

# CARBON DIOXIDE (CO<sub>2</sub>) EMISSION INTENSITIES

2019



We're reducing carbon emissions from the electricity you use. Company-wide in 2019, we had our largest one-year decline in carbon emissions and cut emissions 44% below 2005 levels. That puts us over halfway to achieving our goal to reduce carbon emissions 80% by 2030. Carbon intensities also declined across the board from 2018 to 2019, as shown below.

Our aspiration is to provide 100% carbon-free electricity by 2050.

To help you calculate the carbon emissions associated with your electricity use, we provide several options for CO<sub>2</sub> intensities to meet your needs.

1. The basic calculation: lbs/kWh x annual kWh = lbs of CO<sub>2</sub>

REGION	2018	2019*
	CO <sub>2</sub> Intensity lbs/kWh	CO <sub>2</sub> Intensity lbs/kWh
<b>Colorado</b>	1.199	1.117
<b>Southwest (New Mexico, Texas)</b>	1.186	1.093
<b>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</b>	0.856	0.786

Intensities provided here are based on CO<sub>2</sub> emissions from all electric generation, including biomass and on-site, distributed solar.

2. Customers reporting emissions under The Climate Registry, World Resources Institute or ISO protocols should use the following 2019 emissions intensities for Scope 2 market-based reporting.

REGION	2018		2019*	
	CO <sub>2</sub> Intensity (mt/MWh)	CO <sub>2</sub> Intensity (lbs/MWh)	CO <sub>2</sub> Intensity (mt/MWh)	CO <sub>2</sub> Intensity (lbs/MWh)
<b>Colorado</b>	0.549	1,211	0.514	1,133
<b>Southwest (New Mexico, Texas)</b>	0.538	1,187	0.507	1,118
<b>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</b>	0.366	807	0.356	785

Per The Climate Registry's Electric Power Sector Protocol, intensities provided here exclude CO<sub>2</sub> from biomass generation.

3. For some customers, their greenhouse gas accounting calls for “residual mix” carbon emission intensities, which are provided below. These intensities use the same emission reporting data as the other intensities, but they exclude electricity associated with Renewable Energy Credits or RECs that we sold to the market, purchased, or retired on behalf of customers participating in Windsource® and Renewable\*Connect®.

REGION	2018		2019*	
	CO <sub>2</sub> Intensity (mt/MWh)	CO <sub>2</sub> Intensity (lbs/MWh)	CO <sub>2</sub> Intensity (mt/MWh)	CO <sub>2</sub> Intensity (lbs/MWh)
<b>Colorado</b>	0.593	1,306	0.552	1,217
<b>Southwest (New Mexico, Texas)</b>	0.538	1,186	0.518	1,142
<b>Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</b>	0.372	821	0.359	791

Residual mix intensities are calculated using The Climate Registry’s Electric Power Sector Protocol optional delivery metrics and exclude CO<sub>2</sub> from biomass generation.

\*Reporting for 2018 is third-party verified, while 2019 is still preliminary and may change as it goes through verification by the end of 2020.

