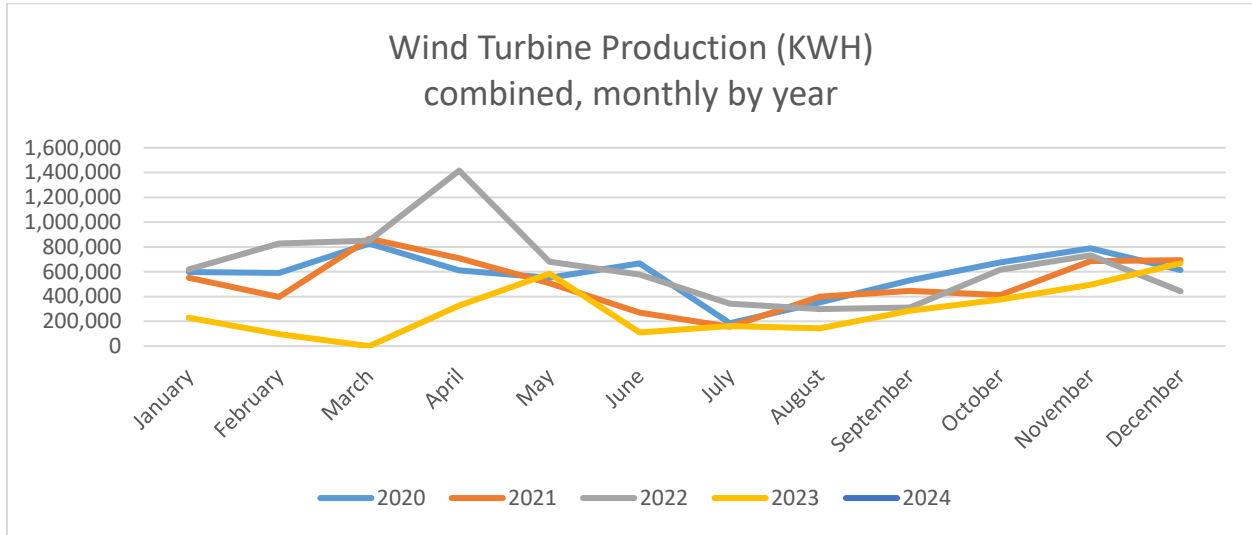




WILLMAR MUNICIPAL UTILITIES

January 2024 Wind Turbine Report

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



Annual Costs/kWh YTD: \$0.0131 Cumulative kWh: \$0.1465

| | Production (KWH) | | Availability (%) | | Total | Major Outages |
|-------------------|------------------|------------------|------------------|------|------------------|--|
| | #3 | #4 | #3 | #4 | KWH | |
| Jan 2024 | 250,485 | 275,564 | 99.3 | 95.2 | 562,049 | |
| 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 |
| Mar 2023 | - | - | 0.0 | 0.0 | - | #3,#4 Breaker Failure |
| Feb 2023 | 92,772 | 3,640 | 25.3 | 41.6 | 96,412 | #3,#4 Breaker Failure |
| Jan 2023 | 229,638 | - | 99.3 | 13.5 | 229,638 | #4 Blade pitch failure |
| 2023 Total | 1,457,207 | 2,319,407 | | | 3,812,614 | |

| 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 | |
| March | 827,205 | 866,500 | 851,870 | 0 | |
| April | 611,169 | 709,639 | 1,416,112 | 326,944 | |
| 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 | 562,049 |

