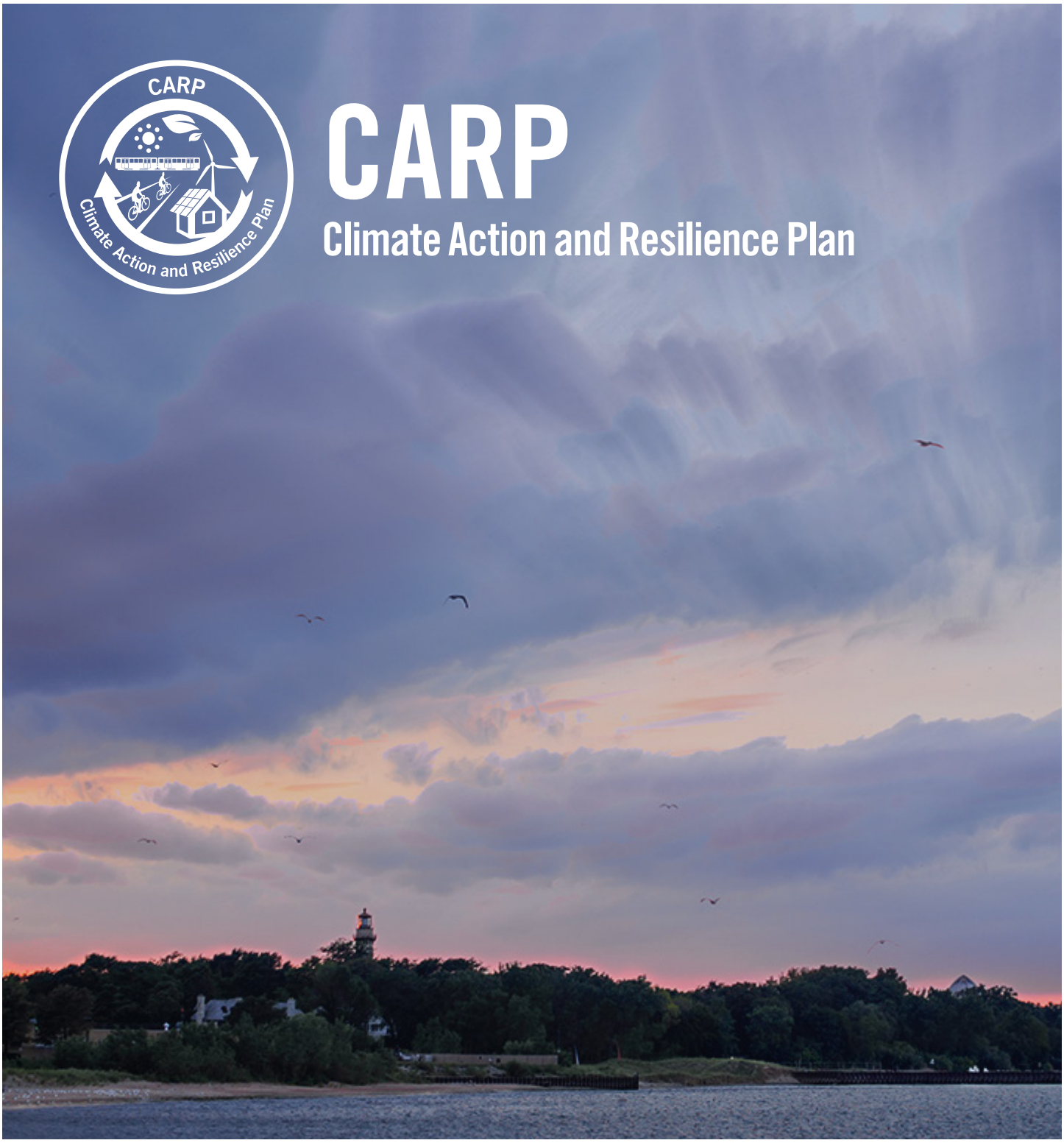
CARP

Climate Action and Resilience Plan



Carbon Neutral by 2050

City of Evanston™

Draft September 2018

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Introduction

The City of Evanston, through commitments made by Mayor Hagerty, has set ambitious targets to achieve carbon neutrality by 2050 and make significant reductions in greenhouse gas emissions in the short-term. Evanston is committed to taking immediate and decisive action to reduce the impact on climate change and to prepare the community for an uncertain future climate. In order to make progress on those commitments, this plan will chart a path forward. The plan is divided into four major sections and three appendices:

Sections

1. Climate Mitigation*
2. Climate Resilience**
3. Implementation, Accountability and Partnerships
4. Municipal Operations (forthcoming)

Appendices

1. Community-wide Greenhouse Gas Emissions Inventory (forthcoming)
2. Community Climate Vulnerability Assessment (forthcoming)
3. CARP Planning Process and Timeline (forthcoming)

* Climate Mitigation describes actions that reduce the release of greenhouse gas emissions such as carbon dioxide and methane.

** Climate Resilience is the task of evaluating the changing climate and preparing the community for those changes and the impact they will have on the community and its infrastructure (social, natural and built).

The planning process began in September, 2017 with Mayor Hagerty announcing the establishment of a community working group to lead a year long planning effort for climate action. In November, 2017 after reviewing over 80 applications 17 community members were chosen and held the first Climate Action and Resilience Plan (CARP) Working Group meeting. Over the next several months with staff support from the City's Office of Sustainability, CARP broke into three Task Forces, Climate Mitigation, Climate Resilience and Engagement.

The Mitigation and Resilience Task Forces spent the winter and spring months reviewing data, researching best practices and developing recommendations for consideration on the full plan. The Engagement Task Force developed a presentation and held almost 20 in-person engagements to educate community members on the impacts of climate change in Evanston and the importance of local action.

As the Task Forces worked they identified dozens of impactful actions and spent hours building a plan that speaks to Evanston's strengths. Although the Task Forces worked separately their recommendations overlap in numerous priorities including: green infrastructure, open spaces, urban canopy, water efficiency, education and engagement.

Covenant of Mayors steps towards compliance

Phase 1

Phase 2

Phase 3

Phase 4

Compliant

Guiding Principles

The development and implementation of an ambitious climate plan requires a recognition and understanding of the historical, current and potential future context that Evanston operates within. In order to ensure that the goals developed within this plan are able to meet Evanston's vision of becoming the Most Livable City in America and aligns with the comprehensive livability guidelines of the STAR Community Rating System the plan relies on three core Guiding Principles: Equity-Centered, Outcome-Focused and Cost-Effective and Affordable.

Equity-Centered

The plan, primarily implementation, must center equity in its recommended policies and programs. This means that as a City-adopted plan, this plan will defer to a definition of Equity-Centered or the employment of an equity lens that is approved by City Council, implemented by the Office of Equity and Empowerment with advisory support from the Equity and Empowerment Commission. In lieu of a City-definition, implementation of the plan will seek guidance from external leaders within the field.

Outcome Focused

Measurable outcomes that support the goals within the plan are the main priority. Although there are actions within the plan that are more focused on behavior change, education and improving community awareness and understanding, the ultimate outcome is that those actions would lead to improved outcomes. Example outcomes include reducing greenhouse as emissions, increasing renewable energy, increased jobs, reduced waste, etc.

Cost-Effective and Affordable

There is a perception, which sometimes is borne out in reality, that being "green" or "sustainable" always leads to a price or cost premium. Although this may be the case in some instances many of the recommended policies and programs if properly implemented could lead to cost savings. All policies and programs implemented will consider the cost-effectiveness of the programs for the City to implement as well as impacted parties and the impact on affordability in Evanston.

Climate Mitigation

As referenced above, Climate Mitigation describes actions that reduce the release of greenhouse gas emissions such as carbon dioxide and methane. Climate action at the local level is imperative if Evanston is to play its part in holding global temperature increases to below 2 degrees Celsius. Research compiled by the International Panel on Climate Change (IPCC) indicates that if global temperatures are allowed to increase by 2 degrees Celsius it could trigger a runaway greenhouse effect where earth temperatures continue increasing beyond human control. More information on the IPCC and climate data can be found at **www.ipcc.ch**.

Greenhouse Gas Reduction Targets

In order to spur community action and investment this plan calls for ambitious and immediate reductions in greenhouse gas emissions. The 2017 community-wide greenhouse gas emissions inventory showed a 26% reduction in emissions from the 2005 baseline which demonstrates significant progress towards carbon neutrality. The City has established the following community-wide reduction targets:

2025 – 50% reduction
2035 – 80% reduction
2050 – 100% reduction = Carbon Neutrality

In order to evaluate and measure the community's progress towards these targets the City has developed a global protocol for community-scale greenhouse gas emissions (GPC)-compliant emissions inventory. The greenhouse gas emissions inventory helps the City identify what sectors emissions are coming from and what the change in emissions are over time. Without an inventory it would be difficult to evaluate the progress the City is making towards reducing emissions and impossible to evaluate the impact of policies on emissions reductions.

The full inventory with details on specific emissions sources and changes can be found in Appendix A: Community-wide Emissions Inventory.

The Climate Mitigation section of the plan is split into six Goal Areas with corresponding Goals, Actions and Performance Metrics.

	Goal Areas	Goals
(B)	**Building Efficiency**	Reduce Building Energy Consumption by 35% by 2035 (from 2005 levels)
(R)	**Renewable Energy**	Achieve 100% renewable electricity supply for all Evanston accounts by 2035
(Z)	**Zero Waste**	Increase community-wide waste diversion rate to 50% by 2025 and 75% by 2035 (from 2011 levels)
(M)	**Mobility and Transportation**	Reduce vehicle miles traveled; increase trips made by walking, bicycling and transit.
		Increase use of electric vehicles; decrease carbon emissions from vehicles and machinery
(U)	**Urban Canopy and Green Space**	Preserve and restore Evanston's urban canopy, natural areas, native vegetation and green space to maintain and increase carbon sequestration, improve stormwater runoff detention, improve air quality, energy efficiency and livability and reduce adverse urban impacts on humans and key species such as birds and pollinators.
(O)	**Outreach, Education and Behavior Change**	Educate, motivate and empower Evanston residents, institutions and businesses to take meaningful action to fight climate change and improve the community's resilience.

(B) Building Efficiency

Goal

Reduce Building Energy Consumption by 35% by 2035 (from 2005 levels)

Energy usage is the largest source of greenhouse gas emissions in Evanston and accounts for roughly 80% of the community's entire emissions. Overall electricity emissions have reduced significantly since 2005, however, that reduction is primarily due to the purchase of renewable energy credits as well as the overall improvement in emissions factors for the regional power grid (i.e. coal generation being replaced with less carbon intensive generation such as natural gas and renewable energy sources). Overall electricity consumption has remained relatively unchanged since 2005. Natural gas consumption has also remained relatively flat since 2005.

Actions

1. Develop a strategy to transition to net-zero greenhouse gas emissions building standards, to be completed in 2019. Implement strategy via building code update effective starting in 2020.
    a. Use best practices in each category of green building standards, including aspects of LEED Platinum, Passive House Institute (PHIUS), Green Globes, Living Building Challenge and Enterprise Green Communities. Address all aspects of the building, including construction, energy use, water use, impacts on nature and wildlife (i.e. Birds) and on the community (i.e. transportation).
    b. Require net-zero greenhouse gas emissions building codes for residential and commercial new construction by 2025 and retrofits by 2025.
    c. Include energy audits as part of the building permit approval process for residential, commercial and industrial modifications and additions.
2. Update the energy and water benchmarking ordinance to gather information on renewable energy purchases, renewable energy on-site generation, energy efficiency upgrades, waste management data (recycling, composting) and other relevant information.
3. Adopt policies that require building retro-commissioning for larger building types and building energy audits for smaller building types.
4. Create a Property-Assessed Clean Energy (PACE) financing program to support residential and non-residential energy efficiency initiatives.
5. Increase water efficiency and reduce daily per capita water usage.
    a. Continue to implement the Evanston Water Conservation and Efficiency Plan developed by CMAP in 2014.
    b. Facilitate reduction of water use in top 20 customers. Request large institutions and businesses identify specific opportunities for employees or customers to conserve water and incorporate water efficiency into internal operations.
6. Institute a residential energy performance transparency program (to help homebuyers understand the energy performance of homes they are considering for purchase).

Performance Metrics

Target year	Metric Description	GHG reduction potential (MTCO2E)
2025	Reduce building energy consumption by 25% from 2005 levels	to be calculated
2035	Reduce building energy consumption by 35% from 2005 levels	to be calculated
2050	Reduce building energy consumption by x% from 2005 levels	to be calculated
Annual	Total energy consumed in applicable units	
Annual	Average daily water consumption per capita	
Annual	Number, Type and Energy-use Intensity of buildings participating in implemented programs (i.e. benchmarking, retro-commissioning, etc.)	

Outreach and Engagement

1. Identify strategies and funding to support residents and businesses in implementing energy efficiency improvements.
2. Educate the community about existing incentive programs and prioritize connecting eligible properties with utility rebate and efficiency programs.
3. Encourage buildings to pursue third-party sustainable building certifications such as Green Globes, Passive House, LEED, etc.

(R) Renewable Energy

Goal

Achieve 100% renewable electricity supply for all properties in Evanston by 2035.

In 2017, Mayor Hagerty joined the Sierra Club's Mayors for 100% Clean Energy. Although purchasing renewable energy credits (RECs) has played a large part in working towards this goal, the City also values onsite generation of renewable energy through sources such as wind and solar installations within Evanston. The included actions should seek to provide competitive renewable energy options to all Evanston customers.

Actions

1. Continue to support Community Choice Electricity Aggregation (Aggregation). Explore expanding the reach of the Aggregation program and tighten restrictions to encourage/require energy suppliers directly invest in renewable energy.
2. Increase renewable energy supply options beyond Aggregation by supporting community solar and other renewable energy generation projects.
3. Create an educational program to inform commercial properties about renewable energy opportunities. Incentivize businesses to purchase renewable energy (such as through a sustainable business recognition program).
4. Evaluate the options available for the City to increase the supply of renewable energy to Evanston customers not eligible for Aggregation such as Community Solar Subscriptions, development of a municipal alternative retail electric supplier (ARES), Power Purchase Agreements, etc.

Performance Metrics

Target year	Metric Description	GHG reduction potential (MTCO2E)
2025	75% renewable electricity supply for all Evanston accounts	to be calculated
2035	100% renewable electricity supply for all Evanston accounts	to be calculated
Annual	Number, size and output of onsite renewable energy installations in Evanston	
Annual	Total megawatt hours of renewable energy supplied to Evanston customers	

Outreach and Engagement

1. The City will implement a sustainable business recognition program focusing on increasing access to renewable energy supply options, waste reduction and diversion strategies, resource efficiency, purchasing and cost-savings.
2. The City, in partnership with local non-profits, will provide information and resources on installation of onsite renewable energy systems.

(Z) Zero Waste

Goal

Increase community-wide waste diversion rate to:

50% – by 2025
75% – by 2035
100% – by 2050 = Zero Waste

All diversion rates measured from a 2011 baseline (*see Appendix A for details*)

Disposal of waste only accounts for 2% of community-wide emissions, yet material consumption and corresponding waste systems have significant impacts on the environment and climate change that do not show up in calculations of greenhouse gas emissions. Given this omission and the significant impact of food waste, plastic pollution and demolition waste on the environment developing a Zero Waste Strategy is considered a primary action within the plan. Furthermore, Evanston's 2017 community-wide waste diversion rate was 21% and has held steady at around 20% since 2012, which is far below what is possible.

Actions

1. Create a Zero Waste Strategic Plan
    a. Combat food waste, through: requiring retailers and restaurants to donate, reduce, reuse, or compost their unsold food, creating "zero-waste sections" where products are sold close to their expiration dates, and designating "zero-waste coaches" to raise awareness among staff and help manage products reaching the end of their marketable life. Edible unsold products shall be donated. When not edible, organic waste shall be composted through a City-approved vendor.
    b. Eliminate petroleum-based, single-use products through: phasing out the use of single-use plastics by 2025. Require food service retailers to use biodegradable, compostable or recyclable packaging (per City of Evanston recycling specifications). (Z1c) Implement a plastic straw and stirrer-free policy for businesses that provide food and/or beverage services.
2. Require recycling at all properties. Adopt policies that provide equal access, for all properties, to waste diversion services such as recycling and composting. Require that recycling receptacles are clearly accessible at all properties to tenants, patrons and visitors. Encourage all properties to engage in a composting program.
3. Update and revise the Disposable Plastic Shopping Bag Ban to achieve intended outcome. (Z4) Enforce the Cook County Demolition Debris Diversion Ordinance.

Performance Metrics

Target year	Metric Description	GHG reduction potential (MTCO2E)
2025	Community-wide waste diversion rate of 50% from 2011 levels	to be calculated
2035	Community-wide waste diversion rate of 75% from 2011 levels	to be calculated
2050	Community-wide waste diversion rate of 100% from 2011 levels	to be calculated
Annual	Total weight of material disposed of within the community by month and type	
Annual	Number of active accounts per waste service	
Annual	Number of deconstruction projects in Evanston annually	
Annual	Number of reclaimed material utilized projects in renovations and new construction	

Outreach and Engagement

1. Educate the community on waste management strategies starting with reducing consumption, followed by reusing, repurposing, recycling, and composting.
2. Participate in the Love Food Hate Waste campaign to encourage food waste reduction on a community-wide scale.
3. Conduct a Zero Waste campaign.
4. Encourage grocery stores to offer bulk food sales to reduce packaging.
5. Encourage and support creative solutions to consumption reduction: reuse, repair, and repurposing initiatives including tool libraries, library of things, swap events, food-share opportunities, repair clinics, etc.
6. Promote the purchase of compost made in Illinois.
7. Provide a copy of the Cook County Demolition Debris Diversion ordinance with appropriate City permit materials.

(M) Mobility and Transportation

Goal

(Ma) Reduce vehicle miles traveled; increase trips made by walking, bicycling and transit.

(Mb) Increase use of electric vehicles; decrease carbon emissions from vehicles and machinery

Transportation systems accounted for 17.5% of Evanston's community-wide emissions in 2017. Transportation related emissions and transportation activity in Evanston are difficult to measure, thus the data included in the inventory is modeled data from the Chicago Metropolitan Planning Agency (CMAP)'s regional transportation model scaled down for Evanston (details in Appendix A). Given the limited local data on all forms of transportation and mobility it is recommended that the first step in taking meaningful action to reduce Mobility and Transportation emissions is to develop and implement a comprehensive multimodal transportation data collection program that includes vehicle-miles-traveled (VMT). This program, once established, will be used to evaluate the impact and effect of policies on Evanston's transportation systems by mode. Details on this collection effort are included below as a "preliminary step."

Preliminary Step

Develop and implement a comprehensive multimodal transportation data collection program that includes vehicle-miles-traveled (VMT); the mode share for each: walking, bicycling, transit, driving alone and carpooling, and route selection through routine traffic counts for both roadways and key bicycle facilities. The data collected should be able to assess the impacts of infrastructure improvements, increased development and other changes made in the built environment. Included in this data collection effort, should be ride-share data, provided by ride-share operators, to understand the impacts of ride-sharing on VMT.

(MA) Actions

1. Continue implementation of transportation-related City plans, including the Multimodal Plan, the Bicycle Plan, the Public Health Plan, and the Complete Streets Policy.
    a. Create safe, convenient and complete networks with Evanston for pedestrians, bicycles and transit.
    b. Build strong bicycle and transit connections between Evanston and its neighbors.
2. Foster active transportation habits in Evanston residents, focusing on children and families by:
    a. Providing bicycle and pedestrian safety and skills training to all school-aged children in Evanston; with a component to educate parents
    b. Conducting Safe Routes to Schools audits for all Evanston elementary and middle schools to identify improvements that would improve pedestrian and bicycle safety and encourage trips to school on non-polluting modes of transportation
3. Ensure that new development encourages trips on transit, and by pedestrian and bicycles:
    a. Reduced parking standards for new residential and commercial development
    b. Convenient and safe bicycle parking
    C. Rewards (density bonuses or expedited review) for projects that meet key criteria or include transportation-demand management strategies (ride-sharing, fee-appropriate parking, high levels of pedestrian amenities, bicycle parking, etc.)
4. Monitor impacts of ride-sharing services and work with ride-share operators to determine and assess appropriate strategies to reduce unnecessary vehicle-miles-traveled, incentivize the use of electric and hybrid vehicles, including the possible use of rewards and/or impact fees. Any fees collected should be earmarked for investments in transit, bicycle and pedestrian networks.

Performance Metrics

Target year	Metric Description	GHG reduction potential (MTCO2E)
2025	Reduce vehicle miles traveled by 20%	to be calculated
2035	Reduce vehicle miles traveled by 35%	to be calculated
2050	Reduce vehicle miles traveled by x%	to be calculated

The transition from petroleum-powered vehicles to electric vehicles will require changes (upgrades) in fleets, personal vehicle purchases and perhaps most importantly, electric vehicle infrastructure (charging stations for commercial and personal use.) This plan identifies the top priorities in each of these areas.

(MB) Actions

1. Incentivize electric vehicle infrastructure (charging stations)
    a. Work with neighboring jurisdictions to incentivize electric vehicle infrastructure in this area by identifying appropriate locations (access, zoning, utilities) that are convenient to residents of multiple communities.
    b. Establish a protocol for electric vehicle charging stations (levels 1, 2 and 3) that would allow the City to pre-approve projects that meet certain criteria so that they can be expedited and developers can minimize risks.
2. Partner with fleet operators and transit providers to work towards a goal that buses and fleets based in Evanston, including school buses, be electric by 2035 (50% electric by 2025). Work with transit agencies and bus companies to take advantage of federal transit grant opportunities to purchase new vehicles.
3. Enforce the no idling law with steeper fines for diesel vehicles such as buses and construction vehicles and equipment.
4. Phase out the use of gas-powered leaf blowers, lawn-mowers and possibly some construction machinery; provide a timeline by which they need to be replaced with electric or battery-powered options.

Outreach and Engagement

1. Implement initiatives to educate residents about electric vehicles and related infrastructure.
2. Explore the use of a mobile app to educate Evanston residents about travel mode options and routes, and encourage, possibly through incentives, more trips using non- and low-polluting modes.
3. Partner with the Active Transportation Alliance and District 65 to do safety audits of the walking and bicycling routes to all Evanston elementary and middle schools.
4. Explore funding opportunities through the Illinois Safe Routes to Schools grant program to make safety improvements on school walking and bicycling routes.
5. Provide incentives to landscaping and construction industry contractors to eliminate the use of gas-powered machinery prior to the phase-out.

(U) Urban Canopy and Green Space

Urban Canopy, Natural Areas and Green Space Preservation and Restoration for Mitigation and Resiliency

The presence of an urban canopy, natural areas, and green space provide a multitude of habitat, mitigation and resilience benefits to the community. A healthy urban canopy, in particular, provides demonstrable carbon sequestration, stormwater absorption, cooling and shading benefits to the community. Continuing to invest resources into maintaining and increasing the health of the canopy will increase the carbon sequestration capacity of the canopy as well as improve stormwater absorption benefits and shading and cooling benefits. In addition, many other forms of vegetation and fauna rely on natural and green spaces in Evanston for food and shelter, supporting these habitats and preparing them for climate change is imperative to supporting the local ecosystems.

Goal

Preserve and restore Evanston's urban canopy, natural areas, native vegetation and green space to maintain and increase carbon sequestration, improve stormwater runoff detention, improve air quality, energy efficiency and livability and reduce adverse urban impacts on humans and key species such as birds and pollinators.

Actions

1. Prioritize replacing trees on public property and assist residents with replacing trees on private property.
2. Prioritize protection, conservation, and expansion of natural areas throughout the city such as Isabella Woods, Clark Street Beach Bird Sanctuary, the Northshore Channel, Perkins Woods, lake dune habitat, etc.
3. Adopt a tree preservation ordinance that requires obtaining a permit for tree removal on private property; include exceptions for diseased and nuisance trees; develop a fee structure that does not overburden income constrained property owners.
4. Prioritize planting and preservation of native species of plants and trees on public and private property through education, incentives and other promotional programs. Ensure that landscaping requirements articulated in the zoning code include the preservation of the maximum possible number of existing trees, the use of native plantings and the preservation of natural areas whenever possible.
5. Reduce pesticide use community-wide through City policy and community education.

Performance Metrics

Target year	Metric Description	GHG reduction potential
2025	Replace x trees to increase carbon sequestration	to be calculated
2035	Replace x trees to increase carbon sequestration	to be calculated
2050	Replace x trees to increase carbon sequestration	to be calculated

Outreach and Engagement

1. Review city health and other procedures and messaging to encourage local gardening, composting, leaving leaves, reducing chemical fertilizers and pesticides.
2. Support community volunteers such as local participants in Openlands TreeKeepers program.
3. Post information about the City pesticide policy at city properties, include the policy in the City's annual mailing to landscapers, and encourage voluntary steps to reduce pesticides.

(0) Outreach, Education and Behavior Change

Educate, motivate and empower Evanston community members, institutions and businesses to take meaningful action to fight climate change and improve community resilience.

Actions

1. Engage both school districts and private schools to explore the possibility of developing and implementing an environmental education integrated curriculum
2. Expand environmental education locations and programming within Evanston specifically to raise awareness about climate change and its effects on the community and world.
3. Establish a "MyCARP" program for residents to build their own CARP plans to empower them to take meaningful actions to reduce their own carbon footprint and increase their resilience.
4. Implement a "Green Me, Green E" publicity campaign to build awareness, create buy-in and possibly raise funds for climate mitigation and resiliency efforts.
5. Implement a sustainable business recognition program to publicly recognize businesses with a commitment to sustainable practices.
6. Protect and expand community garden programs to encourage local food production, through dedicated space and increased education efforts.

Target year	Metric Description	GHG reduction potential
2025	Each resident reduces their carbon footprint by x	to be calculated
2035	Each resident reduces their carbon footprint by x	to be calculated
2050	Each resident reduces their carbon footprint by x	to be calculated

Climate Resilience

The task of evaluating the changing climate and preparing the community for those changes and the impact they will have on the community and its infrastructure.

The task of identifying the local impacts of climate change in Evanston were made possible through the City's participation in the Urban Sustainability Directors Network (USDN) Socioeconomic Climate Mapping Tool Project which resulted in the Climate and Socio-economic Vulnerability Assessment which Evanston has utilized to understand local climate data. The primary identified local Climate Threats are:

- ↑ **Increase** in number of Hot Days* annually
- ↑ **Increase** in average temperature, particularly warmer winters
- ↓ **Decrease** in number of Cold Days**
- ↑ **Increase** in Heavy Precipitation Events***
- ↓ **Decrease** in Hourly Snowfall over 1 inch
- **Unknown** impact of Invasive Species and Pests
- **Unknown** impact of Human Migration

* Days at or above 90 F

** Days below freezing (32 F)

*** Rainfall of more than 2 inches in a day

For a full articulation of the above Climate Threats and other potential impacts of climate change please see Appendix B: Community Climate Vulnerability Assessment.

In order to respond to these threats CARP has identified six High Priority Areas that demand policy and program solutions to ensure that Evanston remains a resilient community in the face of climate change.

	Climate Resilience Areas of High Priority
(G)	**Green Infrastructure**
(H)	**Health Impacts of Extreme Heat**
(C)	**Community Networks and Education**
(E)	**Emergency Preparedness and Management**
(V)	**Vulnerable Populations**
(R)	**Resilience Regulations**

(G) Green Infrastructure

"Green infrastructure is a product, technology, or practice that uses natural systems or engineered systems that mimic natural processes to enhance overall environmental quality and provide utility services. Green infrastructure techniques apply to the use of soils and vegetation for infiltration, evapotranspiration, and/or recycling of stormwater runoff."—Federal Environmental Protection Agency (EPA). In Evanston there is a long history of investing in stormwater infrastructure primarily through the implementation of grey infrastructure such as: sewer pipes, pumps, detention ponds, and other human made infrastructure. The implementation of green infrastructure in appropriate locations and scales throughout Evanston can reduce potential flooding risks and potential capital expenses associated with grey infrastructure.

Demonstration of Priority

Based on available data there is a high probability of an increase in the number and impact of damaging floods in Evanston in the future. Most impacts will be moderate (since riverine flooding is not a threat in Evanston), such as overland flooding of homes and sewer system backups. Additionally, depending on the severity of increased precipitation flooding could negatively impact the water quality Lake Michigan through release of contaminants. Although this is a remote possibility it would be very severe if it occurred, and climate change can lead to unpredictable outcomes (see, for example, the algae blooms that unexpectedly caused toxic drinking water contamination in Toledo).

Actions

1. Zero significant occurrences of combined sewer overflows (CSOs) (Opening of the Wilmette locks to release untreated wastewater into Lake Michigan)
2. Enhance stormwater systems to handle an increase in severe weather events.
3. Prioritize managing stormwater before it enters the sewer system through a combination of overland flow, detention, and infiltration strategies.
4. Target specific types of infrastructure to implement green infrastructure including: parking lots, parks, vacant lots, parkways, and grading near sidewalks. In addition, identify property owned by other public entities that are high potential for improved ecological management to improve stormwater management functions (Metra, Chicago Transit Authority (CTA), and Metropolitan Water Reclamation District (MWRD)
5. Prioritize efforts to promote native landscaping and restoring and conserving habitat.
6. Prioritize tree planting and maintenance on public property, see U1 for Climate Mitigation benefits of tree planting and the urban canopy.
7. During and immediately after major rainfall events, establish an education and communication plan in coordination with the appropriate partners such as: MWRD and Friends of the Chicago River to alert residents, businesses and institutions to delay activities that will contribute wastewater (such as doing laundry) until the treatment process can catch up with the overloaded combined sewer system.
8. Reduce water consumption, see B5 and B5a for Climate Mitigation benefits of reducing water consumption.
9. Evaluate the effectiveness of implementing a stormwater utility fee that would be assessed based on the amount of stormwater generated by a property.
10. Prepare a comprehensive plan for stormwater management that goes beyond baseline regulatory requirements and includes green infrastructure with the goal of eliminating CSOs.

(H) Health Impacts of Extreme Heat

An increase in number of Hot Days annually and temperature increases overall can cause negative health impacts, particularly to community populations and ecosystems that are already susceptible to temperature increases. Elderly, children, workers who perform outdoor labor, outdoor recreational activities and others will be impacted. Primary health impacts are increased risk/ likelihood of heat stroke and exhaustion and a decrease in overall air quality. These conditions can exacerbate existing health conditions such as allergies, respiratory illness, etc.

Demonstration of Priority

Extreme heat (coupled with related air quality problems) pose an immediate and severe threat to human health and life safety, particularly for vulnerable populations including the elderly and individuals with existing health conditions.

Actions

1. Establish cooling centers and provide information to the community to ensure most vulnerable residents are aware of these services including direct messaging at community facilities and health providers.
2. Provide guidance through resource material to social service providers so they are aware of best practices in treating client needs during an extreme heat event.
4. Develop materials instructing residents how to reduce exposure to ground level ozone. (Promote improvements to indoor air quality for homes, schools, childhood learning center, institutions and businesses such as requiring healthy Indoor Environment and Indoor airPLUS protocols for all new construction.)
5. Plant shade trees to limit the need for indoor cooling and reduce temperatures at parks, playgrounds, and other outdoor spaces.
6. Investigate programs to reduce cost barriers that limit access to cooling assets such as Evanston beaches and pools during extreme heat events.

(C) Community Networks and Education

Community awareness and preparedness for climate change and its impacts is fundamental, and an educated community is necessary for many of the City's actions to be effective.

Demonstration of Priority

City programs to improve resilience or disaster response will not be effective unless residents and businesses participate.

Actions

1. Educate residents about the impacts of climate change and develop messages that inspire action. Identify areas (physical places or regular Public Service Announcements) to communicate City efforts, call for volunteers, and raise general awareness.
2. Improve resiliency through education at public events (street fairs and festivals). Increase awareness of climate change impacts and emphasize the need for household and neighborhood preparation. Create activities and messages that capture public interest.
3. Improve resident awareness among residents of the impacts of their actions on climate, water quality, and waste generation. Educate residents and businesses on proper disposal methods for cosmetics, medications, and other products that contain potentially harmful chemicals.
4. Emphasize steps individuals can take to improve emergency preparedness. Increase awareness of City and other alert systems.
5. Enhance community networks and connections for those who require special attention, such as the elderly, homebound, disabled, isolated, or those likely to be in need of financial assistance during or after extreme weather (heat, cold and heavy precipitation) events.
6. Facilitate education about, and membership in, the existing North Shore Village organization.
7. Establish an Evanston "Neighbors Helping Neighbors" program.
8. Partner with local sustainability organizations to foster public volunteer efforts to maintain and grow park systems and green infrastructure, through tree plantings and integrated invasive species control. These programs could help contain costs and foster public involvement. Potentially holding partnered events on environmentally-focused holidays, May Day, Arbor Day, Earth Day, Solstices, Mother's Day, Father's Day, etc.)

(E) Emergency Preparedness and Management

In addition to an educated and prepared community (description in Action C), the City also needs to use best practices in emergency preparedness and management.

Demonstration of Priority

The City is a front-line responder to many of the impacts of climate change, and must have effective systems and processes in place to manage and respond to emergencies as they occur.

Actions

1. Update or develop a community resiliency plan to prioritize and prepare for responses in the event of a disaster. Identify the location of critical facilities (including hospitals, senior homes, childcare facilities, shelters, major and alternate transportation routes, and public transit) and the facilities where toxic and/or hazardous chemicals and pesticides are used or stored.
2. Improve resiliency of emergency response and communications systems. The City Manager's Office will work with Health and Human Services Department (HHS) Emergency Response Coordinator (ERC) and City's Emergency Manager for employee and resident communications. Communications systems are routinely tested and used by multiple departments. Notifications and alerts have been built in for extreme environmental situations.
3. The HHS develops and implements emergency response plans and an extreme weather annex is currently being written to supplement these plans. The "Annex" will encompass HHS responsibilities in extreme heat/cold situations.
4. Continue to involve key community partners, like hospitals, in emergency preparedness and management. Include the impacts of climate change as emerging threats in future response planning.
5. Ensure facilities that serve vulnerable populations are resilient to climate impacts. Develop model procedures for ensuring both City and non-City facilities employ best practices in the event of an emergency such as flooding, power outages, extreme heat, etc.
6. Add specific climate change related (extreme heat/cold) emergency materials to the City emergency plans. These could include press release templates, city cooling/heating centers locations and times, specific plans for functional/access needs populations, and steps to identify and help populations affected by elongated power outages, etc.
7. Develop a debris management plan to support response to severe storm events and flooding.

(V) Vulnerable Populations

Defining Vulnerable Populations can be a tricky task and is a term that may change depending on the threat. The City has developed the following working definition for Vulnerable Populations to Climate Threats: community members that are placed at a disadvantage in preparing for and/or responding to Climate Threats. Many Climate Threats have particular negative effects on vulnerable populations – including lower-income residents, the elderly, children, people with disabilities, historically marginalized communities, renters, those without cars, and others. These residents may already be vulnerable or are more likely to become vulnerable because of the climate change.

Demonstration of Priority

Identified Climate threats have the potential to put vulnerable residents at even higher risk. It is expected that others will become vulnerable as a result these climate threats. A proactive approach to climate changes is essential to protecting the community's most valuable assets, residents.

Actions

1. Identify and define current and future and vulnerable populations.
2. Conduct targeted outreach with vulnerable populations to understand their needs and how the City can best assist them in preparing to meet those needs.
3. Assess City infrastructure and prioritize properties that are used to provide services to vulnerable populations an be completed to ensure are they accessible to the most vulnerable populations.
4. Establish a protocol for providing assistance to populations that may face financial strain caused by a climate threat and identify funding sources to support those populations.
5. Investigate building rehabilitation programs that would reduce energy consumption through passive energy systems, higher efficiency and improved air circulation.
6. To buffer low-income residents from fuel price spikes, support transportation modes like transit, biking, and walking to provide alternatives. Similarly, support renewable energy sources to provide resilience to energy price spikes.

(R) Resilience Regulations

Conduct a review of relevant City regulations, such as building codes, zoning ordinance, minimum parking requirements (which influence the amount of impervious surface on a site), landscaping regulations, and others to ensure they promote Climate Resilience strategies.

Demonstration of Priority

New construction is highly influenced by City zoning and codes. Building retrofits are expensive and harder to regulate, so ensuring new construction adopt sustainable practices is important to achieve all other recommendations.

Actions

1. Reduce vulnerability to flooding through provisions for locating mechanical and electrical equipment in above-ground building areas, and encourage alternative energy generation or energy storage systems.
2. Revise or implement building codes that reduce threats to vulnerable wildlife species, particularly birds (migratory and local).
3. Update plumbing codes to allow for non-potable water reuse for irrigation and other domestic uses to conserve the energy needed to treat drinking water.

Additional Recommendations

These recommendations are important, however, not as pressing as the six Areas of High Priority identified in the prior section.

- Provide educational information and sessions to individual customers so they understand the responsibility of vegetation management of trees on their property and how proper management can reduce storm related service outages to their homes and other portions of the grid.
- Identify or establish funding sources to facilitate a financial aid arrangement to assist property owners and tenants, with limited financial resources, in conducting preventive vegetation management to reduce the likelihood of service outages and financial assistance toward the tree cleanup costs required for restoration of electric service to properties.

Implementation, Accountability and Partnerships

Implementation and Accountability

1. Increase City personnel dedicated to Sustainability to ensure that the City is able to implement the CARP plan effectively.
2. Request that the CARP working group continue as a task force. Expand or extend the CARP program, post plan adoption, to identify projects or programs that could be carried out by interested volunteer residents, such as education campaigns, fundraising, etc.
3. City will prepare an annual report on the status of implementing the CARP. Ensure systems are in place to effectively implement, monitor and measure the plan and the outcomes of the actions.
4. Explore the feasibility of instituting a climate action tax/fee to be paid by residents and businesses, based on use of city resources (i.e. water/sewer) to pay costs of implementing CARP programs. Such funds could be used to create low-cost loans or small grants to encourage residential energy efficiency improvements, particularly for income-qualified residents.
5. Create a Sustainability Innovation and Community Engagement group. Collecting ideas and knowledge about cutting edge technology and helping people to understand what's possible. Connecting residents, businesses and institutions. Comprised of educators, artists, technical experts, and communications professionals.

Partnerships

1. Partner with Citizens' Greener Evanston to implement CARP strategies and continue community engagement and education programs.
2. Partner with the Evanston Public library system to develop citizen education and outreach efforts.
3. Partner with ComEd and Nicor on CARP initiatives and maximize incentive programs for residents and businesses.
4. Partner with Elevate Energy on energy efficiency strategies for residents.
5. Partner with SWANCC and The Rebuilding Warehouse to tackle waste issues.
6. Partner with all major employers to collectively implement CARP actions.
7. Partner with relevant Boards, Committees and Commissions (Transportation and Parking, Environment Board, Utilities Commission, Equity and Empowerment, etc.) to draft and send appropriate policies to City Council and its committees.

Commitments from Large Employers

Achieving ambitious goals such as Zero Waste, zero combined sewer overflows, 100% renewable energy and ensuring Evanston is prepared and resilience community in the face of climate change cannot happen without community leadership. Evanston is fortunate to have employers and organizations that are also civic leaders. Since April, 2018 the City has worked with the following organizations to showcase the contributions they are already making to sustainability and climate action and share their future commitments to climate action.

Presbyterian Homes

- Westminster Place will commit to establishing a certified garden habitat and developing a pesticide management program by 2020.
- Pending resident support, Presbyterian Homes will develop renewable energy program that will outline incremental increased commitments to renewable energy sources resulting in a 100% utilization by 2028.

Presbyterian Homes
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Rotary International

- Pursue LEED Platinum status by 2022
- Source 100% of electricity from renewable sources
- Reduce building energy costs by continuously improving systems efficiencies and reducing energy usage
  - o Switch to LED lighting
  - o Install hydronic economizer
  - o Update boiler system controls
  - o Replace variable frequency drives on chillers

Rotary

Evanston Community Foundation

- Educating the nonprofit community on actions they can take to reduce their impact on climate change and support the plan.
- Review the guidelines of ECF's Climate Action Fund for opportunities to create long term funding streams for this local carbon offset program.
- Explore opportunities to partner with the City of Evanston on joint grant ventures such as Partners for Places.

evanston!communityfoundation

Presence Saint Francis Hospital

- Commit to reduce GHG Emissions 50% levels by 2025.
- Expand use of ENERGY STAR Portfolio Manager to track and reduce water usage and adopt US EPA WaterSense Program.
- Reduce, divert and reuse 35% of construction and demolition material by 2025.

Northwestern University

- Reduce energy use intensity (energy us per square foot of space) 20% below 2010 levels by 2020.
- Increase landfill diversion rates to 50% of total waste generated by 2020.
- Achieve net zero emissions by 2050 from 2012 baseline (Reduce Scope 1 and 2 emissions by 30% by 2030).

School District 202

- Continued conversion of standard lighting to LED lighting
- Expansion of urban agriculture class
- Continue to make own power which allows ETHS to exit the ComEd power grid during peak demands

Letters are forthcoming from the following organizations

School District 65

Northshore University Hospital

Municipal Operations

Municipal Goals

2020 – 100% Renewable Electricity
2030 – Achieve Zero Waste for Municipal Operations
2035 – Carbon Neutrality for Municipal Operations

Purchasing and Planning

1. Develop a sustainable procurement policy.
    a. Purchase items that are made with recycled materials.
2. Conduct a GPC-compliant emissions inventory for all Municipal Operations
3. Create a CARP Checklist to provide to developers submitting project to the Design and Project Review Committee (DAPR).

Energy

1. Develop a Net Zero Carbon policy for new municipal buildings by 2019.
2. Host a shared solar project/serve as an anchor subscriber to a shared solar project and allow residents and businesses to subscribe to the project.
3. Encourage key institutions such as the school districts and large employers to serve as anchor subscribers to community solar projects as well.
4. Achieve 100% LED lighting for all lighting on city properties, street lights, and traffic lights by 2025.
5. Complete a feasibility study in 2019 to determine the best opportunities for installation of renewable energy installations on municipal properties.
6. Retrofit all municipal facilities with water-efficient features to reduce potable water use.
7. Develop a plan to convert the municipal vehicle fleet to Zero Emission Vehicles.

Waste

1. Require that City Facilities renovations and projects divert construction and demolition debris from the landfill and incorporate a percentage of reclaimed material into projects
2. Ensure that recycling receptacles are located at all city properties including parking garages, parks and community centers.
3. Expand compost collection service to public spaces and city facilities.
4. Work with waste haulers to ensure that our city's garbage ends up in landfills that are managed responsibly and use methane capture technology to generate energy.
5. Require waste haulers to complete regular waste characterizations studies for each waste stream.

Green Infrastructure

1. Prioritize replacing trees on public property and focus on maintaining tree health to increase longevity. Adopt policies that improve the overall health of the urban tree canopy:
    a. Tree preservation ordinance guiding tree removal practices on private property
    b. Maintaining a cyclical pruning process for public trees
    c. Diversify tree planting selection to take into account anticipated future climate zone shifts due to a warming climate
2. Maintain skilled forestry staff and fully fund a full-time position for Environmental Services Manager.
3. Develop a definition for natural and open spaces in Evanston.
4. Increase natural landscaping on public property and expand no-mow areas in parks and other public spaces.
5. Prioritize planting and preservation of native species of plants and trees on public property.
6. Achieve National Wildlife Federation Community Wildlife Habitat Certification.
7. Achieve all goals laid out in the Mayors Monarch Proclamation.

Investments

1. Align investment strategies and advocacy initiatives with CARP goals
    a. Define and implement an approach to sustainable investing that considers the risks associated with climate change and fully integrates environmental, social and corporate governance considerations into the city's investment decision-making process. This investment philosophy should be adopted with a clear, thoughtful approach to considering the long- term environmental and social sustainability of the entities in which the city invests.

Advocacy

- Support local and national strategies for instituting limits on carbon, including market strategies such as a price on carbon.
- Advocate at state level for legislation and policy that support the goals of CARP; oppose legislation that overturns municipal home rule.