



Zone 1 overview

Zone 1 includes the Wisconsin counties of:

- Adams
- Forest (southwestern portion)
- Fond du Lac (northwest portion)
- Green Lake
- Juneau
- Langlade
- Lincoln
- Marathon
- Marquette
- Monroe (eastern portion)
- Oneida
- Portage
- Shawano (western portion)
- Vernon (eastern portion)
- Vilas (southern portion)
- Waupaca
- Waushara
- Winnebago (western portion)
- Wood

The physical boundaries of Zone 1 and transmission facilities located in Zone 1 are shown in Figure ZS-22.

Land use in Zone 1 is largely rural, including agricultural and forested areas.

Zone 1 typically experiences peak electric demands during the summer months, with some winter peaks appearing in the northern portion. Primary electricity users in Zone 1 include a number of large paper mills and food processing plants.

The major population center in the area is Wausau

Demographics

Historical and Projected Population

The population of the counties in Zone 1 grew at an annual rate of 0.2% from 2001 to 2010. The highest growth rate occurred in Juneau County, which grew at 1.0, while the highest increase in population occurred in Marathon County, which increased 6,200 people over the period.



Population in Zone 1 is projected to grow at 0.6% annually for the 2011 to 2020 period. Marathon County will realize the largest increase in population (6,900), while Adams County will have the highest growth rate of about 1.8%.

Historical and Projected Employment

During the historical period of 2001 to 2010, the annual employment growth rate was 0.1%. The highest growth rate occurred in Adams County (1.9%), while the largest increase in employment occurred in Portage County of over 3,100.

Employment in Zone 1 is projected to grow at 0.9% annually between 2011 and 2020. From 2011 to 2020, Marathon County is projected to realize the largest increase in employment of about 7,100, while Adams County is projected to have the highest growth rate (1.5%).

Employment			
Annual Growth Rate			
	2001-2010		2011-2020
Zone 1	0.1	Zone 1	0.9
Adams, WI	1.9	Adams, WI	1.5
Total Increase			
	2001-2010		2011-2020
Zone 1	2,675	Zone 1	26,496
Portage, WI	3,134	Marathon, WI	7,127

Population			
Annual Growth Rate			
	2001-2010		2011-2020
Zone 1	0.2	Zone 1	0.6
Juneau, WI	1.0	Adams, WI	1.8
Total Increase			
	2001-2010		2011-2020
Zone 1	9,164	Zone 1	29,471
Marathon, WI	6,187	Marathon, WI	6,852



Zone 1 environmental considerations

Zone 1 covers the central and north-central portions of Wisconsin and spans a wide range of ecological landscapes varying from the Northern Highland and North Central Forest regions in the northern part of the zone through the Forest Transition, Central Sand Plains and Central Sand Hills regions to the Western Coulee and Ridges region in the southern portions of the zone. Descriptions of the characteristics of each of these ecological landscapes may be found on the Wisconsin Department of Natural Resources Web site: <http://dnr.wi.gov/landscapes/>

The northern portion of the zone contains numerous lakes and woodlands, while the southern portion is more agricultural in nature. Lands in this zone primarily are located in the Upper and Central Wisconsin River drainage basins with smaller portions of the zone located in the Fox and Wolf River drainage basins. The Necedah and Fox River National Wildlife Refuges, a small portion of the Nicolet National Forest and several Indian reservations are located in this planning zone.

Zone 1 electricity demand and generation

The coincident peak load forecasts for Zone 1 for 2012, 2016, 2021 and 2026 are shown in [Table ZS-8](#). The table also shows existing generation, proposed generation based on projected in-service year, and resultant capacity margins (with and without the proposed generation).

The table shows that load in Zone 1 is projected to grow at roughly 0.66 percent annually from 2012 through 2021. Comparing load with generation (at maximum output) within the zone indicates that Zone 1 is a net importer of power during peak load periods.

Key Zone 1 transmission facilities

Key transmission facilities in Zone 1 include:

- East-west 345-kV line from Arpin Substation through Stevens Point extending to the Appleton area,
- 345-kV line extending from Wausau to northeastern Minnesota,
- 345-kV line extending from Wausau to Stevens Point to eastern Outagamie County (Highway 22),
- 115-kV network in the northern portion of the zone, and
- 138-kV and 69-kV network in the southern portion of the zone.

Key system performance issues in Zone 1 include:

- Sensitivity of the 69-kV transmission corridor in the central part of Monroe County to a west-to-east system bias



10-Year Assessment

An annual report summarizing proposed additions and expansions to ensure electric system reliability.

2011

September 2011 10-Year Assessment
www.atc10yearplan.com

- Metomen 138/69-kV transformer has the potential to overload with an intact system and under contingency
- Thermal overloads under contingency in the central Juneau and southeast Woods County areas
- Voltage issues in the Ripon, Berlin, Omro, and Winneconne areas under contingency.
- Several projects in past 10-Year Assessments found low voltage and thermal overload issues which did not appear in the 2011 TYA. The in-service dates of these projects were retained for now until it can be determined in future assessments that these voltage and thermal issues no longer exist.