

GODFREY SUSTAINABILITY PLAN

Climate Change and Resiliency

The UN's Intergovernmental Panel on Climate Change (IPCC) has made clear, and the vast majority of climate scientists agree, that human activity is contributing to the rapidly warming planet. Since the industrial revolution, human economic activity has dramatically increased the amount of greenhouse gases in the atmosphere to a level unprecedented in the last 800,000 years (https://www.ipcc.ch/news_and_events/docs/ar5/ar5_syr_headlines_en.pdf). This has caused the climate to change at a pace unprecedented in the last 65 million years (<http://www.scientificamerican.com/article/todays-climate-change-proves-much-faster-than-changes-in-past-65-million-years/>). Since 1880, the average land and ocean surface temperature has risen 1.5 degrees Fahrenheit. To put into perspective how rapidly the problem continues to accelerate, all ten of the hottest years on record since 1880 have happened since 1998 (<http://climate.nasa.gov/blog/2224>). While Global Warming describes the rising average global temperature, Climate Change refers to the many other changes to the global climate regime like higher frequency of droughts and heat waves, more extreme weather events, and changes in precipitation patterns. Global Warming and Climate Change have led to and will continue to lead to many other problematic changes: ocean acidification, melting ice caps, changes in the native ranges for a number of plant and animal species including disease vectors, and the extinction of plant and animal species, among many other perils.

Scientists and climate advocates have identified two broad goals for trying to address the problem of human induced climate change: Ensuring that global temperature increase does not exceed 2 degrees Celsius; and ensuring that the concentration of CO₂ in the atmosphere does not exceed 350 parts per million. If humanity can keep the concentration of CO₂ in the atmosphere at or below 350 parts per million, we may be able to avoid seeing a temperature increase of 2 degrees or more (3.6 Fahrenheit). Two degrees Celsius is regarded as a threshold for when the most destructive and disastrous effects of Climate Change would begin to take place. Throughout most of the history of the planet, the climate has changed slowly, over the course of thousands of years. This has allowed plant and animal species to live in a very narrow band of temperature changes, typically around 1 degree Celsius in either direction. A temperature change of 2 degrees Celsius reached in just a couple of centuries would be catastrophic. Many plant and animal species would not be able to adapt to such rapid change.

The good news is that if human activity can create a problem, human activity can mitigate the problem. The bad news is that we're already way behind. In more good news/bad news, communities all across the United States are working right now to combat the problem through sustainability initiatives. Unfortunately many scientists and advocates are also beginning to talk about adaptation and resiliency. Adaptation and resiliency recognize that it's probably already too late to stop some of the changes that will result from global warming, so we should try to come up with ways to adapt to the changes by creating resilient communities. Resilient communities are prepared to deal with and adapt to more extreme weather events and disasters; they protect vulnerable populations; they marshal their own

resources by strengthening the local economy; they create and maintain sustainable infrastructure and promote energy independence. Resilient communities are built to survive and even thrive as the climate changes and the impacts are felt.

Cool Cities and the Climate Protection and Energy Efficiency Committee

In 2013, a group of Godfrey residents began meeting under the Sierra Club's Cool Cities banner to advocate for sustainability within the Village. Cool Cities is a voluntary program sponsored by the Sierra Club that seeks to engage citizens with their local governments to advance the goal of reducing greenhouse gases at the municipal level. The group met for several months and, after interviews with the Village mayor and trustees, eventually brought a model ordinance to the Godfrey Board of Trustees. In August, 2014, the Board of Trustees formally endorsed the U.S. Mayors' Climate Protection Agreement and established a new advisory committee called the "Godfrey Climate Protection and Energy Efficiency Committee" to provide input on sustainability within the Village.

The Committee began holding monthly public meetings at Godfrey Village Hall in November, 2014. The inaugural committee was comprised of the following members:

- Nate Keener, Chair
- Trustee Mike Stumpf
- Trustee Jerry Gibson
- Matt Waters
- Christy Schafer
- Van McConahey
- Carolyn Scott
- Virginia Wolfe-Beile (advisory)

Soon after being appointed by the board, group members conducted interviews with Village staff and the Mayor's office to understand their priorities and to discern what steps had already been taken to improve sustainability and resiliency in the community.

The Committee was pleased to learn that the Village had already undertaken a number of sustainable initiatives. The Village's Comprehensive Plan makes a commitment to smart growth and other low impact methods of development. The Sewer Department worked with Illinois Electric and the Illinois Sustainable Technology Center to install energy efficient upgrades to their lift stations, variable frequency drives on their motors and blowers, and new efficient interior lights. They also recycle the sludge from their sewer plant by sending it to a local farmer to apply to his fields.

The Parks & Recreation Department has long been active in sustainability practices. They have worked to increase bike and pedestrian accessibility around the Village, most recently with an improved bike trail along Stamper Lane. They coordinate and host an annual Arbor Day celebration and manage the memorial tree program. They also support the Discovery Garden at La Vista Park and a University of Illinois Extension Master Gardener managed demonstration garden at Homer Adams Park. The demonstration garden features a number of native plants and flowers that Godfrey residents enjoy.

Public works installed a solar powered lighted sign at village hall in 2015 and started a DCEO funded upgrade of inefficient street lights and interior and exterior lights at Village-owned properties in 2016.

The Committee then referenced the Village's comprehensive planning documents to learn more about past efforts and current aspirations. Simultaneously the group began thinking about Godfrey-specific resiliency challenges and ways to increase efficiency and sustainability within the Village.

This process helped the committee formulate its mission and to set forth several initial short-term goals.

Mission: The Godfrey Climate Protection and Energy Efficiency Committee's mission is to engage diverse village stakeholders with the goals of improving energy efficiency in municipal operations, protecting the environment and natural systems, and, as a consequence, enhancing quality of life in the Village. The committee will also educate the public about energy efficiency and climate change while championing this process.

Goals:

1. Conduct a Greenhouse Gas Inventory to establish a baseline from which future efforts to decrease greenhouse gases can be benchmarked
2. Draft a Sustainability Plan for future adoption by the Village Board. The Sustainability Plan shall set forth a set of recommended actions the Village can undertake to become more sustainable/resilient and/or to lower greenhouse gas emissions.

The committee partnered with Southern Illinois University Edwardsville to identify an intern to do a Greenhouse Gas Inventory of Village-owned properties as part of a graduate level research project.

The Committee identified a number of Village-specific resiliency challenges that will require all Village stakeholders to acknowledge and address as climate change begins to have an impact locally. Probably the most visible resiliency challenges revolve around the Mississippi River. Godfrey's geographic location makes it susceptible to severe and worsening flooding as well as severe and worsening droughts.

After reviewing Sustainability Plans from other communities in Illinois, such as Alton and Oak Park, the Climate Protection and Energy Efficiency Committee began drafting this Sustainability Plan. This plan contains a summary of the Village's greenhouse gas baseline and recommendations for reducing emissions and increasing sustainability within in the Village of Godfrey.

Godfrey GHG Inventory

In 2015, the Committee began working with SIUE intern Fahad Alhargan to conduct a greenhouse gas inventory for the Village of Godfrey. Mr. Alhargan utilized the International Council for Local Environmental Initiatives' Clearpath Software to conduct the inventory. ICLEI provides technical consulting, training, and information services to build capacity, share knowledge, and support local government in the implementation of sustainable development at the local level. ICLEI's basic premise is that locally designed initiatives can provide an effective and cost-efficient way to achieve local, national, and global sustainability objectives. Clearpath is an advanced web tool for

greenhouse gases emissions management. It is an online tool that can be accessed by multiple users anytime from anywhere. Anyone who has the username and password can access the data and implement any desired changes via the internet. Clearpath is currently the most widely used software for greenhouse gases emission management (ICLEI, 2014). The software has four modules; inventory module, forecast module, planning module and monitoring module. Therefore, it can be used to estimate the greenhouse gas emissions, predict future emissions, and set and monitor a reduction plan.

The study focused only on the greenhouse gases produced by government buildings, facilities, and operations. The study considered the greenhouse gases emitted in 12 months, starting from September 2014. The study used the Clearpath inventory module. The software calculated CO₂, N₂O, and CH₄ emissions then reported these emissions in CO₂ equivalent (CO₂eq).

CO₂eq is a way of describing the global warming impacts of certain actions that might not necessarily emit CO₂. It is calculated by summing up all the warming impacts of actions and then expressing it in terms of the amount of CO₂ that corresponds to that amount of warming.

Results Summary

The total electricity consumption by the Village of Godfrey was calculated to be 2,429,402 kWh and the natural gas used was 18,926 Therms. The total annual CO₂eq emitted by all sectors was estimated to be around 2,244 metric tons (MT), which included the emissions caused by electricity, natural gas consumptions, employee-owned vehicles used for commuting, and the Village-owned vehicle fleet. Table 1 shows the total greenhouse gases emission for the study year, 2014-2015, by all sectors.

Table 1: Village of Godfrey total electricity and natural gas consumption, and greenhouse gases emissions, September 2014-September 2015

Electricity Consumption, kwh	Natural gas used, therms	CO₂eq MT	CO₂ MT	CH₄ MT	N₂O MT
2,429,402	18,926	2,244	2,222	0.037168	0.073440

Table 2: Village of Godfrey greenhouse gas emissions by sector

Sector		CO₂eq, MT	% of the total, CO₂eq
Street Lights and Traffic Signals		228	10.2
Employee Commute		81	3.6
Buildings and Facilities		335	14.9
Wastewater Facilitis		1,486	66.2
Vehicle Fleet	Gasoline	61	2.7
	Diesel	53	2.4

The Total CO₂eq emission produced by the municipality for the study year, September 2014 to September 2015, was estimated to be 2,244 metric ton. The wastewater treatment system produced the highest portion of CO₂eq among the Village sectors, 66%. The lowest sector in CO₂eq emission was employees commute, 3.6%. The total electricity consumption was calculated to be 2,429,402 kWh and the natural gas consumption was 18,926 Therms. The emissions from electricity consumption were around 88% of the total emission. The remaining 12% was from natural gas, gasoline and diesel usage.

The following sections provide the energy consumptions and greenhouse gas emissions for the study year by sector.

Building and facilities

The total electricity consumption and natural gas used in all buildings, excluding sewer department buildings, was 315,401 kWh and 15,737 Therms respectively.

The carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions from electricity and natural gas consumption in the Village’s buildings was calculated and can be seen in Table 9. The total CO₂eq emitted from all buildings combined is 335 metric ton, 14.9% of the total CO₂eq emitted by the Village.

Table 9: Electricity and gas consumption, and greenhouse gases emissions from the Village buildings

	Building Area, ft²	Electricity consumption kWh	Natural gas used, Therms	CO₂ MT	CH₄ MT	N₂O MT	CO₂eq MT
Maintenance Building	3840	22379	3207	35	.002	.0003	35
Street Dept.	7992	45038	8679	82	.0047	.0007	82
Parks and Recreation	2304	101908	2153	92	.0020	.0014	93
Town hall	7150	114684	1698	100	.0019	.0015	101
Police Dept.	2000	31392	0	25	.0003	.0004	25
Total	23,286	315,401	15,737	333	0.0107	0.0044	335

Dividing the total CO₂eq by the total area of all buildings shows that 0.014 metric tons, or 14 kg, of CO₂eq is emitted by each square foot of building.

Street Lights and Traffic Signals

The values in Table 10 show that CO₂eq emissions from Village street lights and traffic signals account for 10.2% of the total greenhouse gas emission. Each street light or traffic signal contributed 1.2 metric tons of CO₂eq. The carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions from street lights and traffic signals is summarized in Table 10.

Table 10: Electricity consumption, and greenhouse gases emissions from the Village street light and traffic signals

Sector	Number of lights	Electricity consumption, kwh	CO ₂ MT	CH ₄ MT	N ₂ O MT	CO ₂ eq MT	CO ₂ eq MT/light
Street Lights	176	272,465	216.25	0.00241	0.00358	217	1.2
Traffic Lights	7	14,175	11.25	0.00013	0.00018	11	1.6
Total	183	286,640	227.5	0.00254	0.00377	228	1.2

Vehicle Fleet

Table 11 shows that the 29 Village-owned vehicles produced 114 metric tons of CO₂eq. This value represents 5.1% of the total greenhouse gas emission. Emissions averaged around 4 metric tons of CO₂eq per vehicle. To be more specific, the diesel vehicles emitted around 3.5 metric ton of CO₂eq and the gasoline vehicles emitted around 4.4 metric tons

Table 11: Vehicle fleet annual miles traveled, fuel used, and greenhouse gas emissions

Source	Annual Miles Traveled	Annual Fuel Used, gallon	CO ₂ MT	CH ₄ MT	N ₂ O	CO ₂ eq MT	CO ₂ eq KG/gallon
Vehicle Fleet (Diesel)	79,383	5,219	53	0.00005	0.000007	53	10.1
Vehicle Fleet (Gasoline)	118,677	6,860	61	0.00270	0.00290	61	9

Employee Commuting

The total mileages traveled by the 18 employees, based on the survey, was 98,384 miles at the end of the study year. The annual greenhouse gases emission associated with those employees' commutes was estimated to be around 47 metric tons of CO₂eq which amounted to 2.1% of the total. The annual CO₂eq emitted by each employee was around 2.6 metric tons, and 0.0004 metric ton, 0.4 kg, for each mile traveled. However, as mentioned previously in this report, the total number of employees is 31 and it was assumed that all employees commute to and from work. If all 31 employees commute to and from work and each employee contributes by 2.6 metric ton of CO₂eq every year, the total CO₂eq would be 81 metric tons. The CO₂eq emissions for each mile traveled would be around 0.5 kg based on the total number of employees.

Table 12 shows the details about the carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions from all 31 employees based on the averages of the 18 employees.

Table 12: Employees commuting greenhouse gases emissions and miles traveled

Sector	Number of employees	Annual Miles Traveled	Fuel Type	CO ₂ MT	CH ₄ MT	N ₂ O MT	CO ₂ eq MT	CO ₂ eq KG/mile
Employee Commute	31	169,439	Gasoline	79.9	0.00339	0.00229	81	0.5

Wastewater Treatment System

Based on the average monthly flow of 40 million gallons, the annual wastewater treated by the Godfrey wastewater treatment plant was estimated to be 480 million gallons. The total electricity consumed by the sewer department buildings and facilities was 1,827,361 kWh, and the total natural gas used was 3,189 Therms during the study year. The CO₂eq emitted by the sewer department was calculated to be around 1,486 metric tons which includes the CO₂eq emitted from electricity consumption and the use of natural gas. Therefore, 3.1 metric ton of CO₂eq emitted by each million gallons treated and 0.2 metric ton of CO₂eq emitted per capita served, based on population of 9000. The wastewater treatment system was responsible for more than 66% of the total Village’s greenhouse gases emissions at the end of the study year. The greenhouse gases emission by wastewater system can be seen in Table 13 below.

Table 13: Wastewater treatment greenhouse gases emissions

Sector	Population Served	Electricity Consumption, kWh	Natural gas used, Therms	CO ₂ MT	CH ₄ MT	N ₂ O MT	CO ₂ eq MT
Wastewater Facilities	9,000	1,827,361	3,189	1,467	0.01782	0.06005	1486

Sustainability Recommendations

What follows is a categorized set of recommended sustainability best practices intended to achieve one or both of the following: 1. Improve sustainability and therefore quality of life within the Village; 2. Reduce greenhouse gas emissions within Village operations.

The following recommendations are grouped into the following categories:

- Buildings and Grounds Efficiency
- Renewable Energy
- Transportation and Fleet
- Air Quality
- Waste and Recycling

- Sustainable Water Management
- Green Spaces
- Adaptation and Resiliency
- Outreach/Education

Buildings and Grounds Efficiency

Work collaboratively with Village staff to improve efficiency in Village-owned buildings and other properties, while protecting green and open spaces for use by residents. Provide recommendations for ordinances addressing efficiency concerns and educate the public about opportunities for increasing efficiency in their homes.

1. Conduct village-wide greenhouse gas inventory, begin tracking village emissions, and develop a plan to implement measures to reduce emissions.
2. Build upon the successful actions already taken by the Village, and develop objectives for improving energy efficiency in Village-owned and operated facilities.
 - Practices may include, among many others:
 - Installation of energy efficient HVAC
 - Energy efficient lighting upgrades
 - Installing efficient computer systems
 - Improving system programming to align with usage
 - Installation of white roof coverings
3. Educate the general public and local businesses about practices that save energy by posting on the Village website, participating in or hosting special events, and educational materials made publicly available at the Village hall and other venues.
4. Develop programs that incentivize sustainable building construction and operations practices including LEED and/or Energy Star standards for residents.
5. Reduce emissions related to electric and gas use in or on commercial, institutional, and industrial buildings.
6. Promote opportunities to improve operations and maintenance practices in local buildings, such as the Building Operator Certification (BOC) training.
7. Work with Ameren to increase awareness of and encourage businesses and residents to participate in Ameren’s energy efficiency incentive programs. Achieve program participation from 5-15% of the businesses; request Ameren assistance in tracking participants and energy savings.
8. To conserve energy by reducing heating and cooling loads, promote light-colored roofs, the planting of trees, and installation of vegetative roofs and walls.
9. Develop and maintain a community resource guide for energy efficiency, renewable energy and green building grants, tax incentives, and technical resources.
10. Reduce emissions and heating/cooling loads by ensuring building envelopes are tight.
11. Reduce emissions and electricity bills by installing LED lighting where feasible.

12. Incorporate sustainable landscaping concepts in village projects. Examples of sustainable landscaping concepts include the use of native plants, xeriscaping, rain gardens, and bioswales.

Renewable Energy. Work with the Village Board of Trustees to explore feasibility of installing renewable energy generating systems on Village property by researching funding opportunities and other programs for expanding renewable energy deployment. Work with Village zoning officials to ensure that zoning and permitting requirements provide “path of least resistance” for homeowners and businesses that wish to install renewable energy systems on their properties. Educate the public on funding sources and financing options to increase deployment of renewable energy systems in the Village.

1. Develop long-term objectives to increase the use of renewable energy for electrical consumption.
2. Amend zoning ordinances to specifically address solar panels, wind turbines, and geothermal systems.
3. Investigate the feasibility of solar PV, solar thermal, wind, or geothermal installations on village property.
4. Encourage residents to install solar PV, solar thermal, wind, and/or geothermal systems at their homes when feasible, and inform them of rebates and other incentives for installing renewable energy systems.
5. Address any zoning and permitting barriers to the installation of renewable energy applications in commercial and residential buildings.
6. Investigate feasibility of providing local incentives for residents to install renewable energy systems. Examples include municipal loans, property tax incentives, and fast track application processes.
7. Investigate feasibility of an anaerobic digestion conversion system to provide electricity to village buildings.
8. Work with other Municipal Aggregation communities to explore possibility of expanding state and regional renewable energy capacity via municipal aggregation contracts.
9. Promote other residential renewable policies.

Transportation and Fleet

Work with the Village Board of trustees to research funding options for greening of the Village fleet. One example might be the state purchasing contract. Work with the Village Board and MCT to provide safe reliable access to public transportation for village residents, including bus stops and routes and bike paths.

1. Endorse Complete Streets and Bicycle Friendly Community measures to ensure safe environmentally friendly transit options. Promote the overall planning for pedestrian, bike, and mass transit facilities and incorporate the practices into land use and transportation plans. Begin approaching the movement of people through systems planning with the overall goal of giving residents various options for travel.

2. Promote the deployment and use of electric vehicle charge stations, publicizing their location and cost.
3. Implement incentives and policies to encourage electric vehicle infrastructure and use, with an emphasis on renewable source charging.
4. Develop land use practices that reduce vehicle miles travelled. This will primarily involve encouraging land developments in areas closer to municipal boundaries. Other practices may include ensuring that street connections are made, requiring the installation of pedestrian and bike facilities, and allowing some neighborhood-serving / pedestrian accessible businesses within residential areas.
5. Support car-share programs by expanding designated parking for car-share vehicles on vehicle properties, at new developments, and along transit lines. Increase awareness of car-share programs like MCT's Ridefinders among village residents and businesses.
6. Consider modifying village fleets to include stricter vehicle maintenance standards.
7. Investigate the feasibility of replacing existing village vehicle fleet with hybrids and other cleaner vehicles.
 - NOTE: There is a "state contract" from which government entities can purchase electric vehicles at a discounted rate.
8. Require Electric Vehicle and/or Hybrid options in public bid offerings for village fleet purchases.

Air Quality

Educate the public about air quality issues and strategies and policies for reducing air pollution and improving indoor and outdoor air quality at Village-owned properties. Work with village staff to improve and maintain air quality in Village-owned and operated facilities.

1. Develop long-term air quality and greenhouse gas emission goals for the Village. The effort should focus on improving the health and quality of life of residents, particularly children and seniors.
2. Educate the general public and local businesses on practices that promote air quality through the website, special events, and educational materials.
3. Develop objectives for improving air quality standards in Village-owned and operated facilities.
4. Educate the public about yard-waste burning alternatives like mulching and composting.

Waste and Recycling

Work with village staff to reduce consumption and increase diversion of waste to recycling in village operations as well as in the public at large. Educate public about recycling options and special event drives in the community.

1. Educate the general public and local businesses on practices that promote recycling through the website, special events, and educational materials.

2. Institute recycling at all Village-owned properties and ensure all departments have information and resources necessary to recycle, and compost where appropriate. Develop long-term objectives for improving recycling at Village-owned and operated facilities.
3. Investigate the feasibility of developing a compost program that can be used by schools, businesses, and residents.
4. Support the existing program to provide recycling receptacles at local public events including fairs and festivals, sports games, and concerts.
5. Encourage multi-family unit recycling.
6. Promote the recycling and proper disposal of electronics and household hazardous waste.
7. Promote residential composting and provide education to ensure home systems are functioning to health and safety standards.
8. Encourage village departments to purchase recycled-content materials when feasible
9. Develop a purchasing policy that incorporates principles of reduce, reuse, and recycle in order of importance.

Sustainable Water Management

Promote sustainable landscapes and responsible water management within village operations and on commercial, residential, and institutional property within the Village by providing public education.

Education:

1. Educate the general public and provide technical assistance to residential, commercial, and institutional interests on practices that promote water quality through the website (www.godfreyil.org), special events, and educational materials. Such practices may include the installation of green infrastructure, developing procedures for handling and disposing of pollutants, and crafting measures that conserve water usage.
2. Encourage use of native plants in village plantings and on residential, commercial, and institutional properties.

Operations and Enforcement:

3. Support the adoption and implementation of the Countywide Stormwater Management Plan. Assist in the development of programs that address a host of stormwater issues, including floodplain development, interior flooding, combined sewers, impaired waterways, riparian corridors, agricultural runoff, and wetland degradation by identifying sustainable solutions.
4. Develop objectives for improving water quality practices in County-owned and operated facilities.
5. Continue working through the MS4 program to implement best management practices for construction activity, illicit discharge, the use of pesticides and herbicides, pollution prevention and public engagement. More info here: <https://www.epa.gov/npdes>

6. Continue work with the Soil and Water District on existing watershed plans that address agricultural runoff and impaired waterways in order to qualify for federally-funded programs.
7. Continue implementing the Stormwater Ordinance and ensure that land development meets minimum regulations.
8. Adopt a riparian corridor buffer ordinance that protects areas near waterways from encroachment.
9. Utilize permeable pavement in parking lots and roadways where feasible.
10. Work with village to ensure native landscaping is properly maintained and up to code.
11. Implement sustainable irrigation, or no irrigation, when applicable. Utilizing xeriscapes may eliminate the need for irrigation. Utilizing native plants may allow for use of less water intensive irrigation.

Green Spaces

Promote maintenance and expansion of green spaces on village properties. Encourage residents to utilize green spaces. Educate the public about the health and well-being benefits of being in nature, the role of trees and plants in clean air, and aesthetic value of green spaces, especially those that utilize native plants.

1. Develop a comprehensive green space plan that identifies areas that fit into an overall greenways and parks network.
2. Utilize sustainable strategies in maintaining and expanding green spaces by, for example installing bioswales, rain gardens, xeriscapes, native plants and trees.
3. Develop a sustainable management plan for green spaces to include management of rain gardens, bioswales, xeriscapes, and other sustainable features.
4. Utilize interpretive media in green spaces to identify and educate the public about plants and strategies used.
5. Create wildlife corridors to increase habitat and biodiversity within the Village.
6. Host public education events identifying invasive plants and discussing their dangers.

Adaptation and Resiliency

Develop a strategy for adapting to and mitigating the effects of climate change and invasive species that may impact the Village. These may include extreme weather events, floods, and droughts, among others.

1. Ensure that emergency management strategies acknowledge the increasing frequency of extreme weather events, floods, and droughts as well as the increasing likelihood of the spread of human, plant, and animal disease vectors. Emergency management plans should also acknowledge that vulnerable populations are most seriously impacted by emergency situations.
2. Protect and expand open spaces, farmlands, wetlands and riparian buffers which serve as natural protection against floods and other weather events.

3. Develop strategies for mediating erosion and ensuring drinking water quality during increasingly extreme weather events and floods.
4. Educate residents and village staff about invasive pests like Emerald Ash Borer and offer advice on how to contain, reduce, and/or manage infestations.
5. Review building codes to ensure they align with adaptation and resiliency strategies.
6. Implement Low Impact Development strategies and green infrastructure planning.
7. Implement recommendations of the Emergency Systems and Disaster Management (ESDA) Committee.

Outreach/Education

Work with village staff to educate the public about local and global sustainability issues, as well as the efforts of the committee, the Sustainability Plan, and what the plan means for individuals, businesses, and the Village.

1. Educate public on the findings of the Greenhouse Gas Inventory.
2. Educate the public about the recommendations of the Sustainability Plan.
3. Champion efforts implementing Sustainability Plan strategies by village actors.
4. Host public outreach and education events to put the plan in context. Educate the public about what it means for them and how they can/will benefit from its implementation.
5. Host and attend special events to raise awareness about the plan and its benefits.

References:

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