, contributes to air pollution and may cause premature engine wear.

Park and Ride. Marshfield currently has a population of 19,258 residents. The daytime, weekday population increases to almost 35,000, with persons traveling into Marshfield to work at any of a number of businesses and more than 4,000 visitors each weekday to the Marshfield Clinic/St. Joseph's Hospital medical complex.

The negative affects of wear and tear on vehicles and fuel consumption, and the continuing need to expand parking areas to accommodate both workers and visitors alike is a basis to consider a Park & Ride concept.

To implement a program such as this, designated parking areas need to be strategically established at key locations perhaps 20-30 miles from Marshfield in all directions, preferably along main traveled routes from the outlying region into the city. Employees can be encouraged to share the ride for those 20- 30 miles, to and from work each day, with as many as three others in a car, or as many as 10-12 in a van. As a reward, those using the Park & Ride program might be provided with a convenient parking area.

Employer incentives would be an added boost to the development of the Park & Ride concept. Employers may accommodate the program by adjusting working hours to allow those traveling together to come and go at the same time. A very enterprising employer might consider providing the mode of transportation (van) from the outlying areas, or a financial incentive for those employees willing to share rides each day.

Shuttle Bus. Marshfield presently participates in the state/federal transportation program known as Share Ride, which subsidizes the private operation of a local taxi service. The basis for Share Ride is to pick any number of patrons at any one time, and share the ride with others to their individual destinations. This concept saves energy and wear and tear on equipment, and allows for more affordable rates.

There has been an interest expressed in the community to operate a shuttle bus service between the medical complex, the historic downtown and the north retail area. In the interest of the sustainable philosophy, consideration should be given to the operation of a community shuttle, operating on a continual basis, between established destinations.

With possible city participation in a state/federal funding program similar to the taxi service, as well as a partnership with local business as sponsors, such an operation might be a reality with limited or no tax implications.

Integrated Bike Trail System. This Committee recommends the City of Marshfield continue the construction of an integrated bike trail system that connects industrial, commercial and residential sections of Marshfield. The system should advance safe and efficient transportation for cyclists, pedestrians and other non-motorized transportation.

Sustainable Marshfield Water Quality/Quantity Subcommittee

Mission Statement:
The City of Marshfield will provide clean water to its residents and businesses and assure sufficient quantities of water will be available for future generations. The City of Marshfield will assure that surrounding groundwater and surface waters are not impaired because of actions within the City of Marshfield.

Introduction:
Water quality and quantity was chosen as one of the three high priority topics by the SMC. There are several reasons water quality and quantity are high priorities. Water quality is important to residents' health and the long-term health of the environment. The city has major investments in providing high quality and adequate quantities of water to its residents and businesses. The city also has a major investment in treating waste water. Maintaining adequate quantities of water for future growth is viewed as a high priority and challenge by city officials.

Plan of Action:
There are a variety of steps the city can consider to maintain high quality of water and assure adequate quantities of water for the future.

Water conservation. Marshfield Utilities should continue to promote the use of water saving devices, such as low-flow shower heads and low flow toilets, and offer incentives for their use. Industry should look for methods to reduce the use of water. Use of water

for lawns and gardens can be reduced through the use of rain gardens and rain barrels and projects to encourage their use.

Phosphorous-free fertilizer. Excess phosphorous leads to excessive plant and algae growth in area surface waters. Most area soils do not need phosphorous added for good plant growth. The city can educate and encourage citizens to use phosphorous-free fertilizer. The city can also ban the sale of phosphorous fertilizer as many other Wisconsin communities and Minnesota have done.

Pharmaceuticals in waste water. An increasing amount of pharmaceuticals (medicines) are found in waste water due to normal bodily excretion or flushing unused pharmaceuticals down the toilet. The city can educate and encourage residents and medical businesses to properly dispose of pharmaceuticals. Examples of business disposal include dentists disposing of mercury and care facilities returning unused medicine when possible. The city has been a leader in providing for proper disposal of pharmaceuticals through the *Take-Back Program* and should continue to do so.

Wellhead and groundwater protection. The city should continue to plan for and purchase areas for municipal wells and also provide for protection of water quality surrounding the wells. The city should provide for the proper abandonment of wells to prevent further contamination of groundwater.

Stormwater control. The city shall meet or exceed federal guidelines regarding storm water control in order to protect the quality of area surface waters and enhance groundwater recharge.

Mill Creek. The city is the headwaters for Mill Creek. The city should assure that surface waters flowing into Mill Creek from within its borders meet state and federal guidelines and participate with surrounding communities in improving the water quality in Mill Creek.

Utilities improvements. Lead lines: All lead water lines should be replaced on a cost effective basis whenever possible. Lead lines can cause unhealthy water. Continue replacing lead water lines whenever practical.
Wastewater lines: Leaking wastewater lines allow groundwater to enter the lines, causing increased sewage treatment costs. Wastewater lines should be replaced on a regular basis to assure effective and efficient treatment of wastewater.

Sustainable Marshfield Green Building Subcommittee

Mission Statement:
The City of Marshfield will encourage "Green Building" practices by example and through education and incentives.

Introduction:
Green Building by definition is a whole building integrated design and construction approach that optimizes the building site's energy, water, and materials, and improves indoor environmental quality and occupant health.

Plan of Action:
The Green Building Subcommittee recommends that the city pursue the following activities:

Construction. The City of Marshfield will encourage the public and private sectors to build "Green". The city should lead by example and construct the next city building project using "Green Building" practices. Consideration should be given to applying the national Green Building Rating System, "LEED", Leadership in Energy and Environmental Design, a third-party certification program. "Green Globes" or other green building initiatives can also be considered.

Reuse. The City of Marshfield will recommend to the public and private sectors to reuse existing facilities before building a new building.

Education. The City of Marshfield will encourage and coordinate public "Green Building" education.

Incentives. The City of Marshfield will provide incentive programs to encourage both businesses and homeowners to build green. The following suggestions are just a tip of the iceberg:

- Recognition of "Green Buildings" or "Green Remodelings". Owners, designers and contractors to receive recognition by the city.

- Coordination and filing of forms for Federal, State and utility incentive programs on behalf of business owners, developers or home owners.

- Development of site and/or building plan review process that provides credits for "Green Buildings" design.

RECOMMENDATIONS

The SMC recommends the establishment of a Sustainable Marshfield Program with the following details summarized as follows:

I. Establish the Sustainable Marshfield Committee as a standing committee, in order to advise the Mayor and Common Council on implementation of sustainable practices, including the following recommendations:

A. Adopt the Sustainability Guidelines of the American Planning Association, in keeping with The Natural Step.

B. Commit to sustainability by interdepartmental representation and cooperation. Reorganize across existing departments to integrate sustainable development into all city functions and decisions.

C. Develop financial resources for full-scale implementation of sustainable development.

- Pursue additional funding options for support of city sustainability programs

D. Adopt a green framework for all Marshfield operations:

- Build Green – green building;
- Save Green – energy efficiency;
- Power Green – renewable energy;
- Buy Green – city purchasing;
- Drive Green – alternative fuel for fleet, shuttle bus, etc.; and
- Manage Green – recycling, environmental performance, environmental development, brownfields redevelopment, green meetings and events, green hotline and webpage.

E. Develop policies and programs that promote sustainable development planning: e.g., efficient use of water across the city and throughout the cycle of use (freshwater demand, sewer and greywater, and stormwater); transportation planning; urban heat island effects; low impact development; smart growth.

F. Develop annual reporting requirements for the city and for each department to measure progress in implementing the Sustainable Marshfield Program.

- Develop annual state of the environment report.

Appendix E: Sustainable Marshfield Strategic Planning Session

January 12, 2008

Strategic Planning Session Sustainable Marshfield
1/12/08
9:00 a.m. – 12:00 p.m.

Members present: Ald. Josh Hansen, Sue Meyer, Chris Meyer, Georgette Frazer, Dan Umhoefer and Marty Anderson

Members absent: Carl Scott

Imagine Marshfield 2030
The sustainability committee imagined what Marshfield would look like to 20 years because of our initiatives. The following are the characteristics the city would have:

- Larger population
    - More green development
- Fully integrated bike/trail system
- Planned unit developments integrating high, medium and low end housing options.
- All City buildings running on sustainable power sources
- Self sufficient community regarding food, fuel and fiber
- More pervious surfaces
- Local/native plantings
- At least 10 green roof projects launched
- Children more connected to the environment
- All City buildings are Energy Star certified
- The city has adopted full cost accounting for capital purchases
- The City has a sustainability dashboard, including:
    - CO^2 emission monitoring
    - Energy use monitoring
- There is a community garden
- All government entities/departments working together towards sustainability
- Integrated public transport system

Review major areas of emphasis
The committee evaluated the recommendation of the Sustainable Marshfield Exploratory Committee and evaluated whether these continue to be the direction the committee wants to move in. Several other areas of emphasis were formulated. The committee used a red dot/green dot exercise to prioritize the areas of emphasis. Each member of the committee received six red dot votes and six green dot votes. The red dots denoted initiatives that are less important currently and the green dots represented high priorities. Each member could use their dots on one initiative or could spread them around to several initiatives. Net scores were recorded and that is the basis for the committee prioritization. Below is a chart highlighting the prioritization of the major areas of emphasis for the committee:

Major area of emphasis	Net vote total
Resource Conservation	+6
Education	+5
Collaboration/Coordination	+2
Transportation	+2
Sustainable development	+2

After the exercise it was determined that the initiatives fall into two categories: what and how. The major areas of emphasis that were determined to be the "what" are: resource conservation, transportation and sustainable development. These "what initiatives are what will help the community to achieve sustainability. The "how" initiatives were determined to be education and collaboration. These emphasis areas are how we will move forward in achieving the "what" initiatives.

Review specific long/short initiatives and prioritize

Next the committee brainstormed initiatives that would help us achieve movement in our major areas of emphasis. These initiatives were determined to be short term (less than one year to complete) and long term (more than one year to complete) goals. The long and short term initiatives were voted on using the red dot/green dot exercise. The following are the results:

Short Term Initiatives

Resource Conservation	Net vote total
1. Energy audit for all municipal buildings	+4
2. Phosphorous free fertilizer ordinance	+3
3. Power plant energy conservation proposal	+2
4. City fleet idling policy	-1
5. Green house gas emission audit for City buildings	-6

Education	Net vote total
1. Work with News Herald for a monthly column on sustainability	+4
2. Identify community indicators for sustainability	+3
3. Education of government representatives and City staff on sustainable practices	+2
4. Gain feedback on initiatives through participation in public events	+1
5. Have a booth at the 2008 cultural fair	+0
6. Create a recognition program for business/government sustainability practices	- 5
7. Report annually to the City Council on sustainable initiatives	No Votes

Collaboration/Coordination	Net vote total
1. Become a part of ICLI	+3
2. Invite departments and like-minded organizations to attend meeting to evaluate partnership opportunities	+3
3. Work with MACCI's energy council	+2
5. Join the Midwest Renewable energy Association	-4

Transportation	Net vote total
1. Partner to promote the Safe Routes to School program	-2
2. Deploy more bike racks throughout the city (potentially with solar top)	-3

Green Development	Net vote total
1. Partner with other organizations working on the South Central Avenue streetscape project.	+1
2. Gain LEED certification and use "green building" standards for the new fire station and remodeling of the current station	-1

Long Term Initiatives

Resource Conservation	Net vote total
1. Use eco friendly products in City operations	+3
2. Reduce waste produced at City facilities	+2
3. Start more aggressive water conservation efforts through Marshfield utilities	+2
4. Start using alternative fuels for city fleet vehicles	+1
5. Lead water line elimination	+1
6. Stormwater runoff control efforts	+0
7. Eliminate pharmaceuticals in waste water	-1
8. Wellhead and groundwater protection	-1
9. Clear water infiltration reduction	-3
10. Mill Creek preservation efforts	No Votes

Education	Net vote total
1. Community celebration of Earth Day	+4
2. Integrate sustainability into city slogan	-4

Collaboration/Coordination	Net vote total
1. Collaborate with county level planning departments to ensure development is sustainable	+2
2. Collaborate with Marshfield Utilities, Marshfield Street Department and Ground Water guardians on the Water sense program	-1
3. Partner with UWSP college of natural resources.	-5

Transportation	Net vote total
1. Complete an integrated bike/trail system in Marshfield	+4
2. Develop a park and ride program	+2
3. Taxi cabs	-3
4. Develop a shuttle bus program for Marshfield	-5

Green Development	Net vote total
1. Educate the community on green building standards	+4
2. Tax credits/incentives for business and residential 'green" development projects	+4
3. More efficient use of surfacing techniques including permeable surfaces.	-4

Define next steps
The committee plans to use the short and long term initiatives in their prioritized form as a guide in the coming year for pursuing specific initiatives.

Questions we have:
How does this committee integrate with other government related committies?
Can we invite a department to present at each of our monthly meetings?
Should we amend ordinance 1107 to include the four sustainable principles?
Can we include the four principles on our agendas?
Can we adjust our membership to add non-voting membership from the school district and other entities?
How do we request information from city staff members?
How do we request and/or realloate the funding set aside for this initiative?

Meeting adjourned at 12:30 p.m.