



City of DeKalb

opportunity • innovation

Forging a Sustainable Community
in DeKalb, Illinois





Forward

“Sustainability” is so much a part of our lexicon today that scarcely any social commentary or media program fails to voice the word and assume that its meaning is commonly known. In fact, the word has nearly lost any meaning for the lack of agreement in public discourse about its definition. This paper will suggest several dimensions of “sustainability” that invite further discussion.

The following pages take into account “sustainability” in terms of its most frequent contemporary meaning, that is, concerns about climate change and what might be possible to achieve in our corner of the world in terms of ameliorative ecological practices to “prop” our natural “house.” Related to this focus is the ever-present reality that the most profound climate phenomena dwarf local, regional and state fiscal resources to measurably amend. Before such means can be tapped, the purposes of our initiatives will have to be understood and, more important, within our local grasp to implement. Our focus is therefore a plan of work that can engage everyday citizens as well as trained practitioners in achievable projects on our local stage.

Before climate change became a household word, a New York-born biologist named Barry Commoner who served in the Navy in World War II rose to become the figurative and literal face of the first Earth Day in the United States. His pathbreaking book, The Closing Circle, put him on the cover of Time and made him a scientist with a “classroom of millions” in the 1970s. Commoner’s landmark book highlighted readily seen environmental risks and straightforward actions which could be taken on the local level. He was insistent that scientists with the gift of their laboratory and field experiences could not expect to convince non-scientists and public policymakers of their schemes for change unless they could be explained in small action steps. “None of us,” he wrote, “singly or sitting in committee, can possibly blueprint a specific ‘plan’ for resolving the environmental crisis.”

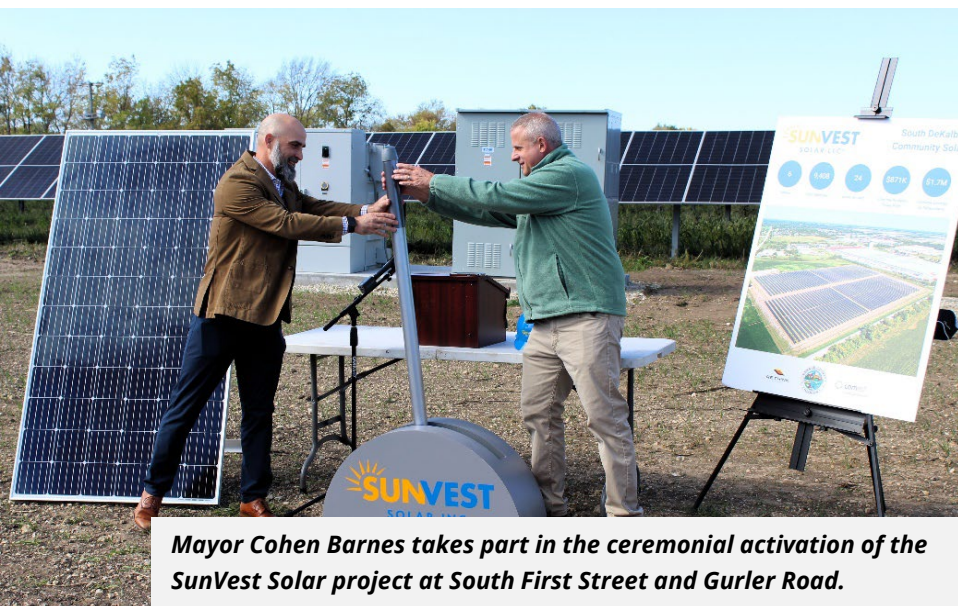
He continued: "Sweeping social change can be designed only in the workshop of rational social action." Erudite analysis will not be as convincing with local citizens as observable benefits.

How do we proceed? The following pages suggest a number of objectives and action steps that might be within the fiscal resources of the City government and the charitable resources of the DeKalb community to modestly impact our natural environment for the better.





The City of DeKalb, like many other cities around the world, is facing the pressing challenge of transitioning towards a sustainable and low-carbon future. As the detrimental effects of climate change become increasingly evident, it is essential for cities to take proactive measures to mitigate their contribution to greenhouse gas emissions. The City of DeKalb is committed to reducing carbon emissions. One of the most effective ways to achieve this is by promoting and adopting renewable energy sources.



In recent years, the City Council has supported large solar farms on S. First Street (SunVest), north of Keslinger Road (Leeward), and immediately north of the DeKalb Taylor Airport's main terminal (SunVest) in cooperation with county and state regulatory bodies.

Addressing Climate Change:

Renewable energy plays a pivotal role in combating climate change. Fossil fuel-based energy sources, such as coal and oil, are

major contributors to greenhouse gas emissions, which are the primary drivers of climate change. By transitioning to renewable energy sources, DeKalb can significantly reduce its carbon footprint and contribute to global efforts to limit global warming.

Economic Benefits: Promoting and adopting renewable energy sources in DeKalb can also bring significant economic benefits to the city. The renewable energy sector has been rapidly growing in recent years, creating numerous job opportunities and attracting investments. By embracing renewable energy, DeKalb can foster local economic development, attract green businesses, and stimulate innovation in the clean energy sector.

Energy Security and Resilience: Diversifying the energy mix by incorporating renewable energy sources enhances the city's energy security and resilience. Dependence on fossil fuels makes cities vulnerable to price fluctuations and supply disruptions. By investing in renewable energy infrastructure, DeKalb can reduce its reliance on external energy sources and ensure a more stable and secure energy supply for its residents. In recent years the City has encouraged the placement of EV charging stations, in collaboration with Com Ed. More of these stations in clusters and conveniently spread throughout the community will encourage drivers to consider electric-powered vehicles or hybrid vehicles.

Community Engagement and Public Health: Promoting renewable energy in DeKalb can also have positive impacts on community engagement and public health. Involving the community in the transition to renewable energy fosters a sense of ownership and empowerment. Additionally, renewable energy sources, such as solar and wind, have minimal air and water pollution compared to fossil fuels, leading to improved air quality and better public health outcomes for the residents of DeKalb.

Establishing energy goals focused on the promotion and adoption of renewable energy in the City of DeKalb is a critical step towards achieving sustainability and combating climate change. By embracing renewable energy sources, the city can reduce its carbon footprint, stimulate economic growth, enhance energy security, and improve public health. It is important for DeKalb to identify capital resources on an annual basis to promote renewable energy.

Goals

- Reduce green-house emissions, including shrinking the City's carbon footprint.
- Begin adoption of renewable energy sources for City operations.
- Promote renewable energy use by residents, businesses and institutions.
- Enhance infrastructure to support renewable energy.
- Engage community in transition to renewable energy to foster sense of ownership.

Action Steps

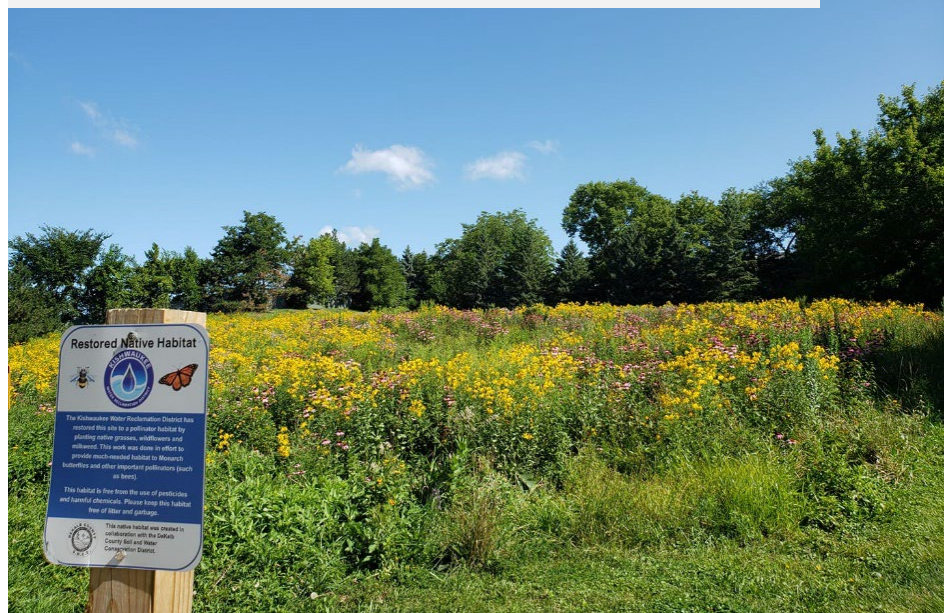
- Continue to support the creation of large solar farms within the City's planning jurisdiction.
- Reduce municipal energy consumption through steps outlined in this plan's Municipal Operations' section.
- Explore incorporating more renewable energy sources for City operations.
- Create recognition program for homeowners, businesses and institutions using renewable energy.
- Install additional electrical vehicle charging stations with locations selected through community input.



Climate is the average condition of the weather over a period of years as exhibited by temperature, wind velocity, and precipitation in a given location. Over the past few decades, climate data has indicated that the upsurge in greenhouse gases due to burning fossil fuels has increased the worldwide average temperature, threatening the stability of the ecosystem.

As all communities worldwide will be affected by climate change, DeKalb will support measures that assure new construction has limited impact on environmental stability. In 2024, the City will adopt the International Energy Conservation Code published by the International Code Council (ICC). This code encourages the use of new energy-efficient designs and materials and is fully compatible with the ICC's complement of building, electrical and HVAC codes. Additionally, the City will continue to devote a portion of its annual federal allocation (Community Development Block Grant or CDBG program) for residents of limited means who wish to remodel and weatherize their homes to reduce energy loss.

The Kishwaukee Water Reclamation District is a local leader in the creation of native habitat areas.



Fostering a culture of health, safety, and wellness will prepare DeKalb for the local effects of climate change.

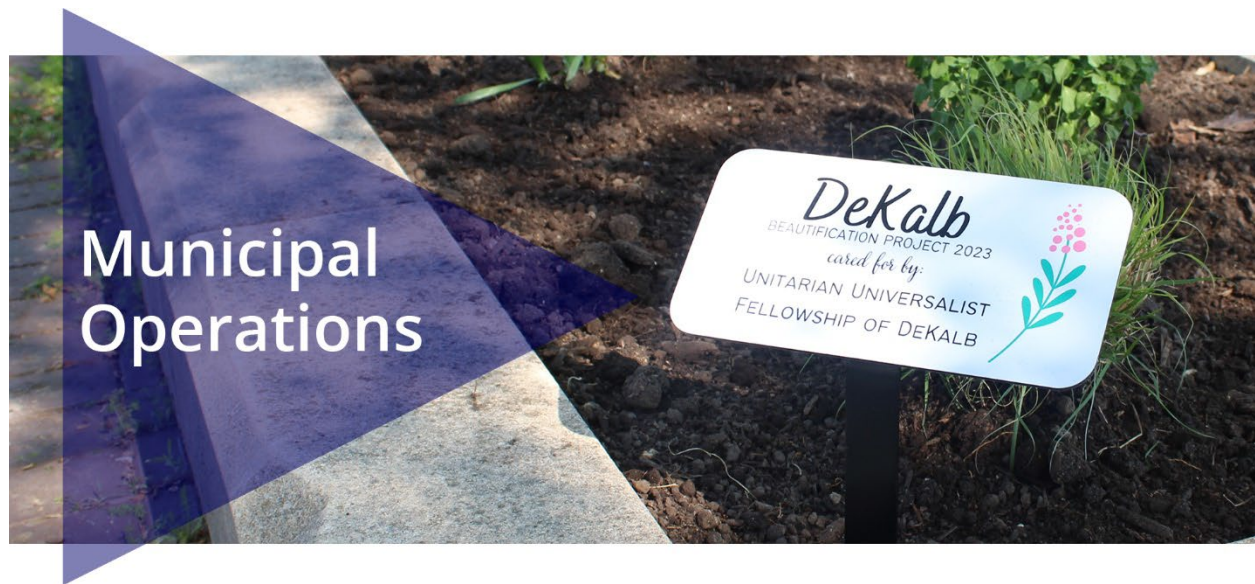
Goals

- Assess the economic benefits of conservation efforts to construct or retrofit public buildings to conserve energy, as capital funds become available.
- Encourage residents to consider alternatives to the use of high-emitting small engines, such as for landscaping.
- Reduce volatile organic compound (VOC) emissions for municipal operations by using low VOC cleaners and paints.
- Publicize the City's emergency action protocols on the City website to identify the City's action plans to protect assets, public health, and essential services through natural and man-made disasters.
- Better inform the community about air pollution action days.
- Seek grant funding for the planting of trees and creation of native plant habitats.
- Re-establish DeKalb as a "Tree City" through the Arbor Day Foundation.

Because of DeKalb's size and location in this region, it is uniquely placed to offer leadership, guidance, and support to other cities and towns in the area. DeKalb needs to be in position to be a part of these conversations, to engage with other communities in the region and across the state, and to work with academic, governmental, and non-governmental organizations and agencies to create and sustain a green future for all residents.

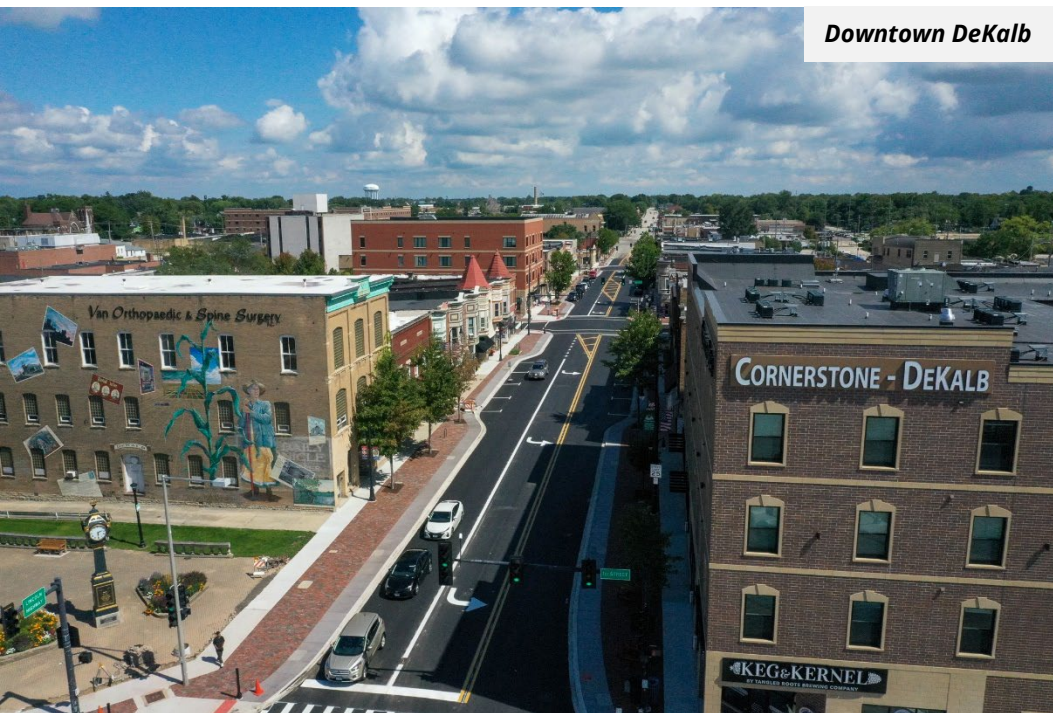
Action Steps

- Promote and practice the 4 R's of reduce, reuse, recycle and repurpose.
- Continue to promote home composting.
- Establish and strive for specific recycling goals.
- Collaborate with local social service agencies to provide recycling services for the pickup of clothing and shoes.
- The adoption of the most up-to-date energy conservation codes is also an important step. In 2024 the City will adopt the International Energy Conservation Code which the International Code Council (IEC) incorporates in its construction code series.



Municipal Operations

The City of DeKalb aims to incorporate sustainable practices and values in its operations as capital revenues become available. Such practices will include the renovation of city buildings, beautification of parkways, and the preservation of natural areas. Operating a safe, clean, and efficient fleet as well as establishing proper burn ordinances will have a major effect on pollution control, enhancing air quality for all citizens. The health of city government staff should be considered to ensure a safe work environment with air filtration systems, radon reduction, and mold mitigation, where necessary and practical.



Downtown DeKalb

The City should continue implementing a “cleaner” vehicle infrastructure by increasing its number of electric vehicle charging stations. Upgrades to city buildings should include plans to replace fossil fuel consumption with electrification, e.g., using heat pumps for indoor climate control. The City will widely publicize its sustainable activities via social media and other news outlets.

To further promote advances in the future, the City will collect the data associated with its sustainable

municipal enhancements. The data should be shared with other municipalities for comparison and further improvement.

Goals

- Coordinate with local media outlets to develop sustainability-related content on a regular basis.
- Reduce the use of paper at all levels of operations.
- As fiscally and practically feasible, replace city vehicles and machines with sustainable, fuel-efficient alternatives as they are retired.
- Select cost-efficient electrification to replace fossil fuel consumption.
- Establish an official “no-idling” policy for city-owned non-public safety vehicles.
- Develop an ordinance to prohibit leaf and landscape waste burning within the City.
- Support the adoption of renewable energy technologies in the community.

Action Steps

- Conduct an energy audit of municipal facilities.
- Implement energy efficiency measures that have a short-term payback (i.e. lighting and occupancy sensors)
- Collaborate with Utilities to upgrade streetlight equipment and integrate smart technologies.
- Budget and plan for long-term energy equipment upgrades.
- Install and operate renewable energy systems at municipal facilities, where feasible.
- As energy contracts for the Airport, street lighting, wells and treatment plants expire, explore competitive bids from energy suppliers other than ComEd.
- Continue to “power down” equipment at off-peak hours, as is customary with Water Division wells and treatment plants, to reduce energy consumption.
- Adopt the 2021 Illinois Energy Conservation Code (IECC).
- Facilitate the adoption of renewable energy technologies (i.e. solar, geothermal) by updating building codes.
- Partner with electric and gas utilities to promote energy efficiency programs to the community.
- Publicly recognize institutional and private buildings that achieve specific energy efficiency targets.



Sustainable Community

A sustainable community will promote and support family and community gardens, providing information on planting, preparing, and preserving the produce. Neighborhoods can partner with a local grocery store to transport extra food to food pantries to help address hunger in the City. Healthy lifestyle programs should also be encouraged so DeKalb citizens can enjoy optimal wellness, with policies and programs accommodating residents of all ages and abilities.

For a DeKalb citizen to fully engage in sustainable community benefits, educational offerings should be readily available. Events that highlight and promote sensible measures should be available to every neighborhood, and postings via newspapers, the city website, and radio stations should be a standard feature of City operations.



CST Technology participates in the City's Adopt-A-Street program.

Goals

- Promote active and healthy lifestyle programs to residents.
- Identify existing services that support health and wellness.
- Encourage residents and businesses to contribute their time and resources to sustain the community.
- Collaborate with local agencies working to eliminate food insecurity.
- Promote green building practices to residents, businesses and developers.

Action Steps

- Adopt the 2021 International Energy Conservation Code which the International Code Council (ICC) incorporates in its construction code series.
- Enforce Illinois Senate Bill 0040, effective January 1, 2024, which requires electric vehicle charging stations (EVCs) in the new construction of single-family and multi-family residences.
- Encourage residents to resist pollution by enhancing the 4 R's of reduce, reuse, recycle and repurpose.
- Continue to collaborate with emergency services to promote a community well-prepared for environmental disasters.
- Continue Adopt-A-Street program and support other trash pick-up activities.
- Continue planting of perennials in downtown planters.



An old saying goes that people interested in real estate should invest in land, since they're not making any more of it. While true everywhere, it feels in some ways more important in DeKalb and the surrounding DeKalb County, home to some of the richest farmland in the world. While there is a need for DeKalb to grow, that growth should be contiguous to avoid "leap-frogging" that unnecessarily depletes farmland. In areas where development occurs, the City's 2022 Comprehensive Plan contains new urban design guidelines that are intended to encourage more attention to appealing existing designs and a more creative integration of building layouts and natural features in new developments. The Plan also anticipates a continuing commitment to community planning that includes the development of sub-area plans and very general design guidelines that promote an attractive urban community.



Goals

- Prevent unnecessary depletion of farmland.
- A sharper focus on the human scale, or how favorably people confront the local built environment.
- A higher concern for the potential conflicts between pedestrians and vehicles.
- More attention to the scale and arrangement of new buildings and their relationship to existing buildings.
- More interest in how natural features might present opportunities rather than development constraints.

Action Steps

- Carefully define the desired uses at the community's "edges."
- Create Physical "connections" between old and new parts of town in the form of sidewalks and bike paths and open space development.
- Promote more subtle "connections" in the form of compatible architectural designs encouraged during the Planned Development approval process.
- Cluster commercial development at strategic arterial and collector crossroads rather than at many remote locations.
- Extending the downtown streetscape created in the early 2000s to downtown side streets to strengthen the community's "core".
- Minimize the visual impact of larger commercial and industrial buildings with residential-style roof planes, wall articulation, better entry definition, and landscaping.
- Encourage shared driveways rather than multiple access points to commercial and industrial subdivisions.
- Promote durable exterior finishes of natural materials such as masonry or wood on larger buildings.
- Develop and fund a multi-year plan for infrastructure repairs to enhance the community's appearance and better serve existing businesses and residences.



Convenient and energy-efficient means of transportation are essential to the functioning of sustainable communities. In recent years, the City of DeKalb has adhered to several guidelines to achieve this goal.

Safe and effective active transportation is supported through maintenance and construction of pedestrian and bicycle networks, as well as bicycle parking facilities, throughout the city. Case in point: the \$600,000 investment in a “loop” underneath the First Street bridge to provide a safe crossing for bicyclists and pedestrians along a high-volume vehicle corridor.

A safe and efficient vehicle traffic network incorporates environmentally responsible street and sidewalk maintenance with synchronized traffic signals to reduce vehicle idling time. The City of DeKalb’s collaboration with the County of DeKalb and the City of Sycamore in federally-funded synchronization is illustrative of the City’s commitment



Finally, it is important to make the community aware of public transportation options, and to encourage the use of shared and active modes of transportation. The City’s large and efficient public bus fleet will be housed in a state-of-the art transit center in 2025 which will reduce exhaust emissions and provide higher efficiency buses that meet or exceed federal emission standards.

Goals

- Support safe and effective active public transportation.
- Maintain a diverse, safe and efficient transportation network serving both fixed routes and paratransit needs.
- Support efficient transportation that uses resources wisely.
- Integrate sustainability into transportation policies, programs and regulations.

Action Steps

- Whenever financially feasible, replace fixed route buses with 35-foot diesel/electric hybrid vehicles. These vehicles would be a logical bridging step to a clean-energy fleet.
- Invest in new computer-aided dispatch and vehicle location software for the City's transit fleet to reduce unnecessary annual road miles.
- Integrate sustainability into transportation policies, programs and regulations.
- Promote public and sustainable transportation choices such as a more regular schedule for connections to and from the Elburn/Metra train center.



(Waste & Recycling) The City of DeKalb has a unique ability to influence residents and business behavior regarding waste disposal due to its historic role as a provider of these services. The City must continue to expand its waste minimization through the 4Rs: reduce, reuse, repurpose and recycle.



An LRS driver gave a child along his DeKalb route an up-close look at his truck. Recycling pickup is part of the services LRS provides in DeKalb.

One of the goals of the sustainability plan is to align and coordinate City guidelines and policies with any County solid waste ordinance or solid waste plan. Encouraging “zero waste” pilot programs may demonstrate lifestyle choices that systematically avoid and eliminate the volume and toxicity of waste and materials, and conserve and recover all resources.

Goals for waste minimization must include enacting policies that encourage sustainable material management and engaging the community toward greater waste reduction and recycling. What is still needed is providing recycling containers for public events, composting programs and more concerted efforts to manage food waste at public venues. Additionally, encouragement for green, sustainable, and zero waste businesses can be achieved through greater

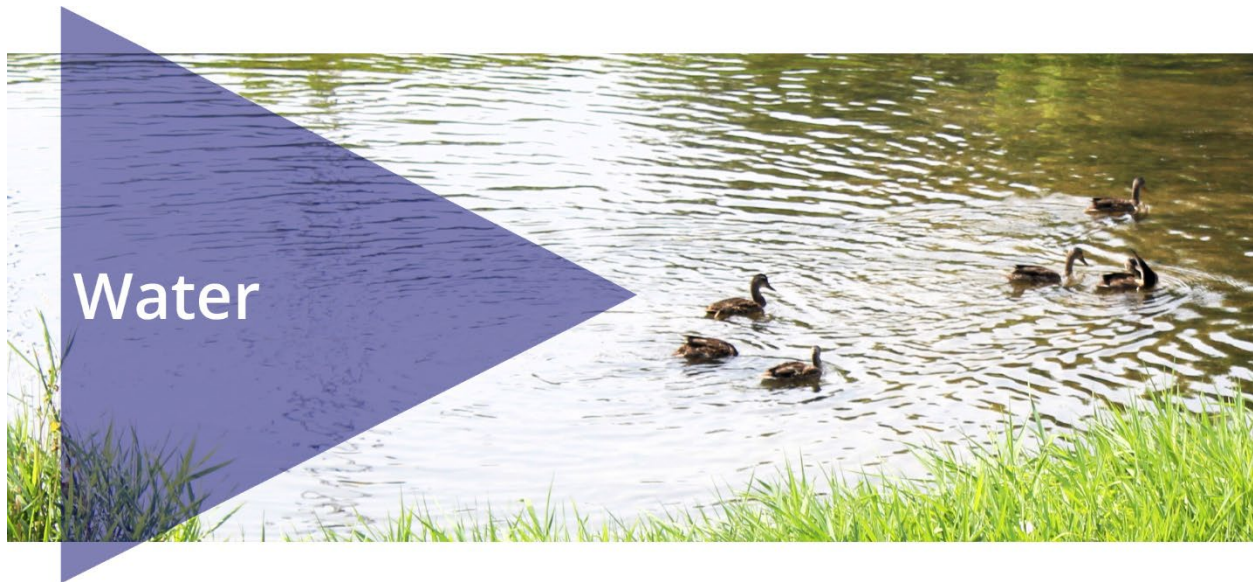
public education. Encouraging families and businesses to find alternatives to the use of polystyrene to-go containers, single-serve food service and plastic bags city-wide is part of this process.

Goals

- Promote and practice the 4 R's of reduce, reuse, recycle and repurpose.
- Promote public events that are "zero waste."
- Continue to promote home composting.
- Promote services for commercial organic waste disposal and collection.
- Establish and strive for specific recycling goals.
- Promote green, sustainable, and zero waste businesses.
- Collaborate to provide recycling service for items not suitable for curbside pickup e.g. clothing, shoes, and Christmas lights.
- Support bio-solid re-use in the community (e.g. landscaping).
- Engage with solid waste agencies to manage waste sustainably.

Action Steps

- Encourage smaller, leak-proof hauling equipment rather than open-shell compactors.
- Encourage haulers to provide for the collection of household hazardous waste with every-week pickups.
- Reduce fleet emissions by encouraging transition to a fleet of 50% compressed natural gas-fueled trucks by the end of the current contract in 2028.
- Encourage LRS dumping in local WMX landfill in Cortland to reduce road impacts and fleet emissions during DeKalb pick-up days.



Water quality is of primary concern to the City of DeKalb. The source of water provided to the residents comes from six deep wells, drawing water from the Ironton-Galesville and St. Peter sandstone unit of the Cambrian-Ordovician aquifer, and three shallow wells that draw water from the Troy Valley Aquifer. These two aquifers provide an excellent source of water as they are essentially free of contaminants. Water treatment includes reducing the iron content through treatment at one of the City's five ion-exchange water treatment plants. The City also adds chlorine and phosphate to ensure safety, and fluoride to promote the development of strong teeth. DeKalb's water is monitored for microbial, inorganic and organic chemicals, pesticides and herbicides, and radioactive contaminants. Over 13,000 water analyses are performed annually on the City's drinking water for over 100 different contaminants. The City of DeKalb's drinking water meets or exceeds all federal and state drinking water standards.

The city's wastewater is treated by the Kishwaukee Water Reclamation District which adheres to the environmental



regulations as established by the Environmental Protection Agency, serving residential, business, and industrial users in and around the City of DeKalb.

Reducing excess water use is both a safeguard for ensuring an ongoing water supply and a money-saving activity. To protect the water supply from additional contamination, residents and businesses need to be aware of the types of chemicals used in the home and industrial environment, including pesticides and herbicides. Reducing or eliminating lawn chemicals as well as following proper disposal instructions of all chemical preparations are a necessary step to preserving a clean water supply.

Goals

- Encourage consumers to retrofit using high efficiency appliances and fixtures.
- Continue to support post-development runoff reduction and mitigation.
- Continue to monitor the environmental impact of radiological and chemical wastes generated from existing deep-well operations as per IEPA guidelines.
- Continue to collaborate with other municipalities and the County on overlapping problems, studies, and recommendations as they relate to stormwater management.
- Continue to encourage private property owners and contractors to manage stormwater runoff and soil erosion, minimizing or preventing runoff from residential, agricultural, and/or construction areas, as per the City's rigorous stormwater management standards.
- Educate the community to conserve water.
- Seek grant funding for projects in DeKalb identified in the Upper South Branch Kishwaukee River Watershed Improvement Plan.

Action Steps

- Prepare a Comprehensive Strategic Water Model and Water Master Plan to identify key improvements to the existing water infrastructure (i.e. supply, treatment, distribution and storage) that will be needed in the next 5-10 years to meet future growth.
- Outline estimated timelines and probable costs for improvements identified in the proposed water modeling.
- Prioritize future improvements in the light of sustainability goals.



Economic Development

An important aspect of DeKalb's future is its continued economic growth. More economic opportunities will provide better jobs at better wages for residents, diversify the tax base, help attract new businesses and opportunities to the area, and continue to attract new residents. In the modern world, economic development must include an awareness of the environment and a sustainable future. Practices that minimize environmental impact and ensure long-term economic viability will create a future that is both resilient and economically robust.



Meta's DeKalb Data Center is supported by 100% renewable energy.

The core of green economic development is economic sustainability. Eco-friendly technology, reduction of carbon footprints, and waste reduction are all elements of creating this sustainable future. Also important are renewable energy sources, such as solar, wind and other green options that offer

clean alternatives to fossil fuels.

Economic development must also prioritize social inclusivity and equity. Just as a green economy should benefit everyone with a cleaner, sustainable environment, economic development should benefit all segments of society. This involves creating job opportunities that include fair labor practices and promote gender equality.

While green economic development is an important aspect of national and regional economies, local communities can play an important role in the development of a green economy. Communities like DeKalb must actively participate in the decision-making process to ensure that economic development aligns with the needs and aspirations of the region and its citizens. This includes supporting local businesses and promoting community-based initiatives to strengthen the network of social services.

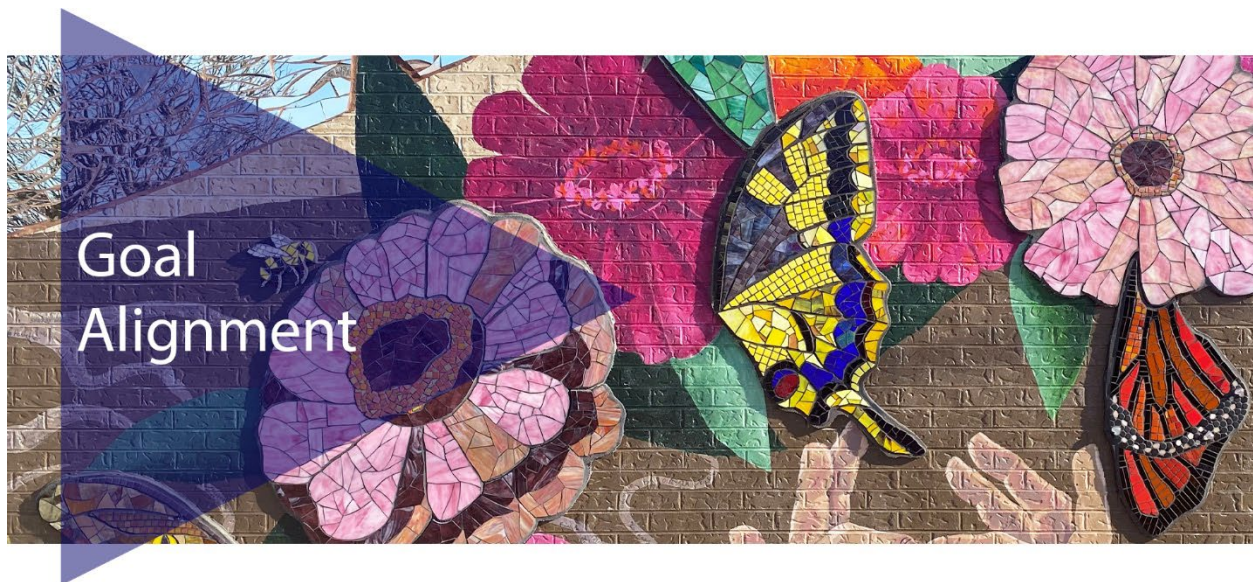
Finally, this means that economic development must focus on more than simply the bottom line. A broader set of metrics that account for environmental and social factors is needed. Economic growth and development are critically important, but it must come in combination with sustainability and community growth to help move DeKalb into a sustainable future.

Goals

- Help local businesses connect to resources for training and education related to sustainable jobs.
- Advocate for a green workforce.
- Encourage green innovation among residents and local businesses.
- Attract and retain businesses that practice and promote sustainability.
- Promote local goods, services, and businesses.
- Promote economic prosperity for the entire community and expanded job opportunities with fair and sufficient wages.

Action Steps

- Continue to partner with Northern Illinois University on community development initiatives such as the STEAM Center.
- Continue to partner with Kishwaukee College and its internship and job placement services.
- Continue to work in concert with local businesses and the Illinois WorkNet Center, operated off-campus on Peace Road by Kishwaukee College, to support jobseeker services such as computer access, job search assistance, and financial aid to employers willing to provide customized training.
- Continue to partner with the federally-funded Kane/Kendall/DeKalb Workforce Development Board to link veterans, persons with disabilities, and at-risk youth with counseling and workforce services. This program was created by the Workforce Innovation and Opportunity Act (WIOA).



The alignment of local sustainability goals with regional, national and global goals is a daunting challenge. If world powers with their enormous, pooled resources cannot agree on consensus targets, how can DeKalb make a difference? A model framework for municipal action that builds consensus regarding higher level goals without draining limited fiscal resources or exploding personnel budgets is available to help guide DeKalb's gradual assumption of goals and action steps.

The "Greenest Region Compact" broadly supported by the Metropolitan Mayors Caucus of Illinois sets up definable objectives and the collaborative benefits of municipalities and county governments in the northern Illinois region. To date, 275 governmental bodies including cities, towns, villages and counties in the Chicagoland area have adopted the framework, which only requires a commitment for each entity to adopt its own sustainability plan, and tailor objectives and strategies to advance their own sustainability agendas, at the pace which their fiscal resources and consensual action steps require.



The City of DeKalb has installed two electric vehicle charging stations in the downtown.

The Greenest Region Compact (GRC) was launched in 2007 with a pledge adopted by 100 communities. An update known as "GRC2" was adopted in March 2016. The high-level GRC

goal categories fall into 10 sustainability categories: *climate, economic development, energy, land, leadership, mobility, municipal operations, sustainable communities, water, and waste & recycling*. These categories conform to the focus areas of this study. The tenth GRC2 category is “Leadership.”

More than a sustainability category, Leadership is the essential trait which is needed if any of the GRC2 goals are to be reached locally. Leadership and learning are indispensable to each other. And the path to learning is the humble notion that lasting answers are born of cooperation and collaboration.

Goals

- Promote use of City properties for installation and operation of renewable energy systems.
- Support the adoption of renewable energy in the community.
- Budget and plan for long-term energy efficiency equipment upgrades.
- Power down equipment when possible.
- Approve the GRC resolution.
- Join Metropolitan Mayors Caucus.

Action Steps

- Extend the ground lease with SunVest Solar, Inc. for a 40-acre, 5MW commercial solar energy facility on the DeKalb/Taylor Municipal Airport property. The lease has been extended until December 31, 2024 or until a determination by the Illinois Power Agency to proceed with construction. Substantial completion is expected in April 2025 so a further lease extension will be required. The project is following an Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture.
- Surpass the 2023 total of private, roof-top residential solar installations. The total permitted residential projects in 2022 was 50; the total in 2023 was 74. Additionally, Kohl’s and Write Stuff added permitted, roof-top commercial solar arrays in 2023.
- Bidding for replacement buses for the City’s transit system will include invitations to price diesel-electric buses which are about \$900,000 per bus (straight diesel is about \$600,000/bus, and all-electric are about \$1.2 million).
- Continue to pump potable water at “off-peak” hours to save energy and retain energy savings.
- Place GRC resolution on City Council agenda in June.
- Begin membership in Metropolitan Mayors Caucus on August 1, 2024.