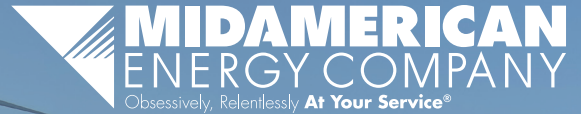







# CLEAN AND CARBON-FREE



In 2023, the energy generated from MidAmerican's wind and solar resources, as well as nuclear energy from the Quad Cities Clean Energy Center offset **100% of our customers' usage** on an annual basis with carbon-free energy.


# Iowa AEP Annual Fuel Reporting Requirements — Per 199 IAC 15.17(5)

For the year January 1 - December 31, 2023

Generation Mix Fuel Type		Energy (GWh)	Percent of Mix	SO <sub>2</sub> lb/1,000 kWh	NO <sub>x</sub> lb/1,000 kWh	CO <sub>2</sub> lb/1,000 kWh
Renewable Advantage Program <sup>1</sup>	Coal	8,993	22.8%	2.41	1.52	2,208
	Nuclear	3,341	8.5%	0.00	0.00	0
	Natural Gas	2,158	5.5%	0.00	0.14	879
	Oil	0.2	0%	0.60	24.16	1,932
	Wind	0.0	0%	0.00	0.00	0
	Solar	0.1	0%	0.00	0.00	0
	Hydropower	0	0%	0.00	0.00	0
	Biomass	0	0%	Unknown	Unknown	Unknown
	Other	0	0%	Unknown	Unknown	Unknown
Alternative Energy	Wind <sup>3</sup> 	24,101	61.2%	0.00	0.00	0
	Solar 	282	0.7%	0.00	0.00	0
	Biomass 	50	0.1%	Unknown	Unknown	Unknown
	Rate I/O Outflow (RECs) 	18	0.0%	0.00	0.00	0
	Hydropower	19	0%	0.00	0.00	0
	Other	0	0%	Unknown	Unknown	Unknown
Unknown Purchases		3,663				
Null Electricity <sup>2</sup>		445	1.1%	0.56	0.36	559
Total		43,069	100%			
Retail Sales		27,555				
Renewable Generation 		24,450	<b>88.7%</b>			

## Notes:

1. Includes state fair wind turbine and solar array
2. Per the requirements for selling renewable energy certificates (RECs), the emission rates for Null Electricity must be disclosed as equal to the system average emission rates.
3. Total wind energy excludes planned and known REC sales

 MidAmerican Energy GreenAdvantage program