

# Utility-Specific Carbon Intensity of Electricity

## Clean Fuel Standard program utility-specific electricity for 2024

### Background

Ecology must annually publish the carbon intensity (CI) values for each electric utility in Washington and the statewide average grid electricity based on the mix of resources used to generate electricity using the most recent year's Fuel Mix Disclosure published by the Washington Department of Commerce (Commerce) ([WAC 173-424-630\(1\)](https://www.commerce.wa.gov/growing-the-economy/energy/fuel-mix-disclosure/)<sup>1</sup>). Ecology calculated the utility-specific and statewide grid average carbon intensity values for electricity using the Fuel Mix Disclosure for the electricity consumed in calendar year 2022 as reported by Commerce. Commerce shared the updated 2022 annual fuel-mix report on December 27, 2023 after addressing the feedbacks from electric utilities, and will publish the final Fuel Mix Disclosure on its [Fuel Mix Disclosure and Greenhouse Gas Content website](#)<sup>2</sup>.

The carbon intensity values in this document are intended for use during quarterly and annual reporting in the Clean Fuel Standard for electricity consumed in the calendar year 2024. The carbon intensity value of utility-specific electricity is to be used for reporting electricity used as vehicle fuel in the specific utility service area in the Washington Fuel Reporting System according to Chapter 173-424 WAC.

Ecology requested electric utilities and other stakeholders review and provide comment on the draft utility-specific carbon intensity of electricity for 2024, which is addressed in this document. The main feedback received requested that Ecology use the updated 2022 Fuel Mix Disclosure. We received comments on improving the transparency of the model, which will be considered in the future development of carbon intensity calculator.

### Methodology

The 2024 utility-specific carbon intensity values of electricity was determined using Commerce's 2022 utility Fuel Mix Disclosure report, which contains the composition of resources used to generate electricity used in each utility service area.

Carbon intensity accounts for the greenhouse emissions throughout the lifecycle of the electricity, from generation to the point of consumption. This document separates the carbon intensity of the upstream (before the electricity generation) processes from the downstream (from electricity generation through electricity consumption) processes. The calculation was performed using the [WA Utility Carbon Intensity Calculator](#)<sup>3</sup> developed during the 2022 rulemaking by the consulting firm Life Cycle Associates. The unit of carbon intensity is a gram CO<sub>2</sub> equivalent per unit of energy of the electricity (kilowatt hours, kWh).

<sup>1</sup> <https://app.leg.wa.gov/wac/default.aspx?cite=173-424&full=true#173-424-630>

<sup>2</sup> <https://www.commerce.wa.gov/growing-the-economy/energy/fuel-mix-disclosure/>

<sup>3</sup> <https://ecology.wa.gov/Air-Climate/Reducing-Greenhouse-Gas-Emissions/Clean-Fuel-Standard/Requirements#CI>

## Carbon intensity values of utility-specific electricity

The table below shows the carbon intensity values for electricity consumed in each utility service area to fuel or charge electric vehicles and to produce hydrogen using electrolysis for fuel cell vehicles according to [Chapter 173-424 WAC](#)<sup>4</sup>. The 2024 statewide average grid electricity has declined to 63.39 gCO<sub>2</sub>e/MJ in 2022, compared to 69.37 gCO<sub>2</sub>e/MJ in the updated 2021 carbon intensity value. The detailed calculation of the utility-specific CI is available in Excel on the Clean Fuel Standard [program website](#)<sup>5</sup>.

Electric Utility Name	Pathway Codes	Upstream Emission, gCO <sub>2</sub> e/MJ	Production to Consumption phase emission, gCO <sub>2</sub> e/MJ	Utility Specific CI, gCO <sub>2</sub> e/MJ
Alder Mutual Light	ELCWAAML2024	1.46	5.07	6.54
Benton County PUD #1	ELCWABEN2024	2.55	9.10	11.66
Benton Rural Electric Assn	ELCWABRA2024	1.47	5.08	6.55
Big Bend Electric Coop	ELCWABBC2024	4.45	18.05	22.50
City of Blaine	ELCWABLN2024	1.47	5.08	6.55
Centralia City Light	ELCWACCL2024	2.40	23.46	25.86
Chelan County PUD #1	ELCWACHP2024	5.72	24.63	30.35
Cheney Light Department	ELCWACLD2024	1.47	5.08	6.55
Chewelah Electric Department	ELCWACED2024	1.47	5.08	6.55
Clallam County PUD #1	ELCWACCP2024	1.45	5.02	6.47
Clark County PUD #1	ELCWACLP2024	11.95	50.75	62.69
Clearwater Power (WA)	ELCWACWP2024	1.65	5.88	7.53
Columbia Rural Electric Assn (WA)	ELCWACRA2024	4.52	18.36	22.87
Coulee Dam, Town of	ELCWACOD2024	1.47	5.08	6.55
Cowlitz County PUD #1	ELCWACOP2024	2.66	10.07	12.73
Douglas County PUD #1	ELCWADCP2024	21.97	94.61	116.58
Eatonville Electric Department	ELCWAED2024	1.47	5.08	6.55
Elmhurst Mutual Power & Light	ELCWAEML2024	1.47	5.08	6.55
Ellensburg Electric Division	ELCWAELD2024	1.47	5.08	6.55
Ferry County PUD #1	ELCWAFCP2024	1.47	5.08	6.55
Franklin County PUD #1	ELCWAFRP2024	3.89	15.65	19.55
Grays Harbor County PUD #1	ELCWAGHP2024	2.17	8.20	10.37

<sup>4</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=173-424&full=true>

<sup>5</sup> <https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions/clean-fuel-standard>

Inland Power & Light	ELCWAIP2024	1.46	5.22	6.68
Kittitas PUD #1	ELCWAKIP2024	1.51	5.27	6.77
Klickitat County PUD #1	ELCWAKCP2024	5.93	24.60	30.54
Lakeview Light & Power	ELCWALAK2024	1.47	5.08	6.55
Lewis County PUD #1	ELCWALCP2024	3.12	12.27	15.39
McCleary Light & Power	ELCWAMCL2024	1.47	5.08	6.55
Milton Electric Division	ELCWAMED2024	1.47	5.08	6.55
Modern Electric Water Company	ELCWAMEW2024	1.47	5.08	6.55
Nespelem Valley Elec Coop	ELCWANCV2024	1.47	5.08	6.55
Northern Lights (WA)	ELCWANTL2024	1.97	7.24	9.21
Ohop Mutual Light	ELCWAOML2024	1.47	5.08	6.55
Okanogan County PUD #1	ELCWAOC2024	13.43	57.14	70.57
Pacific County PUD #2	ELCWAPCP2024	3.87	15.55	19.42
Parkland Light & Water	ELCWAPLW2024	1.47	5.08	6.55
Grant County PUD #2	ELCWAGCP2024	24.17	104.07	128.23
Pend Oreille County PUD #1	ELCWAPOP2024	17.89	76.54	94.43
Peninsula Light	ELCWAPEL2024	1.43	4.97	6.40
Asotin County PUD #1	ELCWAACP2024	1.47	5.08	6.55
Port Angeles Light Operations	ELCWAPAL2024	1.47	5.08	6.55
Wahkiakum County PUD #1	ELCWAWCP2024	1.47	5.08	6.55
Mason County PUD #3	ELCWAMCP2024	1.42	4.92	6.34
Puget Sound Energy	ELCWAPSE2024	13.34	109.25	122.59
Richland Energy Services	ELCWARES2024	3.34	13.22	16.56
Ruston, Town of	ELCWARUS2024	0.84	2.83	3.67
Seattle City Light	ELCWASCL2024	0.56	2.25	2.80
Skamania County PUD #1	ELCWASCP2024	1.47	5.08	6.55
Snohomish County PUD #1	ELCWASNO2024	1.34	4.48	5.82
Steilacoom Electric Utility	ELCWASEU2024	1.47	5.08	6.55
Sumas, City of	ELCWASUM2024	1.47	5.08	6.55
Tacoma Power	ELCWATPO2024	0.84	2.83	3.66
Tanner Electric Coop	ELCWATEC2024	1.47	5.08	6.55
Vera Water & Power	ELCWAVER2024	2.87	11.17	14.03
Avista (WA)	ELCWAAVI2024	12.92	86.28	99.20

Mason County PUD #1	ELCWAMAP2024	1.37	4.75	6.12
Whatcom County PUD #1	ELCWAWHP2024	1.47	5.08	6.55
Jefferson County PUD #1	ELCWAJCP2024	1.47	5.08	6.55
Port of Seattle	ELCWAPOS2024	1.47	5.08	6.55
Yakama Power	ELCWAYKM2024	1.47	5.08	6.55
Pacific Power (WA)	ELCWAPAP2024	16.17	162.15	178.32
Kalispel Tribal Utility	ELCWAKTU2024	1.47	5.08	6.55
Okanogan County Electric Coop	ELCWAOCC2024	1.89	6.91	8.79
Orcas Power & Light Coop	ELCWAOPC2024	1.60	5.66	7.27
Energy Northwest	ELCWAENN2024	1.47	5.08	6.55
Consolidated Irrigation District #19	ELCWACID2024	1.46	5.07	6.53
Fairchild Airforce Base	ELCWAFAB2024	1.47	5.08	6.55
Grant County PUD #2 (Rate Schedule 13)	ELCWAGRP2024	0.00	0.00	0.00
<b>WA State Average Electric Grid</b>	<b>WAELEC001-24</b>	<b>8.41</b>	<b>54.98</b>	<b>63.39</b>

### Updated Utility-Specific and Statewide Carbon Intensity Values for Use in 2023

We have also updated the 2023 carbon intensity values based on Commerce’s amendments to the 2021 Fuel Mix Disclosure. These updated values will be used in the last quarterly report of 2023.

Electric Utility Name	Pathway Codes	Previously Published 2021 Carbon Intensity Values in g CO2e/MJ			Updated 2021 Carbon Intensity Values in g CO2e/MJ		
		Up stream CI	Down stream CI	Utility CI	Up stream CI	Down stream CI	Utility CI
Alder Mutual Light	ELCWAAML2023	1.62	5.77	7.39	1.62	5.77	7.39
Benton County PUD #1	ELCWABEN2023	1.63	5.64	7.26	1.63	5.64	7.26
Benton Rural Electric Assn	ELCWABRA2023	1.62	5.76	7.39	1.62	5.76	7.39
Big Bend Electric Coop	ELCWABBC2023	3.48	13.83	17.30	3.48	13.83	17.30

City of Blaine	ELCWABLN2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Centralia City Light	ELCWACCL2023	3.3 9	43. 87	47. 27	3.3 9	43. 87	47. 27
Chelan County PUD #1	ELCWACHP2023	0.0 0	0.0 1	0.0 1	0.0 0	0.0 1	0.0 1
Cheney Light Department	ELCWACLD2023	3.8 8	15. 61	19. 49	3.8 8	15. 61	19. 49
Chewelah Electric Department	ELCWACED2023	1.6 2	5.7 6	7.3 8	1.6 2	5.7 6	7.3 8
Clallam County PUD #1	ELCWACCP2023	1.6 0	5.6 9	7.2 9	1.6 0	5.6 9	7.2 9
Clark County PUD #1	ELCWACLP2023	13. 05	55. 52	68. 57	13. 05	55. 52	68. 57
Clearwater Power (WA)	ELCWACWPQ423	1.6 3	5.8 1	7.4 4	1.7 2	6.2 0	7.9 3
Coulee Dam, Town of	ELCWACOD2023	1.6 2	5.7 7	7.3 9	1.6 2	5.7 7	7.3 9
Cowlitz County PUD #1	ELCWACOP2023	5.3 3	21. 35	26. 68	5.3 3	21. 35	26. 68
Douglas County PUD #1	ELCWADCP2023	24. 63	10 5.8 9	13 0.5 2	24. 63	10 5.8 9	13 0.5 2
Eatonville Electric Department	ELCWAED2023	1.6 2	5.7 7	7.3 9	1.6 2	5.7 7	7.3 9
Elmhurst Mutual Power & Light	ELCWAEML2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Ellensburg Electric Division	ELCWAELD2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Ferry County PUD #1	ELCWAFCP2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Franklin County PUD #1	ELCWAFRP2023	3.7 2	14. 94	18. 66	3.7 2	14. 94	18. 66
Grays Harbor County PUD #1	ELCWAGHPQ423	2.3 2	8.7 9	11. 11	2.2 5	8.5 5	10. 80
Inland Power & Light	ELCWA IPL2023	3.8 4	15. 39	19. 23	3.8 4	15. 39	19. 23
Klickitat County PUD #1	ELCWAKCP2023	5.4 9	22. 71	28. 21	5.4 9	22. 71	28. 21
Lakeview Light & Power	ELCWALAK2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Lewis County PUD #1	ELCWALCP2023	3.3 9	13. 49	16. 88	3.3 9	13. 49	16. 88
McCleary Light & Power	ELCWAMCL2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Milton Electric Division	ELCWAMED2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Modern Electric Water Company	ELCWAMEW2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9

Nespelem Valley Elec Coop	ELCWANCV2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Northern Lights (WA)	ELCWANTL2023	1.7 7	6.3 7	8.1 4	1.7 7	6.3 7	8.1 4
Ohop Mutual Light	ELCWAOMLQ423	1.5 3	5.3 9	6.9 2	1.6 2	5.7 6	7.3 9
Okanogan County PUD #1	ELCWAOCQP423	9.0 2	37. 98	47. 00	12. 50	53. 09	65. 59
Pacific County PUD #2	ELCWAPCP2023	3.7 7	15. 12	18. 89	3.7 7	15. 12	18. 89
Parkland Light & Water	ELCWAPLW2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Grant County PUD #2	ELCWAGCP2023	24. 01	10 3.3 8	12 7.3 8	24. 01	10 3.3 8	12 7.3 8
Pend Oreille County PUD #1	ELCWAPOP2023	6.7 7	28. 89	35. 66	6.7 7	28. 89	35. 66
Peninsula Light	ELCWAPELQ423	1.6 3	5.6 4	7.2 7	1.5 7	5.2 0	6.7 6
Asotin County PUD #1	ELCWAACP2023	1.6 2	5.7 5	7.3 8	1.6 2	5.7 5	7.3 8
Port Angeles Light Operations	ELCWAPAL2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Wahkiakum County PUD #1	ELCWAWCP2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Mason County PUD #3	ELCWAMCP2023	1.5 6	5.5 6	7.1 2	1.5 6	5.5 6	7.1 2
Puget Sound Energy	ELCWAPSEQ423	15. 25	11 9.7 8	13 5.0 3	15. 51	12 1.8 2	13 7.3 3
Richland Energy Services	ELCWARES2023	3.4 6	13. 76	17. 22	3.4 6	13. 76	17. 22
Ruston, Town of	ELCWARUS2023	0.8 7	3.2 1	4.0 8	0.8 7	3.2 1	4.0 8
Seattle City Light	ELCWASCL2023	1.1 5	4.7 8	5.9 3	1.1 5	4.7 8	5.9 3
Skamania County PUD #1	ELCWASCP2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Snohomish County PUD #1	ELCWASNO2023	1.5 6	5.5 3	7.0 9	1.5 6	5.5 3	7.0 9
Steilacoom Electric Utility	ELCWASEU2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Sumas, City of	ELCWASUM2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Tacoma Power	ELCWATPO2023	0.8 7	3.2 1	4.0 8	0.8 7	3.2 1	4.0 8
Tanner Electric Coop	ELCWATEC2023	1.6 2	5.7 6	7.3 9	1.6 2	5.7 6	7.3 9
Vera Water & Power	ELCWAVER2023	3.0 9	12. 16	15. 26	3.0 9	12. 16	15. 26



Avista (WA)	ELCWAAVI2023	15.78	10.7	11.75	15.78	10.7	11.75
Mason County PUD #1	ELCWAMAP2023	1.52	5.40	6.92	1.52	5.40	6.92
Whatcom County PUD #1	ELCWAWHP2023	1.62	5.76	7.39	1.62	5.76	7.39
Jefferson County PUD #1	ELCWAJCP2023	1.62	5.76	7.39	1.62	5.76	7.39
Port of Seattle	ELCWAPOS2023	1.62	5.76	7.39	1.62	5.76	7.39
Yakama Power	ELCWAYKM2023	1.62	5.76	7.39	1.62	5.76	7.39
Columbia Rural Electric Assn (WA)	ELCWACRA2023	4.66	18.96	23.62	4.66	18.96	23.62
Kittitas PUD #1	ELCWAKIP2023	1.67	5.96	7.63	1.67	5.96	7.63
Pacific Power (WA)	ELCWAPAP2023	16.72	16.33	18.00	16.72	16.33	18.00
Kalispel Tribal Utility	ELCWAKTU2023	1.62	5.76	7.39	1.62	5.76	7.39
Okanogan County Electric Coop	ELCWAOCC2023	2.33	8.84	11.17	2.33	8.84	11.17
Orcas Power & Light Coop	ELCWAOPC2023	1.76	6.34	8.10	1.76	6.34	8.10
Energy Northwest	ELCWAENN2023	1.62	5.76	7.39	1.62	5.76	7.39
Consolidated Irrigation District #19	ELCWACID2023	1.62	5.77	7.39	1.62	5.77	7.39
Fairchild Airforce Base	ELCWAFAB2023	1.62	5.76	7.39	1.62	5.76	7.39
Grant County PUD #2 (Rate Schedule 13)	ELCWAGRP2023	0.00	0.00	0.00	0.00	0.00	0.00
Puget Sound Energy (Green Direct Program)	ELCWAPSRQ4023				0.00	0.00	0.00
<b>2021 WA State Average Grid</b>	<b>WAELEC001-23</b>	<b>9.21</b>	<b>59.80</b>	<b>69.01</b>	<b>9.26</b>	<b>60.10</b>	<b>69.37</b>

Email comments to:  
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ADA Accessibility

To request an ADA accommodation, contact Ecology by phone at 360-407-6831 or email at [ecyADAcordinator@ecy.wa.gov](mailto:ecyADAcordinator@ecy.wa.gov), or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.