

ENVIRONMENTAL HARMS OF AI



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Dane County Advisory Committee on Data Centers
August 4th, 2026



Clean Wisconsin

About Us

Nonpartisan, nonprofit statewide environmental organization since 1970

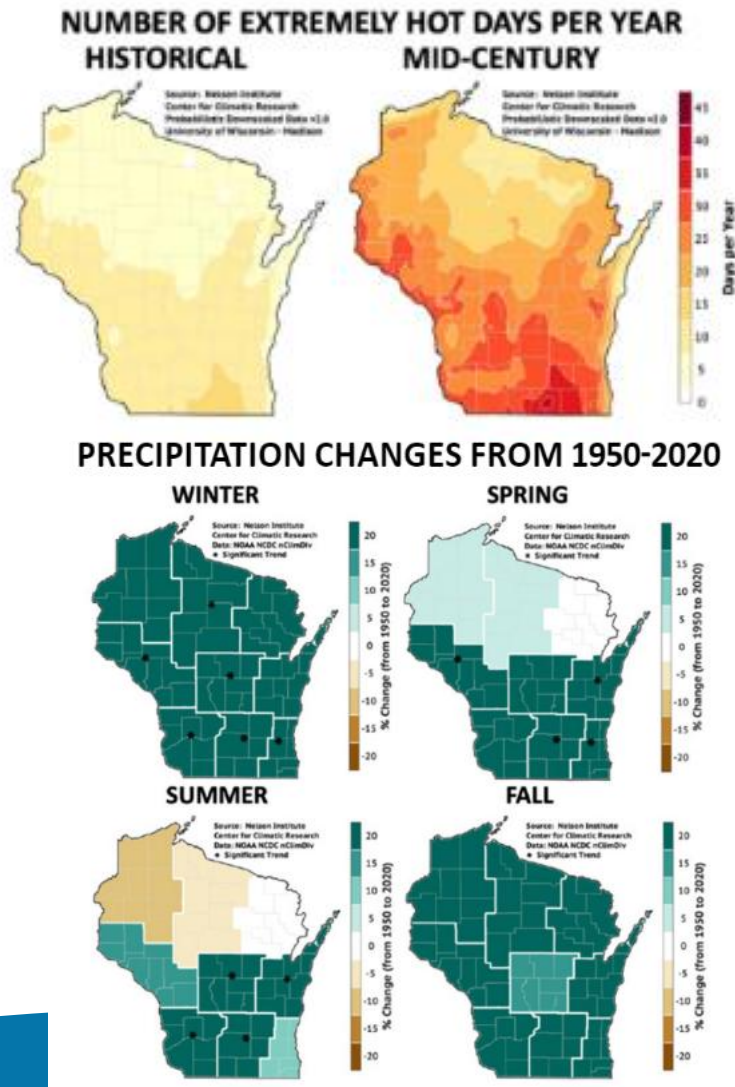
Mission

To combat climate change and pollution in our air, water, and land, and ensure a healthy future for every Wisconsin community.

How

Science, policy, legal, communications

Climate change's impact on Wisconsin: Warmer, wetter, and more extreme

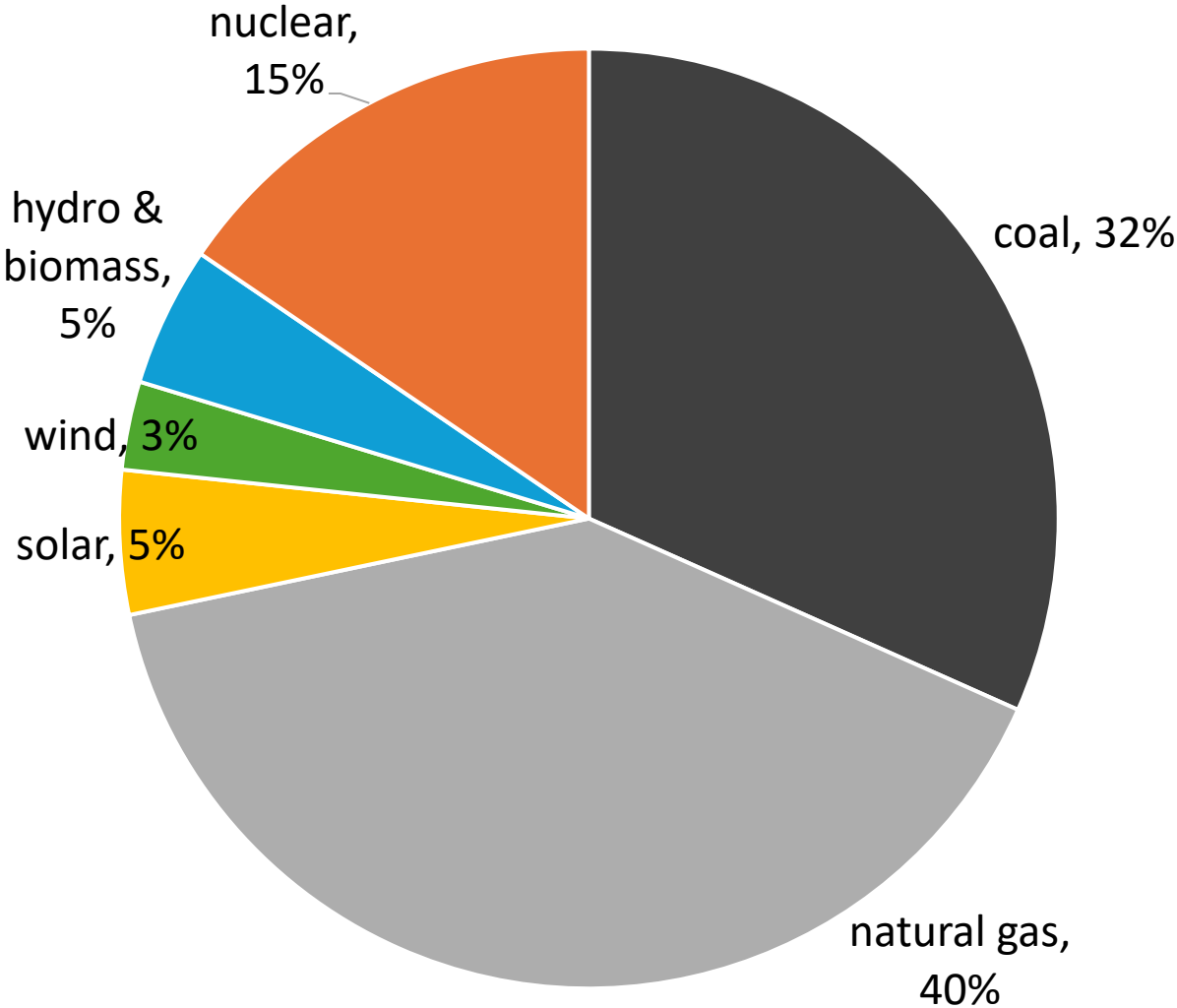


2018 flooding in Driftless region
source: Milwaukee Journal Sentinel



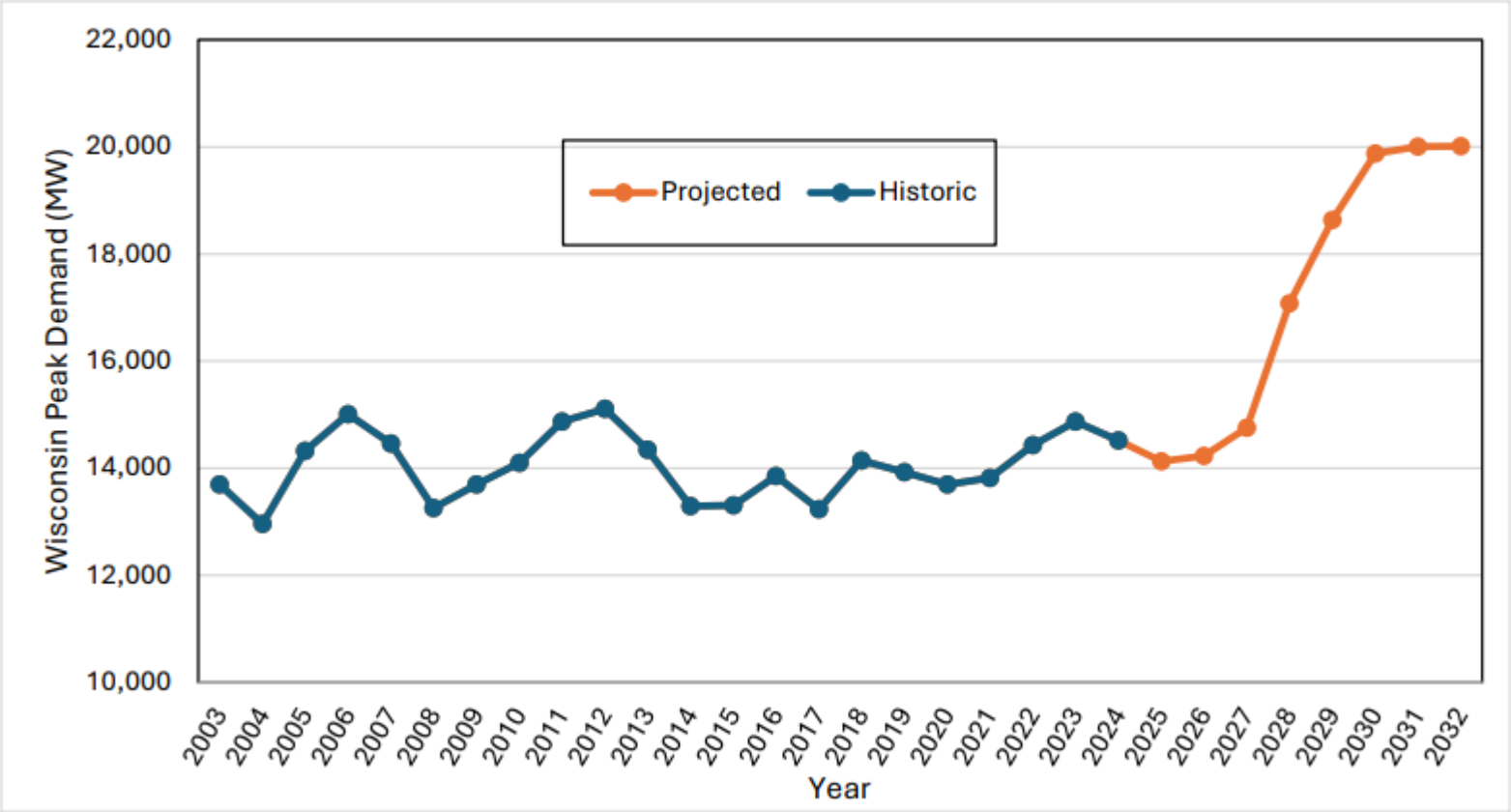
Unhealthy air quality due to wildfire smoke – summer 2025

Electricity is largest source of greenhouse gas emissions in Wisconsin



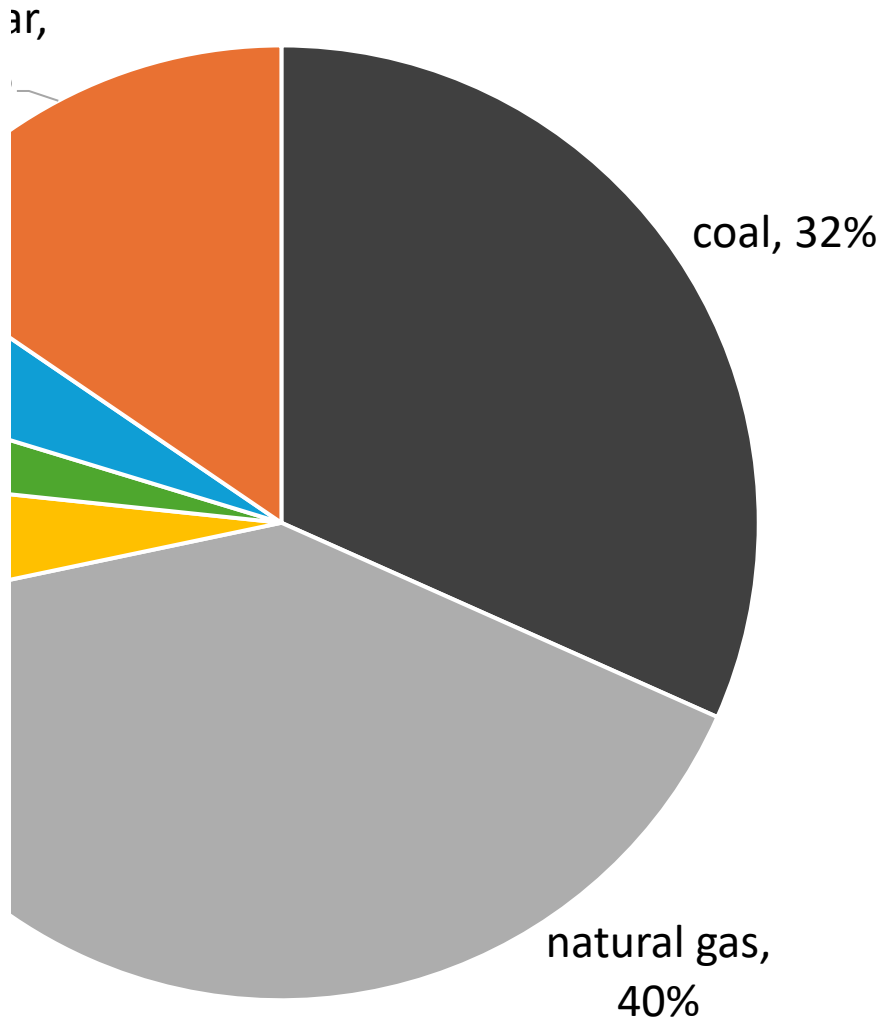
Electricity is largest source of greenhouse gas emissions in Wisconsin

Figure 1-1 Historical and Forecasted Maximum Peak Demand by Year, MW



Over 70% of load increase due to just three data center developments

Source: Draft Strategic Energy Assessment 2032, PSCW



Wisconsin electricity generation by source (2024)
Source: EIA data, 2024

Approved AI Data Centers in Wisconsin

Mt. Pleasant

- Microsoft
- 450 MW (phase 1, 2026),
??? MW (phase 2, 2030)

Port Washington

- Vantage: Oracle and Open AI
- 1.3 GW (2027) ramp up to
3 GW (2030)

Beaver Dam

- Meta
- 220 MW (2027)

6 GW more fossil fuel power

Approved New Gas Plants

- Paris RICE units **130 MW**, *Kenosha County*
- Oak Creek gas plant **1138 MW**, *Milwaukee County*

Proposed New Gas Plants

- Red Oak Ridge gas plant **1125 MW**, *Kenosha County*
- Foundry Ridge gas plant **270 MW**, *Walworth County*
- Forest Junction gas plant **1211 MW**, *Calumet County*

Delayed Coal Plant Retirements

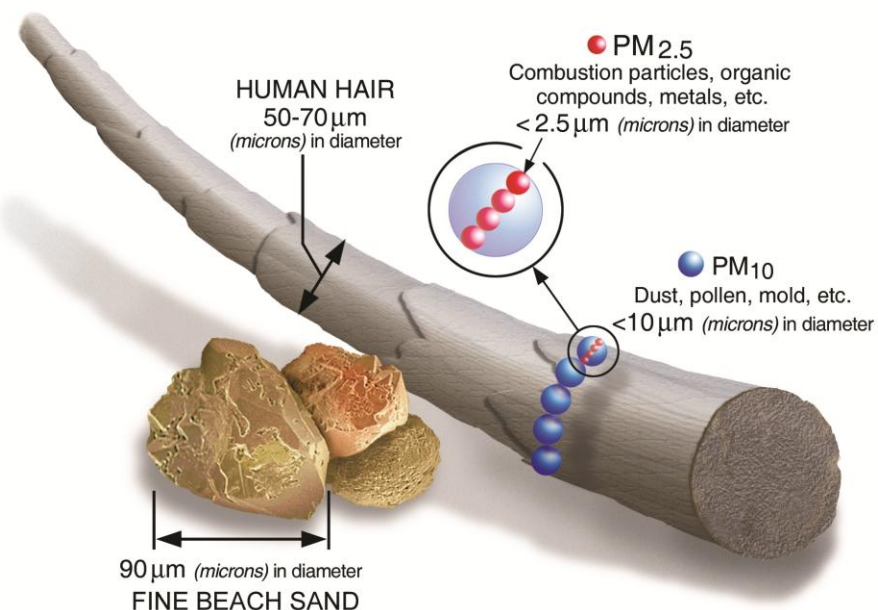
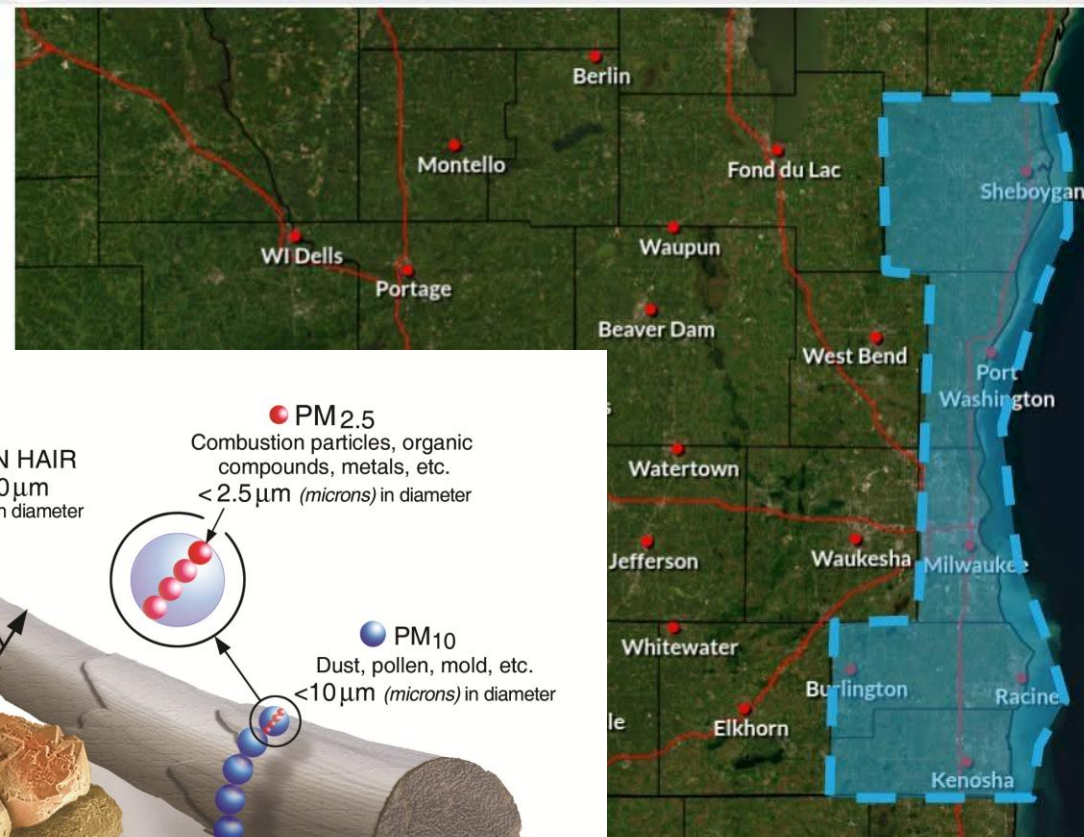
- Columbia coal plant **1130 MW**, *Columbia County*
- Oak Creek coal units **640 MW**, *Milwaukee County*
- Edgewater coal plant **406 MW**, *Sheboygan County*

Air pollutants directly harmful to human health

- Particulate Matter
- Nitrogen Oxides
- Volatile Organic Compounds
- Sulfur Dioxide
- Carbon Monoxide
- Lead

Greenhouse gas pollutants contribute to climate change

- Carbon Dioxide
- Methane (upstream fuel transport)



New gas plants in WI
estimated to cause nearly
\$6 bill in health costs over
30 years of operation



Other solutions

- Energy efficiency
- Demand Response
- Renewable energy + storage
- Data center load flexibility:



On-site power and storage

Utilizing co-located storage, renewables, or other generators



Temporal flexibility

Scheduling computational loads before or after periods of high system stress



Spatial flexibility

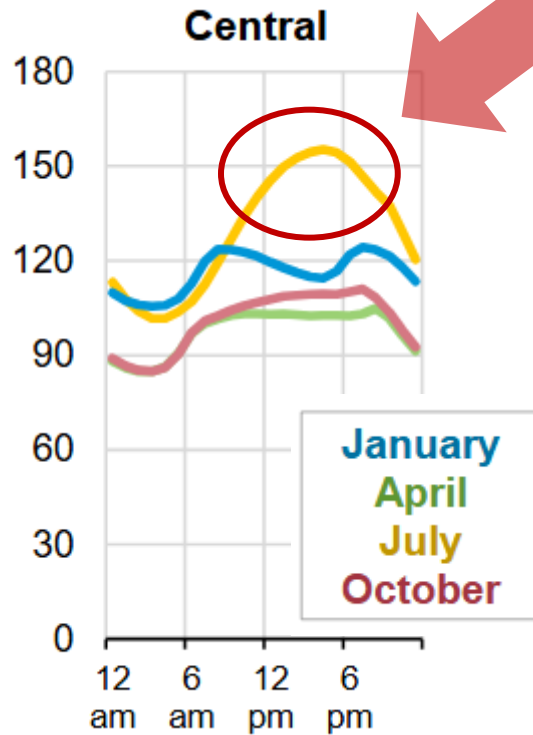
Distributing workloads across one or multiple data centers in different geographic locations



Reduced operations

Planning for reduced workload during defined periods

Source: Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems, Duke Univ Nicholas Institute for Energy, Environment & Sustainability



Electricity grid
is built to this
plus some

Average hourly electricity
load during typical day
Source: EIA

Backup diesel generators cause local air pollution



- DNR approval necessary

CW comments in recent air permits

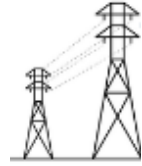
- Disallow from using for electricity grid demand response
- Generators be compliant with stronger emissions standards (Tier 4)
- Install continuous fenceline monitoring systems and make all data publicly available

Zero emissions option:

- Battery storage

“Speed to power” is THE driving goal

Grid
connection
delays



5-year waits and rising costs: How demand is redefining the gas turbine market



US power companies scramble to secure equipment as surging data center demand strains supplies



Co-located &
Behind-the-meter
(BTM) options



EPA says power for data centers can sidestep pollution laws July 27, 2026



The administration announced new guidance on Monday clarifying that these “islanded” power plants do not have to be part of the Clean Air Act’s Acid Rain Program (ARP).

Fossil fuel powered data centers threaten to worsen
the climate crisis and harm Wisconsinites' health



cleanwisconsin.org/resources