

# GLEN CARBON COOL CITIES CLIMATE ACTION PLAN

October, 2014

## INTRODUCTION

Glen Carbon Ordinance No. 2100-19 states in part that “the Village desires to foster efforts to reduce global warming pollution” ... and has established ...”a committee of citizen volunteers that will develop ideas, and take other actions to make the Village a Cool City.” The overwhelming body of scientific evidence is clear: climate change is happening now, and the primary cause is human activity. Global average temperatures have risen by 1.4°F over the last century, and this warming trend is accelerating. The vast majority of scientists agree that the main culprit is the emission of heat-trapping greenhouse gases from the burning of fossil fuels such as coal and oil. The concentration of carbon dioxide in the atmosphere as of 2010 is 390 ppm, higher than the natural range of 180 to 300 parts per million of the last 650,000 years. The increase in carbon dioxide observed has been escalating since the industrial revolution and can be explained only by human-caused emissions of greenhouse gases.

The national Cool Cities’ goal is to reduce carbon emissions by 2% per year by the year 2015 from the 2009 baseline. A standardized Green House Gas Inventory (GHG) was formally presented to the Village Board on October 9, 2012 by a Southern Illinois University Edwardsville (SIUE) transportation engineering graduate student appointed by the Chairman of the SIUE Civil Engineering Department. The GHG inventory reported that Glen Carbon emitted 143,967 tons of CO<sup>2</sup> for the 2011 assessment year. In 2009, the City of Edwardsville emitted 347,295 tons of CO<sup>2</sup>; and this comparison supports the validity of the study (Edwardsville has more than twice the number of residents than Glen Carbon.). The distribution of emissions for Glen Carbon was approximately 60% transportation sources, 27% residential and 13% commercial and miscellaneous sources. The next step in the Cool Cities’ process is to create a Climate Action Plan (CAP) targeted at primary GHG sources to reduce carbon emissions of the Village. Part I of this document provides the Glen Carbon Cool Cities Committee with an initial plan for the Committee’s activities to reduce GHG emissions in the Village of Glen Carbon. Part II contains suggestions for specific activities that can be undertaken by the Village of Glen Carbon as resources permit to reduce Green House Gas emissions in the Village.

# GLEN CARBON COOL CITIES COMMITTEE CLIMATE ACTION PLAN

## Part I.

### COMMITTEE ROADMAP

#### **A. TRANSPORTATION**

##### **Emissions alternatives, biking, ridesharing**

1. Encourage Glen Carbon businesses and residents working elsewhere in the metropolitan area to explore employee commuting and telecommuting programs, providing resources and incentives to reduce the number of single occupant auto commuters in and out of Glen Carbon.
2. Work with Madison County Transit (MCT) to promote public transit as a viable option for commuting to work, home, school and entertainment by helping to promote the RideFinders, SchoolPool, and other programs.
3. Work with Edwardsville High School, Metro-East Lutheran High School, and SIU-Edwardsville to increase student bicycling and participating in MCT's SchoolPool program.
4. Explore the feasibility of establishing bike kiosks strategically located to facilitate biking for students and residents to connect with commercial needs and recreation. A bike kiosk serves pedestrians with affordable bike transportation as has been implemented in European countries and in many US cities.
5. Monitor the actions of the Illinois Cool Cities that have or are developing biking and transportation plans which could provide models for Glen Carbon: Aurora, Des Plaines, East Peoria, Edwardsville, Elgin, Hazel Crest, Hoffman Estates, Moline, Normal, Oak Park, Orland Park, Oswego, Palatine, Plainfield, Rock Falls, Rock Island, Rolling Meadows, Schaumburg, Springfield, Urbana, Villa Park, and Wilmette.
6. Explore bike trail extensions that will improve accessibility to shopping and Village activities.

*Short term goal: Determine feasibility of items.*

*Long term goal: Provide proposals for feasible items .*

#### **B. BUILDINGS**

##### **Energy efficiency, LEED Certification, cost reductions**

1. Encourage the reduction of emissions related to electric and gas use in residential, commercial, institutional and industrial buildings.

2. Promote 100% Renewable Energy Credit use for future electric supply negotiations.
3. Monitor the action of the Illinois Cool Cities that are incorporating Leadership in energy and Environmental Design (LEED) building standards into their municipal development and can provide models for Glen Carbon: Alton, Aurora, Bolingbrook, Des Plaines, East Peoria, Elgin, Hoffman Estates, Joliet, Lake Forest, Moline, Normal, Northbrook, Oak Park, Orland Park, Park Forest, Plainfield, Rock Island, Schaumburg, Springfield, and Villa Park.

***Short term goals: Conduct survey of each item and report to CCC. Arrange a presentation to the Village Board by LEED experts.***

***Long term goal: Prepare proposals and present to Village.***

## **C. ADAPTATION**

### **Air quality, storm water, urban design**

1. Promote the adaptation to heat by researching urban “heat island” effect and pursue ways to cool hot spots.
2. Pursue innovative cooling by launching efforts to seek innovative ideas for cooling the Village.
3. Protect air quality intensifying efforts to reduce carbon emissions through programs that reduce vehicular mileage and emissions from power plants.
4. Engage the public by sharing climate research findings with groups most affected – social service agencies, garden clubs, etc. Help individual households to take their own steps to reduce flooding and manage heat waves, such as installing rain barrels, rain gardens, and back-up power for sump pumps and planting shade trees.
5. Engage businesses by working with businesses, such as the Green Business Alliance and the Green Business Council, to analyze their vulnerability, to climate change, incentivize and help draft action plans.
6. Plan for the future by interfacing with the Illinois Municipal League to learn and share Climate Action Plan implementation efforts and assess how the plan is being implemented, recommend revisions, and report to the Mayor and residents on our progress.

***Short term goal: Collaborate with SIUE, Lewis and Clark College, and Edwardsville High School on mutually beneficial projects.***

***Long term goal: Prepare cost benefit proposals and present to Village.***

## **D. RENEWABLE ENERGY SOURCES**

### **Aggregation, solar, geothermal, wind**

1. Promote the reduction of commercial and residential emissions through the use of renewable energy sources. Develop resource information/information base.
  - a) Support efforts to make biodiesel and natural gas commercially available to residents and businesses.
  - b) Encourage residents to switch from gasoline and diesel-powered engines to those powered by renewable fuels.
  - c) Investigate the feasibility of local wind power generation.
  - d) Encourage residents to consider and install solar panels at their homes and share lessons learned on solar and geothermal home installations.
2. Promote the reduction of emissions related to electric and gas use in commercial and municipal buildings through the use of thermal storage systems.
3. Promote the reduction of emissions related to electric and gas use in commercial and municipal buildings by converting waste to energy.
4. Investigate the feasibility of utilizing a thermal-to-energy conversion system to provide electricity to multiple buildings in Glen Carbon.

***Short term goal: Explore options for renewable energy applications in the Village: solar, wind and geothermal.***

***Long term goal: Move Glen Carbon toward self- sufficiency through wind-generated power.***

## **E. BUSINESS COLLABORATIONS**

### **Promotion of commercial recycling**

1. Encourage area businesses and restaurants establish recycling through incentive based collaboration such as the “Green Business Alliance” for Metro East and the Green Business Challenge of the St. Louis Regional Commerce and Growth Association.
2. Help develop inventory for “reusable” waste (e.g., food from restaurants donated to Food Banks, etc...).

*Short term goal: Establish an incentive and award program for Glen Carbon businesses to reduce carbon emissions.*

*Long term goal: Provide an estimate by 2016 of carbon reduction from businesses and municipal buildings including schools.*

## **F. FOOD PRODUCTION**

### **Farm food promotion, farmers' markets, health**

1. Provide links on website to resources for above; help advertise Goshen Farmer's Market and promote a Glen Carbon Market.
2. Support efforts for Glen Carbon Market – Main and Meridian – help advertise.
3. Partner with local gardening sites to examine/offer environmentally sustainable gardening practices.
4. Investigate the possibility of community gardens on Village owned properties.

*Short term goal: Create food production course outlines and marketing info.*

*Long term goal: Provide a two-year report on accomplishments by 2015.*

## **G. EDUCATION**

### **K-12, trade schools, colleges and universities**

1. Continue fostering educational partnerships with public and private schools:
  - a) Promote Bike-to-School initiatives.
  - b) Collaborate with high school and college student groups such as the Youth Environmental Network (YEN) and the Students Organized for Sustainability (SOS) at SIU.
  - c) Recruit student liaisons to the Cool Cities Committee.
  - d) Examine/inventory school sustainability/green programs.
2. Continue efforts with the Glen Carbon Library for educational partnerships:

- a) Coordinate to provide four educational initiatives per year (one per season) held at library.
  - b) Explore developing a ‘green educational resource section’ in library...not just with books, but other information as well as a ‘green resources’ section on library website.
  - c) Partner with local faith organizations for potential targeted educational venues.
  - d) Partner with businesses (Green Business Alliance or Green Awards program) for potential interest in educational initiatives.
3. Develop/deliver educational seminars on sustainable gardening practices.
  4. Promote local educational resources like the SIUE Gardens, the Watershed Nature Center and University of Illinois Extension Master Gardener program to Glen Carbon residents.
  5. Develop/deliver educational seminars on the following (individually or collectively):
    - a) Slow Food Movement
    - b) Buying organic/local
    - c) Labels, conscientious food choice decisions.

***Short term goal: Report on assessment of school sustainability programs and library activities; examine/inventory preschool sustainability/green programs; primary school; and (K – 8) sustainability/green programs; Examine/inventory HS (9 – 12) sustainability/green programs.***

***Long term goal: Maintain, improve, and document collaboration with business and faith groups to reduce carbon emissions and report to the Village.***

## **H. CARBON OFFSETS BY FORESTRY, PRAIRIE, GARDENS**

### **Trees and grasses**

1. Optimize tree planting and protect existing trees for maximum carbon storage/sequestration and energy savings.
2. Regularly publish articles in the local papers on the benefits of urban trees and tips on planting and maintenance.
3. Partner with and assist the GLEN Committee and the Village Master Gardener.

***Short term goal: Create a native tree and grasses improvement report and plan in coordination with the Village Master Gardener.***

*Long term goal: Create a native tree and grasses assessment for long-term monitoring.*

## **I. POLICY DEVELOPMENT**

### **Information on climate change trends, policies and best practices**

1. Periodically compile and update Glen Carbon's greenhouse gas emissions inventory, tracking related waste, energy, economic and environmental data.
2. Prepare a progress report on the Glen Carbon Climate Action Plan periodically and propose and adopt modifications as needed.
3. Track relevant regional, national and international best practices to ensure that the Glen Carbon Climate Action Plan is being implemented as effectively and efficiently as possible.
4. Adopt a greenhouse gas reduction goal of 2% per year.

### **Policy formulation at all levels seek to reduce greenhouse gas emissions**

1. Identify local, state and federal grants and resources to support and fund the initiatives and strategies in the Glen Carbon Climate Action Plan.
2. Identify and pursue innovative funding sources for the implementation of the initiatives and strategies in the Glen Carbon Climate Action Plan.
3. Encourage and support Village partnership with other public entities (e.g., other municipalities, Madison County, SIUE), community groups and private businesses to develop and leverage funds and resources to implement the initiatives and strategies in the Glen Carbon Climate Action Pan.
4. Identify and publicly recognize community efforts to reduce Glen Carbon's greenhouse gas emissions.

### **Support of local, state, and national efforts to mitigate climate change**

1. Promote and support greenhouse gas reduction efforts at the regional, state and national levels.
2. Inventory the efforts of civic, educational, religious and neighborhood organizations that address climate change and share as appropriate.
3. Share Glen Carbon's successes and lessons learned with other municipalities through regional meeting and conferences.

***Short term goal: Provide a report to the County on Glen Carbon’s successes in reducing carbon emissions.***

***Long term goal: Create a Glen Carbon presentation on reducing carbon emissions that can be shared at public forums.***

## **J. EDUCATION AND COMMUNITY DEVELOPMENT**

### **Empowerment of the community to take action on climate change**

1. Disseminate information on climate change, its causes and its impact on the environment.
2. Encourage residents, businesses, churches and civic organizations to convene working groups to help implement the strategies outlined in the Glen Carbon Climate Action Plan.
3. Use the Glen Carbon Homecoming and other festivals and local markets to model and promote environmentally friendly practices such as recycling, waste reduction and energy conservation.
4. Develop a campaign slogan along with a theme and key messages related to climate change mitigating actions.
5. Use the Village website to promote actions individuals can take to reduce greenhouse gas emissions.
6. Conduct a village-wide follow up to SIUE research survey of Glen Carbon residents to identify current knowledge, attitudes, and behaviors related to climate change.
7. Make sure that information and resources related to climate change and the Glen Carbon Climate Action Plan reaches all Glen Carbon residents regardless of age or economic status.

***Short term goal: Create CCC proposal for the next Glen Carbon Homecoming.***

***Long term goal: Generate a substantial and measurable improvement in residents’ interest in reducing carbon emissions.***

## **K. COMMUNICATIONS/PUBLIC RELATIONS**

### **Communication and social media**

1. Establish web presence on Village website regarding local Green events.
2. Continue quarterly updates in “The Village Communicator.”



3. Create a Facebook page.
4. Establish a Twitter presence and Twitter relevant people events.

***Short term goals: Create a “Green” webpage and a Glen Carbon Cool Cities Committee Facebook page.***

***Long term goal: Establish an action relationship with other Cool Cities Committees in Madison County.***

# GLENN CARBON COOL CITIES COMMITTEE CLIMATE ACTION PLAN

## Part II.

### RECOMMENDATIONS TO THE VILLAGE

**Part II of the Glen Carbon Cool Cities Committee Climate Action Plan contains recommendations from the Glen Carbon Cool Cities Committee to the Administration of the Village of Glen Carbon for steps that could be taken to reduce the emission of Green House Gases (GHG) in the Village. They are offered as recommended actions to be implemented subject to the availability of resources and the limits of available technology.**

**We recommend:**

1. The Village adopt and implement a Complete Streets Initiative appropriate for the Village of Glen Carbon.
2. The Village enforce a “no idling” policy for Village vehicles subject to reasonable exceptions due to extreme weather.
3. The Village require private contractors doing Village business to adopt a “no idling” policy for their vehicles subject to reasonable exceptions due to extreme weather.
4. The Village require subdivision developers to include access to the Village and MCT bike trails wherever feasible.
5. The Village construct bike trail extensions that will improve accessibility to shopping and Village activities where feasible.
6. Incorporate the *Illinois Energy Efficiency Code (IECC)* and Leadership in Energy and Environmental Design (LEED) building standards in new municipal projects, and encourage LEED standards to be used in private development through information regarding incentive programs.
7. Evaluate the International Green Construction Code (IGCC) for possible adoption for commercial buildings in the Village.
8. Adopt 100% renewable energy sources for the Municipal Aggregation Program when financially practicable.
9. Reduce emissions related to electric and gas use in Village-owned and operated buildings, parks, parking lots and garages and along village streets by the adoption of energy efficient non-polluting appliances, HVAC and other systems.
10. Investigate the Green Cities Grant Program that promotes IECC and LEED standards.

11. Familiarize the Village Staff with the Roadmap to Green Government Buildings, a guide for government professionals implementing green building programs and initiatives and a forum for sharing and developing peer resources.
12. Review and update Village response plan to include extremely hot weather, focusing on vulnerable residents.
13. Encourage property owners to pursue green landscaping and environmental energy efficiency improvements.
14. Collaborate with County and other municipalities to ameliorate stormwater effects and use of vacant land to manage stormwater. Promote signage to incentivize safe runoff. Research ways to utilize stormwater beneficially.
15. Research and develop a “Green Urban Design” plan to manage heat and flooding. These steps will enable the Village in coordination with the County to capture rain where it falls and reflect away some of the intensity of the sun on hot days.
16. Acquire and share with residents a plant-growing list that focuses on plants that can thrive in altered climates. Promote the use and preservation of native plants. If necessary, draft a new landscape ordinance to accommodate plants that can tolerate such conditions.
17. Reduce emissions related to Village fleet motor fuel use, through the introduction of hybrid and/or electric vehicles as this becomes financially feasible.
18. Investigate the feasibility of retrofitting Village fleet vehicle fuel tanks to utilize alternative fuels such as bio-fuels and propane gas.
19. Investigate the feasibility of purchasing solar power for Village facilities.
20. Investigate possible grant sources for electric car charging stations.
21. Address zoning and permitting ordinances to facilitate the installation of renewable energy in the residential and commercial sectors.
22. Increase recycling in connection with trash removal contracting.
23. Provide recycling receptacles on all Village properties and at Village sponsored events, e.g., Homecoming, Glenfest, etc.
24. Implement a Village Urban Forestry and Native Grasses Program.
25. Explore completing a tree hazard and health assessment inventory project.
26. Update the assessment of municipal trees as staffing and budgets allow.

27. Support the tree planting and maintenance program.
28. Use the Village website to promote actions individuals can take to reduce greenhouse gas emissions.
29. Continue Cool Cities quarterly updates in “The Village Communicator.”
30. Integrate the initiatives and strategies outlined in the Glen Carbon Climate Action Plan into future policies and comprehensive plans as relevant.
31. Review major policies and programs in the early stages of development to identify ways to reduce related greenhouse gas emissions.
32. Develop and adopt procurement guidelines for Village procured goods and services that contribute to a reduction of greenhouse gas emissions.
33. When reviewing or revising existing ordinances and policies make sure that they are consistent with the Glen Carbon Climate Action Plan initiatives and strategies.
34. Designate a Village staff person who will focus on sustainability and coordinate the implementation of the Glen Carbon Climate Action Plan in collaboration with the Cool Cities Committee.
35. Identify and pursue innovative funding sources for the implementation of the initiatives and strategies in the Glen Carbon Climate Action Plan.
36. Participate in local, state and national initiatives and programs that provide information, tools and resources to implement the Glen Carbon Climate Action Plan. Participate at Mayoral level conferences in Illinois where climate change mitigation legislation and relevant grass root efforts are discussed.
37. Develop partnerships with other public entities (e.g., other municipalities, Madison County, SIUE), community groups and private businesses to develop and leverage funds and resources to implement the initiatives and strategies in the Glen Carbon Climate Action Plan.
38. Identify and publicly recognize individual and community efforts to reduce Glen Carbon’s greenhouse gas emissions.
39. Share Glen Carbon’s successes and lessons learned with other municipalities through regional meeting and conferences.