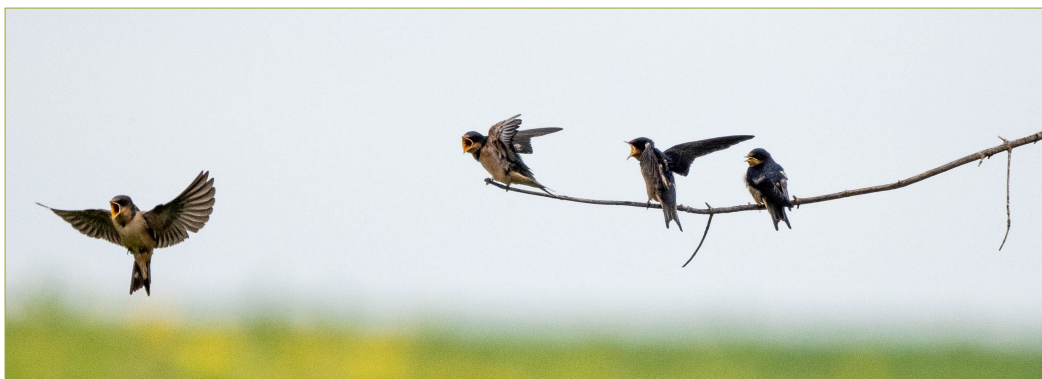




City of Middleton Sustainable City Plan 2022-2024



SUSTAINABILITY
COMMITTEE

City of Middleton Sustainable City Plan: 2022-2024

Approved by the Common Council
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COVER PHOTOS

Top left: Sunrise over Frederick's Hill, by Paul Ludden

Top right: A young good neighbor takes an interest in solar, by Ed Janairo

Middle left: Students marching in the Good Neighbor Festival Parade 2021, by Kermit Hovey

Middle right: MGE Solar Array at Middleton Municipal Airport, by Wisconsin State Journal

Bottom left: Swallow fledglings taking flight, by Paul Ludden



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Introduction

The Sustainable City Plan is a three-year plan for helping Middleton live up to the city leaders' vision of a sustainable city:

“We meet the needs of the present without compromising the ability of future generations to meet their own needs.”

This plan focuses on actions from the city's **2021 Comprehensive Plan**, with ways to measure our progress on each action. We recognize climate change as a major threat to life as we know it. For this reason, our highest priority over the 2022-2024 period will be to achieve the city's goal of meeting 100% of our energy needs through clean, renewable sources by 2050¹. Specifically, we'll focus on meeting the interim targets for 2030:

- Reduce energy use from 2018 levels by 15% for the city and by 10% for the community.
- Meet 80% of the city's electricity needs and 66% of the community's electricity needs with clean, renewable sources.
- Meet 66% of all energy needs for the city and 21% of all energy needs for the community with clean, renewable sources.

We understand that “sustainability” involves much more than reducing our energy usage and converting to clean, renewable sources of energy. How we protect our water, feed ourselves, build and maintain our homes, and treat each other are all part of being a sustainable city. We also recognize that climate change has a major impact on these other aspects of sustainability. **Because energy consumption is the major contributor to climate change, we decided to make energy the focus of the Sustainable City Plan in 2022-2024.**

Defining “City” and “Community”

When we refer to the “city’s” energy usage, we specifically mean the city government’s operations — that is, electricity and other energy to power our buildings, our fleet and equipment, and our services like pumping and treating water.

“Community” energy usage refers to the Middleton community as a whole — in other words, residents, businesses, and every other consumer of electricity and other energy resources within the boundaries of Middleton — including the city.

We also recognize that the very real threat of climate change makes being sustainable an “all hands on deck” effort. Every elected official, every member of the city staff, residents, business leaders, faith leaders — *everybody* needs to work together to solve this problem.

¹ In 2018, Middleton's Common Council unanimously adopted **Resolution 2018-32**, “Resolution to Address Global Warming through Clean Energy.” The policy set in this resolution is consistent with the results of a 2016 referendum in which an overwhelming majority of Middleton residents (81%) voted in favor of the city taking action to combat climate change.

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The committee tries very hard to spread the message that we cannot continue to do “business as usual” because there is nothing “usual” about the situation humanity faces. We urgently need the entire city to take action to address climate change. The Sustainability Committee chose to focus our own efforts in 2022-2024 on energy-related actions because these will have the greatest impact on combatting climate change. Other city committees, commissions, and boards have opportunities to address climate change through their scopes of work, too. As a starting point, we have identified some actions from the Comprehensive Plan that we think would be a natural fit for specific committees.

We also recognize that completing the actions described in this plan will require Middleton as a city to go beyond what we currently do. This means there will be a need for direction and financial support from the Common Council. We believe the 2016 mandate from the voters shows that city residents will support efforts by the Council to make combatting climate change a priority. We believe the growing climate crisis — described by the UN Secretary-General in 2021 as a “code red for humanity” — makes it extremely important to act while we still can make a difference.

Background

Middleton adopted its first **Sustainable City Plan** in 2010. The plan set a number of goals to help make Middleton more sustainable — for example, reducing the amount of waste produced per person, decreasing the amount of electricity used per person, and increasing the number of bus trips taken by residents. The 2010 plan reflected the extensive public input the city received through a visioning workshop and an online survey.

In 2017, the Sustainability Committee began the first update of the plan. The committee stopped this work in 2020, however, because of the global COVID-19 pandemic. By the time we resumed our work in 2021, the Middleton Common Council had adopted the city’s revised Comprehensive Plan — the first update of that plan in 20 years. **The Sustainability Committee decided to build the revised Sustainable City Plan around the actions Council already approved in the Comprehensive Plan — especially the “Green City” chapter.** Most of the actions in this plan are from Strategy 1 of that chapter, which is to “Mitigate climate change by reducing our community-wide energy use and eliminate greenhouse gas emissions by rapidly switching from fossil fuel sources to local, renewable sources of energy.”

We added new sections and deleted others to better reflect our scope as a committee. We also made the plan less technical and more “reader-friendly” because achieving the city’s energy goals isn’t something we can do alone. We truly do need all hands on deck to reduce our reliance on fossil fuels and prevent the worst impacts of climate change.

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Approach

The following values guide our work:

- Our goals, priorities, and actions will reflect input from the community (public, Council, committees, businesses, industries, groups).
- Our process will be transparent, with updates available on the web and at monthly Sustainability Committee meetings.²
- We'll view our process and the final plan through a lens of diversity, equity, and inclusion so that we can be confident we're working toward sustainability for all.³
- The Sustainable City Plan will be written for a public audience and will help residents, businesses, government, and others understand the role they play in moving Middleton toward our energy goals.
- We'll use the plan to highlight success stories so that neighbors can learn from one another.

In addition to being guided by these values, we'll also maintain strong and tested partnerships among city departments, with the Middleton-Cross Plains Area School District, and with local institutions and groups (such as Middleton Outreach Ministry, the Chamber of Commerce, and the Friends of Pheasant Branch Conservancy). We'll also hold several educational events in 2022-2024 to help spread the word about what we're doing, why it's important, and how the residents and businesses of Middleton can help.

Public Engagement

We knew we'd receive input from city staff, members of the Common Council, and city committees, boards, and commissions with a role in making Middleton sustainable. We also wanted to hear from the people who make Middleton their home and their place of business. To get this input, we presented the draft plan for public review in June 2022, scheduled two public input sessions (one in-person and one virtual), and conducted an online survey using Polco. We greatly appreciate the people in our community who shared their ideas and helped us to improve this plan.

² The Sustainability Committee meets every month on the third Monday at 6:30 pm. In January, we honor Martin Luther King, Jr., Day, and instead meet on the fourth Monday.

³ Equity is a core value for the city and for the Sustainability Committee. Our goal for this plan is to carefully examine all our actions to avoid promoting any policies that could affect people differently based on race, gender, language, etc. We commit to using racial equity and social justice assessment tools and a "Health in All Policies" framework to assess policy decisions and to make sure no one group of people or neighborhood carries the burden more than others because of city policy or lack of policy.

Maintenance

This is a three-year plan, so the process of updating the plan will start after the second year ends. We'll follow a similar approach as we did for this edition, including public engagement. When we begin updating the plan in early 2024, we'll post all information on the process on our website. The goal will be to produce the final version of the 2025-2027 plan by the end of December 2024.

We'll maintain a web edition of the plan and will post new information when it's available. We'll also include success stories as we gather them.

Each year, the Sustainability Committee will write a one-year work plan explaining which of the specific actions from the Sustainable City Plan we'll be working on that year. We'll post this work plan on our website, too, so that members of the public can see what we're hoping to accomplish. We'll also identify opportunities for residents, organizations, and businesses to get involved in, support, or help spread the word about our activities. Working together, we can help Middleton make the shift to clean, renewable energy to combat climate change and be a more sustainable city.

Organization

Each section begins with a statement that explains our vision for what Middleton will be 10 years from now (2032), followed by a brief explanation of how the topic is related to sustainability. In bold, we list the actions that we'll focus on in 2022-2024 to achieve our priority goal as described in the Introduction — namely, helping Middleton reach the Common Council's clean energy-related targets for 2030. At the end of each action is a citation indicating the source of the action. Most are from the Green City chapter of the 2021 Comprehensive Plan. The other primary sources are the **2020 Municipal Energy Plan** and **Project Drawdown**.

For each action, we identify how we'll measure our progress. For any action that results in reduced greenhouse gas emissions, we'll estimate how many tons of emissions that particular

action helped Middleton avoid. Every year, we'll report to the Common Council on our progress, and we'll share information about our progress on the Sustainability Committee website. Some sections don't list any actions because our priorities for 2022-2024 are focused on energy. Future editions of the plan may include actions in those sections.

What is a "vision statement?"

A vision statement describes what the city will look like or be in the future. It doesn't describe how things are today. Some of the visions in this plan may seem hard to achieve, and that's okay. A good vision statement should motivate people to reach forward.

Actions for 2022-2024

1. Energy

Vision: Middleton is a “net zero” city that meets or exceeds the goal of obtaining 100% of its energy needs from clean renewable sources by 2050.

Actions related to energy will have the greatest direct impact on achieving the city’s goal of relying on 100% renewable energy by the year 2050. The city itself is already well on the way to meeting the targets for reducing energy use and using renewable energy sources to meet the electricity and all-energy needs for city operations.

At the end of 2021, after installing three new solar arrays on city buildings and structures, the city obtained an estimated 50% of its electricity from renewable sources. On a community-wide scale, data aren’t currently available for estimating any reduction in energy use, meeting electricity needs, or meeting all energy needs. One of our planned actions is to identify ways to get the data we need on a community level.

In 2022-2024, the following energy-related actions will help Middleton move closer to the 2030 targets for energy.

Partner with Dane County and other agencies to administer equitable energy efficiency programs for homeowners, renters, and businesses that reduce both energy costs and greenhouse gas emissions. Middleton will prioritize assistance to those who need it the most and for those who have been historically excluded from economic opportunities due to a legacy of unjust policies and racism. (Green City 1A)

In 2021, the city approved a project that will bring energy efficiency upgrades and possibly the installation of solar power arrays at a small number of existing multi-family housing developments in Middleton. This project involves a partnership with Elevate Energy and Sustain Dane working with city staff.

We’ll measure our progress by tracking the number of dwelling units converted, the estimated reduction in electricity usage, and the estimated percentage of electricity usage from renewables.

Finish converting all street lights to LED to cut current electricity used and reduce carbon emissions. (Energy Plan 2)

As recommended in Middleton’s 2020 Municipal Energy Plan, all the city-owned street lights have been converted to LEDs. While this is a great achievement, those lights make up only 20% of street lights in the city. Of the remaining 80%, either MGE or Alliant owns

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the lights (25%) or maintains them (55%). In 2022-2024, we'll negotiate with the utilities to make the switch to LEDs for these street lights.

We'll measure our progress by tracking the number of street lights converted, the total reduction in electricity usage, and the estimated percentage of electricity usage from renewables.

Install solar arrays on Golf Course Clubhouse, Well #6, and Well #8. (Energy Plan 4)

In late 2021, Council approved installing new solar arrays at the Golf Course Clubhouse, Well #6, and Well #8. Once installed, the arrays will reduce electricity consumption at these facilities by approximately 30%. The new arrays will be installed in 2022.

We'll measure our progress by tracking the installation of all three arrays and the total percentage of electricity usage from renewables.

Middleton will create a 20-year city fleet replacement schedule that incorporates zero emissions vehicles, and prioritizes converting police vehicles to hybrids or electric vehicles (EVs). (Green City 1D and Energy Plan 3)

In early 2021, the city had committed in the Comprehensive Plan to replace the current fleet over a 20-year period and to incorporate zero-emissions vehicles in the process. In late 2021, following up on this action and responding to input from residents, the city's transportation department prepared a five-year rolling replacement schedule for vehicles and equipment and submitted it for review by city committees and the Common Council. In our comments on this first edition of the five-year plan, the Sustainability Committee expressed appreciation for the staff looking for ways to decarbonize the fleet, recommending EVs and hybrids for some of the replacements, and being willing to evaluate EVs and other more sustainable options as they become increasingly available on the market. We look forward to this process continuing each year and our city fleet gradually shifting away from fossil fuel-powered vehicles and equipment.

We'll measure progress by the number of internal-combustion-engine vehicles replaced by EVs and hybrids; the number of gas-powered items of equipment replaced by electric models; and the estimated percentage of energy usage from renewables.

Implement municipal policies for data tracking, benchmarking, ensuring efficient building operations, purchasing sustainable products, and establishing new construction design guidance for municipal buildings. (Energy Plan 5)

In many ways, this is one of the most important actions for us to complete in 2022-2024. Having a system for gathering, storing, and analyzing data is necessary so that we can record current levels of energy use, compare them to our usage in 2018 (called the

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“benchmark”), and track the impact of all the energy-related actions in this plan as we make progress on them.

Middleton has an approved **Sustainable Purchasing Policy**. The section on Waste Generation and Management includes an action related to updating and reaffirming the city’s commitment to sustainable purchasing, especially when spending taxpayer dollars on vehicles and equipment.

Although part of the recommendation in the Energy Plan, establishing new construction design guidance for municipal buildings will not take place in the time period covered by this edition of the Sustainable City Plan. City staff developed **Sustainability Goals for the Civic Community Campus**, which were approved in February 2020. Those goals are an excellent model for guidance for construction design of future city buildings.

We’ll measure our progress by the installation of a new energy-tracking system; the percentage of data entered into the system; the posting of publicly available dashboards on the city’s website; and Council’s adoption of the Sustainability Goals for future municipal building construction or upgrades.

The city will support robust electric charging infrastructure in the city including requiring that new multi-family housing developments include charging stations. (Green City 1F)

Making the transition from internal combustion-engine vehicles to electric models is already happening throughout the country. More auto manufacturers are offering EVs in response to consumer demand. Prices will gradually decrease as the technology improves and more models become available. To help move Middleton in the direction of EVs, we need to make sure we have the charging infrastructure available. As stated in the Comprehensive Plan, Middleton will partner with MGE to install charging stations to serve city fleets on city-owned property, as well as throughout the community to serve residents and visitors. Another goal is to make sure all new housing and office development projects — including those benefiting from tax-incremental financing — include charging stations for electric vehicles.

In addition to charging stations in fixed locations, we’ll explore the possibility of constructing movable solar parking pads. To increase the environmental benefits of the charging stations, the city will incorporate new solar arrays and batteries into their design to increase the likelihood of vehicles being charged on solar power instead of electricity generated by fossil fuels. We’ll also explore “group buys” for home charging infrastructure similar to how group buys currently make it easier and more affordable for homeowners to install solar panels.

We’ll track our progress according to the number of charging stations constructed for city-owned vehicles and for community use; the number of mobile solar pads constructed; the

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total charging capacity installed for both city and general use; Council's adoption of charging infrastructure as a requirement for new buildings; and the launch of charger group buys to benefit Middleton residents.

Middleton will partner with MGE to pilot and plan for future microgrid networks that can connect to one another to reduce risk, increase resiliency, and optimize energy distribution. (Green City 1I)

According to the U.S. Department of Energy, microgrids are localized grids that can disconnect from the traditional grid to operate on their own. Microgrids allow communities to be more energy independent and withstand emergencies that cause power outages. Because they can operate even when the main grid is down, microgrids can help make communities more resilient by avoiding outages and reducing the time it takes to restore the main grid after an outage.

Microgrids also improve our ability to incorporate solar and other "distributed energy sources" into the grid. Relying on more local sources of energy is important because it reduces the amount of energy lost in transmission and distribution. This increased efficiency means less wasted energy. Microgrids are considered the future of energy distribution and are an important step toward a modern, clean energy future. To build this resiliency into our local system, Middleton will work with MGE and other partners and will apply for grants from the federal government and other sources. One project is currently underway in 2022 to create a microgrid at the Middleton Police Department by adding battery storage to the building's existing solar array.

We'll achieve progress by setting up one or more microgrids for city buildings (including the Police Department) and preparing a feasibility study for a community-scale microgrid in Middleton's industrial district.

The Sustainability Committee along with stakeholders and City elected officials will develop and adopt Net Zero Building Guidelines for new construction. (Green City 1C)

Wisconsin state law prohibits cities like Middleton from requiring buildings to exceed state building codes. We can, however, provide guidelines for energy, water, waste, and biodiversity standards we would like developers to meet on a voluntary basis. Fortunately, many developers and home builders are willing to adopt highly energy efficient designs because they save money on energy costs in the long run.

The Sustainability Committee will recommend Net Zero Building Guidelines that will serve as a roadmap for architects, developers, and businesses who are building from the ground up or doing major renovations where net zero carbon can be achieved. We'll use the Sustainability Recommendations for the proposed Community Campus plan as a starting

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point. We'll work with stakeholders from throughout the city to create a workable set of guidelines that our community can support.

We'll measure our progress by drafting and seeking Council's adoption of recommended Net Zero Building Guidelines.

Incentivize building design towards energy use targets that exceed commercial building code, and work with community stakeholders on a voluntary benchmarking and energy use reporting program. (Green City 1B)

As noted above, we can't require buildings to exceed state building codes. We can, however, encourage commercial building owners and users to conduct voluntary energy benchmarking to identify ways to improve energy efficiency, adopt energy-saving practices, and reduce costs. We can encourage benchmarking by providing financial incentives, recognizing businesses for their energy-related accomplishments, and making tax-incremental financing available only to developments that agree to conduct energy benchmarking.

Energy benchmarking will be required for city-owned buildings. In addition, the city will work with diverse stakeholder groups to draft a voluntary energy benchmarking program for commercial buildings and other government-owned buildings.

We'll measure our progress by the establishment of a benchmarking program for city-owned buildings; the development, with stakeholder involvement, of a voluntary energy benchmarking program for other buildings; Council's adoption of a policy requiring energy benchmarking for new developments that receive TIF incentives; and a reduction in energy consumed in buildings enrolled in either the city or the voluntary program.

Middleton will continue to embrace and incentivize clean and local energy from renewable sources such as wind, solar, geothermal and DERs (distributed energy resources). (Green City 1J)

Middleton has done an excellent job installing solar arrays as sources of electricity for city operations. Many residents and businesses have also been "early adopters" of solar power. To achieve our 2030 targets, though, we'll need to significantly increase the number of homes and businesses that install solar. In 2022-2024, Middleton will continue to participate in solar group buys that can greatly reduce the cost of solar panel installation for homeowners. We'll publicize these opportunities through a variety of ways, including neighbor-to-neighbor campaigns. We'll also explore options to provide financial incentives for Middleton residents who need assistance to take advantage of solar for their homes.

We'll measure our progress by the number of new or expanded arrays installed on houses and other buildings and the total kW installed.

Middleton will collaborate with Dane County to utilize Renewable Natural Gas (RNG) processed at the Dane County Landfill and eventually establish an RNG filling station in Middleton. (Green City 1G)

Dane County operates the nation's first processing facility to take methane gas from landfills, clean it, and convert it into renewable fuel to use for operating both large and small vehicles. The biogas cleaning facility, as it's called, has also given farmers an economic incentive to build new manure bio-digesters to convert the waste from dairy farms into renewable fuel. This win-win situation can reduce methane emissions, reduce the need for gasoline to run vehicles, and increase income for farmers. By reducing the amount of manure spread on land, it also protects surface water from nutrient pollution that comes from runoff into our lakes and streams.

We'll achieve progress by preparing a feasibility study for establishing at least one RNG filling station in Middleton.

2. Greenhouse Gas (GHG) Emissions

Vision: As a responsible city on a planet where climate change imperils life as we know it, Middleton is cutting its greenhouse gas emissions citywide to meet or exceed the goal of net zero by 2050.

Our energy-related actions will go a long way toward reducing greenhouse gas emissions from city operations as well as from homes, businesses, and other buildings. Producing and using energy aren't the sources of all greenhouse gas emissions, however. This new section of the Sustainable City Plan addresses non-energy sources of greenhouse gasses.

Adopt policies and practices to 1) make the shift to alternatives to hydrochlorofluorocarbons (HFC) refrigerants, 2) avoid leaks from refrigerants, and 3) collect and properly dispose of refrigerants at end of life. (Project Drawdown)

Refrigerants are used in refrigerators and air-conditioning equipment. Older types of refrigerants are harmful to the environment because these chemicals are very powerful as greenhouse gasses. Replacing these old refrigerants and improving the way we manage the ones currently in the environment will help us reduce our greenhouse gas emissions. In addition, collecting old appliances that contain refrigerants will help us reduce emissions by making sure that refrigerants are disposed of properly. As we work to enact a new city policy, we'll also explore the option of collecting appliances from residents and offering financial incentives to reduce the cost of properly disposing of these old appliances.

We'll measure our progress by Council's adoption of a policy on refrigerant management; public education activities; conducting an audit of municipal buildings to identify air conditioning systems and appliances with high global warming potential, or GWP, and recommend recapture or replacement, as appropriate; adding a section on refrigerants to the revised Sustainable Purchasing Policy; and studying the need for and feasibility of a refrigerant capture program in Middleton.

Launch and maintain a yearly Resilient Landscapes Initiative on a neighborhood scale to help residents take actionable steps in their yards and gardens that will improve biodiversity, habitat, reduced stormwater runoff, soil health, and promote a stewardship ethic throughout the city. (Green City 2F)

Making Middleton sustainable will require help from everyone — city leaders, staff, residents, businesses, industries, nonprofit groups, the faith-based community — literally everyone. The Resilient Landscapes Initiative is an opportunity for residents to take action in their own yards and on their own grounds to adopt sustainable landscaping practices.

Whether installing a rain garden or rain barrel, converting existing landscaping to native plants, replacing traditional Kentucky bluegrass lawns with low-maintenance varieties, or restoring prairie on their own lands, everyone who owns a home, rental property, or a

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commercial building has a chance to participate. Doing so will shrink the city's carbon footprint by reducing the need for energy-intensive lawn and landscape maintenance, as well as by providing a "carbon sink" in the form of more deep-rooted, long-lived native plants. Other side benefits include creating habitat for birds and pollinators, reducing the use of pesticides and fertilizers, and reducing the amount of stormwater runoff that enters our streams and lakes.

As part of a larger regional effort, the Resilient Landscapes Initiative in Middleton will involve educational activities and may include incentives and recognition for adopting specific practices. One aspect of Resilient Landscapes will be "No-Mow May," first observed in Middleton in 2022 as a way to help pollinators find food in the critical early part of the growing season.

We'll measure our progress by designing and launching a Resilient Landscapes Initiative; annual observance of No-Mow May with associated educational activities; and developing a method for collecting data on participation in Resilient Landscapes and calculating impacts.

Support and maintain native plantings, restoration practices, and broaden invasive species control beyond conservancies and parks by collaborating with state and local agencies as well as private landowners. (Green City 4C)

Native plantings have the same benefits no matter where they are. Replacing traditional landscaping with native plants at the Middleton Public Library and City Hall are good examples of the type of change that could help Middleton reduce its carbon footprint if adopted in other areas.

We have an opportunity with the city's revision of the zoning ordinance to encourage and promote landscaping with native plants on private property, including residential and commercial. In addition, the city can explore ways to help residents and homeowners associations convert some or all of their traditional landscaping to lower maintenance native landscaping. The Caneel Corner Conservancy in Middleton Ridge/Misty Valley, for example, is a great example of what's possible when the city supports efforts by private landowners to "extend the conservancy." This "pocket prairie" adds beauty to the neighborhood and trail, creates habitat for birds and pollinators, helps rain and other precipitation infiltrate into the ground instead of running off, and stores carbon.

We'll measure our progress based on the area of land that is converted from traditional lawn and landscaping to native plants and no-mow varieties of grass; and the number of "pocket prairies" that the city helps private landowners create, as well as the area of land they represent.

3. Food

Vision: Middleton is a producer and consumer of foods that sustain the health of people without compromising the health of our environment.

The food we produce and consume has a major impact on our health as individuals and on the health of our environment. We recognize the importance of producing food sustainably from local sources as a way to protect the environment, support agricultural producers and the people they employ, and reduce transportation impacts. We also understand the need for all Middleton residents to have access to affordable, healthy foods. Food waste as a cause of greenhouse gas emissions is covered in the section on Waste Generation and Management.

While the Sustainability Committee will be focusing on energy-related actions in 2022-2024, we believe there would be great value in other city entities carrying out the following actions from the Comprehensive Plan:

Preserve the long-term viability of community gardening by using zoning or other regulatory tools to designate specific lands within the city for agricultural use.

(Land Use 1G)

Support local community and school gardens and food pantry gardens taking care to serve populations that disproportionately are affected by food insecurities.

(Green City 8A)

4. Land Use

Vision: Middleton's land use pattern promotes compact development, protection of natural resources, a range of housing options, mobility, and economic growth in order to maintain an exceptional quality of life.

Our green spaces are important and contribute to making Middleton a great place to live. In vision panels that took place as part of the city's strategic planning effort in 2021, many people mentioned green spaces as one of the things they value most about Middleton. Natural spaces, such as restored prairies, act as "carbon sinks" that remove carbon dioxide from the environment. It takes a long time to preserve and protect natural resources, so we need to act before land is lost.

The Sustainability Committee will not take direct action on land use in 2022-2024. Instead, we'll collaborate with and support other city committees, commissions, and boards that have jurisdiction over lands and land use in Middleton. Our priorities in 2022-2024 will be to help move the city forward on two specific actions from the Comprehensive Plan related to natural resources:

Increase connectivity between Middleton's public lands, adjacent communities, and other regional open spaces through land acquisition and/or trail easements that create green corridors. (Green City 3D)

Preserve the role of wetlands, prairies, savannas and woodlands as essential components of the hydrologic system and valuable wildlife habitat. Protect shoreline and floodplain areas accordingly. (Green City 6B)

Both actions are critical to take now while land is still available. An excellent potential opportunity to carry out both actions would be to connect the Pheasant Branch Conservancy to the Graber Pond Conservancy Area to the west. Such an expansive, long-term project would add to our city's highly valued green spaces, increase habitat for birds and pollinators, store carbon in trees and deep-rooted native plants, increase our capacity for stormwater management, and provide recreational, educational, and health and wellness opportunities for residents and visitors of all ages. It would also have the additional benefit of conserving land for possible future use as farmland.

5. Transportation

Vision: Middleton's transportation system is safe, reliable, convenient, affordable, efficient, and less reliant on single occupancy vehicles to reduce environmental impact, promote active lifestyles, and enhance prosperity for all people regardless of age, ability, or mode of transportation.

According to the 2020 Dane County Climate Action Plan, “the transportation sector is responsible for approximately 30% of all the carbon emissions released in Dane County.” We need to be able to move around, from our homes to workplaces, to visit family and friends, and attend other activities. Driving personal vehicles is the main way people get around in Middleton today. To be more sustainable and reduce our impact on the environment, we need to reduce the number of trips we make in cars that use internal-combustion engines. This means increasing our reliance on electric vehicles, public transportation, bikes, walking, and other low-carbon transportation options. It also means making an effort to plan new development so that it's easier for people to walk, bike, or use public transportation to get to work, buy groceries, and take part in other activities.

Because our focus in 2022-2024 is energy, the Sustainability Committee won't directly take any actions related to transportation as part of this plan. We will, however, lend our assistance to efforts by others — for example, the Public Works Committee and the Pedestrian, Bicycle, and Transit Committee — to begin or even complete transportation-related actions identified in the Comprehensive Plan. We recommend making the following actions priorities for the city in 2022-2024:

Update the [Bicycle & Pedestrian Plan](#) to increase linkages between existing and new neighborhoods to encourage walking and biking throughout the community. ([Land Use 1F](#))

Prepare a “Vision Zero” Action Plan. ([Transportation 2A](#))

Establish or welcome shared micro mobility systems in Middleton, particularly a bike sharing system that can integrate with Madison's BCycle. ([Transportation 3D](#))

Restructure Middleton's transit service to integrate with Bus Rapid Transit. ([Transportation 4A](#))

Complete a network of bicycle lanes and paths linking all city neighborhoods to accommodate all types of bicyclists. ([Transportation 3A](#))

Promote active transportation solutions that enhance health and quality of life. ([Transportation 1E](#))

6. Waste Generation and Management

Vision: Through incentives and policies, Middleton is reducing the generation of waste by recycling, reusing, and composting material to keep physical resources cycling within the local economy, and sustainably disposes of the waste that is generated.

Middleton generates a lot of waste. We recycle a lot of material through weekly curbside collection along with our garbage. For items that can't be recycled curbside, residents have the option of dropping off a variety of recyclables at the Middleton Recycling Center, which diverts a fair amount of what would otherwise wind up as waste. In 2022-24, we'll focus on further reducing the amount of waste that winds up being put in a landfill.

Establish a food composting pilot city-wide. (Green City 5D)

Food waste is well known to be a major source of greenhouse gas emissions for several reasons. Food that is wasted and not eaten requires a lot of effort and energy to grow and transport, so all the emissions generated through that process could have been avoided. Also, food that isn't consumed produces methane when it rots. Like the chemicals in refrigerants, methane is a powerful greenhouse gas — 26 times more potent than carbon dioxide. Composting food waste at home or through weekly collections can reduce the amount of food waste entering our landfills and, as a result, the amount of methane entering the atmosphere. Collecting food waste for composting is also an option for schools, businesses, and public places.

The 2021 Comprehensive Plan includes the goal of conducting a pilot composting program for city buildings. We think we can move beyond just a pilot and go for a more ambitious goal.

We'll achieve progress by setting up composting capacity at all city buildings; completing a feasibility study for curbside composting for residents; establishing a policy to require composting in new commercial developments receiving TIF assistance; encouraging composting in existing commercial and industrial settings; and supporting efforts by MCPASD to offer composting in schools. We'll also measure the number of tons of waste collected through any program that is developed through city action, incentives, or support.

Update the city's 2017 Sustainable Purchasing Policy and work with city departments to help them follow it. (Council Directive, December 2021)

In 2017, the city adopted a Sustainable Purchasing Policy to "promote the purchase of environmentally-preferable and locally-sourced products." This policy is important to help us reduce the amount of waste we generate and to make sure we're buying materials, products, and equipment that don't have a significant negative impact on the environment.

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Unfortunately, in 2021, we learned that the purchasing policy had rarely been used at all and had *never* been used to evaluate new vehicle purchases. Council directed us to review the policy and recommend any needed changes for making it a better policy, especially for evaluating new vehicles and equipment.

We'll measure our progress by completing our review and recommendations; Council adopting recommended changes to the purchasing policy; training for city staff on how to follow the policy; and evidence that departments followed the policy in preparing their annual budget proposals.

7. Water

Vision: Middleton has an abundance of clean water, including surface water and groundwater resources, and supports policies to achieve regional balance between water used and water returned to the aquifer. Middleton keeps harmful substances out of all water resources and also works to minimize the impact of flooding on new and existing developments.

A sustainable city treats its water resources like a treasure, and spends time and money to protect that treasure. Surface waters like Lake Mendota, Pheasant Branch, and our many kettle ponds are what we see, but what makes our lives and our economy possible here in Middleton is our groundwater. Middleton is a partner in the Yahara CLEAN Compact, whose plan “Renew the Blue” has 10 strategies for achieving the goals of clearer lakes, open beaches, and fewer “blooms” of toxic cyanobacteria. Achieving these goals will require investment not just in our Lake Mendota shoreline but in the entire watershed to keep excess nutrients out of surface waters.

Because this plan focuses on actions the Sustainability Committee will take in 2022-2024 to move us closer to meeting our 100% renewable energy goals, we aren’t including any water-related actions in this edition of the plan. We commit to collaborating with the Water Resources Management Commission; Plan Commission; Parks, Recreation, and Forestry Commission; Stormwater Utility Board; and Conservancy Lands Committee to help Middleton follow through on our commitments under the Yahara CLEAN Compact. Some possible actions for these committees, commissions, and boards from the Comprehensive Plan include:

Revise the Zoning Ordinance and other relevant codes to promote the reduction of impervious surface areas in order to improve on-site water infiltration. (Land Use 4B)

Support innovative Green Infrastructure (GI) practices in all land use decisions. (Land Use 4C)

Make critical improvements to stormwater management infrastructure and mitigation practices to increase floodplain protection and avoid widespread damage in the event of extreme rain events. (Economic Development 7D)

Reduce runoff and prevent flooding by maximizing upstream water infiltration and evapotranspiration during increasingly frequent large storm events. (Green City 2B)

Incentivize new development to maintain 100% or more (predevelopment) rainwater runoff volume control on site. (Green City 2C)

Recommendations

The Sustainability Committee will need help from the Common Council and city departments to promote Middleton's reliance on clean, renewable sources of energy. In addition to support for the actions as described in this plan, we recommend that the Common Council take the following actions in 2022-2024:

- Move the date for achieving 100% clean energy community-wide to 2040 from 2050 to reflect the urgency of the global climate crisis.
- Prioritize, monitor, and support efforts by city departments to achieve sustainability goals, emphasizing measures that reduce energy consumption in general, shift from fossil-fuel derived energy to renewable sources, and reduce greenhouse-gas emissions.
- Provide incentives for residents and businesses to adopt practices and technology that can help the city get closer to its goal of achieving 100% clean energy community-wide.
- Supplement the city's "Health in All Policies" commitment with an environmental justice policy that requires policy makers to consider the health impact on disadvantaged and low-income populations as they make decisions on land use, planning, and zoning.
- Clarify the need for city committees, commissions, and boards to look for opportunities to build sustainability into their actions and into the actions of the city departments with which they interact.
- Add to all city job descriptions specific competencies related to sustainability and include appropriate measures in performance reviews for staff.
- Invest in conservancy lands, including maintaining and improving existing lands, expanding and connecting conservancies, and prioritizing work in upstream areas to protect downstream lands from the spread of invasive plants.
- Provide support for city committees, commissions, and boards to follow up on actions in the Comprehensive Plan that can reduce Middleton's carbon footprint.
- Ask Middleton's Congressional delegation to work on extending the 26% federal tax credit for clean energy, and work with other municipal governments, the League of Wisconsin Municipalities, the Wisconsin Local Government Climate Coalition, and other coordinating bodies to make the same request.
- Pass a resolution affirming the city's support for homeowners installing solar panels and clarifying the limited ability of homeowners' associations to restrict such installations.