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# CARBON EMISSIONS CALCULATOR AND FAQ FOR COMMERCIAL CUSTOMERS



## WHAT DOES “CARBON FOOTPRINT” OF ELECTRICITY MEAN?

Carbon footprint refers to the amount of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases emitted to the atmosphere to create a certain amount of electricity or chilled water. A customer’s carbon footprint depends on the amount of electricity (or chilled water) they consume and the carbon intensity of the source of that electricity (or chilled water), adjusted for any onsite carbon-free resources such as solar.

## WHAT IS THE CARBON FOOTPRINT OF ELECTRICITY CONSUMED BY AN AUSTIN ENERGY CUSTOMER?

Every year Austin Energy calculates a “customer carbon factor” in pounds of CO<sub>2</sub> per megawatt hour (MWh) that represents the average carbon emissions intensity of all resources used to serve Austin Energy’s customer load for the previous calendar year.

Year of release/applicability	Calendar year basis	Value in lbs CO <sub>2</sub> /MWh
2019	2018	853
2018	2017	869
2017	2016	846*
2016	2015	865*

*\*As described below, the calculation and assumptions were changed for 2018*

## I AM AN AUSTIN ENERGY CUSTOMER. HOW DO I CALCULATE MY CARBON FOOTPRINT?

If you are a...	To estimate the carbon footprint associated with your consumption, you should...
Customer on regular Austin Energy rates	Multiply your annual consumption in MWh by the factor above from the current calendar year.
Customer subscribed to GreenChoice	Assume it is 0 for all your consumption billed at the GreenChoice rate (for most customers this represents all of your consumption), and multiply any consumption that is not billed at the GreenChoice rate at the regular factor above from the current calendar year.
Customer with rooftop solar	Subtract your annual solar generation from your annual electric consumption before multiplying by the factor above from the current calendar year. If the amount of solar produced is greater than the amount of electricity used, your carbon footprint is zero.
Customer subscribed to Community Solar	Multiply any electric consumption when you were not subscribed to community solar by the factor above for that year, and any consumption while you were subscribed to Community Solar by 0. If you have been a Community Solar subscriber for the full year, your carbon footprint is zero.
Customer that purchases chilled water	Multiply your annual consumption of chilled water in ton-hrs by both the factor above and by 0.0009 MW/ton.





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## **HOW ACCURATE IS THE CARBON FOOTPRINT CALCULATED USING THIS FACTOR?**

The customer carbon factor represents an estimate and is appropriate for estimating annual carbon footprint. It may not be appropriate to use it to estimate carbon footprint for usage during periods shorter than one year.

## **WHAT IS THE SOURCE OF THE CARBON USED TO MAKE ELECTRICITY DELIVERED TO AUSTIN ENERGY CUSTOMERS?**

All load is served by the ERCOT grid which is supported by hundreds of carbon-emitting and non carbon-emitting resources. Austin Energy maintains a portfolio of generation resources that deliver energy to the grid, and we account for the carbon intensity of Austin Energy's portfolio in calculating the factor as well as any net energy derived from other sources on the ERCOT grid based on the average carbon intensity of all resources in ERCOT.

## **WHY DOES THE CUSTOMER CARBON FACTOR CHANGE?**

The customer carbon factor accounts for the emissions of Austin Energy's fossil-fueled fleet as well as the overall ERCOT fleet, and those resources can be dispatched and thus emit carbon in different amounts from year to year. Austin Energy's customer carbon factor decreased by 21% between 2010 and 2019, primarily due to Austin Energy increasing the amount of renewable energy in its portfolio. An Austin Energy customer using the same amount of electricity every year would therefore see their carbon footprint decrease over that time. This trend is expected to continue as we continue to invest in more renewable energy resources.

## **CHANGES TO THE CUSTOMER CARBON FACTOR IN 2018**

In 2018, we made changes to the calculation methodology which resulted in a factor that is less than 5% different compared to a factor calculated using the previous methodology, which is within the expected range of accuracy of the factor. The changes included:

- We no longer include non-CO<sub>2</sub> gases from our emissions sources and therefore are reporting the factor in CO<sub>2</sub> and not CO<sub>2</sub>-equivalents. The difference between CO<sub>2</sub> and total greenhouse gas emissions in CO<sub>2</sub>-equivalents from Austin Energy's fleet is approximately 1% or less.
- We adjusted the factor to account for local solar production. To properly provide those customers with zero carbon footprint electricity, we subtract that from the overall load. We expect this adjustment to have a greater impact in the future as local solar generation increases, but for 2018 this increased the factor by less than 1%.
- We began using a load-based carbon emissions calculation consistent with our City's community climate plan as opposed to just using our own fleet's carbon footprint. Any difference between energy served to the load and generated by Austin Energy resources is assumed to have the carbon footprint of the ERCOT grid. This "netting" of load energy can be positive or negative from year to year.