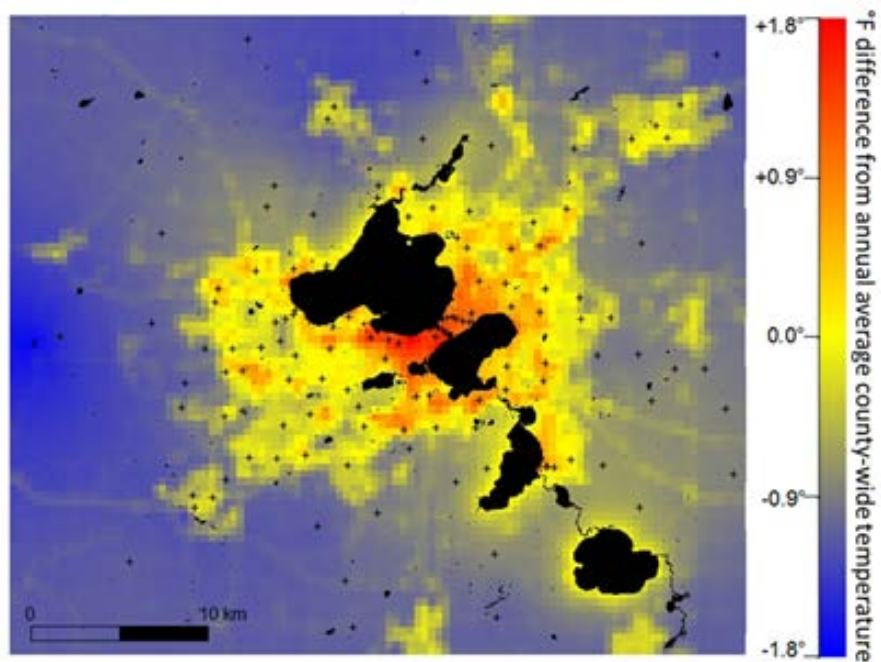


# Dane County Climate Change and Emergency Preparedness



A Report

by the  
Dane County Climate Change Action Council

### **Acknowledgements**

Much of the climate data and projections used by the council for its analysis was made available by the Wisconsin Initiative on Climate Change Impacts (WICCI). Additional resources were provided by: the University of Wisconsin Center for Climatic Research; Wisconsin Department of Natural Resources; National Weather Service; and UW-Cooperative Extension.

Cover Photograph:

Madison's heat island effect is shown as the difference in annual average temperature (°F) vs. the county-wide average temperature for April 2012-March 2013.

## A Message from Council Chair Chief Charles Tubbs

First and foremost, I want to extend my sincere appreciation and thanks to Dane County Executive Joe Parisi for his foresight in creating this initiative. Mr. Parisi brought together an excellent group of county directors and climate change experts dedicated to the common goal of providing the highest quality public service and safety to the citizens of Dane County. Their professionalism, commitment and dedication to this initiative were commendable. Thank you to the Dane County Board for their continued support and to the citizens for their valuable input.

Sincerely,

Charles A. Tubbs Sr.

Dane County Emergency Management Director (Retired Police Chief)

**Dane County  
Climate Change and Emergency Preparedness**

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## About the Climate Change Action Council

Most people who live or work in Dane County are affected by the natural hazards that are typical of our climate and are vulnerable to the extreme hazards to come with a changing climate. Scientific evidence tells us that the heavy rains and floods that hit the upper Midwest in the summer of 2008 can be expected more often in the future. While the frequency and severity of future weather extremes is difficult to predict, the trend is clear: extreme weather events are occurring with more frequency.

A changing climate presents significant new risks to the safety and well-being of people in Dane County. Citizens ask and expect that federal, state and local governments plan ahead to prevent or reduce the risk of climate-related hazards so that current and future generations may live safe and healthy lives.

In March of 2013, Dane County Executive Parisi created the Dane County Climate Change Action Council with the mission: *To ensure Dane County government is better prepared for weather extremes brought on by global climate change.* As the county government, Dane County should be better prepared to safeguard against the risks climate change poses to the well-being of county residents, our economy, and the environment. In preparation for this report, the Council facilitated an internal review of county preparations and potential modifications to the operations and capital investments of the county.

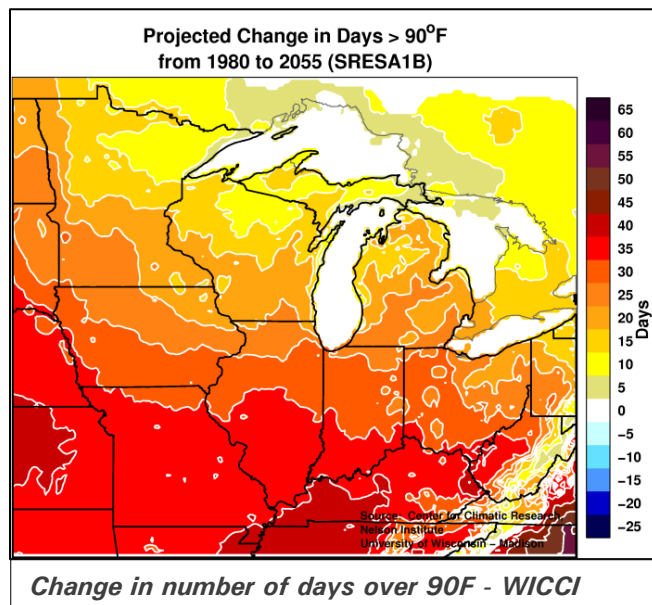
Based on the internal review of the Council, this report identifies Dane County's potential vulnerabilities to weather extremes associated with global climate change and strategies to adapt to our changing climate. Fortunately we have found that we have manageable solutions if we start addressing those risks today, and that the longer we wait to act the more likely our children will be forced to pay the high cost of inaction. This report is the first step in the county's effort to improve the resiliency of its climate-sensitive resources in the face of climate change; future steps will include cross-departmental collaborations to implement the adaptation strategies outlined in this report.

The Dane County Climate Change Action Council is chaired by Charles Tubbs Sr., Dane County Emergency Management Director, facilitated by David S. Liebl and Mindy Habecker, UW-Cooperative Extension, and comprises staff from the county's departments. The work plan and schedule are attached as Appendix A, and membership as Appendix B.

## Dane County’s Rapidly Changing Climate

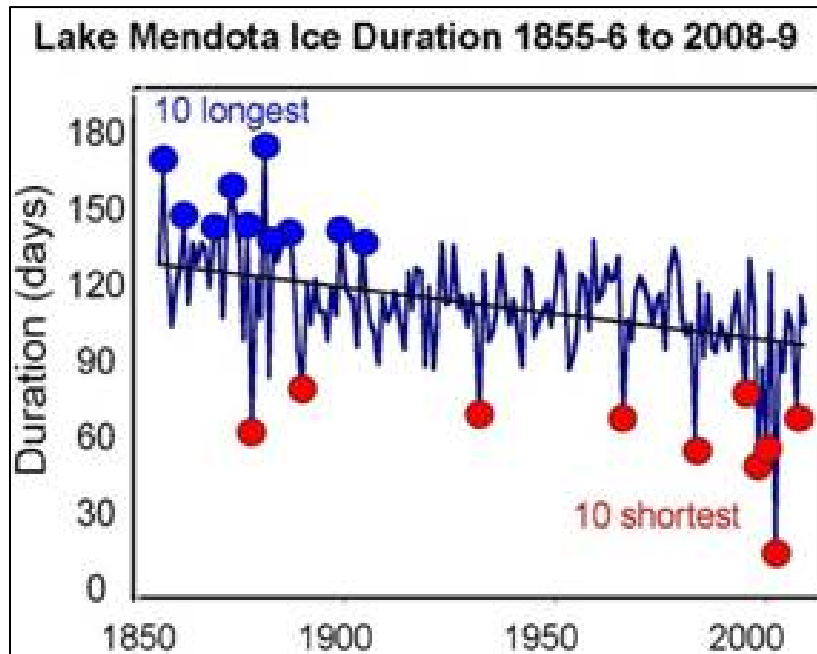
Climate change, once considered an issue for a distant future, has moved firmly into the present. Climate change is already affecting the American people. Certain weather events have become more frequent and/or intense, including heat waves, heavy downpours, and, in some regions, floods or droughts. Sea level is rising as glaciers and arctic sea ice melt. These changes, part of the pattern of global climate change, are primarily driven by human activity, yet impact our health and livelihoods and the ecosystems that sustain us.

A wealth of temperature and precipitation data provide evidence that on average our state has become warmer and wetter over the past 60 years. Historical temperature and precipitation patterns reflect this change across regions of the state. For instance, during the 1950-2006 period winter temperatures increased significantly in northwestern Wisconsin, and these increases extended into the central part of the state. Northwestern and central Wisconsin experienced 14 to 21 fewer nights with temperatures below zero degrees Fahrenheit. Other areas of the state saw reductions in subzero nights of seven days or less.



Future projections of temperature and precipitation patterns by University of Wisconsin-Madison climate scientists indicate that Wisconsin’s warming trend will increase considerably in the decades ahead. By 2050, statewide annual average temperatures are likely to warm by 6-7° F. Today, daily high temperatures exceed 90 degrees about 12 times per year in southern Wisconsin. By 2050, the frequency of very hot days above 90 degrees are projected to triple.

We do not need to look as far away as the Arctic to view ice melting conditions. Lake Mendota is not staying ice covered as long as it once did. According to UW-Madison records, 150 years ago the ice cover lasted four months. Today the lake stays ice covered an average of three months. The winters with the 10 longest periods of ice cover all occurred before 1900, while the winters with the 10 shortest periods of ice cover occurred mostly in recent years.



While future precipitation patterns are more difficult to discern than temperature, the state is likely to continue its trend toward more precipitation overall, with the most probable increases in winter, spring and fall. Large storm events are also likely to increase in frequency during spring and fall. Statewide, the amount of precipitation that falls as rain rather than snow during the winter is also projected to increase significantly, with freezing rain more likely to occur.

The projected increase in annual rainfall and more intense rain storms heighten the potential for significant soil erosion, affecting water resources and agriculture. Without appropriate adaptation measures, future soil erosion rates could double by 2050 compared to 1990 rates, which will likely increase sediment and nutrient loading, more blue-green algal blooms in lakes and loss of biodiversity in wetlands. For agriculture, while warming temperatures in spring and fall would boost agricultural production by extending the growing season across the state, changes in rainfall patterns influence groundwater recharge, and any decrease in groundwater recharge could be compounded by increased demand for irrigation due to an extended growing season, or seasonal drought.



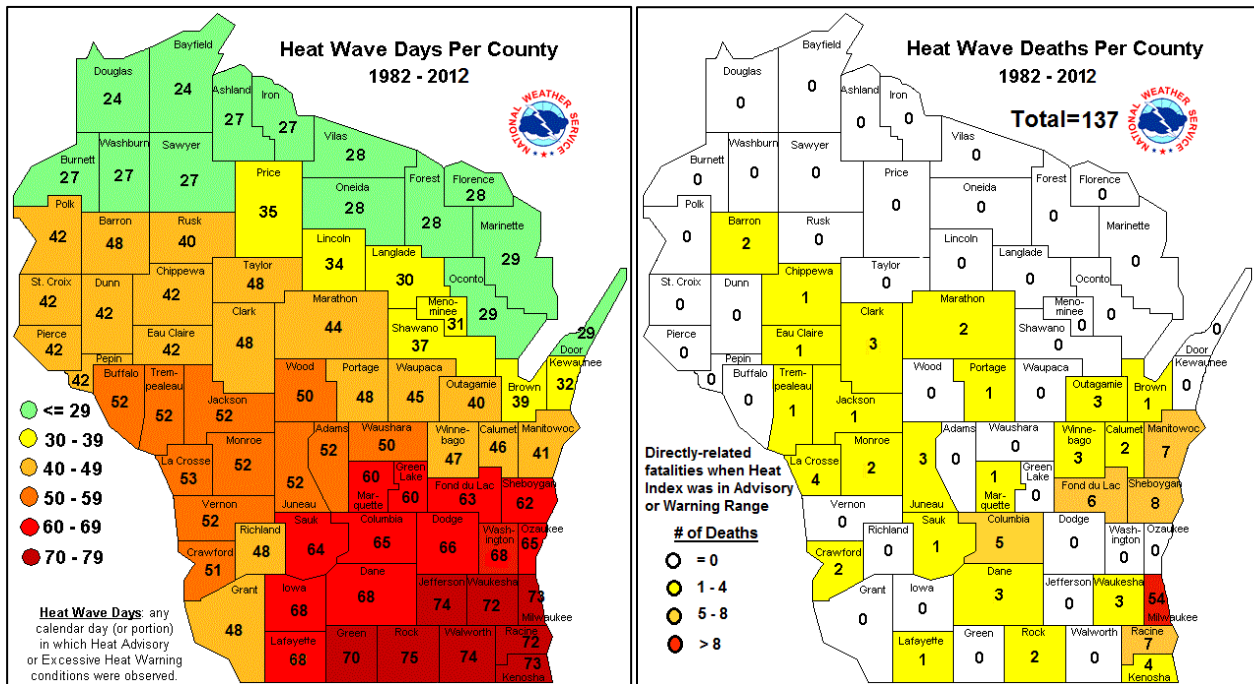
Sauk County farmstead June 2008 -AP

Major Climate Risks and Adaptation Opportunities

Today’s extreme weather events are expected to become more common in the future. Communities that are resilient to the weather we experience today will be more resilient to our climate 10 or 20 years from now. Becoming resilient to today’s and tomorrow’s weather means responding responsibly to the risks we face today and finding opportunities to adapt to those risks into the future. Such risks and adaptation opportunities are detailed below.

Public Health

Public health is put at risk by many of the projected direct and indirect impacts of climate change. Heat waves significantly endanger public health for much of the population. Heat waves can lead to heat stroke, dehydration, the reduced effectiveness of medications, and increases certain air pollutants, which threatens the health of infants, older adults, low-income people, homeless people, and socially isolated people. This can especially impact vulnerable populations in urban areas, as higher temperatures are exacerbated in urban heat islands where the extensive concrete retains heat, causing higher temperatures and delaying a night-time cool down.



Some public health risks from climate change originate from our immediate environment. High temperatures can impair government’s ability to render services to the people most at risk, as high temperatures affect the staff providing services. Projected increases in temperature can increase the risk of food borne illness and food spoilage. Increased temperatures can cause shifts in the geographic distribution of pathogens and toxin producing species, increasing



the public health risk of harmful algae blooms, which poses a risk to the public by inhalation or contact with contaminated waters. Warmer temperatures and increased precipitation increase the likelihood of mold indoors, and increase habitable conditions for potentially disease-carrying or infection-causing bloodsucking insects, like mosquitos, fleas, ticks, and bed bugs. Intense storm events can result in the contamination of the water we swim in or drink by causing chemical leaks or septic and sewer failures.

**Dane County faces the following risks to public health:**

- Increased intense, prolonged heat waves that affect vulnerable populations
- Increased food spoilage and food borne illness
- Decreased capability of government to render public health services
- Increases in toxic pathogens in air and water, indoor mold, and pestilent insects
- Contaminated water from chemical, septic, or sewerage spills or leaks

To respond to these risks, Dane County should address risks that already exist or are imminent and plan and prepare for risks projected in the future.

**Near term adaptations for coping with existing or imminent threats:**

- Coordinating warming and cooling shelters, day programs, and transportation services for vulnerable populations
- Identify private wells most at risk of contamination via flooding
- Protect drinking and recreational water resources
- Coordinate public health protection

**Preparing for projected adaptations through planning and mitigation:**

- Develop resilient local food system
- Reduce risk of mold
- Protect drinking water most at risk for contamination
- Further coordinate public health protection
- Plan for energy efficiency and sustainable cooling capacity

**Public Safety and Emergency Management**

Climate change projections, particularly winter storms, put public safety and emergency management at risk. Dane County can expect increased precipitation in terms of more frequent severe storms that can result in extreme wind, hail, ice, rain or snow, or flooding. Any of these severe storms can significantly increase calls into the 911 center, affecting staffing needs, or disable facilities and transportation routes, affecting the ability to respond. Heavy wind or hail can threaten public safety when they impair or disable electric and communication lines, damage public safety or emergency vehicles, or thwart staff offering public safety or emergency management services. Extreme ice or snow events pose a risk to the cell and radio towers, respectively impacting citizens' ability to call 911 and the 911 centers' ability to dispatch vehicles.

**Dane County faces the following risks to public safety and emergency management:**

- Severe storms that may damage electric and communication lines
- Flooded or otherwise disabled facilities or transportation routes
- Public safety and emergency management services staff deterred by impassable roads or other weather impacts during large events

To respond to these risks, Dane County should address risks that already exist or are imminent and plan and prepare for risks projected in the future.

**Near term adaptations for coping with existing or imminent threats:**

- Sandbag stockpile
- New Public Safety Communications (911) telephone system
- Replacing outdoor warning sirens
- Radios to put Parks Division on DaneCom Radio system
- Compressed natural gas (CNG) fueled snowplows for Highway Department
- Four- wheel drive Police Interceptors for Sheriff's Department
- A track driven tree remover
- Blizzard buster track systems for 10 Parks trucks
- Identify location for flood supplies at permanent Highway Department building
- Acquire additional signing and alternative routing for traffic

**Preparing for projected adaptations through planning and mitigation:**

- Coordinate with other governments' safety and first responders on preparing for hazards and mitigation solutions
- Develop self- and team-monitoring for weather related injury
- Coordinate county-wide response, communications for major events
- Backup emergency operations center for Emergency Management
- Next Generation 911 technology

**Infrastructure and Facilities**

Climate change is already, and will increasingly continue, threatening Dane County’s infrastructure, including our built systems, institutions necessary to maintain our social structure, public facilities and natural resource systems. The most intense and immediate threat to infrastructure is the risk of extreme storm events causing flooding. More frequent, intense storms along with warmer winters can be expected to increase the number of spring and summer flooding events in Dane County. Winter and spring rainfall is expected to lead to higher



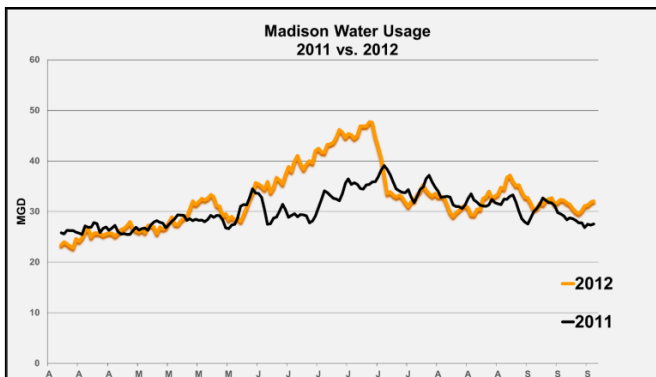
*Baraboo River Floods Reedsburg POTW, June*

groundwater levels with prolonged surface flooding. Flood emergencies endanger our built infrastructure like county facilities, roadways, dams and other water management structures, and homes. Extreme rain events also risk devastating changes to our waterways and riparian lands, which perform immensely valuable ecosystem functions like floodwater containment.

Extreme events and temperatures pose a significant threat to infrastructure and public facilities in Dane County. High temperatures threaten the public investment in the Vilas Zoo by potentially limiting the days the public can attend and days the animals are available for viewing. Whether extreme heat, or flooding events, these climate change events cause increased worker compensation claims from employee injuries, absenteeism, and systematic vacancies in schedules that accumulate and impact and impair the county’s

performance and management efforts.

Higher temperatures will affect Dane County’s built and institutional infrastructure as well. Extreme weather impacts the lifespan of roadways, and extreme heat in particular will increase demand for infrastructure for groundwater irrigation. Additionally, extreme heat increases the demand on cooling



*City of Madison, increased groundwater withdrawal during drought - Liebl*

systems for county buildings, fleet, and facilities, which will increase the costs for energy to run cooling systems. Beyond increased energy costs, Dane County can expect higher commodity costs in general as the risks and costs of producing commodities and transporting and cooling commodities rises across the state, region, and nation.

**Dane County faces the following risks to infrastructure:**

- Short and long-term flooding that overwhelms facilities, roadways, private property, land, and water management systems
- Weather events that affect county systems, like increased worker compensation claims, employee injuries, absenteeism, and vacancies
- Extreme weather increasing energy needs
- Extreme weather decreasing the lifecycle of infrastructure
- Heat waves affecting zoo animals, operations



*Photo by David Liebl*

To respond to these risks, Dane County should address risks that already exist or are imminent and plan and prepare for risks projected in the future.

**Near term adaptations for coping with existing or imminent threats:**

- Identify immediately available flood prevention methods
- Restore key wetlands for floodwater storage and water quality
- Identify and mitigate key flooding risks to county operations
- Increase resiliency of infrastructure with culvert replacement

**Preparing for projected adaptations through planning and mitigation:**

- Model potential flood impacts and impact zones
- Prevent and mitigate flooding
- Improve development planning standards to avoid flooding damage
- Protect county facilities from extreme weather damage
- Develop budget mechanism for the variability of responding to climate change

### ***Dane County Lakes***

Dane County's lakes and waterways are icons of our community, and are tightly linked to our community health, quality of life, and economy. Climate change projections show impacts that would greatly threaten the lakes and waterways. More frequent intense storms have multiple impacts on waters as they wash pollution into waters and cause flooding. Heavy storms increase runoff pollution of manure, nutrients, salts, heavy metals, and grease. As heavy rains accumulate, they cause streambank failures and wash erosion into the lakes. All of these impacts create prime conditions for algae blooms, some of which create toxins. Heavy winter storm events are particularly problematic because their icy conditions require increased road deicing and the corresponding runoff of chlorides and sodium in the lakes and groundwater.

Elevated temperatures alter the aquatic ecosystem and biological composition of the waterways, making the waters too warm for cold-water dwellers like trout, and more habitable for invasive species.

Climate change will likely make lake level management more difficult to predict and control. More frequent intense storms may temporarily raise water levels, while drought conditions, higher temperatures and decreased ice cover can lead to more evaporation of water in the lakes and lower lake levels.

#### **Dane County faces the following risks to our lakes:**

- Heavy rains increase runoff of toxins, metals, salts, and thermal pollution as they wash sediment, erosion, and natural infrastructure into the waters
- Winter and spring rain events cause significant runoff pollution
- Higher temperatures affect biodiversity and the aquatic ecosystem, challenging native species and welcoming invasive species
- Heavy precipitation events, uncontrollable lake levels

To respond to these risks, Dane County should address risks that already exist or are imminent and plan and prepare for risks projected in the future.

#### **Near term adaptations for coping with existing or imminent threats:**

- Address urgent runoff risks
- Prevent the introduction of priority invasive species
- Fortify natural ecosystem functions for resiliency
- Address priority manure management issues

#### **Preparing for projected adaptations through planning and mitigation:**

- Ensure land the County owns, or has enforcement authority over, is not contributing to runoff pollution
- Address runoff and erosion risks, salt contamination

## Strategies to Increase Resiliency

Coping with climate change will best be done by engaging our communities and partners around Dane County. Building community naturally increases coordination for managing the resources needed to address multiple risks of climate change. Each strategy is designed to maximize high priority adaptation opportunities and when possible mitigate climate change via innovation, collaboration, and coordination both within and outside the county.

### Collaborating for Security

#### ***County-wide coordination to improve public health and safety protections***

Climate change will pose challenges to protecting Dane County's citizens, especially those most vulnerable to health risks. Dane County can lead on coordinating cross-departmental, cross-jurisdictional collaborations to strengthen public health and safety protections in the face of climate change. This strategy would aim to further coordinate emergency response and communications capacity, share information and technology with partners, and deepen collaborations on public safety strategies with other departments and governments.

Dane County has already begun this work in many ways, including fortifying our public safety vehicles and communication technology, coordinating emergency response protocols, coordinating shelters for vulnerable populations, and sharing resources for extreme winter events.

#### **Strategy goals include:**

##### ***Increase inter-departmental focus on planning and preparing mutual aid and emergency response protocols with:***

- Common hazard definition, response and mitigation solutions across departments, local governments and first responders
- Protocols for further sharing resources during emergencies
- Effective and efficient systems of managing the closure or plowing of roadways during major flooding or snow events
- Assured connections and response for 911 callers during major events

##### ***Share meaningful information across departments and governments with:***

- County -UW collaboration to better predict extreme weather
- GIS-generated heat vulnerability maps
- Surveillance data linked to heat risk factors
- Yahara Integrated Nowcast/Forecast Operation System (INFOS)

**Outcome:** *Dane County will be better prepared to respond to extreme weather.*

### **Corridors of Sustainability**

#### ***County-wide coordination to strengthen infrastructure resiliency***

Dane County can lead on protecting infrastructure from the most significant risks, whether it is protecting high priority areas or facilities from flooding events or selecting types or areas of land or neighborhoods to focus efforts to maximize resiliency to extreme events. Specifically, sustainability will include integrated water management, energy efficiency, and ways to protect public health from climate change impacts.

This strategy can be built off Dane County's existing efforts to increase resiliency, such as the county's ongoing work to protect and restore wetlands for flood mitigation and water quality improvements, continuing county efforts to diversify the local food system by supporting the Institutional Food Market Coalition, Gardens for Empowerment, and the work of the Dane County Food Council, and our efforts to improve energy efficiency and increased renewable energy use.

#### **Strategy goals:**

##### ***Select the size and location of the corridor by including:***

- High priority areas to protect from flooding
- Public areas available as stations to protect public health that have potential for significant sustainability upgrades
- Neighborhoods at risk of climate impacts that are open to sustainability upgrades
- Areas critically important to protect from flooding

##### ***Develop integrated energy efficiency, water management, and local food strategies for the corridor as follows:***

- Engage multiple departments, local governments, UW faculty, and neighborhood organizations in developing integrated strategies
- Develop plans to mitigate flood and runoff risks through wetlands restoration and green infrastructure
- Coordinate plans for resource efficiency, identifying opportunities for innovation and collaboration
- Engage friends' groups and communities in coordinated management of resiliency efforts on public lands

##### ***Implement the integrated strategies with community partners via:***

- Cost-effective ways to implement strategies in collaboration with affected residents, stakeholders, and interested partners.

**Outcome:** *Human and economic impacts from extreme events will be minimized.*

### **Partnerships for Resilient Watersheds**

#### ***Strengthen relationships with farmers for sustainable land management***

Agricultural lands hold enormous capacity for climate change adaptation and mitigation, including capacity to efficiently manage flood waters, mitigate risks to public health, and prevent degradation to water quality. Dane County can lead on a collaborative strategy to engage watershed partners and the agricultural community by, first, coordinated restoration of important ecosystem functions to prevent agricultural runoff and flooding, and, second, development of a resilient local food system.

While ambitious, this strategy is made more feasible by the well-respected partnerships Dane County has with the farming community through our Land and Water Resources Department, the Yahara WINs effort, and our work to aid sustainable farmers by increasing access to county parkland for agriculture.

#### **Strategy goals:**

##### ***Lead by example: ensure zero discharge from county-owned lands by:***

- Installing conservation practices and restoring runoff-prone rural lands to grassland or wetland
- Installing green infrastructure at county facilities to prevent runoff

##### ***Leverage existing efforts to address agricultural runoff, including:***

- Capitalizing on the Yahara WINs partnership to achieve clean water
- Updating and upholding manure and runoff management regulations
- Incorporating water management strategies based on climate projections into farm-based nutrient management plans and other farm-related planning models

##### ***Address critical runoff sites by doing the following:***

- Identify and map sites with excessive phosphorus runoff
- Identify and map potentially restorable wetlands that can store floodwater, restore critical habitat, and serve as phosphorus sinks
- Remediate critical runoff sites in ways that increase infiltration, prevent runoff, and store pollutants
- Coordinate funding with community partners

##### ***Incentivize development of a resilient local food system by:***

- Strategic engagement of agricultural, water, and food partners in developing training programs and support for sustainable farmers

**Outcome:** *Cleaner lakes, improved flood management, and mitigated public health risks.*



## Climate Change Mitigation Projects and Strategy

Local governments play a critical role in adapting to and mitigating the effects of climate change at both the community and government operations levels. In addition to adapting to climate change, many communities in the United States are taking responsibility for reducing climate change emissions at the local level. While Dane County plays a small role in reducing worldwide greenhouse gas emissions, it must do its part to put into place policies and take actions that reduce its contribution of emissions.

While there is more to do, Dane County has been a statewide leader in renewable energy generation and energy efficiency projects, helping to reduce the County's greenhouse gas emissions while reducing county government operation costs and saving taxpayer dollars. Initiatives in which the County has taken a leadership role include:

### ***Airport Energy Efficiency and Renewable Energy Projects***

In recent years several measures have been taken at the Dane County Regional Airport to reduce energy consumption and greenhouse gas (GHG) emissions through a variety of projects involving the terminal, parking ramps, maintenance facilities and the airfield.

In 2013, the roof of the new 58,800-square-foot LEED-certified designed snow removal equipment building under construction will have the largest municipally-owned solar photovoltaic (PV) system in Wisconsin. The 100 Kw system will generate up to 135,000 kilowatt-hours per year and will be the largest PV system in the MGE service area. An additional GHG reducing attribute of the building is a geothermal heating and cooling system.

Working closely with the MGE Green Power Tomorrow Program, the Airport continues to purchase renewable energy offset credits. In 2010, more than 33% of Airport power was converted to green power. This purchase is estimated at 260,000 kWh/month or more than 3,400 tons of GHG emission offset per year.

### ***Human Services Badger Prairie Health Care Center and Northport Building***

Dane County replaced the aging and energy inefficient Badger Prairie Health Care Center near Verona with an \$18 million facility in 2011. The new facility incorporates several energy efficient and GHG reducing projects, including the use of a geothermal heating and cooling system. This system uses the year-round, near-constant temperature from deep in the earth to provide cooling in the summer and heating in the winter. In addition, passive solar panels heat hot water for use at the new facility. Also, a portion of the electricity for this new facility is generated from methane in the nearby Dane County landfill.

The historic and aging Northport Office Building that is home to the Human Services Department is budgeted to receive a \$1.6 million energy efficiency and renewable energy upgrade in the proposed 2014 budget.

***Compressed Natural Gas (CNG) Investments***

By 2014, Dane County will have 30 CNG vehicles in the fleet, including two snow plows. These vehicles are powered by compressed methane emissions (renewable CNG) generated from the County's landfill and is an effective alternative to gasoline-powered vehicles saving county taxpayers \$50,000 annually. Renewable CNG is the cleanest fuel on the market today reducing GHG emissions by almost 90% when compared with diesel and gasoline.

***Community Manure Digesters***

Two community manure digesters digester will also reduce methane greenhouse gas emissions. The state DNR estimates that each of the two Cow Power projects by treating manure and replacing coal-fired electricity with renewable electricity, will reduce emissions by 22,000 tons per year – equivalent to the CO2 emissions from over 4,000 cars. The facilities will enhance water quality removing 60% of the phosphorous from dairy manure applied to the fields, produce 2 MW of renewable electricity and allow the farmers to better manage their nutrients. While these emissions are not a direct reduction in Dane County government operations, they show a commitment by the county to be a leader in reducing GHG emissions through partnering with other organizations.

***EECBG Grant Projects***

Energy efficiency measures implemented in several county buildings with the help of a federal grant are reducing building energy consumption by 17% and saving taxpayers \$137,000 annually. In 2010, the County received a \$500,000 grant from the federal Energy and Efficiency and Conservation Block Grant (EECBG) Program and used those funds to complete a number of energy efficiency projects in county buildings including, the City-County Building, the Public Safety Building, Alliant Energy Center and Dane County Courthouse.

**Creating an Emissions Reduction Strategy**

There are a number of steps in Dane County's GHG emission reduction effort. This first step -- conducting a baseline inventory of Dane County greenhouse gas emissions from county operations has been completed. The county is ready to move to milestones two and three --setting an Emissions Reduction Target and Action Plan, respectively. The emissions target brings an enhanced level of focus to the process of identifying emissions reduction measures. Several target years will be chosen, so that there is a short-term, mid-term, and long-term goal to strategically reduce emissions and plan for implementation.

## Appendix A

### Climate Change Action Council work plan and timeline

- April 2013: Two hour climate awareness workshop for all council members. Topics included:
- Introduction to Wisconsin Initiative on Climate Change Impacts
  - Wisconsin’s recent and projected climate change
  - Anticipated weather impacts
- May 2013: County Operations Vulnerability Assessment. Each department was provided with a worksheet and asked to meet with their respective staffs to discuss how their operations could be affected by extreme weather.
- June/July 2013: Three public forums were held to elicit input from local municipalities:
- Badger Prairie Health Center – Auditorium  
1100 East Verona Ave., Verona  
Thursday, June 27th from 7pm to 8:30pm
  - Monona Community Center  
1011 Nichols Rd., Monona  
Wednesday, July 10th from 6pm to 7:30pm
  - Middleton Public Library  
7425 Hubbard Ave., Middleton  
Wednesday, July 17th from 6pm to 7:30pm
- Climate Council review of County Operational Vulnerabilities
- Report out on identified vulnerabilities
  - Discuss adaptation strategies
  - Identifying common themes and collaboration between departments
- August 2013: Departments reviewed near-term and long-term strategies, evaluated the feasibility of adaptation ideas, and prioritized adaptation strategies.
- September 2013: Report to County Executive

## Appendix B

### Members of Climate Change Action Council

Dane County Emergency Management	Charles Tubbs, David Janda
Dane County Public Works & Highway	Jerry Mandli, Pam Dunphy
Dane County Sheriff	Sheriff Dave Mahoney
	Chief Deputy Jeff Hook
	Lieutenant Brian Mikula
Dane County Regional Airport	Brad Livingston
Dane County Administration	Travis Myren, Dave Merritt
-Risk Management	Dan Lowndes
Dane County Human Services	Lynn Green
Dane County Land & Water Resources	Kevin Connors
-Lakes & Watershed Commission	Melissa Malott
Dane County Planning & Development	Todd Violante
Public Health Madison/Dane County	Janel Heindrich
Dane County Henry Vilas Zoo	Ronda Schwetz
Dane County Executive's Office	Josh Wescott
Dane County 911	John Dejung

### Facilitators

Melinda Habecker - Dane County UW-Extension  
David S. Liebl - UW-Cooperative Extension; WICCI