



City of Dubuque
Climate Action Plan Implementation Matrix
 Search Strategies and Actions:


Goals, Strategies and Actions		Priority Level	Implementation				
			Primary Responsibility	Supporting Responsibility	Estimated Budget Need	Metric	Progress At Review
		Criteria Review Score: 4.5 - 5.0 = 1 4.0 - 4.4 = 2 3.5 - 3.9 = 3 3.0 - 3.4 = 4 2.0 - 2.9 = 5 0.0 - 1.9 = 6	Primary Responsibility another agency, City Council, specific city department / staff role, businesses, or households for individuals	Supporting Responsibility another agency, City Council, specific city department / staff role, businesses, or households for individuals	Estimated Budget Need \$ = <\$10,000 \$\$ \$10,000-\$25,000 \$\$\$ >\$25,000		
Buildings and Energy							
BE1 Increase distributed renewable energy by 21 MW of installed capacity by 2030							
Strategy BE1-A: Increase solar on City facilities							
BE1-A- 1	Conduct a detailed solar assessment and "Renewable Energy Master Plan" for all primary city facilities. Include new and existing buildings, incorporate strategies to address electricity storage, and focus on highlighting any hurdles or solutions that would be applicable to the broader community. Install solar panels on all City buildings and sites, where feasible, based on implementation established in Renewable Energy Master Plan. City's largest energy consuming properties should be prioritized for assessment. Goal: 50% of city facility electric demand supplied through solar	2.0	Building Services Department	City Council; All City Departments	\$		
BE 1- 2	Work with regional energy partnerships to develop and implement an Electrification Action Plan for all City facilities. Include new and existing buildings, incorporate strategies to address electricity storage, and focus on highlighting any hurdles or solutions that would be applicable to the broader community	2.0			\$\$		
Strategy BE1-B: Support and accelerate installation of on-site solar PV and solar thermal.							
BE1-B- 1	Develop solar ready policy or incentive offering with the goal of achieving 100% solar ready new home construction by 2025.	1.0	City Council	Building Services Department, Planning Department; Alliant Energy	\$		
BE1-B- 2	Collaborate with local Solar PV contractors and Alliant Energy to identify infrastructural challenges to solar PV implementation throughout the community in support of the goals of the CAP - particularly circuit capacities, utility upgrade requirements and costs. Support Alliant Energy and collaborators in establishing a strategies and a plan for overcoming infrastructural challenges identified, with a prioritization of resolving challenges at the city's most optimal sites.	1.0	GDDC, Solar PV Contractors	Alliant Energy			
BE1-B- 3	Incentivize local renewable energy projects. Explore leveraging existing incentives to increase renewable energy utilization and generation throughout the entire city. These incentives would include support for low-income solar installations and the creation of green jobs.	2.0	Dubuque Economic Development, Dubuque Housing Department	City Planning Department; Dubuque Energy District	\$\$\$		
BE1-B- 4	Conduct Solar Ready training using the City's Solar Ready Guidelines and listening sessions with the home builders association, contractors, building designers, developers, and building owners. Include information on benefits of on-site renewable energy generation. Distribute the Solar Ready Guidelines and checklist through city channels. (http://palebluedot.illc/dubuque-solar-ready-guide)	3.0	Building Services Department	Dubuque Homebuilders Association, NICC	\$		
BE1-B- 5	Encourage and educate residents on the benefits of on-site solar: Post the state solar resource map on city's CAP Resource Hub; include City's Solar Ready Guidelines (http://palebluedot.illc/dubuque-solar-ready-guide). Resource HUB should include links to helpful resources and tools supporting site owners in exploration and procurement of on-site solar.	3.0	Dubuque Energy District, Building Services Department		\$		
Strategy BE1-C: Encourage equity for renewable energy							
BE1-C- 1	Collaborate with Alliant Energy to establish an on-bill financing option for renewable energy and energy efficiency upgrades. (https://www.lowincomesolar.org/toolbox/on-bill-recovery/)	1.0	GDDC	Alliant Energy, Black Hills Energy			
BE1-C- 2	Create a local Low Income Solar Renewable Energy Credit (SREC) Market and/or 3rd party financing loan guarantee program.	2.0	Dubuque Sustainability Office	Local Solar Installers	\$\$		
Strategy BE1-D: Increase solar on residential buildings							
BE1-D- 1	Coordinate and promote a residential Solar Group Purchase Campaign annually to help reduce the costs of solar installation through volume purchasing power (goal, 120 households annually). Program design to explore strategies to support local small business solar installers such as being set up to enable small installers to collaborate or having a competitive "marketplace" approach with more than one installer to choose from.	3.0	Dubuque Energy District	Solar PV Installers	\$		
Strategy BE1-E: Increase solar on commercial/industrial facilities							
BE1-E- 1	Identify the "Solar Top 50" commercial/industrial properties within the city and produce detailed solar feasibility assessments for each site. Assessments to include potential solar generation and economic performance and return on investment estimates, information on financing and ownership models, and next step resources. Provide solar assessment reports to properties and conduct an informational workshop to assist building owners and businesses in understanding the assessments and next step potential. "Solar Top 50" assessment effort could be repeated annually, particularly through 2025	2.0	Dubuque Sustainability Office,	GDDC, Dubuque Energy District	\$		
BE1-E- 2	Coordinate and promote a commercial Solar Group Purchase Campaign annually to help reduce the costs of solar installation through volume purchasing power (goal, 1100KW installed annually). Group purchase campaign could include/focus on properties identified in the "Solar Top 50" assessment effort. Program design to explore strategies to support local small business solar installers and strategies to support local workforce development.	3.0	Dubuque Energy District	Solar PV Installers	\$		
BE1-E- 3	Motivate and assist businesses throughout the community to install solar. Provide information on solar incentives, tools, and financing to businesses throughout the City.	3.0	Dubuque Energy District	Solar PV Installers	\$		
Strategy BE1-F: Advocate for stronger state policy							
BE1-F 1	Collaborate with other communities, industry, and state agencies to support the State establishing community solar, virtual net metering, and aggregated net metering policies and laws.	1.0	Dubuque Sustainability Office				
BE2 Reduce citywide energy consumption by 10% by 2030							
Strategy BE2-A: Increase energy efficiency in City facilities							
BE2-A- 1	Create a policy that all City buildings shall reduce energy usage by 20% over the next 10 years	1.0	Sustainability, Building	City Manager			
BE2-A- 2	Introduce a policy that requires all municipal buildings to be benchmarked using ENERGY STAR Portfolio Manager. Each primary building's Energy Score rating, and energy use intensity (kBtu/sqft) shall also be posted on the City's website. Invite County, School District, and other public agencies located within the City to participate in the City's public facilities energy benchmarking and disclosure effort.	1.0	Sustainability Office	Dubuque County, Dubuque Community School District, Holy Family Schools	\$		
BE2-A- 3	Introduce a policy that requires all new and existing municipal buildings to meet and maintain energy and resource efficiency standards meeting an ENERGY STAR rating of 75 or better, and built to meet or exceed IGCC code. Require new and existing municipal buildings without solar PV installations in place or planned to install cool roof or green roofing. Require all new construction or major renovation projects to use the City's Net Zero Energy Building Guide and Checklist to explore opportunities to advance towards Net Zero Energy (palebluedot.illc/dubuque-net-zero-energy-guide). Invite County, School District, and other public agencies located within the City to participate in City's energy efficiency policy effort.	1.0	Sustainability Office	Dubuque County, Dubuque Community School District, Holy Family Schools			

BE2-A- 4	Establish a centralized facility management / construction project management structure or department for all City owned facilities. Structure to focus on increased capacity for execution of high performance city construction projects capable of achieving energy efficiency and renewable energy goals consistent with the City's CAP plan.	1.0	City Managers Office, Dubuque Building Services		\$\$\$		
BE2-A- 5	Explore the development of a Revolving Loan program for City facilities to fund capital costs for high performance energy efficiency and renewable energy options with appropriate return on investment. Fund to be used to implement all cost-effective (simple payback of ten years or less) resource-efficiency projects in City-owned buildings and facilities. Rather than reverting back to the City's general fund, operational savings from energy efficiency measures of completed projects are to be re-invested into revolving loan and a portion of savings provided to the participating deparment(s) to support funding of additional energy efficiency improvements.	1.0	Finance Department		\$\$\$		
BE2-A- 6	Conduct a occupancy and plug load energy efficiency study of primary city owned facilities and establish a "Plug Load and Occupancy Energy Efficiency Guide" outlining operational practices to advance the City's energy efficiency goals for City facilities. Provide training to all existing city employees and provide on-going training to all new city hires.	1.0	Dubuque Building Services Department	All City Departments	\$		
BE2-A- 7	Conduct a Building Energy Audit on all primary City owned facilities. Fully implement audit recommendations. Prioritization should be given to the City's largest energy consuming sites. Study for Water Resource and Recovery Center (WRRRC) to incorporate self-generated energy use including Renewable Natural Gas (RNG) into WRRRC future planning.	2.0	All City Departments	City Council	\$\$\$		
Strategy BE2-B: Improve energy efficiency in all sectors							
BE2-B- 1	Conduct a citywide heat island impact study to identify areas of high heat island contribution and impact, overlapped with vulnerable population mapping from the City's Climate Vulnerability Assessment. Study to establish specific goals, by census tract, for reduction of impervious surfaces (particularly dark), improvement of tree canopy and greenspace coverage, and target "Heat Island Coefficient". Study to establish heat island mitigation strategy recommendations and identify priority areas for heat island mitigation based on need, potential, and impact on equity and vulnerable populations. Study should provide prioritized direction on "cool pavement" strategies for integration with the City's Pavement Preservation Program CIP and city facility maintenance ance and construction plans. Study should also evaluate opportunities to plant additional trees near city facilities to reduce heat island. Coordinate and integrate study with the City's Storm Water Infiltration Plan (see Water section). http://palebluedot.ilc/tree-canopy-assessments	1.0	Dubuque Parks Department; Dubuque Engineering Department; Dubuque Planning Department		\$\$		
BE2-B- 2	Support state adoption of the new International Green Construction Code (IGCC) statewide and/or enabling local jurisdictions to adopt and enforce IGCC locally.	1.0	City Manager's Office; Dubuque Building Services Department	Dubuque Energy District; RCAC			
BE2-B- 3	Establish an "energy efficiency and renewable energy introduction" course for all city employees with any degree of facility responsibilities. Course shall then be provided on a regular basis for all new city employees as they are hired. Create a policy, to be part of assigned duties and presented during new employee orientation, that City employees shall turn off lights and equipment when they are done using them	2.0	Facilities Manager	All City Departments	\$		
BE2-B- 4	Prior to adoption at the State level (see action BE2-B-2), adopt a voluntary green building stretch code (IgCC) including stretch energy efficiency requirements in-line with Architecture 2030 goals. Make (IgCC) code required for all City facility projects and all projects receiving \$50,000 or more in City tax abatement, financing or funding. providing information, technical assistance	2.0	City Council	Building Services Department; Economic Development			
BE2-B- 5	Develop educational and informational resources explaining the drivers and impacts of heat island and solutions which may offer multiple benefits for property owners and users to share with residents and businesses.	2.0	Sustainability Coordinator		\$		
BE2-B- 6	Explore the development of a "Cool Roof", "Cool Building" and "Cool Pavement" pilot project to exhibit heat island mitigation strategies and measure potential for effectiveness. Identify city building with low solar PV prioritization/feasibility for inclusion as cool roof pilot locaiton. Alternatively, pilot program could be advertised for submission by City of Dubuque residents, businesses and neighborhoods for potential sites to be considered for pilot project selection. Preference should be given to sites serving low income or at risk communities with high heat island impact potential	2.0	Building Services Department	Dubuque Engineering Department	\$\$\$		
BE2-B- 7	Explore development of "Cool Roof", "Green Roof", "Green Wall" / "Live Wall" and "vertical garden" incentives (demonstration projects, voluntary programs, incentivized program, ordinance / policy) to meet long-range dark impervious surface reduction goals. Coordinate with existing compatible city policies such as the Stormwater Management Utility fee structure. Examples of incentive programs have been developed by the Climate Protection Partnership Division in the U.S. Environmental Protection Agency's Office of Atmospheric Programs. These can be found at: https://www.epa.gov/sites/production/files/2014-08/documents/greenroofscompendium_ch3.pdf and https://www.epa.gov/sites/production/files/2014-08/documents/coolroofscompendium_ch4.pdf	2.0	Building Services Department	City Council	\$\$\$		
Strategy BE2-C: Promote audits, energy efficiency rebates and financial incentives							
BE2-C- 1	Partner with local community organizations serving under-resourced households to promote energy efficieny audit and upgrade program for low-income residents. (see BE2-C-2). Target 150 households per year	1.0	HACAP	Green Iowa; Americorps; Dubuque Energy District	\$\$		
BE2-C- 2	Work with Alliant Energy, Black Hills Energy, and University of Northern Iowa's Center for Energy and Environmental Education Green Iowa AmeriCorps program to establish residential and multi-family energy efficiency audit and upgrade program similar to Xcel Energy's "Home Energy Squad Visits". Target 300 households per year (https://www.homeenergysquad.net/)	1.0	Sustainability Coordinator	Alliant Energy, Black Hills Energy, University of Northern Iowa's Center for Energy and Environmental Education, Green Iowa AmeriCorps program	\$\$		
BE2-C- 3	Work with Alliant Energy, Black Hills Energy, and University of Northern Iowa's Center for Energy and Environmental Education Green Iowa AmeriCorps program to establish commercial energy efficiency audit and upgrade program similar Minnesota Chamber of Commerce's EnergySmart commercial energy savings program. Program could be integrated with the commercial waste audit service identified in Solid Waste action SW1-B- 1. 70 commercial businesses and 70 industrial businesses per year with 10% electricity savings and 12% natural gas savings each. (https://www.mnchamber.com/your-opportunity/energy-smart)	1.0	Dubuque Energy District	Alliant Energy, Black Hills Energy, University of Northern Iowa's Center for Energy and Environmental Education; GDCC	\$\$		
BE2-C- 4	Regularly host utility bill clinics similar to those offered by Minnesota Citizens Utility Board (http://cubminnesota.org/) to help residents understand their bills, discuss energy savings options, and hear about rebate availability and clean energy options	1.0	Green Iowa Americorps	Alliant Energy; Black Hills Energy			
BE2-C- 5	Implement energy benchmarking (performance tracking and annual reporting) program for commercial buildings, required for all buildings equal to or greater than 50,000 square feet.	1.0	City Council	GIS Department	\$\$		
BE2-C- 6	Develop a city-hosted website with resources about home energy options for residents, including available energy programs and where to purchase ENERGY STAR appliances	1.0	Sustainability Coordinator		\$		
BE2-C- 7	Collaborate with other communities, industry, and state agencies to support the State establishing the enabling legislation for Commercial Property Assisted Clean Energy (C-PACE) and Residential Property Assisted Clean Energy (R-PACE) financing	2.0	City Manager's Office	Dubuque Energy District			
BE2-C- 8	Work with County to establish a Commercial Property Assessed Clean Energy (C-PACE) program and a Residential Property Clean Energy (R-PACE) program to provide financing for energy efficiency and renewable energy measures.	2.0	City Manager's Office	Dubuque Energy District, Dubuque County			
BE2-C- 9	Create a building weatherization and high energy efficiency renovation program that includes a job training component. Potential partners may include the HEART program (https://www.fourmounds.org/programs-events/youth-programs/heart-program/). Program example: https://risingsunenergy.org/	2.0	City of Dubuque Economic Development Department	HEART Program, Northeast Iowa Community College (NICC), HACAP, City of Dubuque Housing Department	\$\$\$		

Strategy BE2-D: Improve energy efficiency and equity in residential buildings						
BE2-D- 1	Develop and adopt a rental housing energy efficiency policy requiring single family and multi-family rental housing properties to meet minimum energy efficiency level to qualify for rental licensing. Program to include an energy efficiency rating system (ENERGY STAR or HERS). Example program: https://boulder.colorado.gov/plan-develop/smartregs .	1.0	City Council	City of Dubuque Housing Department, Landlords Association, Friends of Fair Housing, City of Dubuque Housing Commission, RCAC	\$	
BE2-D- 2	Implement a residential energy benchmarking (performance tracking and reporting) and labeling program for homes listed for sale. Examples include HERS (https://www.hersindex.com/), and ENERGY STAR Portfolio Manager (https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager)	2.0	City Council	State of Iowa, City of Dubuque Housing Department, Realtors Association, Friends of Fair Housing, City of Dubuque Housing Commission, RCAC, Black Hills Energy, Alliant Energy	\$\$	
BE2-D- 3	Develop a pilot project with the City's True North Community Development Corporation home rehabilitation program to model residential scale heat island mitigation strategies including cool surfaces, solar-friendly landscape shading strategies, impervious surface reduction, and breeze capture. Alternatively, pilot program could be advertised for submission by City of Dubuque residents, businesses and neighborhoods for potential sites to be considered for pilot project selection. Preference should be given to sites serving low income or at risk communities with high heat island impact potential. Reference City's Rehab Guidelines and Net Zero Energy Building Guide for relevant strategies.	2.0	City of Dubuque Housing Department	True North Community Development Corporation, Alliant Energy, Black Hills Energy, ECIA, NICC, Habitat For Humanity, Local Solar Installers, Trees Forever, Local Home Improvement Retailers	\$\$\$	
Strategy BE2-E: Increase net zero energy residential building stock						
BE2-E- 1	Utilize incentives, vacant City land, and current programs for pilots of net-zero buildings across different sectors. Explore option of issuing a competitive RFP for effective and innovative Net Zero pilot projects. Focus on "Net zero building in every neighborhood" to establish visibility of strategies within the community	1.0	City of Dubuque Housing Department	GDCC	\$\$\$	
BE2-E- 2	Provide City's Net Zero Energy Building Guide and Solar Ready Guidelines document to local home shows or remodeler showcase events. Include the City's Net Zero Energy Building Guide and Solar Ready Guideline documents on the City's Design Guidelines webpage (https://www.cityofdubuque.org/1295/Design-Guidelines) Explore development of a promotional component such as a "Net Zero" or "Net Zero Ready" plaque.	2.0	City of Dubuque Building Services	Home Builders Association, City of Dubuque Housing Department, Realtors Association, AIA Chapter, Alliant Energy	\$	
BE2-E- 3	Provide training on solar ready and net-zero strategies as found in the City's Net Zero Energy Building Guide and Solar Ready Guidelines to area builders with local builders association. Target 1% market coverage (140 homes) (palebluedot.ilc/dubuque-net-zero-energy-guide) (http://palebluedot.ilc/dubuque-solar-ready-guide)	2.0	City of Dubuque Building Services	Home Builders Association, City of Dubuque Housing Department, Realtors Association, AIA Chapter, NICC, Alliant Energy	\$	
BE2-E- 4	Encourage new construction and remodeling projects to meet Electric Vehicle (EV) ready standards using the EV Readiness section of the City's Net Zero Energy Building Guide. Explore development of a promotional component such as an "EV Ready" plaque.	2.0	City of Dubuque Building Services	Home Builders Association, City of Dubuque Housing Department, Realtors Association, AIA Chapter, Alliant Energy		
BE3 Promote "fuel switching" to reduce on-site fossil fuel use 10% by 2030						
Strategy BE3-A: Promote "fuel switching" to low/no carbon alternatives						
BE3-A- 1	Deploy an incentive program for electrification. Work with Alliant Energy or other regional partnerships to create financial incentives to electrify new and existing buildings. For example, rebates for panel upgrades, electric appliances, Air Source Heat Pumps, and Ground Source Heat Pumps can encourage the transition to electric energy use in homes and businesses. Goal: Target 10% residential market conversion (250 households annually) and 5% commercial/industrial market conversion (an estimated 25 commercial businesses, 10 industrial businesses annually) by 2030	1.0	Alliant Energy	City of Dubuque Building Services, City of Dubuque Housing Department, Home Builders Association, Trade Unions	\$\$	
BE3-A- 2	Work with regional energy partnerships to invest in electrification financing programs such as on-bill financing and metered energy efficiency. Working with third-party entities allows the City to leverage incentive systems for electrification, such as options for financing retrofit projects and paying back loans through power bills	1.0	GDCC	Alliant Energy, Local Banks		
BE3-A- 3	Work with Black Hills Energy Corporation to establish an option for Renewable Natural Gas for customers and achieve 2.5% commercial/industrial use by 2030 (128 businesses per year)	1.0	Black Hills Energy	GDCC, City of Dubuque Resilience Commission, Iowa Chapter of the American Biogas Council, DMASWA, Unison		
BE3-A- 4	Work with Black Hills Energy Corporation to establish an option for Renewable Natural Gas for customers and achieve 7% residential use by 2030 (170 households per year)	2.0	Black Hills Energy	GDCC, City of Dubuque Resilience Commission, Iowa Chapter of the American Biogas Council, DMASWA, Unison		
BE4 Increase renewable energy share of electric grid to 15% by 2030 (beyond current Alliant Energy commitments)						
Strategy BE4-A: Community solar for residential and commercial						
BE4-A- 1	Develop and issue an RFI / RFP for community solar developers to advance community solar options and subscriptions within City. RFP shall focus on projects that benefit all residents, particularly communities of color and low-income populations. Include community solar option benefiting small businesses. (Goal: 400 households subscribed per year, 100 businesses subscribed per year)	1.0	Sustainability Coordinator	Alliant Energy, RCAC, GDCC, City of Dubuque Economic Development, City of Dubuque Engineering	\$	
BE4-A- 2	Collaborate with Alliant Energy in establishing policies to allow Community Wind and Solar Gardens/Shared Solar, Aggregated Net Metering, and Virtual Net Metering within the City of Dubuque service area prior to statewide legislation as a demonstration project for the State.	1.0	Sustainability Coordinator	Alliant Energy, RCAC, Friends of Fair Housing, GDCC, City of Dubuque Economic Development, City of Dubuque Engineering		
Strategy BE4-B: Increase utility scale renewable energy installations						
BE4-B- 1	Partner with Alliant to expand 1.2MW Solar Array to 3-5MW utilizing lower Bee Branch reservoir (floating solar) by year 2023.	1.0	City of Dubuque Engineering	Alliant Energy, Army Corps of Engineers, Solar Installers		
BE4-B- 2	Partner with Alliant for the development of an additional utility owned solar arrays and/or wind turbine installations totaling 12MW by 2028	1.0	Alliant Energy	City of Dubuque City Manager's Office, GDCC, City of Dubuque Resilience Commission, County of Dubuque,		

BE4-B- 3	New Hydro Electric Development at Lock and Dam – Identify strategically located energy offtakers (John Deere, Alliant Energy, etc). Research available technology options and develop proforma to use for bidding project to EPCs or submit an RFI to identify options. Construction and activation of new hydro development anticipated after 2030.	2.0	GDDC	Alliant Energy, Army Corps of Engineers, Iowa Utility Board, Dubuque Energy District, City Council	\$\$		
Land Use and Transportation							
Goal TL1 Decrease vehicle miles traveled (VMT) by 10% by 2030							
Strategy TL1-A: Build Complete Streets; target: 25% Complete Street community coverage by 2030							
TL1-A- 1	Update, fund, and adopt a more comprehensive Complete Streets Policy including but not limited to: i. Inclusive Public Process- The City of Dubuque should utilize a Charrette or other citizen input process to determine Dubuque's long-term objectives with complete streets. See also "Transparency/Accountability". ii. Systematic Approach - Upon regularly scheduled maintenance ALL roadways should be considered for compliance with complete streets concepts and how that roadway fits into the overall transportation system. iii. Transparency/Accountability - There should be public documentation of planned upgrades and exemptions to roadways as they come up for maintenance with enough time for public comment. iv. Heat Island Mitigation Integration - integrate the heat island mitigation strategies recommended in the City's citywide heat island impact study (see Buildings and Energy actions).	1.0	Council	CMO, Staff - Gina, Engineering, Planning	\$		
TL1-A- 2	Utilize and implement feedback from existing Bike Friendly Community applications and achieve a minimum of Silver Bicycle Friendly Community certification by 2025 (https://bikeleague.org/community)	1.0	Planning - Wally?	Gina (for implementation, other depts action specific)			
TL1-A- 3	Engage employers to secure a minimum of 10 Bike Friendly Business designations (goal of 25% of workforce impacted) (https://bikeleague.org/business)	1.0	GDDC + biz comm. (large employers)	Gina, Bike Coop, Chamber (Free Flight is only certified biz), Einstein Bagels - check with them, book stores on college campus			
TL1-A- 4	Implement a comprehensive sidewalk network plan and policy - with public funding plan. Implementation should prioritize locations which improve equity of mobility.	2.0	engineering dept. / Council	tri-state trail vision (who else wrote letters of support for JFK sidewalk; AARP/Goodwill/School District/Golden View publication/churches - walk to church day	\$		
Strategy TL1-B: Promote reduced vehicle travel citywide							
TL1-B- 1	Engage colleges and universities to secure a minimum of 3 Bike Friendly University designations (https://bikeleague.org/university)	1.0	Colleges/RCAC/Jake, Adam, Lalith	college student groups			
TL1-B- 2	Establish an incentive or subsidy and promote commuter mode-neutral incentives with the goal of 25% of private workforce receiving mode-neutral incentives or telecommute benefits. Note, commuter "mode-neutral" incentives equalize overall commuter incentivization and benefits of all commute choices, creating equity for non-auto commute choices. Resources: https://www.vtpi.org/tm/tm8.htm https://www.smartgrowthamerica.org/app/legacy/documents/smartgrowthclimatepolicies.pdf http://shoup.bol.ucla.edu/Parking%20Cash%20Out%20Report.pdf	1.0	Council (TIF tie in)		\$\$\$		
TL1-B- 3	In coordination with right-pricing of on-street parking which redesigns parking fees to capture the full cost of parking in downtown and other commercial districts with equity and carbon reduction in mind, establish parking betterment districts where revenue generated at meters supports neighborhood infrastructure and other transport mode investments such as bike and pedestrian paths, public transit improvements.	1.0	Council with Transportation Services				
TL1-B- 4	Engage employers to secure a minimum of 10 Top Work places for commuters designations (goal of 25% of workforce impacted) (https://www.bestworkplaces.org/)	2.0	GDDC + biz comm. (large employers)	Chamber of Commerce			
TL1-B- 5	Implement mode-neutral commuter incentives or telecommuting benefits for City employees Resource: https://www.smartgrowthamerica.org/app/legacy/documents/smartgrowthclimatepolicies.pdf	2.0	Human Resources + CMO + Council		\$\$\$		
TL1-B- 6	Provide information on parking availability, transit routes, bike paths using one application: Integrate smart traffic project with smart parking and bus/shuttle routes	2.0	Transportation Services + Planning (bike path "stuff")	Dave Ness/ECIA "STREETS"			
TL1-B- 7	Participate, promote, engage and support Bike to Work/School Week efforts	2.0	Tristate Trail Vision	Bicycle Retailers, Dubuque Community School District, DUPACO, Dubuque Bike Coop, Bee Branch Greenway			
TL1-B- 8	Leverage Iowa Games as an opportunity to host a Walking and Biking, Challenge focused on increasing awareness of existing and planned complete street routes.	3.0	Travel Dubuque	City of Dubuque Engineering, Dubuque Bike Coop, City of Dubuque Planning, Bee Branch Greenway, Iowa Games			
Strategy TL1-C: Encourage density and increase housing options and affordability; target: increase gross density by 3.75% by 2030							
TL1-C- 1	Issue competitive redevelopment Request for Proposals encouraging high quality mixed use redevelopment on infill properties and existing surface parking lots within downtown district. RFP's should focus on equity, affordability, livability, and compliance/support of Climate Action Plan goals.	1.0	City of Dubuque Planning Services	GDDC, City of Dubuque Economic Development	\$		
TL1-C- 2	Fund neighborhood-based plans for all neighborhoods to encourage neighborhood identity, engagement and development. Plan goals should be to increase housing density, options, affordability, and equity while furthering the goals of the Climate Action Plan.	1.0	City of Dubuque Planning Services	City Council, Neighborhood Associations	\$\$\$		
TL1-C- 3	Incentivize infill and mixed-use development, particularly in census tracts with highest existing and planned public transit service and highest existing and planned bike trails and routes (e.g., through alternative code compliance, fee waivers, density bonuses, investment prioritization, development impact fees, tax benefits, historic tax credit utilization). Create an Infill Redevelopment Plan identifying priority infill redevelopment sites and establishing an implementation plan for redevelopment. Initial Focus areas include: Kerper Blvd, Loras Blvd, University Ave, Hill St.	1.0	City of Dubuque Economic Development	City of Dubuque Planning Services, City of Dubuque Housing	\$\$\$		
TL1-C- 4	Consolidate residential zoning categories to allow density based on market demand and historical development patterns. Example: multi-family moderate density in midtown area, mixed-use along transportation corridors. If infeasible, increase allowable density along transportation corridors (example - walkable, mixed-use low rise buildings along arterials).	1.0	City of Dubuque Planning Services	City Council, GDDC, Local Real Estate Developers			
TL1-C- 5	Implement form-based code to along transportation corridors with goal of improved pedestrian experience (frequent access points, greenspace)	1.0	City of Dubuque Planning Services	City Council, GDDC, City of Dubuque Engineering, Local Real Estate Developers, City of Dubuque Transit Department			
TL1-C- 6	Eliminate minimum parking requirements from Unified Development Code and replace with a transportation reference guide for development that includes considerations for all modes. Allow developers to determine and defend their transportation needs - don't mandate parking. Resource: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/f0016902-final-pricing-parking-management-to-reduce-vehicles-miles-travelled-pi.pdf	2.0	City of Dubuque Planning Services	City Council			

TL1-C- 7	Conduct public engagement and development planning around public transit transfer areas to increase Transit Oriented Development. Specifically address mixed use and childcare access near transit hubs. Provide incentives based on results of planning process.	2.0	City of Dubuque Transit Department	City of Dubuque Planning Services, GDCC, City Council, YMCA, Dubuque Community School District	\$		
Strategy TL1-D: Increase public transit ridership to 3% by 2030							
TL1-D- 1	Research, develop and promote a universal access program for employers to support (public-private partnership) commuter specific routes and services. Resource: https://www.cdta.org/news/connecting-capital-region	1.0	City of Dubuque Transit Department	DUPACO			
TL1-D- 2	Increase frequency of public transit routes to a minimum of 30 minutes (goal of 15 min frequency)	2.0	City of Dubuque Transit Department	Dubuque Main Street, Local Universities and Colleges, Travel Dubuque, Five Flags	\$\$\$		
TL1-D- 3	Establish a single credential for either all city services a "City Pass" to include library, pool, recreation programs, and transit OR establish technology integration between City and regional transit providers to allow one pass for all transit services. As additional public services roll out, ensure technology integration. Resource: Navigo Paris, France	2.0	City of Dubuque Transit Department	City of Dubuque Leisure Services Department, City of Dubuque Library, City of Dubuque Park and Recs Commission	\$\$		
Strategy TL1-E: Increase shared mobility utilization; target: increase shared mobility (carpooling) from 8.55% to 11% of commuters by 2030							
TL1-E- 1	Implement Existing Plans starting with infrastructure and policy changes first and education and encouragement, second: Implement a minimum of 3 East-West and 3 North-South Complete Street corridors based on the Tri-State Integrated Walking, Biking, Hiking Plan (Envision 2010 top 10 project) with a focus on commuter routes	1.0	City of Dubuque Engineering	Tri State Trail Vision, Dubuque Community School District, ECIA, Iowa Department of Transportation			
TL1-E- 2	Conduct a pilot bike-share service in a limited geographic area	2.0	City of Dubuque Transportation Services	DUPACO, Local Universities and Colleges			
TL1-E- 3	Ensure ordinances allow flexibility for mode-forward services, for example: ride-hailing services such as Uber and Lyft; and the bike-share services Zagster and LimeBike, scooter-share	2.0	City of Dubuque Planning Services	City of Dubuque Sustainability			
TL1-E- 4	Outline clear policies for electric bikes, skateboards and scooters on city bike lanes, sidewalks, paths and trails	3.0	City of Dubuque Planning Services	City of Dubuque Sustainability, City of Dubuque Engineering			
Strategy TL1-F: Increase pedestrian access and safety							
TL1-F- 5	Implement Existing Safe Routes To Schools Plans starting with infrastructure and policy changes first and education and encouragement, second: At each school, implement a minimum of recommended speed reductions, raised or high visibility crosswalks and signage from Dubuque Community Schools and Holy Family Catholic Schools Safe Routes to School (SRTS) Plan	1.0	City of Dubuque Engineering	Dubuque Community School District, Iowa Department of Transportation, Neighborhood Associations	\$\$\$		
TL1-F- 6	Collaborate with colleges and universities to develop and implement Safe Routes to School programs and infrastructure for each campus	1.0	City of Dubuque Engineering	Local Universities and Colleges, City of Dubuque Planning			
TL1-F- 7	Evaluate and reduce speeds on pedestrian and bicycle corridors and major crosswalk/intersections	2.0	City of Dubuque Engineering	City of Dubuque Police, Tri State Trail Vision, Dubuque Community School District, Neighborhood Associations			
TL1-F- 8	Focus on transportation access for everyone using 5-95 access as the goal (5 years old to 95 years old), not just very fit and capable cyclists and pedestrians	2.0	City of Dubuque Engineering, City of Dubuque Transportation Services	City of Dubuque Police, Tri State Trail Vision, Dubuque Community School District, Neighborhood Associations			
TL1-F- 9	Evaluate crosswalks and extend crosswalk signal times based on findings of evaluation including populations using the intersections.	2.0	City of Dubuque Engineering	Tri State Trail Vision, Dubuque Community School District, Neighborhood Associations	\$\$		
TL2 Support and encourage alternative fuel vehicles, achieve 20% of vehicles sold and 15% of VMT by 2030							
Strategy TL2-A: Transition City fleet to alternative fuels							
TL2-A- 1	Update City vehicle (including The Jule transit) purchasing policy/budget process to default to alternative fuel with traditional internal combustion engine (ICE) as optional requiring proof of need. For ICE Vehicle options, establish minimum fuel efficiency requirements. Focus on small vehicles as well as large vehicles for alternative fuels. EV replacement to be prioritized for high mileage vehicles. Goal: Achieve 50% EVs within City Fleet by 2030, maximize utilization of Renewable Natural Gas (RNG) and kWh produced from RNG from City biogas resources (explore using new funding options in American Recovery and Reinvestment Act (ARRA), Diesel Emissions Reduction Act (DERA), Iowa Energy Center (IEC) Board and the Iowa Economic Development Authority (IEDA) and Volkswagen Clean Air Act Settlements for State of Iowa)	1.0	City Council	City of Dubuque Finance Department, City of Dubuque Public Works, City of Dubuque Sustainability, City of Dubuque Engineering, GDCC, Alliant Energy,			
Strategy TL2-B: Support and encourage alternative fuel vehicles citywide							
TL2-B- 1	Collaborate with Alliant Energy to develop and implement outreach and education campaigns designed to help residents understand the benefits of transitioning to an EV and to learn how to leverage applicable Alliant Energy programs or other incentives to facilitate EV charger installation or EV purchase. Explore with Alliant the development of additional incentives to advance the city's EV goals. Program should focus on increased community equity	1.0	Alliant Energy	Dubuque Energy District, Local Auto Retailers, City of Dubuque Transportation Services (parking), State of Iowa Clean Cities Coalition, Local Electrical Union			
TL2-B- 2	Create an Electric Vehicle (EV) Transition Study and Masterplan to map existing infrastructure, determine the current and future demand for EV charging stations, Establish public EV parking regulation and policy, and to identify options for increasing number of electric charging stations in public parking areas (e.g., schools, parks, libraries, City-owned parking garages, near City Hall) and in commercial and high-density residential areas. Master plan should identify additional strategies and actions for advancing EV adoption to meet or exceed the Climate Action Plan goals.	1.0	City of Dubuque Planning	Alliant Energy, City of Dubuque Sustainability, City of Dubuque Engineering	\$		
TL2-B- 3	Work with local utility providers to promote and incentivize alt-fuel vehicle locations. Program implementation should focus on increasing community equity.	1.0	GDCC	Alliant Energy, Black Hills Energy, City of Dubuque City Manager's Office			
TL2-B- 4	As a prerequisite to receipt of TIF funds and/or other local incentives via development agreements require EV ready construction and installation of EV charging stations. Include for new AND amended agreements.	1.0	City of Dubuque Economic Development	City of Dubuque Finance Department			
TL2-B- 5	Set an emissions standard for mass transit vehicles (including cabs, ride-sharing services) to achieve our climate and air quality goals	1.0	City of Dubuque Transit Services	City of Dubuque Public Works			

TL2-B- 6	Allow or require builders to include EV charging station parking spaces as part of the required off-street parking spaces for new commercial and multi-family building construction	2.0	City of Dubuque Planning Services	RCAC, City of Dubuque Planning Commission, City of Dubuque Building Services, City Council			
TL2-B- 7	Organize and promote an electric vehicle (EV) Group Purchase campaign annually to partner with local dealerships to offer limited-time discounted pricing on EVs to help reduce the costs of EV purchasing through volume purchasing power. Program should focus options to increase community equity. Group purchase could be coordinated with City of Dubuque fleet vehicle purchases.	2.0	City of Dubuque Sustainability	City of Dubuque Public Works, Local EV Auto Dealers, Alliant Energy	\$		
TL2-B- 8	Encourage new construction and remodeling projects to meet Electric Vehicle (EV) ready standards using the EV Readiness section of the City's Net Zero Energy Building Guide	2.0	City of Dubuque Building Department	City of Dubuque Planning Services			
TL2-B- 9	Work with large entities and employers to host EV charging station.	2.0	Alliant Energy	City of Dubuque Sustainability			
TL2-B- 10	Make all EV charging (home and private) franchise fee exempt.	2.0	City Council	RCAC, City of Dubuque Finance			
TL2-B- 11	Develop public and private partnerships for the installation of fast-charging electric vehicle chargers in publicly accessible parking areas along tourism corridors, at workplaces, and in multi-family housing developments.	2.0	Alliant Energy	City of Dubuque Sustainability			
TL2-B- 12	Establish education materials on EV charging permitting process: Develop a guide or process checklist for what is required for EV infrastructure installation (include contacts at Alliant Energy when working with electric utility is appropriate), establish an EV Charging Station checklist for use by building owners, designers and contractors. Establish list of where to buy	2.0	City of Dubuque Building Department	City of Dubuque Sustainability, Alliant Energy	\$		
TL2-B- 13	Collaborate with local partners to host ride-and-drive events to increase EV ownership by providing residents an opportunity to compare EVs to ICE vehicles through test drives. This also encourages local dealerships to stock more EVs, thus keeping business local. Showcase tools and information from vehicle manufacturers, clean air and transit regional entities, and the electric utilities. City to showcase EV use in city fleet.	3.0	City of Dubuque Sustainability	City of Dubuque Public Works, Local EV Auto Dealers, Alliant Energy			
	Water, Wastewater and Flooding						
	Goal W1 Increase water conservation citywide						
	Strategy W1-A: Promote increased water conservation citywide						
W1-A- 1	Improve/refine water and energy utilization incentives: Users retain non-profit reduced rates IF water efficiency/climate resiliency best practices used; Users retain residential second meter option at a reduced rate for outdoor irrigation/watering/pool filling, and IF water efficiency and climate resiliency best practices are used.	1.0	Dubuque Water Department	Dubuque Budget & Finance, American Waterworks Association			
W1-A- 2	Implement pricing preference for households installing water efficient fixtures (such as WaterSense certified fixtures) and water/energy efficient water heaters. Establish incentives/cost reduction programs for qualifying low-income residents to purchase WaterSense certified fixtures.	2.0	Dubuque Water Department	Dubuque Budget & Finance, American Waterworks Association			
W1-A- 3	Explore modifying residential water rates that better incentivize water conservation and dis-incentivize water use.	2.0	Dubuque Water Department	Dubuque Budget & Finance, American Waterworks Association			
W1-A- 4	Consider requirements for businesses that sell single-use plastic water bottles to provide an accessible drinking fountain with bottle filler capacity.	2.0	Shane Hooper	Dubuque Sustainability Office			
W1-A- 3	Explore incentives for businesses, institutions, and events that do not allow the sale or use of single use plastic water bottles.	3.0	Dubuque Water Department	Dubuque Budget & Finance, American Waterworks Association	\$\$		
	Strategy W1-B: Maintain and update city plans and standards in support water conservation goals						
W1-B- 1	Continue to evaluate opportunities for real-time water and energy metering that may help customers better understand and reduce their water and energy consumption (example: https://www.fluidwatermeter.com/). Implementation should focus on improving community equity	1.0	Dubuque Water Department				
W1-B- 2	Develop, distribute, and promote a water efficiency and climate resiliency best practices guide for improved water efficiency in residential, commercial, and industrial properties. Explore the development of an award/recognition program for residents/businesses with greatest water conservation achievements through use of the guide	2.0	Dubuque Sustainability Office	Dubuque Building Department, Resilience Commission, Dubuque Green Drinks, Green Dubuque, Dubuque River Museum	\$		
W1-B- 3	Explore options for expanding the use of greywater systems and water conservation measures in public and private buildings	2.0	Dubuque Facilities Management	Dubuque Construction and Inspection Services			
W1-B- 4	Continue to Update City landscaping standards for reducing water consumption, pesticide, and chemical use.	2.0	Dubuque Leisure Services	Dubuque Parks Commission, Dubuque Resilience Commission			
	Goal W2 Reduce wastewater impacts						
	Strategy W2-A: Capture and use of wastewater energy potential						
W2-A- 1	Conduct a study to determine facility specific GHG emissions generated by nitrification and denitrification processes used in the wastewater treatment. Study should explore additional mitigation actions and recommend next steps.	1.0	WRRC	Dubuque Engineering Department, Local Colleges	\$		
W2-A- 2	Continue research into additional biogas opportunities at the City's wastewater treatment plant: Enhance existing RNG development capacity. - Research ability to recycle released CO2 into biogas production - Research ability to increase biogas production and reduce landfill waste feedstocks through new WRRC handling and processing capacity for commercial organics. - Research ability to convert WRRC biosolids/digestates from energy and funding consumption model (trucking and land application) to energy and funding production model (dry anaerobic processing for biogas and compost Bi-products)	2.0	WRRC	Dubuque Engineering Department, Local Colleges, Greater Dubuque Development	\$		
W2-A- 3	Study options for retaining City waste water treatment plant produced Renewable Natural Gas (RNG) and kWh for City heating and electrical needs. Study to identify potential new funding sources.	2.0	WRRC	Dubuque Engineering Department, Greater Dubuque Development	\$		
	Strategy W2-B: Reduce waste water generation						
W2-B- 1	Improve/refine waste water and storm water discharge incentives: Implement incentives/pricing preference for businesses and households installing waste/storm water avoidance strategies: - Rain gardens - permeable pavers - energy efficient dishwashers - Greywater reuse Implement new data enhanced outreach and incentives to identify and remedy sources of waste/storm water before management or processing is required. Incentive implementation should focus on improving community equity	1.0	Dubuque Water Department	Dubuque Budget & Finance, American Waterworks Association			
W2-B- 2	Evaluate the potential for installation of rainwater collection systems at City facilities for graywater uses, and investigate opportunities for graywater reuse at existing and new City facilities and properties. Implement grey-water systems identified capable of reducing energy/water demand in other areas (for example, watering urban tree canopy to reduce heat island effect and air conditioning needs)	1.0	Dubuque Engineering Department				


W2-B- 3	Implement a policy to require installation of rainwater collection systems and WaterSense water efficient fixtures and appliances at all City facility projects and all projects receiving \$50,000 or more in City tax abatement, financing or funding. providing information and technical assistance.	2.0	City Council	Dubuque Engineering Department, Dubuque Water Department, Dubuque Building Department			
Strategy W2-C: Improve waste water pollution prevention							
W2-C- 1	Reduce pollutants, including PFAS, entering the sewage system that contaminate WRRRC effluent and reduce beneficial use options for biosolids/digestate. Develop, distribute, and promote a Wastewater Pollution Prevention guide and establish an additional resources page (examples: https://dnr.mo.gov/pubs/pub1128.pdf ; https://www.townofchapelhill.org/home/showdocument?id=8535 ; https://www.cityofpacificgrove.org/living/green-pg/waste-water/preventing-waste-water-pollution)	1.0	WRRRC	Dubuque Public Information, Dubuque Chamber of Commerce	\$		
Goal W3 Mitigate flood hazards and impacts							
Strategy W3-A: Educate, engage, and empower the public for flood mitigation							
W3-A- 1	During and immediately after major rainfall events, deploy an education and communication plan in coordination with the appropriate partners such as Catfish Creek Watershed Management Authority to alert residents, businesses and institutions of any potential water quality issues such as increased E Coli counts. Communication systems also to include recommendations on delaying activities that could contribute to stormwater inundation.	1.0	Dubuque Engineering Department	Dubuque Public Information, Dubuque County, Catfish Creek Watershed Management Authority	\$		
W3-A- 2	Provide flood insurance education to home owners, particularly new home buyers and at-risk home owners. Education should include when insurance is recommended, purposes for flood insurance, and what is typically covered and not covered by insurance.	1.0	Dubuque Planning Department	Dubuque Realtors Association, Dubuque Housing Department	\$		
W3-A- 3	Strengthen education and outreach efforts in culturally appropriate and accessible ways, especially for those most vulnerable to potential impacts of flooding, to help the public understand, prevent and respond to vector-borne diseases	2.0	Dubuque Office of Shared Prosperity	Dubuque Public Information, Dubuque Health Department, Dubuque County	\$		
W3-A- 4	Promote "landscaping for absorption" practices for water prone residential and commercial landscapes. Strategies include reduction/elimination of hardscape surfaces, use of native moisture tolerant perennial plantings and shrubs, use of compost, natural mulching, and soil aeration.	2.0	Dubuque Construction and Inspection	Dubuque Resilience Commission, Dubuque County Master Gardeners, Dubuque Area Garden Clubs, Dubuque County Conservation, Dubuque Planning Department			
W3-A- 5	Expand use of City's SCADA system to actively monitor and communicate flood events.	2.0	Dubuque Engineering Department	WRRRC, Dubuque Public Information			
W3-A- 6	Establish a preparedness education program and an emergency alert system that help protect the community from flooding and extreme heat events.	3.0	Emergency Management Coordinator	Dubuque Public Information	\$		
W3-A- 7	Expand public education about the value of watersheds, rain gardens, and low-impact development to address stormwater run-off	3.0	Dubuque Engineering Department	Dubuque County, Catfish Creek Watershed Management Authority, Dubuque River Museum			
W3-A- 8	Continue promoting information regarding flood insurance on City's website (https://www.cityofdubuque.org/1242/Flood-Maps-Flood-Insurance) Expand content to include flash flood and event based flooding. Promote information, particularly among properties identified as at risk in City's Blue Spot Flash Flood risk mapping.	3.0	Dubuque Flood Plain Administrator	Independent Insurance Agents of Iowa, Dubuque Realtors Association, Dubuque Housing Department, Dubuque Area Independent Inspectors, Dubuque Area Banks and Mortgage Companies			
W3-A- 9	Explore opportunities for use of public art to educate about water quality and stormwater impacts. Art installations could be both permanent, temporary, and interactive.	2.0	Dubuque Arts & Cultural Affairs Commission	Dubuque Public Information			
Strategy W3-B: Update design standards and plans for flood mitigation							
W3-B- 1	Review and update Public Infrastructure Design Standards to meet Climate Change projections for Dubuque. Determine stormwater volume requirements meeting anticipated future storm levels and identify stormwater management systems and infrastructure not capable of meeting projected needs. Prioritize upgrades required and implement. Integrate upgrades into already scheduled maintenance programs and budgets.	1.0	Dubuque Engineering Department	Dubuque Planning			
W3-B- 2	Prepare a Blue Spot flash flood risk map to identify areas within city that are particularly vulnerable to flash flood impacts. Create a composite flash flood risk map overlapping flash flood risk with the Citywide tree canopy, impervious surface, and heat island contribution mapping created in the City's Heat Island Impact study (see Heat Island Strategies) as well as the vulnerable populations mapping (see City's Climate Vulnerability Assessment). Review flash flood risk identified near/around critical and sensitive community infrastructure (emergency response, power generation, fresh water supply, hospitals, etc) and identify sites requiring flash flood protection enhancements. Based on risk mapping and assessments, create an implement a risk reduction and response plan. Share and promote the information developed by the flash flood risk map, particularly among vulnerable populations and neighborhoods. (https://climate-adapt.eea.europa.eu/metadata/tools/the-blue-spot-model-a-key-tool-in-assessing-flood-risks-for-the-climate-adaptation-of-national-roads-and-highway-systems)	1.0	Dubuque Engineering Department	Dubuque Planning	\$\$		
W3-B- 3	Confirm Flood wall readiness for current and anticipated climate change impacts. Explore opportunities to improve system with earth levy combined with bike and walking trails.	1.0	Dubuque Public Works	Dubuque Engineering Department	\$\$		
W3-B- 4	Prepare a comprehensive plan for stormwater management that goes beyond baseline regulatory requirements and includes green infrastructure with the goal of eliminating Stormwater Sewer Overflows (SSO).	1.0	Dubuque Engineering Department	Catfish Creek Watershed Management Authority, Dubuque Leisure Services Department	\$\$		
W3-B- 5	Establish a Green Infrastructure Masterplan to target specific types of green infrastructure to implement including: parking lots, alleys, parks, vacant lots, parkways, and grading near sidewalks. In addition, identify property owned by other public entities that have a high potential for improved ecological management to improve stormwater management functions (school districts, county, etc)	1.0	Dubuque Planning Department	Dubuque Engineering Department	\$\$		
W3-B- 6	Test, train on, and update emergency response plans that address hazards likely to become more frequent or intense as the climate changes, including power loss, flash flooding, and unseasonal riverine flooding	2.0	Dubuque Emergency Management Coordinator	Dubuque Fire Department, Dubuque Public Works, Dubuque Engineering Department, WRRRC, Dubuque Water Department			
W3-B- 7	Establish and implement a policy requiring a biochar or biosolids soil amendment for all building and earth working construction sites – improves soil sequestration and builds carbon content of topsoil, and improves water retention and permeability characteristics.	2.0	City Council	Dubuque Parks Department, Dubuque Construction and Inspections, Dubuque Planning, Iowa Farm Bureau			
W3-B- 8	Set a limitation on the total citywide percentage of pavement and impervious surface areas.	2.0	City Council	Dubuque Planning, Dubuque Engineering Department, Dubuque Construction and Inspection			
W3-B- 9	Change design and management methods to minimize water use and waste in publicly owned or managed properties while still maintaining thriving vegetation. Replace potable water lawn irrigation systems with grey/recycled water systems at city-owned facilities and replace lawn areas with drought tolerant landscape design where practicable.	2.0	Dubuque Facilities Management	Dubuque Construction and Inspection Services, Dubuque Parks Department			

W3-B- 10	Review city codes, drainage rules, and surface waterways to evaluate their ability to protect and improve stream flows, seeps, springs, wetland function, water quality including temperature, vegetation and habitat, and stormwater management during periods of extreme heavy rain. Use the Natural Resource Inventory and other data to track gains and losses, and propose revisions as necessary	4.0	Dubuque Engineering Department	Dubuque Planning			
Strategy W3-C: Create a storm water infiltration plan							
W3-C- 1	Establish a Storm Water Infiltration Plan identifying priority areas and strategies for improved infiltration of storm water to minimize storm water volumes requiring handling while increasing water aquifer recharging. Strategies to focus on reduction of impervious surfaces, increase of permeable surfaces, trees, bio swales, rain barrels, rain gardens, compost, mulch, etc. Coordinate and integrate Plan with city's Citywide Heat Island Impact Study (see Buildings and Energy actions)	1.0	Dubuque Engineering Department	Dubuque Planning, Catfish Creek Watershed Management Authority	\$\$		
W3-C- 2	Advance improved Storm Water infiltration in new development by creating and enforce codes aimed at zero run-off with a focus on on zero run-off parking strategies. Coordinate and integrate Plan with city's Citywide Heat Island Impact Study (see Buildings and Energy actions)	1.0	City Council	Dubuque Planning, Dubuque Engineering Department			
W3-C- 3	Promote effective Storm Water infiltration in residential sectors by exploring rebates and incentive opportunities including tax incentives, rebates, or other incentives for decreasing driveway, roof, and yard run-off. Implementation of incentive structure to focus on increasing community equity	1.0	City Council	Dubuque Engineering Department, Catfish Creek Watershed Management Authority			
W3-C- 4	Restructure storm water fee based on impermeable surfaces with tax or other incentives for permeable surfaces and other water retention improvements.	2.0	City Council	Dubuque Engineering Department, Catfish Creek Watershed Management Authority			
Strategy W3-D: Increase flood resilience of infrastructure							
W3-D- 1	Establish incentives to prioritize the development of "green infrastructure" such as parks, wetlands, riparian and wildlife corridors, natural drainage-ways, and low-impact development, particularly in residential districts. Research green infrastructure implementation and long-term viability in local environment	2.0	City Council	Dubuque Engineering, Dubuque Planning, Catfish Creek Watershed Management Authority	\$\$\$		
W3-D- 2	Expand on the success of the Bee Branch Creek Restoration project using it as a model for the restoration of other creeks or "daylighting" of other primary storm sewer collectors for improved flash flood capacities and community amenities. (https://www.cityofdubuque.org/804/Bee-Branch-Creek-Restoration)	2.0	Dubuque Engineering Department	Dubuque Parks Department, Dubuque Public Information, Catfish Creek Watershed Management Authority			
Solid Waste and Recycling							
Goal SW1 50% Diversion by 2030 measured on a per capita basis							
Strategy SW1-A: Divert construction and demolition (C&D) waste							
SW1-A- 1	Identify jobs benefits and economic potential of implementation of construction and demolition waste diversion policies, ordinances, and permitting requirements: create cost-benefit analysis	1.0	DMASWA RFP	Iowa Economic Development		FY2022 Contract 5000	
SW1-A- 2	Collaborate with County and other partners in developing a regional construction and demolition recycling / ReUse facility	1.0	DMASWA	Dittmer Recycling		FY2022	
SW1-A- 3	Adopt a deconstruction/diversion ordinance to require the reuse or recycling of salvageable construction and demolition materials.	1.0	DMASWA, City Council	Sustainable Dubuque COD - Building Services		FY2022	
SW1-A- 4	Support capacity for construction and demolition transfer, sorting and possible processing. Establish a centralized C&D drop-off and construction / demolition processing facility to provide an affordable and environmentally preferable alternative to disposal. Drop off site can be co-located or coordinated with potential ReUse facility.	1.0	DMASWA RFP Dittmer Recycling	Private Haulers DMASWA Habitat for Humanity	\$\$\$	FY2022	
SW1-A- 5	Require all commercial construction and demolition projects to submit waste management plans illustrating project's capacity to achieve specific C&D Waste diversion levels in-line with City's CAP goals	1.0	COD - Building Services	DMASWA Sustainable Dubuque		FY20223	
SW1-A- 6	Engage business community in indentifying and developing opportunities for diversion of materials in support of the City's CAP goals	2.0	Greater Dubuque Development	ECIA		FY2022	
SW1-A- 7	Partner with local organizations (e.g., Habitat for Humanity) for demolition waste pickup and reuse	2.0	Habitat for Humanity	Dittmer Recycling		FY2022	
SW1-A- 8	Promote a C&D recycling industry in city by adopting an ordinance and construction permit changes supporting C&D recycling requirements to be implemented as sufficient C&D recycling capacity is developed within the community. Actively seek C&D recycling companies or promoting the creation of new business enterprises in support of establishing capacity following the proposed policy changes	2.0	COD - Building Services, DMASWA, Dittmer Recycling	COD - Econ Development Kyle Fitzgerald		FY20223	
SW1-A- 9	Research management practices of construction and demolition waste diverted from the landfill. Provide best practices education, training, and resources to community.	2.0	Green Dubuque GIA AmeriCorps	Kyle Fitzgerald		FY2022	
Strategy SW1-B: Divert consumer waste							
SW1-B- 1	Develop and fund an assistance program for businesses to provide waste audit services, support businesses in establishing tracking and reporting waste streams, identify reduction, diversion, and beneficial use opportunities. Program should include identification of potential grants including the DMASWA Waste Minimization Grant and other revenue sources for implementation costs. Assistance program should pro-actively identify and outreach to businesses likely to benefit from waste reduction assistance. Assistance should include connecting businesses with energy audit and other resources in support of full CAP goals. Goal: 25 business waste audits completed with recommendations implemented annually.	1.0	ECIA- Special Programs - Petal Project (??)	DMASWA - Education GIA AmeriCorps Green Dubuque	\$\$\$	DMASWA RFP DMASWA Grantee	
SW1-B- 2	Create ordinance so trash haulers can incorporate more progressive Pay-As-You-Throw (PAYT) residential trash rates	1.0	DMASWA, Dubuque Bd of Supervisors	Iowa Recycling Assn ISOSWO			
SW1-B- 3	Implement a plastic straw and stirrer-free policy or opt-in policy for businesses that provide food and/or beverage services, with appropriate options for people with disabilities	2.0					
SW1-B- 4	Develop a recognition program to promote leading businesses succeeding in waste diversion and reduction.	2.0	Green Dubuque - Dubuque Area Reduce, Reuse, Recycle Network	Iowa Recycling Assn Dittmer Recycling		DMASWA Grantee	
SW1-B- 5	Reduce Citywide garbage pickup frequency to biweekly. Provide compost and recycling pickup weekly.	2.0	COD - Public Works Collection Services	Sustainable Dubuque Green Dubuque			
SW1-B- 6	Generate and enact policy, ordinance, and permitting mechanisms to increase diversion, including policies that look 'upstream' waste reduction like Extended Producer Responsibility (EPR)	3.0					
SW1-B- 7	Expand consumer education (e.g. host community forums and provide direct outreach) on sustainable consumption and materials management, including recycling	4.0	DMASWA - Education GIA AmeriCorps	COD Public Works Outreach Green Dubuque		DMASWA Grantee	
Strategy SW1-C: 50% Food waste reduction and diversion							
SW1-C- 1	Conduct a phased-in commercial organics waste collection project. Explore possible incentives for food retailers, restaurants, and institutions to participate in food waste reuse and recycling programs	1.0	COD - Public Works Collection Services, Green Dubuque	Smarter Sustainable Dubuque	\$\$\$	DMASWA Grantee	
SW1-C- 2	Based on the results of the phased-in commercial organics waste project, establish a business incubator to establish capacity for organics collection, five days a week (Monday through Friday) at businesses, particularly restaurants.	1.0	COD - Public Works Collection Services, Green Dubuque		\$\$\$	DMASWA Grantee	
SW1-C- 3	Establish an At-Home and Community Garden Composting program supporting the expansion of food waste diversion through at-home composting. Provide backyard composting workshops, tips, and resources. (https://www.bouldercounty.org/environment/composting/)	2.0	DMASWA - Education Cooperative Extension	GIA AmeriCorps	\$		

SW1-C- 4	Close the loop on organics recycling; establish a policy requiring compost be used as a soil amendment for public and private construction projects that disturb the soil cover over a baseline level to improve water infiltration in line with City CAP goals	1.0	COD - Building Svcs , Engineering BOS - Engineering	DMASWA - Education			
SW1-C- 5	Combat food wasting by 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	1.0	Sustainable Dubuque DMASWA - Education GIA AmeriCorps Cooperative Extension	Green Restaurants, institutions and grocers		DMASWA Grantee	
SW1-C- 6	Examine options for expanding commercial and residential composting, including offering compost/food waste collection at restaurants; assess the feasibility of establishing a permitted facility to compost or anaerobically digest organic materials and food waste	1.0	COD - Public Works Collection Services, DMASWA	Smarter Sustainable Dubuque		DMASWA Grantee	
SW1-C- 7	Conduct a community wide food waste assessment to identify scope of potential food diversion. Encourage Dubuque area institutions and food businesses to conduct a food waste assessment (https://www.epa.gov/sustainable-management-food/resources-assessing-wasted-food)	2.0	COD - Public Works Collection Services, DMASWA	GIA AmerCorps	\$	DMASWA Grantee	
SW1-C- 8	Provide a kitchen best practices guide to help households and businesses reduce food waste and excessive portions	3.0	GIA AmerCorps	DBQ Co Food Policy Council			
SW1-C- 9	Request DMASWA review food waste handling capacities and permitting limits and expand/update as needed to support food waste diversion and organics collection increases in line with CAP goals and supporting generation of soil amendment feedstocks and /or energy.	3.0	Sustainable Dubuque DMASWA	IDNR Iowa Dept of Econ Development		DMASWA RFP DMASWA Grantee	
Strategy SW1-D: Expanded recycling options for multi-family – equity							
SW1-D- 1	Promote subsidised low, or no charge, subscription recycling. Explore how the DMASWA Waste Minimization Grant program may support this action.	1.0	COD - Public Works Collection Services, DMASWA	Dittmer Recycling and Private Haulers		DMASWA Grantee	
SW1-D- 2	Land-Use Code Updates - improve commercial and multifamily recycling requirements by revising Land Use Code to require commercial indoor and outdoor space for recycling and diversion equal to or greater than the space provided for disposal. Explore how the DMASWA Waste Minimization Grant program may support this action.	2.0	DMASWA, Sustainable Dubuque DBQ CO BOS	COD - Planning and Zoning		DMASWA Grantee	
SW2 Waste education							
Strategy SW2-A: Waste education							
SW2-A- 1	Coordinate with the Dubuque Public Schools to establish paths towards Zero Waste program. Program to include zero waste curricula and family content as well as zero waste strategies for school facilities. (https://www.ecocycle.org/files/Zerowaste%20Realistic%20Approach%20Sustainability%20Program%20for%20Schools.pdf) (http://www.zerowastechallenge.org/curriculum.html)	1.0	DMASWA - Education GIA AmeriCorps Sustainable Schools, Cooperative Extension	DBQ Public Schools, Keystone Agency and Holy Family School System			
SW2-A- 2	Coordinate with the Dubuque chamber of commerce, business, and manufacturing associations to provide seminars, resources, and content to area businesses on Circular Economy concepts. Work with cohort to explore economic potential of Circular Economy business opportunities within the Dubuque region. (https://www.ceguide.org/)	1.0	Smarter Sustainable Dubuque COD - Economic Development		\$	DMASWA Grantee	
SW2-A- 3	Coordinate with the Dubuque chamber of commerce, business, and manufacturing associations to provide seminars, resources, and content to area businesses on the use of Life Cycle Assessment (LCA) process to minimize waste material and energy. LCA educational content should include end-of-life planning	2.0	Smarter Sustainable Dubuque COD - Economic Development		\$		
SW2-A- 4	Establish a public education program for solid waste contamination reduction education	2.0	COD - Public Works Collection Services, DMASWA - Education	GIA AmeriCorps			
SW2-A- 5	Continue, and explore opportunities to expand consumer education (e.g. host community forums and provide direct outreach) on sustainable consumption and materials management, including recycling and composting	4.0	DMASWA - Education GIA AmeriCorps Cooperative Extension	Green Businesses			
Goal SW3 Achieve 100% beneficial use of landfill gas							
Strategy SW3-A: Divert captured landfill gas							
SW3-A- 1	Divert methane captured at landfill cells to natural gas supply network in lieu of flaring on site. Goal of achieving 100% diversion of methane captured to beneficial use	1.0	Enerdyne Power Systems, DMASWA, Smarter Sustainable Dubuque	IDNR	\$\$\$		
Health and Safety							
HS1 Create a climate adaptive community							
Strategy HS1-A: Review facilities and plans							
HS1-A- 1	Support and expand a social vulnerability assessment to more effectively respond to diverse neighborhoods and households that are most at risk during emergency situations. Enhance interagency data sharing to increase response capacity across the city	1.0	Neighborhood Devt Dept	Housing (BBHHRP), Planning depts, United Way, CFGD	\$		
HS1-A- 2	Coordinate with County to incorporate climate change and CAP goals into the County's Community Health Needs Assessment Health Improvement Plan	1.0	Health Department; Gina	Dubuque County, hospitals, CCHC			
HS1-A- 3	Include a Health and Climate Change Impact Assessment component in all City plans. Develop metrics for reporting on climate related risks and health events	1.0	Health Department; Gina				
HS1-A- 4	Develop and implement a plan to monitor climate change related illnesses. Utilize results in resource and policy planning, with particular focus on neighborhoods. Communicate results to the public on a periodic basis	2.0	Health Dept	Neighborhood Devt Dept	\$		
HS1-A- 5	Form a team to develop action plans to address climate-related mental health resilience at the individual, neighborhood and community level. Explore potential to include this action with HUD Resiliency grant research, or future work in collaboration with the University of Iowa or other partners.	2.0	Health Dept, UI	Housing dept			
HS1-A- 6	Update the City's emergency response plan and ensure that preparation and updates recognize and address likely climate change impacts	2.0	Dubuque County Emergency Mgt	Health Dept			
Strategy HS1-B: Update design standards and plans							
HS1-B- 1	Prepare for public buildings to be used in different ways in support of CAP adaptation goals, both in lower-impact ways, such as seniors using the library to cool down during hot June days, and as safe-havens during acute emergencies.	1.0	City Emergency Team	vulnerable community support; City Manager; crisis communication team			
HS1-B- 2	Ensure public safety staff are properly trained to recognize and respond to physical and behavioral signs of heat-related illness	1.0	Fire; Police;	Sustainability (training/advising role)			
HS1-B- 3	Establish guidelines and appropriate requirements for adequate community-safe space within the City's special event permitting process. Community-safe space guidelines and requirements to address climate change impacts such as extreme heat, cold, extreme weather, and poor air quality. Guidelines to ensure that these spaces are accessible and adequate for vulnerable populations.	2.0	City Clerk & Special Event committee	vulnerable community support; City Manager; crisis communication team; Resources Unite			
HS1-B- 4	Ensure that facilities that serve vulnerable populations are resilient to climate hazards. 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	2.0	Dubuque Area COAD, Community Foundation of Greater Dubuque, Red Cross	Churches, homeless shelters, Dubuque Interfaith Green Coalition	\$		
HS1-B- 5	Update or develop a community resilience plan to prioritize and prepare for responses in the event of a disaster and extreme weather events. Identify the location of critical facilities including hospitals, medical service providers, senior homes, childcare facilities, shelters, major and alternate transportation routes, public transit facilities and locations where hazardous chemicals are used or stored	2.0	Dubuque County Emergency Mgt, Dubuque Area COAD, crisis communication team	hospitals, City of Dubuque, Dubuque County, Regional Transit Authority			
HS1-B- 6	Develop/Update a comprehensive heat response plan that incorporates most current climate change impact projections and combines individual strategies into an integrated approach. Components of plan may include forecasting and monitoring, education and awareness, and heat wave response strategies for City and individuals. Include Response Plan on City's Emergency Preparedness webpage (https://www.cityofdubuque.org/168/Emergency-Preparedness)	2.0	Dubuque County emergency Mgt, crisis communication team	HACAP			
Strategy HS1-C: Expand cooling and warming facilities							

HS1-C- 1	Increase availability to cooling mechanisms in low-income housing and rental units (e.g., air conditioning units, fans, window screens)	1.0	Health Department; Housing Department; HACAP	Rental building owners	\$\$\$		
HS1-C- 2	Study how cooling/warming and refuge areas and amenities can be made culturally responsive and equitable. Develop an Equitable and Culturally Responsive Refuge master plan to guide implementation.	1.0	Resilient Community Advisory Commission	Planning dept	\$		
HS1-C- 3	Educate the public about the health risks of higher temperatures, develop strategies to check on individuals at greatest risk, and make options for cooling widely accessible	2.0	Dubuque County Emergency Mgt	Public Information Office			
HS1-C- 4	Develop a plan to improve bus stop shelters' ability to provide relief from extreme heat (e.g., reflective materials, cooling fans)	2.0	Transportation Services		\$		
Strategy HS1-D: Enhance resilience of community to extreme weather							
HS1-D- 1	Adopt policies to incentivize residential building owners (particularly rental and multi-family properties), to increase the resilience of existing and new buildings with resilience strategies such as minimal impact site design standards, resilient passive and active cooling systems, resilient electrical system design, elevated HVAC and electrical off basement floor, installation of backflow preventers, tree maintenance, permeable pavements, energy conservation and on-site renewable energy generation, and safe rooms. Incentives should focus on increasing community equity.	1.0	City Council, Development Review Team	Housing, Planning, Building Services, Engineering departments			
HS1-D- 2	Explore the potential for installation of re-deployable solar microgrid systems for resilient power use in community emergency management and hazard/disaster response. Systems can be semi-permanently installed at public facilities to provide day-to-day power and re-deployed in emergency response (https://www.footprintproject.org/)	1.0	Dubuque County Emergency Mgt	Public Works dept			
HS1-D- 3	Seek to reduce exposure to extreme heat by targeting the distribution of energy-efficient, air conditioning in vulnerable populations	1.0	HACAP, Housing dept	landlords, homeowners	\$\$\$		
Strategy HS1-E: Reduce risks to health and safety created by ongoing climate impacts							
HS1-E- 1	Strengthen emergency management capacity to prepare for and respond to the impacts of climate change. The City should prioritize capacity improvements such as training and equipment to address risks exacerbated by climate change. Emergency management should be equipped to address the possibility of multiple emergencies at the same time, such as the combination of extreme heat and power outage.	2.0	Dubuque County Emergency Mgt; City Manager; Health dept	Dubuque Area COAD partners			
HS1-E- 2	Create and maintain a Response Plan for emerging vector-borne diseases, including increased capacity for health services that are triggered by certain case thresholds	2.0	City and County health depts	hospitals	\$		
HS2 Educate, engage, and empower the public for climate health and safety							
Strategy HS2-A: Expand public education campaign for impacts of climate change							
HS2-A- 1	Increase outreach to diverse populations about climate change and health, natural hazards, and emergency preparedness via broadcast, print, bus ads, social media, and other forms of communication in multiple languages and accessible to individuals with disabilities to ensure that emergency preparedness planning reaches all City residents	1.0	City and County health depts	Crescent Community Health Center; community groups focused on BIPOC, low-inc pops; churches	\$		
HS2-A- 2	Give city and county elected officials and staff tools (e.g. webinar trainings on emergency preparedness, facilitation guides, and other materials in multiple languages) to have dialogues about emergency preparedness within neighborhoods and to create local resilience strategies such as an Adopt-A-Neighbor campaign or hosting an OEM CERT-like training session in their community.	1.0	Health dept; Neighborhood Devt dept	Neighborhood associations	\$		
HS2-A- 3	Support education to the public, medical, and veterinary communities about the potential importation of non-native insect vectors (e.g. ticks, mosquitoes, fleas) through human and pet travel to areas outside of State where these insect vectors are prevalent	2.0	City and County health depts				
HS2-A- 4	Deploy point-in-time alert systems (e.g., RAVE, Nixle) to notify people of extreme weather events, periods of dangerous cold, and heat waves and refer them to resources on symptoms and prevention of climate-related illness	2.0	Dubuque County Emergency Mgt; Public Information Office		\$\$		
HS2-A- 5	Identify current efforts and programs in place to engage the business and health care community in developing emergency response plans and business continuity plans. Review and expand efforts and programs to assure climate change impacts and risks are incorporated.	2.0	Greater Dubuque Development Corp	Northeast Iowa Community College, Dubuque Area Chamber of Commerce; Dubuque Main St			
Strategy HS2-B: Educate and engage the public on extreme heat and weather risks							
HS2-B- 1	Enhance community networks and connections for those who require special attention during extreme heat and weather events, such as the elderly, homebound, disabled, isolated, or those likely to be in need of financial assistance during or after extreme weather events (heat, cold and heavy precipitation)	1.0	Scenic Valley Area Agency on Aging, Neighborhood Devt dept	Neighborhood associations			
HS2-B- 2	Develop extreme heat, weather, and poor air quality early warning and response plans and systems that alert City employees and community members when projected conditions pose a health risk. Public system enhancement should focus on reaching at-risk populations and improving community equity	2.0	Health dept	Public Information Office	\$\$		
Strategy HS2-C: Educate and engage the public on air quality and linkage with health							
HS2-C- 1	In alignment with the American Public Health Association Policy Number: 201711, city will collaborate with educators at local k-12 and colleges to ensure that air quality learning objectives, particularly those related to current and projected climate change impacts, are included in their curricula (e.g., fundamentals of air pollution assessment and control, health risk assessment, environmental justice). Collaboration should include education and training programs for health professionals, including public health, medical, and nursing programs, and science education programs for postsecondary and K-12 science students. All health professionals and students should be informed about steps individuals and communities can take to reduce air pollution, and they should be made aware of services such as the Air Quality Index that can help individuals take appropriate actions to reduce exposures on days when air quality is poor. (Coordinate with action in Capacity section)	1.0	Dubuque Community School District, Holy Family Schools, Loras, Clarke, UD, NICC	Health dept			
HS2-C- 2	Explore funding to continue and expand community outreach and education of the CLE4R collaboration between University of Iowa, the City of Dubuque, and Dubuque-area partners. CLE4R outreach and education expansion to include the climate change risks, impacts, and actions outlined in this CAP.	2.0	Health Dept; Green Dubuque; University of Iowa				
HS2-C- 3	Educate public, healthcare, and public health professionals about health risks posed by climate change, including potential changes in air quality and impacts on mental health.	2.0	City and County health depts				
HS2-C- 4	Work with County Public Health Department, Emergency Management, and local media to establish a process (and expand the number of platforms e.g., social media) to notify schools, community organizations, residents, and businesses on changes in air quality and potential impacts on health. Notification process could integrate the EPA's AirNow.gov information and platform. Final process established to be integrated within the Multi-Hazard Mitigation Plan.	2.0	City and County health depts	Dubuque County Emergency Mgt			
HS2-C- 5	Develop and distribute educational content (brochures, k-12 curricula content, infographics, media announcements, etc) which outlines and actively promotes the clean air and health benefits of strategies included in this CAP plan. Strategies to be actively promoted include use of renewable energy, conservation of energy, use of electric vehicles, public transit, ride share, and walking and biking for transportation. Engagement may include collaborating with public schools on curricula content, visiting local schools to talk about environmental conservation, sponsoring science fairs and asthma awareness days, dissemination of information.	2.0	DMASWA Educator; Health dept; Sustainability dept	Green Iowa Americorps	\$		
HS2-C- 6	In alignment with the American Public Health Association Policy Number: 201711, City will expand outreach to urban populations to better educate the public about the hazards of air pollution, including indoor air quality, and the steps individuals can take and available resources to reduce their exposure. In planning and conducting outreach efforts, the city will explore collaboration with regional and national industry trade associations, nonprofit groups, and environmental organizations.	2.0	Health dept				
HS2-C- 7	Disseminate information about the Air Quality Index and the UV index, supporting smart growth and green community programs, and working with community leaders to establish clean air policies and initiatives. Everyone can set an example for young people by thinking globally and acting locally.	2.0	Health dept				

Goal HS3 Address air quality impacts of climate change						
Strategy HS3-A: Promote reduction of particulate matter and air quality impacts of fossil fuel use						
HS3-A- 1	Reduce generation of particulate matter, air pollution, and waste heat from mobile sources by promoting and incentivizing public transit, biking and walking.	1.0	Sustainability dept; Transportation dept	Employers		
HS3-A- 2	Explore use of the EPA Midwest Clean Diesel Program resources to create enhanced City policies and ordinances and incentives for businesses. The Clean Diesel Program provides support for projects that protect human health and improve air quality by reducing harmful emissions from diesel engines. This program includes grants and rebates funded under the Diesel Emissions Reduction Act (DERA). https://www.epa.gov/cleandiesel/midwest-clean-diesel-initiative	1.0	Public Works dept; Transportation dept	Greater Dubuque Development Corp		
HS3-A- 3	Develop an incentive program to convert fuel-burning lawn equipment such as gas-powered lawn mowers and blowers to electric. Incentive should focus on increasing community equity. (For GHG impacts, see: http://palebluedot.llc/carbon-copy/2015/7/16/the-carbon-footprint-of-a-lawn)	2.0	Sustainability dept	Green Dubuque	\$\$	
HS3-A- 4	Explore use of photocatalytic concrete for city road-side construction including road surfaces, curbs, sidewalks, barrier walls, sculptures, and bus shelters.	2.0	Engineering dept	Arts & Cultural Affairs Coordinator; Transportation Services dept		
HS3-A- 5	Install roadside vegetation that creates effective barriers to prevent drifting of air pollutants to adjacent schools and residences. Vegetation should be native plantings. Conduct a study to identify the most impactful placement locations for vegetation, locations for greatest equity impacts, and establish an implementation plan https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6060415/	2.0	Parks dept; Engineering dept; Iowa DOT			
Strategy HS3-B: Implement air quality monitoring						
HS3-B- 6	Explore developing a collaboration with other government agencies, universities, and institutions to fund and install an array of sensors for monitoring air quality similar to the City of Chicago's "Array of Things" which uses light post mounted monitors. Coordinate with the US EPA Air Quality System to share data. https://www.epa.gov/aqs	1.0	IDNR, University of Dubuque	Health dept		
HS3-B- 7	In alignment with the American Public Health Association Policy Number: 201711, city will collaborate with state and county environmental offices and health departments and with the EPA regional office in assessing and remediating environmental justice concerns in Dubuque. Concerns to be assessed to include exposures to smog and toxic air pollutants and the disproportionate number of asthma cases among people of color. Assessment to prioritize review of exposures near public housing and schools in the vicinity of freeways, industrial facilities, and power plants. Impacts of land-use planning and infrastructure decisions on air pollution exposure to be reexamined.	1.0	Planning dept; Health dept	Engineering dept		
HS3-B- 8	Explore potential of deploying a series of air quality monitoring stations at appropriately located public facilities.	2.0	IDNR, City Council	hospitals		
Strategy HS3-C: Explore and address ozone impacts on local agriculture						
HS3-C- 1	Collaborate with regional agencies, universities, and agricultural interests to identify potential impacts of ozone on regional agriculture (both current and projected future impacts based on climate change). Identify strategies to address impacts.	1.0	Dubuque County ISU Extension	Farm Bureau		
HS3-C- 2	Develop educational materials on the relationship between nitrogen fertilizers, nitrogen monoxide emissions, and ground level ozone formation. Include strategies for minimizing and eliminating ground level ozone creation such as modified fertilizer management strategies and use of slow release fertilizers. Share and promote materials with regional farmers and agriculture associations. https://www.nature.com/articles/news050718-15 https://www.ucdavis.edu/news/smog-forming-soils/	2.0	Dubuque County ISU Extension	Dubuque Co Soil & Water Conservation District; Farm Bureau	\$	
Food						
Goal F1 Reduce food's contribution to climate change						
Strategy F1-A: Reduce perishable food wasting						
F1-A- 1	Create and support a business network of sourcing, distributing and marketing cosmetically imperfect produce	1.0	Grocers	Feed Dubuque County		lbs of Produce; # vendors
F1-A- 2	Educate food date labels so people won't throw out food they don't need to discard	1.0	Dietitians	Green Grocers Sustainable dubuque	\$	Social media likes and engagements
F1-A- 3	Improve logistics of sourcing and transporting surplus food from events, schools, restaurants, grocery stores and other sources.	1.0	Dubuque Interfaith Green Coalition	Feed America Du-Ride		Lbs of Food transported, # of Pickup/deliveries
F1-A- 4	Support and facilitate food donation, food rescue and distribution programs to food-insecure people. This may include working with Health Dept. regulations/ advocating for restrictive regulations to change.	1.0	Feed Dbq County Dubuque County Food Policy council	Dubuque County Health Dept		# of regulations improved
F1-A- 5	Work with distribution and retail establishments to voluntarily phase out refrigerants with high ozone depletion and global warming potential. Explore conservation, efficiency and weatherization rebates for improving refrigeration efficiency	2.0	COD - Bldg Svcs Sustainable Dubuque	Alliant Energy Dubuque county food Policy council		# of phase-outs; # of refrigeration rebates of grants
F1-A- 6	Promote Restaurant, Food Service and Household Best Management Practices oReduce Food Wastage in the Kitchen (pre-consumer) oReduce over-purchasing of food oReduce prep waste and improperly cooked food oConsider secondary uses for excess food oEnsure proper storage techniques oReduce Plate Scraping Wastage (post-consumer) -Modify menu to increase consumer satisfaction and reduce food left uneaten -Modify serving sizes and garnishes -Encourage guests to order/request and take only the food they will consume - Go Trayless at buffets and school/institutional cafeterias	2.0	GIA AmeriCorps	Food Service, Institutions, schools, restaurants, Fast Food Vendors, Households		# of facilities and HH reporting: combined estimates of food waste reduced
F1-A- 7	Expand the refrigerated and freezer capacity at free meal sites and food pantries by 2022	2.0	Feed America	Grants	\$\$\$	# of sites improved and volume of capacity expanded
Strategy F1-B: Increase food residuals recovery to beneficial use						
F1-B- 1	Expand residential food scraps/residuals collection as DMASWA processing capacity expands by 2022 oAIM: 50% of Households as Green Cart participants by 2025. Start selling certified compost	1.0	COD Public Works Collection Services	DMASWA - Education Green Dubuque	\$\$\$	# of each cart size deployed yrly; food scraps wt composted; compost sold
F1-B- 2	Expand commercial food residuals collection as processing capacity expands by 2022 oEstablish 2x/week commercial food residuals collection option by 2022 oAIM: 50% of commercial food residual tonnage to beneficial use by 2025	1.0	COD Public Works Collection Services	DMASWA Education - Green Dubuque	\$\$\$	# of each cart size deployed yrly; food scraps wt composted; compost sold
F2 Improve local food resilience and availability						
Strategy F2-A: Improve healthy food system resilience and supply safety net						
F2-A- 1	Identify opportunities to build upon the City's public health procedures, information and messaging to encourage local gardening, composting, leaving leaves, and reducing chemical fertilizers and pesticides (coordinate with Health and Safety)	1.0	Sustainable Dubuque	COD Neighborhood Development Program		Social media likes and engagements

F2-A- 2	Expand Farmers Markets, local food hubs and marketing of locally produced and processed foods. Program to focus on increased community equity and food security among at-risk populations	1.0	Dubuque county food Policy council	Convivium Urban Farmstead	\$\$\$	Survey trends yrly	
F2-A- 3	Identify funding for, develop and promote a Shared Food Processing facility with commercial grade, code compliant equipment and space. Space to be made available to individuals to produce food products for sale to public. Explore the feasibility of including an on-site locally produce food market. Facility access should focus on expanding community equity.	1.0	COD Economic Development	Ia economic Development Jeff Geerts		Meetings held, planning docs drafted partners enrolled; grants submitted, grants received	
F2-A- 4	Revise zoning ordinances to allow urban agriculture and clarify acceptability to remove barriers to front yard and rooftop vegetable gardens, edible landscaping and foraging. Proactively promote and educate the public on urban agriculture ordinances, options and approaches	1.0	COD Planning Services	Dubuque county food Policy council		Ordinances improved; social media likes and engagements	
F2-A- 5	Collaborate with State economic, workforce, agriculture, and commerce departments to develop green jobs and skills to grow, harvest, market and prepare local, climate-friendly foods	1.0	State Legislators Cooperative Extension	Ia economic Development Jeff Geerts		Meetings held, planning docs drafted partners enrolled; grants submitted, grants received	
F2-A- 6	Expand garden plots, rooftop and community garden sites with water supply options	1.0	COD Planning Services	COD - Water Distribution	\$\$\$	# of new sites; New water provided	
F2-A- 7	Collaborate with Dubuque County to develop a comprehensive farmland conservation plan that prioritizes food production while taking into consideration other Imagine Dubuque priorities. The plan could also include specific maps or areas prioritized for farmland conservation or identify those areas most at risk from development. Program should focus on exploring increased local food-to-table, local food utilization, and local development of cultural food products in support of Dubuque area underserved communities.	1.0	Dbq Co - BOS ECIA	Farners Union	\$\$	Meetings held, planning docs drafted partners enrolled; grants submitted, grants received	
F2-A- 8	Coordinate with City GIS Mapping services to identify potential sites for community garden sites or community farm sites with a focus on expanding community equity (similar to Dubuque Rescue Mission Community Farm http://dbqrescue.org/). Develop master plan and schedule for development of best sites as community garden/farm locations with a focus on improving community access equity	1.0	COD Info Services	COD Economic Development	\$	# of potential sites identified; Draft Master plan written; timeline approved	
F2-A- 9	Promote information on locations and price ranges of uncommon cultural produce, dairy and meats. Explore opportunities to expand local development of these goods through the green job and skills program (see other strategy, this category) oVulnerable populations lack information needed to get what they want to feed their families oExplore options to include these goods at community events. Shared meal events with cultural foods can help unify and break down climate stressed social barriers	1.0	Feed Dbq County Resources Unite Sustainable Dubuque	Feed America - St Stephens Bank	\$	Social media likes and engagements, # of events with expanded culturally appropriate and healthy foods offered	
F2-A- 10	Work collaboratively with the Dubuque County Food Policy Council to leverage county support and expand partnerships. This provides an important, credible decision-making body to guide food policy for years to come; aligning it with county government positions it for additional reach, resources, and impact	1.0	Dubuque County Food Policy Council	City of Dubuque, Cooperative Extension		# of contacts made; # of partnerships established	
F2-A- 11	Expand the <i>Dubuque County Food Policy</i> PARTNERS to include the City, Cooperative Extension, DCSD, Holy Family Schools, colleges, institutions, retailers and sustainable/regenerative farmers by 2022	1.0	Dubuque County Food Policy Council	Potential Partners and potential new board Members		Define PARTNERS; Broaden board demographics; grow partners 3/yr	
F2-A- 12	Collaborate with other agencies, such Iowa State Extension, in evaluating risks to local food sources under climate change. Prioritize additional action strategies with a focus on increasing community equity and food security. Identify additional implementation partnerships.	2.0	Sustainable Dubuque	Cooperative Extension		Convene local Agencies re Climate change impacts and foods; Prioritize 3 action strategies	
F2-A- 13	Incentivize food related businesses with green recognition achievement awards for Best Practices	2.0	Green IA AmeriCorps, Sustainable Dubuque	Convivium Urban Farmstead		Develop the Logo and requirements, 10 awards/year	
F2-A- 14	Support efforts to encourage expanded plant-based diets, including Meatless Monday campaigns	2.0	Green IA AmeriCorps, Sustainable Dubuque	Dubuque County Food Policy Council		Social media likes and engagements	
F2-A- 15	Work with Dubuque Water, Dubuque County, and other water providers to determine the feasibility of offering rebates or other incentives to farmers for irrigation water management equipment, water storage, reclaimed water, and conservation tillage equipment that saves potable water	3.0	State Legislators, Cooperative Extension	Dbq Co - Conservation			
Strategy F2-B: Strengthen farm to institution procurement							
F2-B- 1	Coordinate with School District, local universities, and local hospitals to establish a climate-friendly, locally sourced foods procurement policies. Explore development of group purchasing and logistics agreements to increase efficiency of local farm-to-agency process.	1.0	Cooperative Extension	Institutions Dubuque County Food Policy Council		Research policies and potential logistics partners; initiate a small pilot; evaluate and negotiate item volumes and agreements	
F2-B- 2	Work with state economics, workforce, agriculture, and commerce departments to develop green jobs and skills to grow, harvest, market and prepare climate-friendly foods. Job development to focus on increasing community equity	1.0	COD Economic Development; NICC; SBA	Ia economic Development Jeff Geerts		Research models, find local partners, contact Iowa Ecom Development	
F2-B- 3	Pass city policy to procure climate-friendly foods for events and other city-managed facilities. Foods should be locally sourced to the highest extent feasible.	2.0	Sustainable Dubuque	COD Public Information Office		Research model ordinances; draft Admin Policy	
F2-B- 4	Expand Farmers Markets, local food hubs and marketing of climate-friendly food	2.0	Dubuque county food Policy council	Convivium Urban Farmstead	\$\$\$	Establish the demand for these local foods; expand promotion	
	Greenspace and Tree Canopy						
Goal GS1 Strengthen Dubuque's tree canopy							
Strategy GS1-A: Educate, engage, and empower the public							
GS1-A- 1	Develop educational and informational resources providing information on beneficial and climate adaptive tree species, "carbon gardening" strategies for ornamental gardens, and produce gardens, tree profile rebuilding, elimination of synthetic fertilizer and pesticide use, high mow deck settings, use of biochar amendments, polyculture lawn mixture and other beneficial greenspace practices included in this CAP.	2.0	City of Dubuque Parks Department	City of Dubuque Sustainability, Planning, Trees Forever, USDA Forest Service	\$		
GS1-A- 2	Create and distribute tree and wildlife guide for residents. Guide should focus on improving urban ecosystem health and resilience.	2.0	City of Dubuque Parks Department	City of Dubuque Public Information, State of Iowa DNR	\$		
Strategy GS1-B: Update and implement recommendations in 2011 Dubuque urban forest evaluation							
GS1-B- 1	Update the 2011 Dubuque Urban Forest Evaluation. Update should include a citywide tree canopy, light impervious surface, dark impervious surface, grassland, and water coverage by census tract. Study should include heat island impact study to identify areas of high heat island contribution and impact. Findings of tree coverage, benefits, heat island impacts, and opportunities should be overlapped with vulnerable population mapping from the City's Climate Vulnerability Assessment. Study to establish specific goals of tree canopy coverage, by census tract, for reduction of dark impervious surfaces, and target "Heat Island Coefficient". Study to identify specific citywide percentage coverage goals for forested and native planting ground cover. Study to priority areas for heat island mitigation based on need, potential, and impact on equity and vulnerable populations. Study should also evaluate opportunities to plant additional trees near city facilities to reduce heat island. http://palebluedot.illc/tree-canopy-assessments	1.0	City of Dubuque Parks Department	City of Dubuque Sustainability Office, City of Dubuque Engineering	\$		
GS1-B- 2	Establish an implementation master plan with schedule, budget, and prioritized actions following the completion and recommendations of the City's updated Dubuque Urban Forest Evaluation.	1.0	City of Dubuque Parks Department	City of Dubuque Sustainability Office, City of Dubuque Engineering, Trees Forever	\$		
GS1-B- 3	Continue, and expand promotion of community grant to assist in planting trees. Grant should focus within targeted areas for improved equity as identified in the City's updated urban forest study.	1.0	City of Dubuque Sustainability	City of Dubuque Parks Department, Trees Forever			
GS1-B- 4	Promote the expansion of tree canopy in urban heat islands or areas that need air conditioning such as schools. Explore potential for pilot project. Identify target areas based on Citywide heat island impact study called for in Heat Island strategies, overlapped with vulnerable population mapping from the City's Climate Vulnerability Assessment.	1.0	City of Dubuque Sustainability	Dubuque Community School District, City of Dubuque Planning Department, Alliant Energy			

GS1-B- 5	Replanting tree loss, and Ash tree replacement for EAB management, at 110% or more of replacement with improved diversity	1.0	City of Dubuque Parks Department	Dubuque County, Dubuque Community School District, Trees Forever	\$\$\$		
GS1-B- 6	Create a tree preservation ordinance with reasonable exceptions that support the CAP tree canopy coverage and heat island mitigation goals. Ordinance should reflect projected climate changes and impacts on tree species.	2.0	City Council	City of Dubuque Planning, City of Dubuque Parks Department, Parks Commission, Resilience Commission			
GS1-B- 3	Review City ordinances, policies, and standards to assure appropriately flexible allowance of tree placement in line with City goals.	2.0	City of Dubuque Planning	City of Dubuque Sustainability, City of Dubuque Parks Department, Parks Commission, Resilience Commission			
GS1-B- 4	Emphasize diversity and native, climate appropriate plantings	2.0	City of Dubuque Construction and Inspection Services Division	City of Dubuque Parks Department, City of Dubuque Planning, City of Dubuque Engineering			
GS1-B- 5	Maintain an annual free street tree giveaway program in celebration of Earth Day (similar to 2020 Earth Day program).	3.0	City of Dubuque Sustainability	City of Dubuque Parks Department, Trees Forever	\$		
GS2 Strengthen Dubuque's green space							
Strategy GS2-A: Reduce, repurpose, and reimagine lawn space							
GS2-A- 1	Transition maintenance of all city owned properties to Carbon Gardening practices including elimination of synthetic fertilizer and pesticide use, high mow deck settings, use of biochar amendments, and polyculture lawn mixture	1.0	City of Dubuque Parks Department	City of Dubuque Engineering, Dubuque Rescue Mission Garden, Convivium Urban Farmstead, DMASWA, WRRC			
GS2-A- 2	Encourage appreciation of functional, productive use of yard space such as food production and wildlife habitat. i. Encourage a 'garden club' aimed at education for productive yard space ii. Encourage colleges to survey and certify residential wildlife habitats through a city recognition program	1.0	City of Dubuque Sustainability	Area Colleges and Universities, Dubuque County Master Gardeners, The Dubuque Arboretum, County of Dubuque, Backyard Abundance			
GS2-A- 3	Require soil profile rebuilding at all building project sites or compacted soil conditions to reduce erosion and runoff contaminated with fertilizers, increase soil carbon stores and support long-term soil building (https://www.urbanforestry.frec.vt.edu/SRES/)	1.0	County of Dubuque Soil and Water Conservation District	City of Dubuque Engineering Department, City of Dubuque Planning			
GS2-A- 4	Establish a policy and incentive to assist homeowners by covering some of the cost of converting traditional lawns by planting pollinator friendly food gardens, permaculture, wildflowers, clover or native grasses in an effort to slow the collapse of the state's bee population. (http://m.startribune.com/program-pays-minnesota-homeowners-to-let-their-lawn-go-to-the-bees/510593382/)	2.0	City Council	City of Dubuque Construction and Inspection Services, RCAC	\$		
GS2-A- 5	Educate citizens on use of chemicals and water and wildlife habitat impacts.	2.0	City of Dubuque Engineering	NMRMA, Dubuque County Master Gardeners, Dubuque County Conservation, City of Dubuque Public Information			
GS2-A- 6	Review city ordinances on lawns, explore opportunities to encourage lawn alternatives, consider set-backs and signage areas for native installations.	2.0	City of Dubuque Planning	Planning Commission, RCAC, City of Dubuque Construction and Inspection Services			
GS2-A- 7	Implement a biochar soil amendment for all building and earth working construction sites – improves soil sequestration and builds carbon content of topsoil, and improves water retention and permeability characteristics.	2.0	County of Dubuque Soil and Water Conservation District	City of Dubuque Engineering Department, City of Dubuque Planning			
Strategy GS2-B: Utilize parks and marginal city property for greater community use							
GS2-B- 1	Review access to city parks and playgrounds and diversity of amenities offered across the city. i. Consider use of vacant lots for small playgrounds and/or community gardens in coordination with Food sector CAP Goals ii. Connect hiking and biking trails throughout the city. Expand into marginal wooded areas throughout the city. iii. Bike racks at all parks, safe bike routes to all parks. iv. Expansion and diversification of community gardens.	1.0	City of Dubuque Parks Department	City of Dubuque Parks Commission, City of Dubuque Office of Shared Prosperity, City of Dubuque Construction and Inspection Services, City of Dubuque Engineering, City of Dubuque Transportation Services	\$		
GS2-B- 2	Map city owned properties and amenities offered or possible at each, including hiking, foraging, etc	3.0	City of Dubuque Public Information Office	City of Dubuque Parks Department, City of Dubuque Engineering Department, City of Dubuque Transportation Services	\$		
Goal GS3 Mitigate current and future urban heat island impacts							
Strategy GS3-A: Update design standards, plans, and policies for heat island mitigation							
GS3-A- 1	Based on city's citywide heat island impact study (see Buildings and Energy actions) Identify vulnerable urban tree canopy and street tree sections and develop policies to incentivize, encourage, or require strategic tree planting for heat island mitigation.	1.0	City of Dubuque Sustainability	City of Dubuque Engineering Department, City of Dubuque Construction and Inspection Services, City of Dubuque Parks, City of Dubuque Planning Department	\$		
GS3-A- 2	Develop a performance based ordinance requiring tree planting within parking lots. Ordinance should establish a specific goal of percentage of pavement to be shaded by trees. Explore partnering with local business (Hyvee, Target, Mall, etc) to create a pilot project to illustrate new ordinance requirements and benefits.	1.0	City Council	City of Dubuque Planning Department, Planning Commission, RCAC			
GS3-A- 3	Develop a policy that requires all housing and commercial development projects receiving City funding, PUD approval, and/or Conditional Use Permitting to implement commercial scale heat island mitigation strategies including cool surfaces, solar-friendly landscape shading strategies, impervious surface reduction, and breeze capture. Reference City's Net Zero Energy Building Guide for relevant strategies.	1.0	City Council	City of Dubuque Planning Department, City of Dubuque Construction and Inspection Services, Planning Commission, RCAC			
Strategy GS3-B: Promote and implement heat island mitigation improvements							
GS3-B- 1	Explore creation of a Heat Island Reduction Incentive / Award program to advance the actions and strategies identified in the city's citywide heat island impact study (see Buildings and Energy actions). Incentives and awards from governments, utilities, and other organizations can be an effective way to spur individual heat island reduction actions. Incentives might include below-market loans, tax breaks, product rebates, grants, and giveaways. (Determine the optimum balance for achieving climate adaptation goals of incentives vs. potential loss of tax base needed to accomplish those goals.) Explore potential for sponsorship of program by key local and regional businesses. Awards can reward exemplary work, highlight innovation, and promote solutions across the public and private sectors.	1.0	City of Dubuque Sustainability	RCAC, Dubuque Area Economic Development, Alliant Energy, Black Hills Energy	\$		

GS3-B- 2	Explore partnering with local business (Hyvee, Target, Mall, etc) to create a pilot project to illustrate heat island reduction strategies included in this CAP and their benefits.	2.0	City of Dubuque Sustainability	Dubuque Economic Development, GDCC, Local Nurseries, Local Businesses	\$\$		
GS3-B- 3	Research, evaluate and pilot porous paving, de-paving, vegetation and/or more reflective surfaces in parking areas to reduce and cool impervious surfaces, particularly in urban heat island areas with populations most vulnerable to heat. Explore partnership opportunities with local multi-family property owners (particularly low income communities), local businesses or institutions for pilot projects as well as research and development (www.depave.org)	3.0	City of Dubuque Engineering Department	Material Manufacturers, Suppliers, Local Contractors	\$\$		
Climate Economy							
Goal CE1 Capture local economic potential of climate action							
Strategy CE1-A: Create a climate action market supporting and advancing climate action strategies.							
CE1-A- 1	Establish a policy that designates City Franchise Fee Income as funding source for Climate Initiatives Partner with Alliant to proactively identify barriers in existing infrastructure to reach Distributed Generation goals (DTT Relays, Fiber Communications between substations, Other SubStation upgrades, etc...) Fund renewable and efficiency projects directly related to the utility through which the franchise fee is generated	1.0	City Council	Alliant Energy, Solar Installers, City of Dubuque Finance Department			
CE1-A- 2	Create a market for Certified Compost DMASWA: Upgrade permit and expand infrastructure to accept more food residuals. City: Create an ordinance to expand residual food scrap collection City: Specify compost utilization for all city projects	1.0	DMASWA, City Council	DMASWA, Sustainable Dubuque, Green Dubuque	\$\$		
CE1-A- 3	Fund and organize the establishment of a ReStore Facility for reusable furnishings and salvage including construction/demolition. Habitat for Humanity as partner with DMASWA	1.0	DMASWA, City Council	Habitat for Humanity of Dubuque and Jackson Counties	\$\$\$		
CE1-A- 4	Establish a policy to utilize TIF (Tax increment Financing) to incentivize Mitigation and Adaptation actions in line with the goals of the CAP.	2.0	City Council	City of Dubuque Finance Department			
CE1-A- 5	Biochar Business partnership with Forestry Division with Emerald Ash Borer Build local market for valuable product •Add to compost to boost value •Utilization as soil amendment •Utilize to bond contaminants in soil (positive cation exchange) •Establish city ordinance requiring Biochar soil amendment for all new construction projects	3.0	City Council	City of Dubuque Forestry Division, City of Dubuque Building Department, Dubuque area earthwork contractors, Dubuque area civil engineers and landscape architects			
Strategy CE1-B: Increase workforce development for the climate economy							
CE1-B- 1	Work with local union hall to ensure that apprenticeship program includes solar training. Potential partners and vehicles include: Greater Dubuque Development Corporation Green Job Development Initiative Attract Green Businesses	1.0	Greater Dubuque Development Corporation	Dubuque area Unions, Green Job Initiative, NICC			
CE1-B- 2	Explore the development of a job training and entrepreneurial development program similar to Operation Fresh Start. Program to focus on developing green jobs skills within vulnerable and underserved populations in local sustainable agriculture, energy efficiency audits and upgrades, renewable energy, and other skills that support the goals of the CAP. (http://www.operationfreshstart.org/)	1.0	Greater Dubuque Development Corporation	HACAP; Green Iowa; Americorps; Dubuque Energy District; Operation Fresh Start, NICC & Local Colleges	\$\$		
CE1-B- 3	Create an intern program similar to the Iowa DNR Pollution Prevention (P2) model. Task interns with finding resiliency solutions and cost savings. Intern development should focus on increasing community equity (https://www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling/Pollution-Prevention-P2)	1.0	Greater Dubuque Development Corporation	Sustainable Dubuque; Green Dubuque; Dubuque Community School District; Iowa DNR	\$\$		
CE1-B- 4	Promote alternatives to traditional building demolition such as relocation, deconstruction and salvage. Establish a jobs training program focused on building workforce with deconstruction skills and capacities. Job training program should focus on establishing job skills and placement for low income individuals. See Beter Futures Program (https://betterfuturesminnesota.com/services/building-deconstruction/)	2.0	Greater Dubuque Development Corporation	City of Dubuque Building Department; Iowa AIA; Better Futures Program; Dubuque Homebuilders Association	\$\$		
CE1-B- 5	Renew DBQ Low Income Solar Program through local SREC market and financing to ensure that everyone benefits from equity in solving the problem not just those that created it	2.0	Sustainable Dubuque	Dubuque Solar Installers; M-RETS	\$\$\$		
Strategy CE1-C: Explore climate action economic development and financing, particularly within underserved populations							
CE1-C- 1	Explore the creation of Community Development Finance program or institution to provide credit and financial services to underserved markets and populations, with a particular focus on advancing the goals, strategies, and actions of the City's CAP plan. (https://www.developstrongcities.org/#cities)	1.0	Sustainable Dubuque	Greater Dubuque Development Corporation; HACAP; Community Development Finance; EIRHA, City of Dubuque Economic Development	\$\$		
Goal CE2 Build marketplace climate resilience							
Strategy CE2-A: Inform businesses of climate vulnerability and opportunities for increasing resilience							
CE2-A- 1	Create an online assessment of business' vulnerability/resiliency, including the following topics and content: Potential Climate Impacts and Risks Climate Resiliency Energy: efficiency and renewables Emergency Response Zero Waste improvements Potential Incentives or Tax breaks available	3.0	Sustainable Dubuque	Greater Dubuque Development Corporation; Dubuque Area Chamber of Commerce, local colleges/universities	\$		
Strategy CE2-B: Prepare for climate change immigration/migration							
CE2-B- 1	Create an Affordable Housing Master Plan to identify current and potential future need for affordable housing including scenarios anticipating climate immigration and migration potentials. Master plan should identify priority affordable housing locations which meet the Buildings and Energy, Transportation and Land Use, Climate Adaptation, Health and Safety, and other goals of this CAP plan.	1.0	City of Dubuque Housing and Community Development	Sustainable Dubuque, EIRHA, HACAP, Habitat for Humanity	\$\$		
CE2-B- 2	Collaborate with the school district to study potential service needs which may be required under a range of climate immigration/migration scenarios. Collaborate to create a "Climate immigration and migration response plan" identifying actions.	1.0	City of Dubuque Planning and Zoning	Sustainable Dubuque; Dubuque Community School District, Inclusive Dubuque; Dubuque County Public Health; Greater Dubuque Development Corporation			
CE2-B- 3	Conduct a climate immigration / migration community development assessment to identify potential sustainable economic development and community development opportunities for the City. Assessment should assess the potential value of establishing a proactive communication and marketing campaign to areas of potential climate immigrant/migrant audiences. (coordinate with Adaptive Capacity)	1.0	Greater Dubuque Development Corporation	City of Dubuque Economic Development, Dubuque Area Chamber of Commerce	\$		
CE2-B- 4	Study strategies to maintain and increase equity in the face of potential climate change immigration / migration. Study should identify policies and efforts the City can implement to avoid "climate gentrification"	1.0	Inclusive Dubuque	Sustainable Dubuque, EIRHA, HACAP, Dubuque Multifamily Cultural Center, area colleges/universities	\$		
Climate Action Capacity							
Goal C1 Enhance and expand community capacity for climate action and resilience							

Strategy C1-A: Educate, engage, and empower the public						
C1-A- 1	Create a formal public outreach and education plan to inform the community about climate actions and progress (National Mississippi River Museum CAARE program may be a potential partner). Outreach and education should assure inclusion of chronic, non-acute, stressors	1.0	NMRMA; Green Dubuque; Sustainability dept;	Dubuque Interfaith Green Coalition; colleges; DMASWA	\$	
C1-A- 2	Design and promote CAAP educational materials to ensure full engagement of community members by using methods that are accessible and relevant to all.	1.0	Sustainability dept; Green Dubuque	Public Information Office	\$	
C1-A- 3	Build City staff capacity, within multiple departments, to support community-led, neighborhood-focused resilience actions (e.g., identifying best practices, establishing resilience hubs and implementing neighbor-based emergency response)	1.0	Neighborhood Devt dept	Neighborhood associations		
C1-A- 4	Provide information on creating Personal Response Kits. Expand on City efforts to support families who cannot afford to purchase supplies for household emergency preparedness kits to adequately prepare their homes (e.g. solicit emergency supply donations). Identify possible strategies for the structure of the program through a review of donation programs in other communities and engagement with community partners and businesses.	1.0	Dubuque Area COAD	Community Foundation of Greater Dubuque		
C1-A- 5	Develop and expand partnerships for education, training, and outreach efforts for residents around climate action and sustainability. Potential partners include regional Universities and the National Mississippi River Museum & Aquarium's existing CAARE curriculum.	2.0	NMRMA; Green Dubuque; Sustainability dept;	Dubuque Interfaith Green Coalition; colleges; DMASWA		
C1-A- 6	Work with local public and private schools to promote environmental education curriculums and provide in-school lessons on climate change science and climate action in K-12 classrooms. Curricula should include communication of actions within the City's Climate Action Plan. Establish Climate Communication and Education hubs to provide localized (neighborhood level) information and guidance on resources on climate impacts including flooding, flash flooding, extreme heat and weather, air quality, water quality, and vector borne diseases. HUB to include information from City's Blue Spot flash flood risk assessment and promote the City's flood and water quality information HUB. HUB should Emphasize steps individuals can take to improve emergency preparedness, support the City's CAP, and increase awareness of City and other alert systems. (https://www.ready.gov/heat ; https://www.ready.gov/severe-weather ; https://www.ready.gov/drought ; https://www.ready.gov/thunderstorms-lightning ; https://www.ready.gov/tornadoes ; https://www.ready.gov/winter-weather)	2.0	DCSD, Holy Family Schools	colleges, DMASWA		
C1-A- 7	Explore communication and education strategies to reach different audiences. Consider developing robust climate education app such as a "choose your own adventure" activity/app or other existing tools like the NIH Preparedness app (https://tools.niehs.nih.gov/wetp/index.cfm?id=2536)	2.0	Green Dubuque	Sustainability dept		
C1-A- 8	Work with the Iowa DNR and County Public Health Department to establish a process (and expand the number of platforms e.g., social media) to notify schools, community organizations, residents, and businesses during periods of air quality, water quality, extreme heat, and extreme weather concerns. Coordinate to provide educational resources on actions for personal and family safety.	2.0	City and County health depts			
C1-A- 9	Develop and promote educational materials on the health impacts of air pollution, extreme heat, longer allergy seasons, and vector-borne disease	2.0	City and County health depts	hospitals; Crescent Community Health Center	\$	
C1-A- 10	Provide information on what residents can do to reduce their carbon footprint and how their households can be more resilient. Action examples should focus on strategies included in the City's CAP and should highlight opportunities for increasing the community's equity	2.0	Green Dubuque; Dubuque Interfaith Green Coalition; Sustainability dept			
C1-A- 11	Create a climate change awareness "mascot" to promote education, awareness, and action at public events. Mascot development and design could be conducted as a design competition and education/engagement opportunity in itself.	4.0	Dubuque Sustainability		\$	
C1-A- 12	Increase household education about water quality and food storage risks resulting from power outages associated with increased extreme weather events	4.0	Health dept			
Strategy C1-B: Support development of social networks to build social resilience						
C1-B- 1	Explore modifications to City's zoning ordinance, such as allowance of accessory dwelling units, to encourage development of affordable intergenerational single-family homes and multi-family housing with a focus on improved social connectedness across demographic cohorts (age and ethnicity)	1.0	Planning dept			
C1-B- 2	Ensure safe and welcoming community spaces for all, including parks, community and youth centers, and city streets and rights of way, located in all areas of the city. Identify areas within city not served by park space within 10 minute walk and develop a master plan to establish effective park spaces to support social connectedness in areas with greatest need, with a priority on equity. Study should coordinate with bike and walkability and public transit plans and pathways. See Parkscore: https://parkserve.tpl.org/mapping/index.html?CityID=1922395	1.0	Leisure Services dept; Planning dept	Engineering dept; Transportation Services dept		
C1-B- 3	Strengthen social connectedness through relationship-building among community members across age, ethnicity, income, and other demographic differences	1.0	Community Engagement Coordinator; Neighborhood Devt Specialist			
C1-B- 4	Expand activity and participatory arts programs for older adults, extracurricular activities for youth social engagement, youth peer mentoring and intergenerational mentoring. Programs should focus on expanding social connectedness within and between demographic cohorts (age and ethnicity)	2.0	Dubuque County ISU Extension; Leisure Services	Scenic Valley Area Agency on Aging; senior living facilities; DCSD; affinity groups		
C1-B- 5	Expand the use of social media to share information and encourage collaboration and civic engagement. Identify responsible party within city to establish and maintain a social media campaign to include organized and regular climate action plan implementation and/or climate change preparedness communications	2.0	Dubuque Sustainability	Dubuque Public Information		
C1-B- 6	Ensure integrated community centers that provide space for recreational and educational programming, counseling and support services, and socialization readily available to all vulnerable and at risk populations within walking distance or convenient public transit service.	2.0	Dubuque Leisure Services	Dubuque Public Health; Dubuque Sustainability		
C1-B- 7	Support and encourage the expansion of public events that bring communities together in public and private spaces. Explore developing events in collaboration with other regional public agencies and private sponsors	2.0	Dubuque Leisure Services			
C1-B- 8	Build and support social networks: neighborhoods, churches, affinity groups	3.0	Neighborhood Devt dept; DACU; Neighborhood Asociations	Churches; affinity groups		
C2 Develop new mechanisms for financing climate action work that account for equity and co-benefits (building upon existing budget scoring criteria)						
Strategy C2-A: Leverage existing financing pathways						
C2-A- 1	Explore use of City share of DMASWA landfill methane capture and beneficial reuse as Renewable Natural Gas to fund Climate Mitigation and Adaptation implementation.	1.0	DMASWA; Public Works dept			
C2-A- 2	Establish Rate Payer Advisory Commissions for review of rates, revenue, and uses for Resource Management and DMASWA. Explore revenue uses for opportunities to support actions in support of the City's Climate Action goals.	1.0	DMASWA			
C2-A- 3	Research climate action financing tools and develop approach for Dubuque. Research should include resources included in the Dubuque Climate Vulnerability Assessment, September 2019, Chapter 12 "Possible Funding" as well as other sources	1.0	Budget & Finance dept; City Managers Office		\$	
C2-A- 4	Establish a policy that requires city infrastructure projects and capital budgets incorporate climate risk and vulnerability analysis and adaptation plans to ensure that future spending contributes to resilience and achieving the City's CAP plan goals.	2.0	City Council	Budget & Finance dept		
Strategy C2-B: Develop new financing pathways						
C2-B- 1	Identify a sustainable funding source for increased utility assistance for low-income residents, including support for energy efficiency projects, such as weatherization	1.0	State of Iowa; HACAP	Housing dept		

C2-B- 2	Explore the potential of developing a "Carbon Impact Fee" similar to the City of Watsonville CA. Fee could be a percentage of the building permit fee applied to all construction projects. Additional funds raised to be used for Climate Mitigation and Adaptation implementation. Projects may apply for a sliding scale refund if they install on-site renewable energy system and provide documentation that demonstrates the system will offset either 40%, 80%, or 100% of the project's average annual electricity demand. Alternative options include increasing the building permit fee base costs and providing a discount or rebate to properties meeting City energy and climate goals. Increased revenue to be used to fund Climate Mitigation and Adaptation implementation with a focus on the actions and strategies which increase the community's equity. https://www.cityofwatsonville.org/DocumentCenter/View/198/Frequently-Asked-Questions-About-the-Carbon-Fund-Ordinance-PDF https://www.cityofwatsonville.org/DocumentCenter/View/3944/Carbon-Fund-Voluntary-Compliance-Worksheet?bidId=	1.0	City Council	Building Services dept; Economic Devt dept	\$		
C2-B- 3	Explore Issuing "resilience bonds" that generate risk-reduction rebates from a city's catastrophe insurance premiums to pay for resilience projects, prioritizing projects with high resilience, GHG mitigation, and climate adaptation potential.	1.0	Budget & Finance dept; City Managers Office				
C2-B- 5	Explore the potential of collaborations with donors, philanthropists, and non-profit foundations to develop a Climate Action and Equity Fund for the City of Dubuque. (https://www.mcknight.org/news-ideas/new-charitable-fund-to-support-local-action-on-climate-change-2/)	1.0	Community Foundation of Greater Dubuque				
C2-B- 6	Establish a policy that accounts for all energy efficiency and renewable energy operational cost savings of City buildings and fleets. All savings to be invested into a Climate Action Fund as one source of financing for the City's climate action efforts.	2.0	Budget & Finance dept				
C2-B- 7	Explore the "green marketplace" utilization potential of the city's urban forest with all revenue being invested in Climate Action Plan strategies. Strategies may include sale of downed and select removed trees through marketplaces such as the Urban Wood Network (http://urbanwoodnetwork.org/members), as well as exploring lease of benefits of select city owned tree stock such as "sugaring" rights of maple trees. Utilization should be prioritized to maintain quality of the city's urban forest and quality of life benefits.	2.0	Dubuque Forestry Division	Dubuque Budget & Finance dept; Dubuque Sustainability	\$		