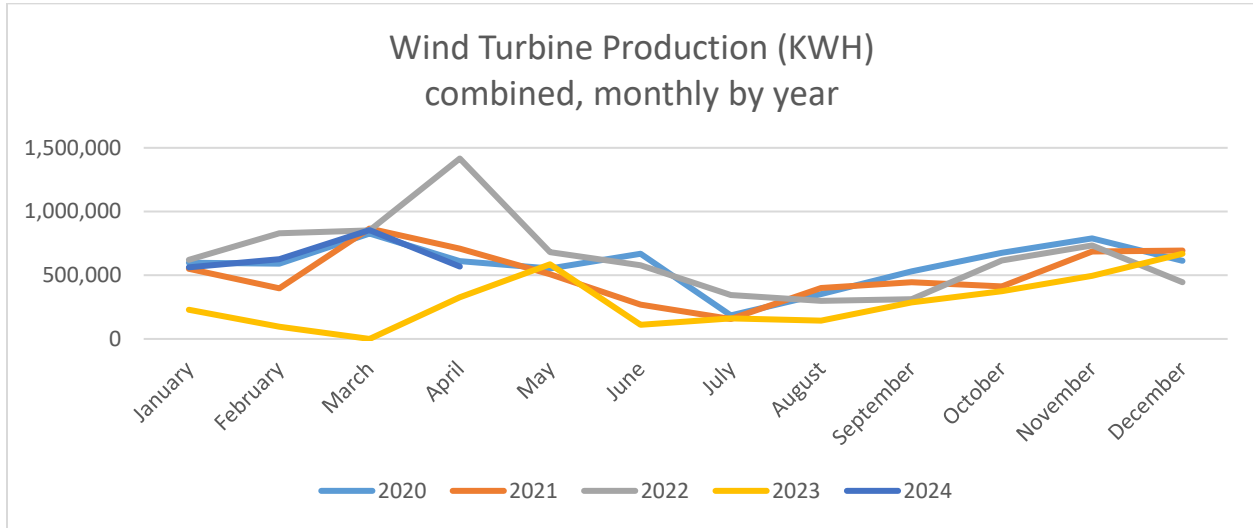




WILLMAR MUNICIPAL UTILITIES

April 2024 Wind Turbine Report

"Willmar Municipal Utilities will provide safe, reliable & quality utility services at competitive rates for their customers."



Annual Costs/kWh YTD: \$0.0090 Cumulative kWh: \$0.1436

	Production (KWH)		Availability (%)		Total	Major Outages
	#3	#4	#3	#4	KWH	
April 2024	404,869	163,143	79.2	49.8	568,012	#4 Generator overspeed fault
Mar 2024	441,062	413,069	98.3	89.0	854,131	
Feb 2024	286,725	339,778	79.2	98.8	626,503	Buss Coupler Comm. Faults
Jan 2024	250,485	275,564	99.3	95.2	526,049	
Dec 2023	311,167	357,380	98.6	96.9	668,547	
Nov 2023	183,550	312,355	72.3	89.0	495,905	#3 Hydraulic Leak/Comm. Fault
Oct 2023	93,138	282,214	29.0	76.6	375,352	#3 Hydraulic Leak
Sept 2023	119,259	167,641	57.5	83.1	286,900	Positioning Sensor/Annual Maint.
Aug 2023	24,590	119,144	35.5	61.4	143,734	Positioning Sensor
July 2023	96,562	64,030	94.1	67.9	160,592	Positioning Sensor, Ether-cat Faults
June 2023	41,562	68,613	42.0	52.0	110,175	#3 Pitch sensor #4 Elec.Faults/Coupler
May 2023	244,122	341,882	72.0	89.8	586,004	
April 2023	-	326,944	0.0	64.5	326,944	#3 Breaker Failure
2024 Total	2,497,091	2,904,813			5,437,904	

Month	2020	2021	2022	2023	2024
January	598,668	551,509	619,722	229,638	562,049
February	590,960	397,869	828,786	96,412	626,503
March	827,205	866,500	851,870	0	854,131
April	611,169	709,639	1,416,112	326,944	568,012
May	552,522	509,051	680,683	586,004	
June	667,898	269,811	578,540	110,175	
July	184,774	156,572	343,435	160,592	
August	352,244	400,452	298,933	143,734	
September	531,071	444,730	311,668	286,900	
October	675,543	413,446	616,414	375,352	
November	788,202	685,170	733,123	495,905	
December	613,308	693,954	444,245	668,547	
Total	6,993,564	6,098,703	7,723,531	3,480,203	2,610,695

