



Carbon Dioxide (CO₂) Emission Intensities 2018

As we reduce carbon emissions from the electricity we provide, we are also helping our customers to reduce their carbon footprints.

We provide several options for CO₂ emission intensities to help customers calculate carbon emissions associated with their electricity use.

1. The basic calculation:

$$\text{lbs/kWh} \times \text{annual kWh} = \text{lbs of CO}_2$$

Region	2017	2018*
	CO ₂ Intensity lbs/kWh	CO ₂ Intensity lbs/kWh
Colorado	1.289	1.205
Southwest (Texas, New Mexico)	1.239	1.170
Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)	0.893	0.857

Carbon emission intensities provided here are based on CO₂ emissions from all electric generation, including biomass, divided by that generation.

2. Customers reporting emissions under The Climate Registry, World Resources Institute or ISO protocols should use the following 2018 emissions intensities for Scope 2 market-based reporting.

Region	2017		2018*	
	CO ₂ Intensity (mt/MWh)	CO ₂ Intensity (lbs/MWh)	CO ₂ Intensity (mt/MWh)	CO ₂ Intensity (lbs/MWh)
Colorado	0.591	1,303	0.552	1,218
Southwest (Texas, New Mexico)	0.562	1,239	0.531	1,171
Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)	0.373	822	0.365	805

Per The Climate Registry's Electric Power Sector Protocol, carbon emission intensities provided here exclude CO₂ 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	2017		2018*	
	CO ₂ Intensity (mt/MWh)	CO ₂ Intensity (lbs/MWh)	CO ₂ Intensity (mt/MWh)	CO ₂ Intensity (lbs/MWh)
Colorado	0.625	1,378	0.603	1,329
Southwest (Texas, New Mexico)	0.573	1,263	0.542	1,195
Upper Midwest (Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)	0.382	842	0.368	811

Residual mix carbon emission intensities are calculated using The Climate Registry’s Electric Power Sector Protocol optional delivery metrics and exclude CO₂ from biomass generation.

*Reporting for 2017 is third-party verified while 2018 is still preliminary and may change as it goes through verification by the end of 2019.