



Oregon Department of Environmental Quality

Electricity Carbon Intensity Values for 2024

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This document publishes the statewide and utility-specific grid mix carbon intensity values for electricity reported as a transportation fuel in the Oregon Clean Fuels Program for the 2024 reporting year.

General methodology

The CFP calculates the carbon intensity of transportation fuels on a lifecycle basis, which means that both direct and indirect emissions are accounted for. For electricity, that means looking at both the direct emissions from the smokestacks of power plants and the indirect, upstream emissions from the extraction and transportation of the source of the electricity to the power plant.

Direct emissions

The electricity sector is required to report annually to DEQ's Greenhouse Gas Reporting Program¹. Each year, the utilities and electric generators report how much electricity they produce or procure from within and outside of Oregon and the resources used to generate their electricity, such as wind, coal, or others. The emission rates are reported in tons per megawatt-hours and then converted to grams of CO₂e per megajoule of energy by using the following factors²:

1 Metric Ton (MT) = 1,000,000 grams (g)

1 Megawatt-hour (MWh) = 1,000 Kilowatt-hour (kWh)

1 kWh = 3.6 megajoules (MJ)

Electricity consumption in other jurisdictions, like Washington state, is not included.

Indirect emissions

OR-GREET 3.0 is used to calculate the upstream or indirect emissions associated with the mix of resources generating electricity. Resources include, for example, natural gas, wind, solar, and coal. In the case of natural gas, the indirect emissions include emissions from energy used at the wellhead and throughout the transmission system, including fugitive methane emissions. In the case of coal, indirect emissions include emissions from energy used in mining and transportation to the power plant.

Source of the data

The emissions accounting is based on 2022 data reported to GHGRP by the electricity sector and 2020 data reported by the Bonneville Power Administration. Summaries of the underlying data for these calculations will be added to this document in the coming weeks.

¹ The Oregon Department of Energy also uses DEQ GHG reporting program data. For more information about ODOE's use of this data, reference the ODOE 'Data & Reports' website <https://www.oregon.gov/energy/energy-oregon/Pages/Electricity-Mix-in-Oregon.aspx> and ERM Visual FAQ <https://www.oregon.gov/energy/energy-oregon/Documents/2022-06-13-ERM-Visual-FAQ.pdf>.

² For more information on the GHGRPs emissions factor assignment methodology for specified sources, reference <https://www.oregon.gov/deq/aq/Documents/ghg-SpecifiedSourceEFmethods.pdf>

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Table 1 shows the statewide grid mix and utility-specific carbon intensity values and the corresponding fuel pathway codes to be used when reporting to DEQ.

Table 1. Statewide grid mix and utility-specific carbon intensity values

Name	Reported Direct Emissions (gCO₂e/MJ)	Modeled Indirect Emissions (gCO₂e/MJ)	Total Emissions (gCO₂e/MJ)	Fuel Pathway Code
Statewide Grid Mix	109.092	23.460	132.55	ORELC2024
Ashland Electric Department	4.405	1.526	5.93	ORELCAE24
Blachly-Lane Electric Cooperative	9.497	3.243	12.74	ORELCBL24
Cascade Locks	4.444	1.539	5.98	ORELCFRC24
Central Electric Cooperative	8.465	2.895	11.36	ORELCCEC24
Central Lincoln PUD	7.542	2.583	10.13	ORELCCLP24
Clatskanie PUD	6.259	2.651	8.91	ORELCCLA24
Clearwater Power Company	5.204	1.795	7.00	ORELCCPC24
Columbia River PUD	4.444	1.539	5.98	ORELCFRC24
Consumers Power	12.280	4.183	16.46	ORELCCP24
Coos-Curry Electric Cooperative, Inc	4.444	1.539	5.98	ORELCFRC24
Douglas Electric Cooperative	5.095	1.759	6.85	ORELCDEC24
Emerald PUD	17.288	6.251	23.54	ORELCEPD24
Eugene Water & Electric Board	9.468	3.393	12.86	ORELCEWE24
Forest Grove Light & Power	7.621	2.604	10.23	ORELCFG24
Hermiston Energy Services	4.444	1.539	5.98	ORELCFRC24
Hood River Electric Cooperative	4.444	1.539	5.98	ORELCFRC24
Lane Electric Cooperative	4.437	1.537	5.97	ORELCLEC24
McMinnville Water & Light	4.290	1.485	5.77	ORELCCMM24
Midstate Electric Cooperative	4.444	1.539	5.98	ORELCFRC24
Milton-Freewater City Light & Power	3.435	1.188	4.62	ORELCMF24
Northern Wasco PUD	56.573	19.263	75.84	ORELCNW24
Oregon Trail Electric Cooperative	4.444	1.539	5.98	ORELCFRC24

Salem Electric	4.444	1.539	5.98	ORELCFRC24
Springfield Utility Board	4.444	1.539	5.98	ORELCFRC24
Surprise Valley Electrification Corp	4.444	1.539	5.98	ORELCSVE24
Tillamook PUD	4.409	1.626	6.03	ORELCTPD24
Umatilla Electric Cooperative	83.885	28.692	112.58	ORELCUEC24

Contact

Please contact OregonCleanFuels@deq.oregon.gov if you have any questions.

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