

# Evansville Benchmarking Analysis

## Background/Process

KERAMIDA completed a Benchmarking Analysis for the City of Evansville. The goal of the analysis was to benchmark the City’s performance against three comparable cities, two peer and one aspirational. The cities were chosen based on similarity in characteristics such as population, median income and geographic location. The peer cities were determined to be South Bend, IN and Lafayette, IN. The aspirational city was determined to be Carmel, IN. After determination of the three comparable cities, the City of Evansville’s 2021 Climate Action Plan (CAP) was benchmarked against South Bend, Lafayette and Carmel’s CAPs. This benchmarking process required research on the cities progress on energy reduction, energy storage funding and resiliency, review of the City of Evansville’s existing CAP strategies and opportunities for new strategies, and comparison against the cities’ progress to date.

Five categories were analyzed during the benchmarking analysis:

1. CAP Components
2. Progress
3. Funding
4. Strategies
5. Actions

Each category was analyzed in depth and compared to the City of Evansville’s previous CAP. CAP components, strategies and actions were assessed on inclusion, whereas progress and funding required descriptive comparisons. A heat map was analyzed for each category, showing applicability and inclusion across the three CAPs. The results are summarized below.

## Results

CAP Components				Peer		Aspirational		
Category	Description	Heat Map	South Bend, IN	Greater Lafayette, IN	Carmel, IN		Evansville	
<b>Existing CAP Components</b>								
CAP Components	Executive Summary and Letter from the Mayor	3	✓	✓	✓		✓	
CAP Components	Acknowledgments	2	✓		✓			
CAP Components	Summary of Actions - Transportation	3	✓	✓	✓		✓	
CAP Components	Summary of Actions - Buildings & Energy	3	✓	✓	✓		✓	
CAP Components	Summary of Actions - Waste	2		✓	✓		✓	
CAP Components	Summary of Actions - Local Food, Ag, & GreenSpace	2		✓	✓		✓	
CAP Components	Next Steps/Conclusion	2		✓	✓		✓	
CAP Components	Community Engagement & Survey Results	3	✓	✓	✓		✓	
CAP Components	City Climate Successes	2		✓	✓		✓	
CAP Components	City Highlights	1		✓			✓	
CAP Components	GHG Inventory	3	✓	✓	✓		✓	
<b>Additional CAP Components</b>								
CAP Components	Intro to Climate Change/CAP Background	3	✓	✓	✓			
CAP Components	Funding Plan	1		✓				
CAP Components	Guiding Principles	1	✓					
CAP Components	Municipal Operations	1	✓					
CAP Components	Future Performance Evaluation	1	✓					
CAP Components	Equity and Vulnerability	1		✓				
CAP Components	Hazard Resilience Index Assessment	1		✓				
CAP Components	Tree Canopy Assessment	1		✓				
CAP Components	Water & Wastewater	2		✓	✓			

Progress			Peer			Aspirational	Evansville
Category	Disclosure	Heat Map	South Bend, IN	Greater Lafayette, IN	Carroll, IN		
Reduction Targets	What metrics and targets have been set?	3	20% by 2025 45% by 2035 100% by 2050	50% by 2030 80% by 2050	45% by 2035 100% by 2050		15% by 2030 25% by 2040 50% by 2050
City Council Approval	Has the CAP been approved by City Council?	3					
Progress	Will the City track progress through public dashboard?	1	Oct. 2024	Jan. 2023	Aug. 2022	✓	✓
			Total energy reduction is measured in terms of % of residential, commercial, or industrial gas/electric.				
			Individual energy action reduction measured by:				
			-Total energy consumed				
			-# energy audits				
			-% of sq. footage which received energy audit				
			-# of residential/commercial buildings with energy efficiency designations				
			-Total sq. footage/type/intensity of buildings participating in municipal benchmarking program				
			-# of contractors with professional energy efficiency certifications				
			-Total municipal/state incentives awarded for energy efficiency projects				
			-# solar installed				
			-# (size/output) of new renewable energy installations				
			-MWh offset by renewable energy tariffs				
			-% utility provider's portfolio derived from renewables				
			-# customers participating in renewable energy tariff programs				
			-% renewable energy in municipal electric portfolio				
			-Acresage of land used for renewable energy generation				
Progress	Does the progress on energy reduction	0					Total energy reduction is measured in terms of % of residential, commercial or industrial emissions (MTCO2e)
Progress	How is progress towards energy storage funding measured?	0					
Progress	Does the progress on energy storage funding	0					
Progress	How is progress towards energy resiliency measured?	0					
Progress	Does the progress on energy resiliency	0					

Funding Mechanisms			Peer			Aspirational	Evansville
Category	Disclosure	Heat Map	South Bend, IN	Greater Lafayette, IN	Carroll, IN		
Available Funding	What funding mechanisms can be used to design CAP?	1	<ul style="list-style-type: none"> <li>North River Solutions w/ Corporation</li> <li>Infrastructure Reduction Act</li> <li>Energy Resiliency</li> <li>Blue Energy Efficiency and Conservation Block Grant Program (EECBG)</li> <li>Community Development Block Grants (CDBG)</li> <li>Blue Building Initiative for Cooling Infrastructure</li> <li>Strengthening Stability and Resilience of Transportation (SMART) grant program</li> <li>Indiana Department of Natural Resources Community and Urban Forestry Program (IDNR-CUF)</li> <li>Indiana American Community Development Program</li> <li>Partners for Parks</li> <li>Indiana Energy Storage w/ Biomass Grants (IDEM)</li> <li>INSA Hazard Mitigation Grant Program</li> <li>INSA Building Resilient Infrastructure and Communities (BRIC)</li> <li>INSA Pre-Disaster Mitigation Grant Program</li> <li>Community Crossing Marketing Grant</li> <li>Hazardous Materials Emergency Preparedness (HEMP) Grant Program</li> <li>DOE State Energy Program Competitive Federal Assistance Program</li> <li>USDA Agricultural Storage w/ Assistance Program</li> <li>National Flood Mitigation Program</li> <li>National Park Service and State Cooperative Fund</li> <li>DOT Transportation Alternatives Program</li> <li>DOT Pollution Prevention Grants</li> <li>Indiana Voluntary Conservation Easement Incentive Program</li> <li>DOT Congestion Mitigation and Air Quality Improvement (CMAQ) Program</li> </ul>				

Strategies			Peer		Aspirational	Evansville
Category	Disclosure	Heat Map	South Bend, IN	Greater Lafayette, IN	Carroll, IN	
<b>Existing Strategies</b>						
Energy	Energy Efficient Buildings & Infrastructure	2	✓	✓		✓
Energy	Transition to Renewable Energy Sources	2		✓		✓
Energy	Sustainable Construction	0				✓
Land	Green Infrastructure for Carbon Capture	0				✓
Land	Clean and Efficient Land Management	0				✓
Land	Thoughtful & Sustainable Land Development	0				✓
Land	Urban Agriculture	0				✓
Resiliency	Weather Resilient Community	0				✓
Resiliency	Equity & Access for All	0				✓
Resiliency	Informed Residents & Workforce	0				✓
Transportation	Clean & Accessible Public Transportation	1	✓			✓
Transportation	Accessible Active & Shared Transportation	0				✓
Transportation	Low Emission Vehicles & Fleets	2	✓	✓		✓
Waste	Organic Waste Composting	1		✓		✓
Waste	Solid Waste Recycling	1		✓		✓
Waste	Waste Prevention at Source	1		✓		✓
<b>Additional Strategies</b>						
Transportation	Reduce VMT and single occupancy vehicles	2	✓	✓		✓
Transportation	Transition to cleaner, more efficient vehicle fuels and technology	1	✓			✓
Energy	Carbon Innovation	1		✓		✓
Energy	Increase Social Resilience	1		✓		✓
Transportation	Reduce heat-island impacts and SW run-off associated with the infrastructure required to support the transportation area	1		✓		✓
Ag & Forestry	Support a climate-ready farming community	1		✓		✓
Ag & Forestry	Enhance, protect & improve access to our natural resources	1		✓		✓
Water & WW	Protect the quality of our water	1		✓		✓
Water & WW	Maximize WW energy and byproducts	1		✓		✓

Actions				Peer		Aspirational	Compliance
Category	Disclosure	Heat Map	South Bend, IN	Coshocton, OH	Cornell, NY		
<b>Existing Actions</b>							
Energy	Expand enrollment in CenterPoint and IFCM energy efficiency programs through promotions and advocacy.	2	✓	✓		✓	
Energy	Increase enrollment in state/federal/local weatherization assistance programs for affordable housing.	0				✓	
Energy	"Handy/Rest-a-Save"	0				✓	
Energy	"POWER"	0				✓	
Energy	Upgrade all city-owned buildings with energy efficient improvements such as lighting, HVAC, windows, kitchen appliances, water heat pump improvements, etc.	2		✓	✓	✓	
Energy	Conduct energy audits in all city-owned buildings to identify opportunities in energy efficiency improvement.	2	✓	✓		✓	
Energy	Achieve ENERGY STAR certification for municipal buildings.	0				✓	
Energy	"Permitting"	2		✓		✓	
Energy	Upgrade streetlights/traffic signals to LEDs.	0				✓	
Energy	Advocate for renewable energy goals in development of local utility's Integrated Resource Plan.	1	✓			✓	
Energy	Pursue higher levels of Smart certification to increase adoption of distributed solar energy.	2			✓	✓	
Energy	Increase adoption of on-site solar in homes/businesses through tax incentives.	0				✓	
Energy	Increase adoption of on-site and community solar in affordable and multi-unit housing through grant funding programs.	0				✓	
Energy	Capture and use biogas from wastewater treatment plant for municipal operations.	0				✓	
Energy	Increase adoption of CenterPoint's Residential New Construction Program in new developments.	2		✓	✓	✓	
Energy	Increase adoption of CenterPoint's Commercial New Construction Program in new developments.	2		✓	✓	✓	
Energy	Increase the number of LEED certified buildings.	0				✓	
Land	Increase tree planting and maintain Tree City USA status.	1			✓	✓	
Land	Increase tree canopy where deficient using a diversity of hardy, native & site-appropriate tree species.	2		✓	✓	✓	
Land	Increase greenspace and green infrastructure in new developments through partnerships and policy.	0				✓	
Land	Convert mowed acre of municipal managed land to native plants/natural lands coping.	1			✓	✓	
Land	Transition municipal property maintenance equipment to EV, hybrid, or bio fuels.	2		✓		✓	
Land	Reduce chemical and water use on Parks properties.	0				✓	
Land	Incorporate restoration of prairie, wetland and forest in land use/land management/new developments.	0				✓	
Land	Increase the amount of sustainable lands coping in the community through subdivision and development codes.	0				✓	
Land	Redevelop underutilized or contaminated properties, considering greenspace as a viable option.	1		✓		✓	
Land	Integrate open space, greenspace, and trails into new developments.	1		✓		✓	
Resiliency	Improve availability and access to community cooling & warming centers.	0				✓	
Resiliency	Mitigate urban heat island effect with green infrastructure, particularly in disadvantaged neighborhoods.	1		✓		✓	
Resiliency	Improve availability and access to safe refuge shelters for severe weather.	1				✓	
Resiliency	Mitigate risk of flash flooding due to increasing intensity of rain events.	0				✓	
Resiliency	Improve access to energy efficiency improvements for affordable housing through promotion & financial assistance programs.	1		✓		✓	
Resiliency	Improve community access to public facilities go along with solar & battery backup during electrical grid outages.	0				✓	
Resiliency	Improve access to EV charging stations at affordable and multi-family housing and public facilities.	1		✓		✓	
Resiliency	Improve access to and affordability to clean public transportation options such as bus transit, microtransit, bike share and pedestrian paths.	1				✓	
Resiliency	Increase food access and availability for food insecure populations in food deserts.	0				✓	
Resiliency	Increase the number of community food gardens & orchards through community partnerships.	1			✓	✓	
Resiliency	Increase local sourcing of food for restaurants, hospitals and schools.	1			✓	✓	
Resiliency	Encourage community partners to offer renewable energy training or workforce training programs.	1		✓		✓	
Resiliency	Encourage community educational and trade partners to offer solar & heat pump HVAC installation training programs for builders and developers.	0				✓	
Resiliency	Establish city sustainability practices and policies and promote to city staff through trainings and communications.	1		✓		✓	
Resiliency	Conduct community engagement and outreach to promote clean transportation methods, such as EVs, bike share, pedestrian trails, microtransit and bus transit.	1	✓	✓		✓	
Resiliency	Promote active transportation and community building by hosting open street events.	0				✓	
Transportation	Increase METS public transit ridership through promotion, incentives and service improvements.	2	✓	✓		✓	
Transportation	Implement METS COAXX project.	0				✓	
Transportation	Convert METS public transit to EV/hybrid, hydrogen or alternative fuels.	0				✓	
Transportation	Increase public transportation use by providing more options and transition "hubs" to resolve barriers.	2	✓	✓		✓	
Transportation	Promote clean transportation methods such as EVs and public transit through community engagement and outreach.	1	✓	✓	✓	✓	
Transportation	Increase active transportation by making streets and sidewalks more safe and accessible through complete street projects.	1	✓	✓	✓	✓	
Transportation	Increase bicycle ridership to achieve top tier Bicycle Friendly Community status, as outlined in the Bicycle and Pedestrian Connectivity Master Plan.	0				✓	
Transportation	Reduce personal vehicle miles traveled for use & by increasing employer incentives for active and shared commuting options.	1		✓		✓	
Transportation	Increase EV usage by installing publicly accessible and multi-unit housing EV charging stations.	1		✓		✓	
Transportation	Increase personal alternative fuel vehicle registration through promotion and incentives.	0				✓	
Transportation	Transition municipal and public fleet vehicles to electric/hybrid or alternative fuels.	2	✓	✓	✓	✓	
Transportation	Increase vehicle idling on public properties by establishing anti-idling zones and policies.	2	✓	✓	✓	✓	
Transportation	Increase infrastructure for electric and alternative fuel vehicles in new multi-unit residential, commercial and industrial development.	0				✓	
Waste	Increase composting of organic waste by providing municipal composting options such as compost bin voucher programs, drop off collection sites, etc.	2				✓	
Waste	Continue methane capture from digesters for use in municipal operations to increase electricity generation and T&E.	0				✓	
Waste	Explore ways to increase gas production from digesters and improve the benefit of the system for financial and environmental benefits.	0				✓	
Waste	Increase portion of commercial waste composted vs landfilled through a commercial composting program.	1		✓		✓	
Waste	Increase municipal recycling rate through more promotion, education & clear signage, community engagement, and improvement of recycling opportunities included in waste management contracts.	2		✓	✓	✓	
Waste	Increase residential recycling rate by providing more opportunities and incentives for all households to recycle, particularly multi-family and rental households.	0				✓	
Waste	Develop policies and financial incentives for businesses and multi-unit housing developments to utilize recycling collection bins and transport services.	1		✓		✓	
Waste	Increase recycling rate at municipal facilities by installing single-stream collection bins and contracting collection services.	0				✓	
Waste	Decrease total weight of C&D waste landfilled through green business partnerships.	0				✓	
Waste	Minimize waste at large scale public events through development of a voluntary green recognition program.	1			✓	✓	
Waste	Reduce production of waste in business/industrial processes through partnerships and reuse sharing.	0				✓	
Waste	Reduce production of waste in schools and religious organizations through partnerships and reuse sharing.	0				✓	

Additional Actions					
Energy	Enact an energy benchmarking ordinance for larger buildings	1	✓		
Energy	Expand South Bend's agricultural energy efficiency workforce	1	✓		
Energy	Update building codes, to increase energy efficiency requirements on new construction and major renovation projects	1	✓		
Energy	Develop municipal incentive programs that support adoption of energy efficiency improvements in commercial and industrial buildings	1	✓		
Energy	Oversee the adoption of renewable energy sources into municipal buildings	1	✓		
Energy	Continue to update and maintain municipal permitting and procurement guidelines that facilitate the adoption of renewable energy sources	1	✓		
Energy	Integrate renewable energy generation with municipal land use and zoning policy	2	✓	✓	✓
Energy	Hold public education and outreach campaign on energy consumption and building efficiency	1	✓		
Energy	Create an expedited permitting review process for projects improving energy efficiency of buildings	2	✓	✓	✓
Energy	Create Renewable Energy Master Plan for Government Operations	1	✓		
Energy	Incentivize renewable energy use for homes and business – award and recognition	1	✓		
Energy	Create community solar cohort and/or buy-in program for neighborhoods	2	✓	✓	
Energy	Host solar informational seminars for residents and businesses	1	✓		
Energy	Develop incentives for adoption of solar, electrified appliances, and net-zero buildings	2		✓	✓
Energy	Host booths with solar-ready home information at home remodel showcase events	1		✓	
Energy	Explore District Heating Opportunities	1		✓	
Energy	Acquire funding to implement solar for public schools	1		✓	
Energy	Explore and utilize community renewable energy programs	2		✓	✓
Energy	Establish /Revisit solar ordinance	2		✓	✓
Energy	Develop an incentive and recognition program for converting buildings to electric and/or net zero	1		✓	
Energy	Sustainable Business Certification Program	1		✓	
Energy	Green Building Best Practices Education for Commercial and Municipal Construction	1		✓	
Energy	Residential Energy Conservation Measures	1		✓	
Energy	Advocate for State Renewable Energy	1		✓	
Energy	Identify Barriers to Existing Energy Efficiency Programs	1		✓	
Energy	Energy Efficiency Grant Program	1		✓	
Energy	Residential Low-Flow Water Appliance Retrofit Program	1		✓	
Energy	Stormwater and Household Water Efficiency Education	1		✓	
Energy	Consideration of Reclaimed Water System for City Greenpace	1		✓	
Land	Use road salt alternatives during winter road maintenance to reduce runoff	1		✓	
Land	Support local groups working to increase best management practices (cover crops, filter strips, and grassed waterways)	1		✓	
Land	Work with agricultural extension, NRCS, and Soil and Water to share information about climate impacts to agriculture	1		✓	
Land	Conduct a study to see if additional farmers markets are needed and desired in neighborhoods further from the town center	1		✓	
Land	Provide information/workshop on agri-solar to local farmers	1		✓	
Land	Increase use of native plants in all government landscaping projects	1		✓	
Land	Create a plan to eliminate the invasive plants on public property and replace them with native plants	1		✓	
Land	Increase support for local parks departments and partner with local organizations to acquire and protect existing high quality forested areas	1		✓	
Land	Identify areas in Greater Lafayette that are underserved by parks and open spaces and develop a plan to improve access in these areas	1		✓	
Land	Identify additional areas for reforestation in urban and rural areas	1		✓	
Land	Promote and Expand Food Donation Program	1		✓	
Land	Local Food Purchasing Program	2		✓	✓
Land	Ensure All Residents Have Access to Gardening Space	1		✓	
Land	Rain Garden Location Identification and Installation	1		✓	
Land	Environmental Protection and Revegetation Policy	1		✓	
Resiliency	Explore and adopt the use of urban cooling surfaces and strategies in new and existing paved surfaces	1		✓	
Resiliency	Identify low or no-car transportation for movement between resilience hubs and residential areas	1		✓	
Resiliency	Provide education on disaster days and disaster prevention	1		✓	
Resiliency	Create a flooding risk management program	2		✓	✓
Resiliency	Incorporate increased greywater use and water reuse	1		✓	
Resiliency	Increase public awareness on greywater reuse systems	1		✓	
Resiliency	Public Education about Impacts of Climate Change	1		✓	
Resiliency	Climate Vulnerability Assessment	2		✓	✓
Transportation	Promote cargo and tempo of services	1		✓	
Transportation	Promote and strengthen passenger rail services for regional travel	1		✓	
Transportation	Undertake and promote diesel engine retrofit through municipal and commercial fleets	1		✓	
Transportation	Advocate for increased state vehicle emissions testing requirements in St. Joseph County	1		✓	
Transportation	Promote upgrades to vehicles that reduce road friction and wind resistance	1		✓	
Transportation	Identify how adoption of autonomous vehicle technology can drive fuel efficiency and emissions reductions	1			✓
Transportation	Develop a plan for dense communities – Transit Oriented Development	1			✓
Transportation	Develop an educational campaign on safe bike laws, bike maintenance, and safe bike routes	1			✓
Transportation	Explore park-and-ride locations in rural areas	1			✓
Transportation	Increase implementation of no-undbabouts	1			✓
Transportation	Encourage walking to school, safe routes to school program	1			✓
Transportation	Incentivize EV charging stations for existing industrial, commercial, and residential buildings	1			✓
Transportation	Encourage and/or incentivize the conversion of gas-powered law equipment to electric power for the public	1			✓
Transportation	Work with local school and education programs to train auto mechanics on EV	1			✓
Transportation	Commuter Line Feasibility Study	1			✓
Transportation	City EV and Hydrogen Fleet Purchasing and Retrofit Policy	1			✓
Transportation	Municipal Bikeshare Program	1			✓
Transportation	Reduce the length and frequency of vehicle trips through land development policies and economic development strategies	1	✓		
Waste	Conduct waste stream audit for government operations	1			✓
Waste	Create recycling program for increased recycling within the business community	1			✓
Waste	Provide e-waste education within the business community	1			✓
Waste	Discourage single-use plastics through education	1			✓
Waste	Develop food waste reduction and composting campaigns	1			✓
Waste	Develop a sewerage energy master plan	1			✓
Waste	Explore heat recovery from wastewater	1			✓
Waste	Waste Feasibility Study	1			✓
Waste	Backyard Compost Bin Voucher Program	1			✓
Waste	Zero-Waste Events Policy	1			✓

### Conclusion

After presenting the City of Evansville with the Benchmarking Analysis findings, KERAMIDA worked closely with the City of Evansville team to refine the existing list of strategies from the previous CAP. The refinement process included adding additional strategies that were rated high on the heat map, as well as removing existing strategies that were rated low on the heat map. This resulted in thirteen changed/additional actions and the removal of six actions. The heat map results were a large piece of the strategy refinement process, with the understanding and approach that all strategies included in the City of Evansville’s revised CAP must be feasible and implementable for the City of Evansville and its staff, partners and community.

The additions and removals of strategies are presented below.

Increase Energy Efficiency	
Additions	Removals
Improve energy efficiency requirements for construction projects by updating local code and permit requirements.	Upgrade streetlights/traffic signals to LEDs.
Transition to Renewable Energy	
Additions	Removals
Encourage renewable energy and energy efficiency in municipal facilities by updating procurement guidelines.	
Facilitate renewable energy generation through municipal land use and zoning policies.	
Integrate Green Infrastructure & Agriculture	
Additions	Removals
Increase tree canopy through reforestation of underutilized and Brownfield areas.	
Encourage green infrastructure in right of ways and land developments by updating local code and permit requirements.	
Encourage Clean & Sustainable Land Management	
Additions	Removals
Encourage native plants and natural landscaping through education, policies and incentives.	Incorporate restoration of prairie, wetland and forest in land uses/land management/new developments.

Transition municipal property maintenance equipment to lower emission EV, hybrid or biofuels.	
Reduce chemical and water use on city park properties.	
<b>Prevent Waste at Source</b>	
<b>Additions</b>	<b>Removals</b>
Reduce commercial and industrial waste produced through circular economy projects, partnerships and incentives.	Decrease total weight of C&D waste landfilled through green business partnerships.
	Reduce production of waste in schools and religious organizations.
<b>Reduce Vehicle Miles Traveled</b>	
<b>Additions</b>	<b>Removals</b>
Increase public, shared and active transportation through community engagement and outreach.	Implement METS COA project(s).
Increase public transportation utilization by expanding transport options and transition hubs, particularly for disadvantaged populations.	
<b>Transition to Low Emission Vehicles</b>	
<b>Additions</b>	<b>Removals</b>
Promote alternative fuel vehicle infrastructure in new development through policies and incentives, particularly for affordable housing and public destinations.	Convert METS public transit to EV/hybrid, hydrogen or alternative fuels.
Minimize vehicle idling through advocacy and anti-idling zones.	