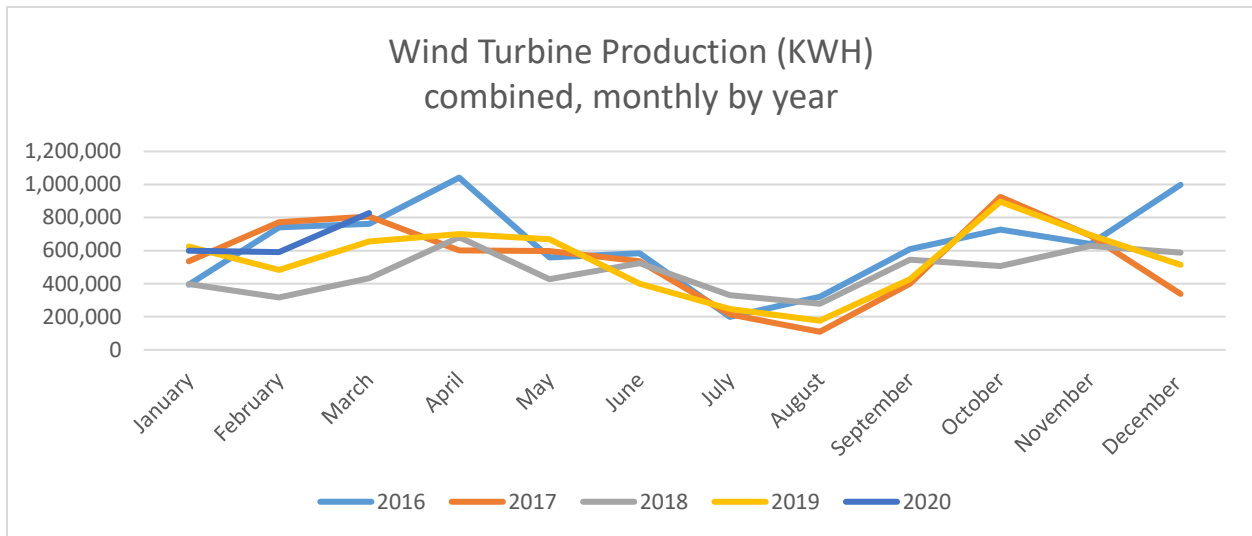




WILLMAR MUNICIPAL UTILITIES

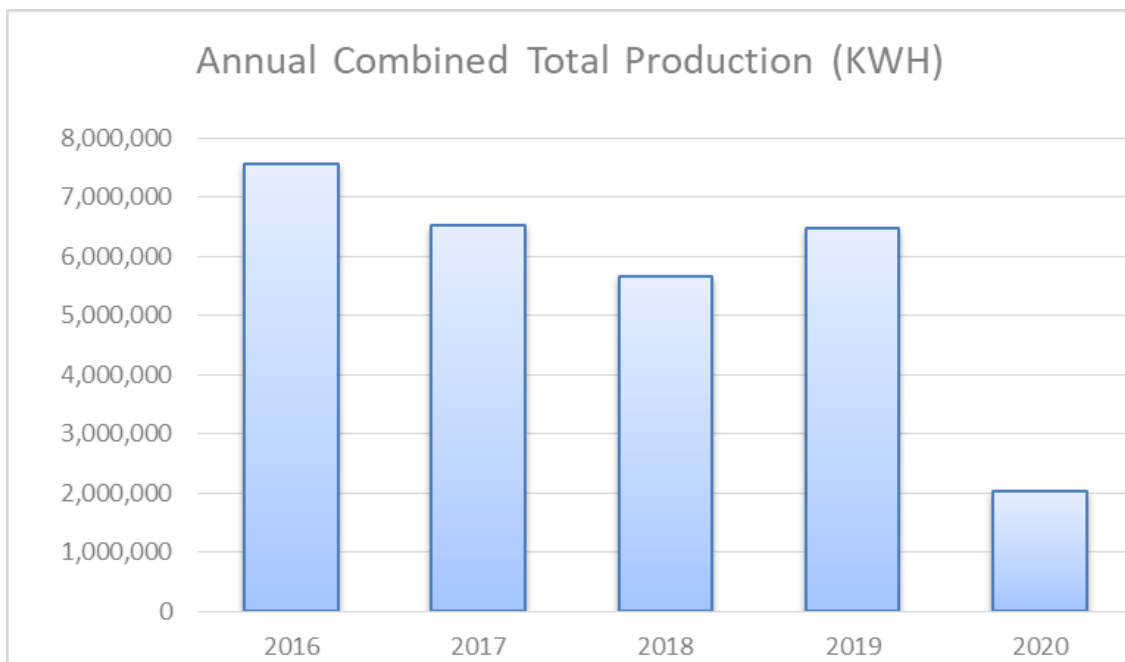
March 2020 Wind Turbine Report

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



	Production (KWH)		Availability (%)		Total KWH	Major Outages
	#3	#4	#3	#4		
Mar. 2020	406,025	421,180	96.2	99.6	827,205	
Feb. 2020	297,009	293,951	99.6	95.9	590,960	
Jan. 2020	292,889	305,779	99.7	97.3	598,668	
Dec. 2019	249,759	265,099	99.6	98.4	514,858	
Nov. 2019	347,262	347,746	98.9	99.4	695,008	
Oct. 2019	456,689	439,092	100.0	99.4	895,781	
Sept. 2019	266,430	160,430	97.5	99.8	426,860	#4 Blade Repairs
Aug. 2019	152,004	24,043	99.9	92.8	176,047	#4 Blade Repairs
July 2019	103,870	143,632	87.0	99.2	247,502	
June 2019	193,833	206,623	97.5	96.3	400,456	
May 2019	334,629	333,805	98.2	90.7	668,434	
Apr. 2019	351,660	348,296	99.0	93.0	699,956	
Mar. 2019	323,973	332,299	99.1	99.8	656,272	
2020 Total	995,923	1,020,910			2,016,833	

Month	2016	2017	2018	2019	2020
January	393,477	534,867	398,844	624,884	598,668
February	740,655	771,227	317,618	484,162	590,960
March	761,028	806,936	432,165	656,272	827,205
April	1,041,382	601,823	681,026	699,956	
May	557,947	598,108	427,219	668,434	
June	583,043	534,662	523,406	400,456	
July	199,043	214,304	330,556	247,502	
August	321,326	109,215	278,651	176,047	
September	609,004	400,210	545,469	426,860	
October	727,379	925,000	505,906	895,781	
November	640,522	690,847	628,416	695,008	
December	998,977	338,980	587,263	514,858	
Total	7,573,783	6,526,179	5,656,539	6,490,220	2,016,833



Fun Fact: The torque converter on the D8.2 wind turbine covers a wide speed range, allowing a constant output speed to the generator, regardless of the main rotor speed, or wind speed.