NPUC
National Public Utilities Council

Annual Utility Decarbonization Report

Spring 2025

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Foreword

The Annual Utility Decarbonization Report evaluates and ranks the largest U.S. investor-owned utilities based on their decarbonization efforts, using publicly available data.

The report employs a ranking system that assesses five key metrics, including each utility's 2023* fuel mix, CO_2 emissions, and progress towards decarbonization targets. The report also includes industry spotlights on publicly owned utilities and natural gas providers, offering insights into their fuel sources and emissions.

As the energy transition continues, this report serves as a resource for utilities, investors, and policymakers looking to understand how utilities are progressing towards a low-carbon future.

*Date of data collection: January 2025

Preface

At the National Public Utilities Council (NPUC), we believe timely, transparent data is essential for driving real progress toward a decarbonized future. That's why this **Spring 2025 Utility Decarbonization Report is different.**

In the past, we waited to report until all utility data was in — often leaving us analyzing data that was nearly two years old. This time, we're doing things differently. Instead of waiting for every piece of data to arrive, we're sharing what we have now — the most complete and up-to-date picture available, using 2023 data collected as of January 2025. By reporting on a rolling basis, we can help utilities, policymakers, and stakeholders act sooner and more confidently.

We know not all utilities report on the same timeline. Some are extremely diligent, while others take longer. To address this, we're introducing a second report this year: the **Fall 2025 Utility Decarbonization Report**. This fall edition will capture the remaining 2023 data and any available 2024 data, helping us close the data gap and stay more current.

You'll also notice this report is more focused than our previous reports. Here, we're zeroing in on the key metrics that matter most, with refined methodology and sharper insights.

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The 2025

U.S. Utilities Decarbonization Index

01

Methodology

How the Utility Decarbonization Index is Scored

This iteration of the Annual Utility Decarbonization Index uses 2023 data to track the decarbonization progress of the largest U.S. IOUs* using the following metrics. Its aim is to rank companies not based on how close they are to net zero but on how well they are doing in their efforts to get there in comparison to the others.

* IOUs were ranked by total owned and purchased generation in MWh, combined. Utilities with less than 2 million MWh of owned generation were excluded from the report.

Metric 01
Total CO_2 Emissions

Absolute CO_2 emissions from owned and purchased electricity generation.

=

Sum of CO_2 emissions from owned and purchased energy generation

Metric 02
CO_2 Emissions Intensity

The amount of CO_2 emitted per megawatt-hour of electricity generated and purchased.

=

$$\frac{\text{Total } CO_2 \text{ emissions from owned and purchased generation}}{\text{Total owned and purchased net generation}}$$

Metric 03
CO_2 Emissions Per Customer

CO_2 emissions from owned and purchased electricity generation per customer.

=

$$\frac{\text{Total } CO_2 \text{ emissions from owned and purchased generation}}{\text{Total residential customer equivalent (RCE)}}$$

Metric 04
Fuel Mix

The share of carbon-free sources in a company's owned generation mix (nuclear and renewables).

=

$$\frac{\text{Owned net generation from low-carbon sources}}{\text{Total owned net generation}}$$

Metric 05
Decarbonization Goals

An evaluation of a company's interim greenhouse gas reduction goal, ultimate net-zero target, and reported progress.

=

Comparative ranking against certain baselines, highlighted on the left-hand side.

Interim goal
50% reduction in Scope 1 and 2 emissions and minimum 20% reduction in Scope 3 emissions by 2030.

Ultimate goal
Net zero Scope 1 and 2 emissions and a minimum 70% reduction in Scope 3 emissions by 2050.

Reported Progress
Minimum 38% reduction in all Scopes between 2005–22, or 45% reduction in Scopes 1 and 2 between 2005–22.

NEW IN 2025

The emissions reduction per billion invested metric replaces the planned capital expenditure (CAPEX) metric from previous editions of the report, due to limited data availability.

Metric 06
Normalized Emissions Reduction per Billion Invested

The decline in CO_2 emissions from electricity generation, relative to 2023 emissions, achieved per billion dollars spent on capital expenditure from 2019–2023.

=

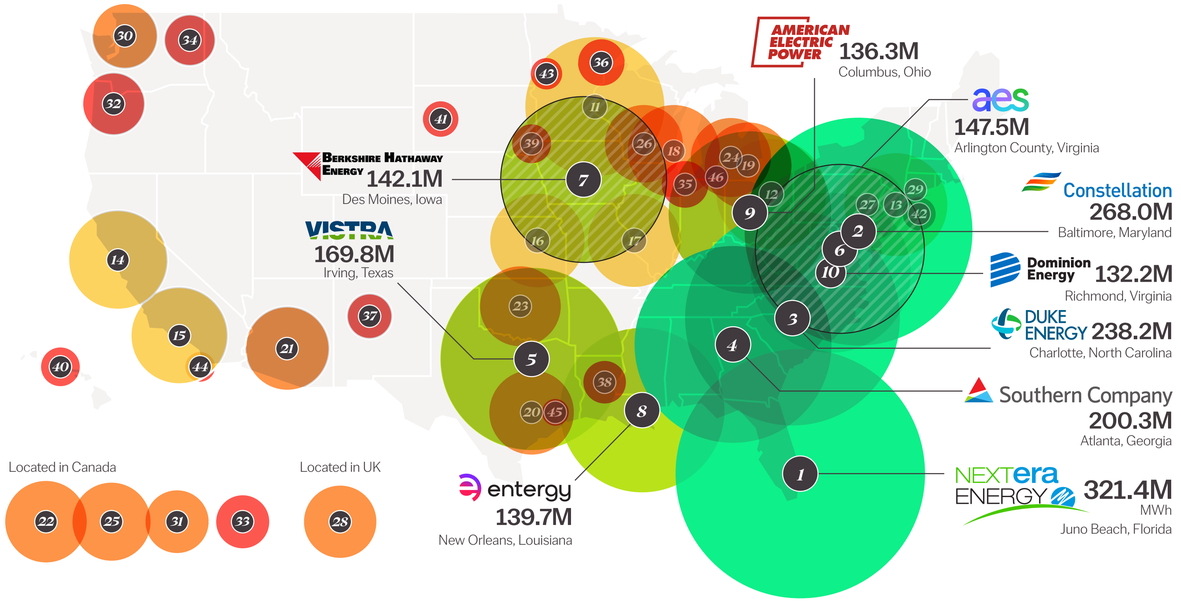
$$\frac{\left(\dfrac{\text{Difference in owned and purchased generation } CO_2 \text{ emissions from 2019–2023}}{\text{2023 emissions}}\right)}{\text{Total CAPEX from 2019–2023}}$$

Introducing the Largest

Investor-Owned Utilities

By 2023 Net Owned and Purchased Electricity Generation, MWh

International & U.S. Operations U.S. Operations Only



Top 10 IOUs

Rest of the IOUs

		MWh
11	Xcel Energy — Minneapolis, Minnesota	102.8M
12	FirstEnergy — Akron, Ohio	64.5M
13	PSEG — Newark, New Jersey	56.9M
14	PG&E — Oakland, California	51.2M
15	Edison International — Rosemead, California	48.9M
16	evergy — Topeka, Kansas	48.1M
17	Ameren — St. Louis, Missouri	46.6M
18	WEC Energy Group — Milwaukee, Wisconsin	45.8M
19	DTE — Detroit, Michigan	40.8M
20	nrg — Houston, Texas	38.7M
21	Pinnacle West — Phoenix, Arizona	36.8M
✶ 22	Fortis Inc. — St. John's, Canada	36.1M
23	OGE — Oklahoma City, Oklahoma	35.6M
24	Consumers Energy — Jackson, Michigan	35.1M
✶ 25	Emera — Halifax, Canada	33.2M
26	Alliant Energy — Madison, Wisconsin	33.2M
27	ppl — Allentown, Pennsylvania	30.1M
✶ 28	nationalgrid — London, United Kingdom	28.7M
29	Avangrid — Orange, Connecticut	23.3M
30	PSE Puget Sound Energy — Bellevue, Washington	22.3M
✶ 31	transalta — Calgary, Canada	22.0M
32	PGE — Portland, Oregon	20.4M
✶ 33	Algonquin — Oakville, Canada	15.7M
34	Avista — Spokane, Washington	13.7M
35	NiSource — Merrillville, Indiana	12.3M
36	Allete — Duluth, Minnesota	12.2M
37	PNM Resources — Albuquerque, New Mexico	10.7M
38	CLECO — Pineville, Louisiana	10.3M
39	NorthWestern Energy — Sioux Falls, South Dakota	8.7M
40	HEI — Honolulu, Hawaii	8.6M
41	Black Hills Corporation — Rapid City, South Dakota	7.3M
42	conEdison — New York, New York	6.3M
43	Otter Tail Corporation — Fergus Falls, Minnesota	5.8M
44	SEMPRA — San Diego, California	5.2M
45	CenterPoint Energy — Houston, Texas	4.3M
46	MGE Energy — Madison, Wisconsin	3.4M

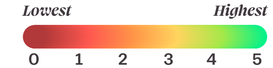
✶ International & U.S. Operations

Data updated January 2025.

The 2025

Utility Decarbonization Index

IOUs are evaluated against **six** metrics based on their 2023 reports, which are then averaged to find their overall decarbonization score.



		PSEG	PG&E	Edison International	Avangrid	Algonquin	Sempra	NiSource	Constellation	nationalgrid	Fortis	Dominion Energy	MGE Energy	PGE	Xcel Energy	evergy	Transalta	NorthWestern Energy	NextEra Energy	AES	Alliant Energy	Emera	Allete	CLECO	DTE	Pinnacle West	Avista	Consumers Energy	Ameren	Otter Tail Corporation	Berkshire Hathaway Energy	WEC Energy Group	PPL	CenterPoint Energy	HEI	FirstEnergy	entergy	American Electric Power	nrg	Puget Sound Energy	conEdison	OGE	AES	Duke Energy	Southern Company	Vistra	PNM Resources
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Overall Score		4.2	4.0	4.0	3.8	3.6	3.6	3.5	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.1	1.8	1.7	1.0
Total CO_2 Emissions Score	01	4	5	5	5	5	5	5	4	5	5	4	5	5	4	4	5	5	3	4	5	5	5	5	4	5	5	5	4	5	3	4	4	5	5	3	3	2	4	5	5	5	5	1	1	1	0
CO_2 Emissions Intensity Score	02	4	5	5	5	5	5	4	5	5	5	5	4	4	4	4	4	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	2	2	3	4	4	4	3	4	1	4	3	4	4	4	0
CO_2 Emissions per Customer Score	03	4	5	5	5	4	5	3	3	4	5	3	3	4	3	3	0	4	4	2	3	3	1	1	3	3	3	3	3	2	3	2	3	5	3	4	3	3	0	3	5	1	1	2	1	0	0
Fuel Mix Score	04	5	5	3	5	4	1	2	5	2	1	3	2	1	3	3	2	3	3	2	2	1	2	1	2	2	3	1	2	2	3	2	1	1	1	1	2	2	2	1	1	1	1	2	2	1	3
Decarbonization Goals Score	05	4.3	3.2	4.2	2.0	1.8	3.7	2.8	1.8	1.5	1.3	2.2	2.2	2.8	2.3	2.3	3.1	1.1	1.8	2.4	1.3	2.3	2.3	1.3	2.0	1.8	0.8	2.7	1.6	1.6	1.5	2.1	4.0	0.8	1.8	1.8	2.4	2.4	3.0	0.9	1.3	2.0	1.5	1.8	1.8	1.9	1.0
Emissions Reduction per Billion Invested Score	06	4	1	2	1	2	2	4	1	2	2	2	3	2	2	2	4	1	1	2	2	2	3	5	2	1	1	1	2	2	2	2	2	2	2	2	1	2	3	1	1	1	2	2	1	2	2

Index rates parent companies only. Data updated January 2025.

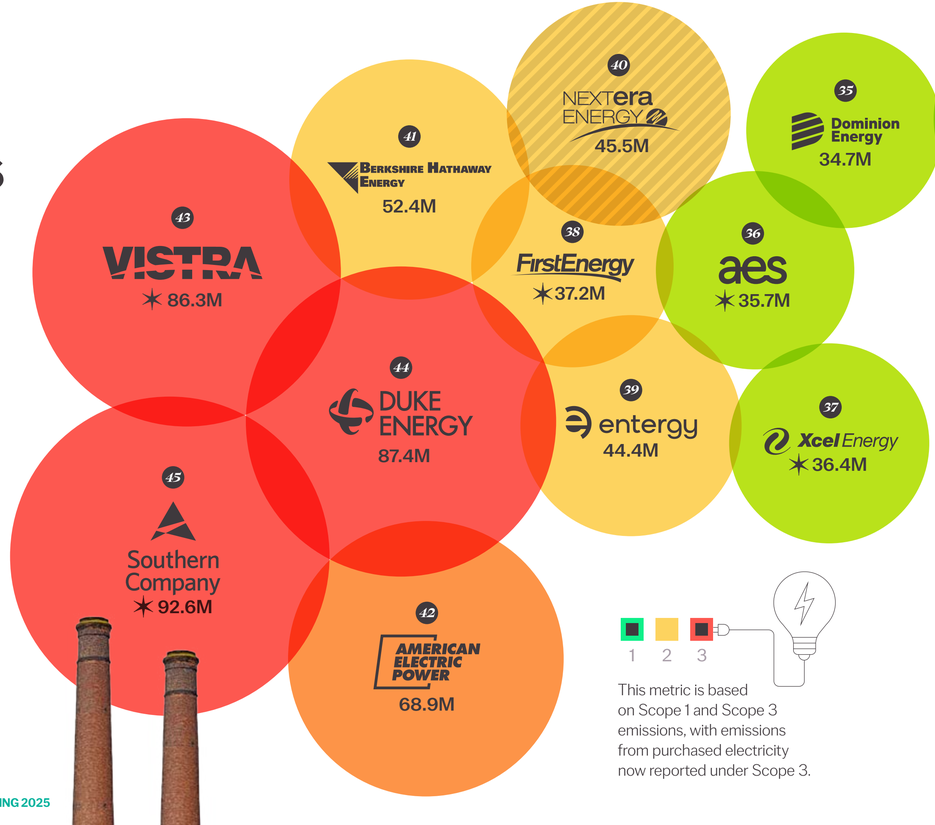
Metric 01

Total CO_2 Emissions

Measures each utility's absolute CO_2 emissions from owned and purchased electricity generation.

Metric Tons of Total CO_2 Emissions From Owned and Purchased Generation

	Score
Less than 18.3M metric tons	5
18.3–36.5M metric tons	4
36.5–54.8M metric tons	3
54.8–73.0M metric tons	2
Greater than 73.0M metric tons	1



This metric is based on Scope 1 and Scope 3 emissions, with emissions from purchased electricity now reported under Scope 3.

PSEG was excluded from the scoring quintiles and assessed a one-point penalty due to its outlier status stemming from the unreported emissions of the Kalaeloa Cogeneration Plant.

Key Takeaways

- Total emissions from included utilities are down approximately 7.0% year-over-year from 1.08 billion metric tons of CO_2 to 1.03 billion.
- Two of the largest-emitting IOUs in 2022, Duke Energy and Vistra, decreased their emissions by 8.8% and 8.9% in 2023, respectively.

Emissions from owned generation (Scope 1)

✶ Represents CO_2-equivalent emissions

Does not report purchased power emissions

Emissions from purchased generation (Scope 3)

Metric 02

Emissions Intensity

Measures how many metric tons of CO_2 each utility emits per MWh of owned and purchased electricity generation.

Metric Tons of CO_2 Per MWh of Owned and Purchased Generation

Score	
Less than 0.31 metric tons/MWh	5
0.31–0.61 metric tons/MWh	4
0.61–0.92 metric tons/MWh	3
0.92–1.20 metric tons/MWh	2
Greater than 1.20 metric tons/MWh	1

PSEG was excluded from the scoring quintiles and assessed a one-point penalty due to its outlier status stemming from the unreported emissions of the Kalaeloa Cogeneration Plant.

1. 0.00 PSEG
2. 0.05 PG&E
3. 0.06 Avangrid
4. ✶ 0.13 Algonquin
5. ✶ 0.13 Constellation
6. 0.14 NextEra Energy
7. 0.17 Edison International
8. ✶ 0.24 aes
9. 0.26 Sempra
10. 0.26 Dominion Energy
11. 0.28 Fortis
12. ✶ 0.29 National Grid
13. 0.31 Avista
14. 0.32 Entergy
15. ✶ 0.32 PGE
16. 0.33 Allete
17. ✶ 0.35 Xcel Energy
18. 0.37 Duke Energy
19. 0.37 Pinnacle West
20. 0.37 Berkshire Hathaway Energy
21. 0.41 Alliant Energy
22. 0.43 Emera
23. 0.46 NorthWestern Energy
24. ✶ 0.46 Southern Company
25. ✶ 0.47 WEC Energy Group
26. 0.48 evergy
27. 0.48 OGE
28. 0.49 NiSource
29. ✶ 0.49 Vistra
30. 0.51 American Electric Power
31. ✶ 0.51 Vistra
32. 0.52 Consumers Energy
33. 0.53 Puget Sound Energy
34. 0.53 Otter Tail Corporation
35. 0.57 Ameren
36. 0.57 MGE Energy
37. ✶ 0.58 FirstEnergy
38. 0.60 DTE
39. 0.61 Cleco
40. 0.66 HEI
41. 0.68 Black Hills Corporation
42. ✶ 0.69 nrg
43. ✶ 1.02 ppl
44. ✶ 1.09 CenterPoint Energy
45. 1.58 conEdison

Key Takeaways

- Total emissions intensity from all included utilities is down approx. 10% from the previous year.
- The two companies with the lowest emissions intensities,

1 PG&E 2 Avangrid

both rely on carbon-free sources for 80% or more of their owned electricity generation.

Data updated January 2025.

✶ Represents CO_2-equivalent emissions

Metric 03

Emissions per Customer

Measures how many metric tons of CO_2 each IOU emits per residential customer equivalent (RCE) from their owned and purchased generation.

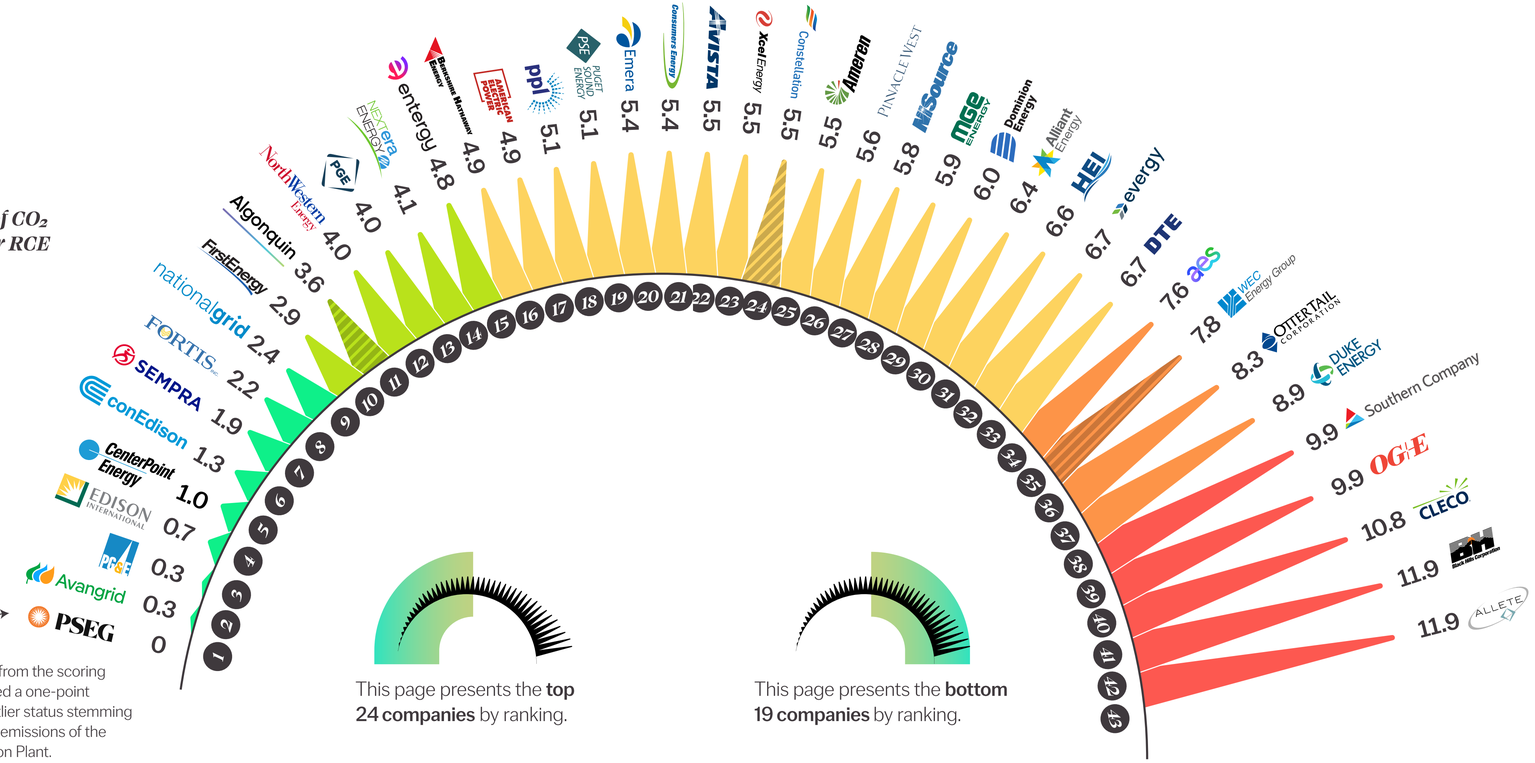
Each commercial customer is equivalent to 7 residential customers and each industrial customer is equivalent to 89 based on national averages.

	Score
Less than 2.3 metric tons	5
2.3–4.6 metric tons	4
4.6–6.9 metric tons	3
6.9–9.2 metric tons	2
Greater than 9.2 metric tons	1

✶ Represents CO_2-equivalent emissions

Reports commercial and industrial customers as one number. RCE calculation assumes all as commercial

Metric Tons of CO_2 Emissions Per RCE



PSEG was excluded from the scoring quintiles and assessed a one-point penalty due to its outlier status stemming from the unreported emissions of the Kalaeloa Cogeneration Plant.

This page presents the **top 24 companies** by ranking.

This page presents the **bottom 19 companies** by ranking.

Key Takeaways

- On average, the IOUs included in this metric emitted 5.3 metric tons of CO_2 per RCE in 2023, down 7.0% from 5.7 metric tons in 2022.
- The top two companies for this metric, PSEG and Avangrid, generate the bulk of their electricity from nuclear and wind power plants, respectively.

Not Available

nrg
VISTRA
transalta
PNM Resources

Metric 04

Fuel Mix

Measures the share of carbon-free owned electricity generation in each utility's portfolio.

Key Takeaways

- Coal generation declined by 3.8% relative to 2022, mostly replaced by natural gas, as its generation increased by 3.2%.
- Nuclear generation increased by 0.8% from 2022, marking the highest growth among low-carbon sources.
- The total number of utilities that scored above 2 decreased from the previous year from 16 to 14, while the number of utilities that scored 5 remained unchanged at 4.

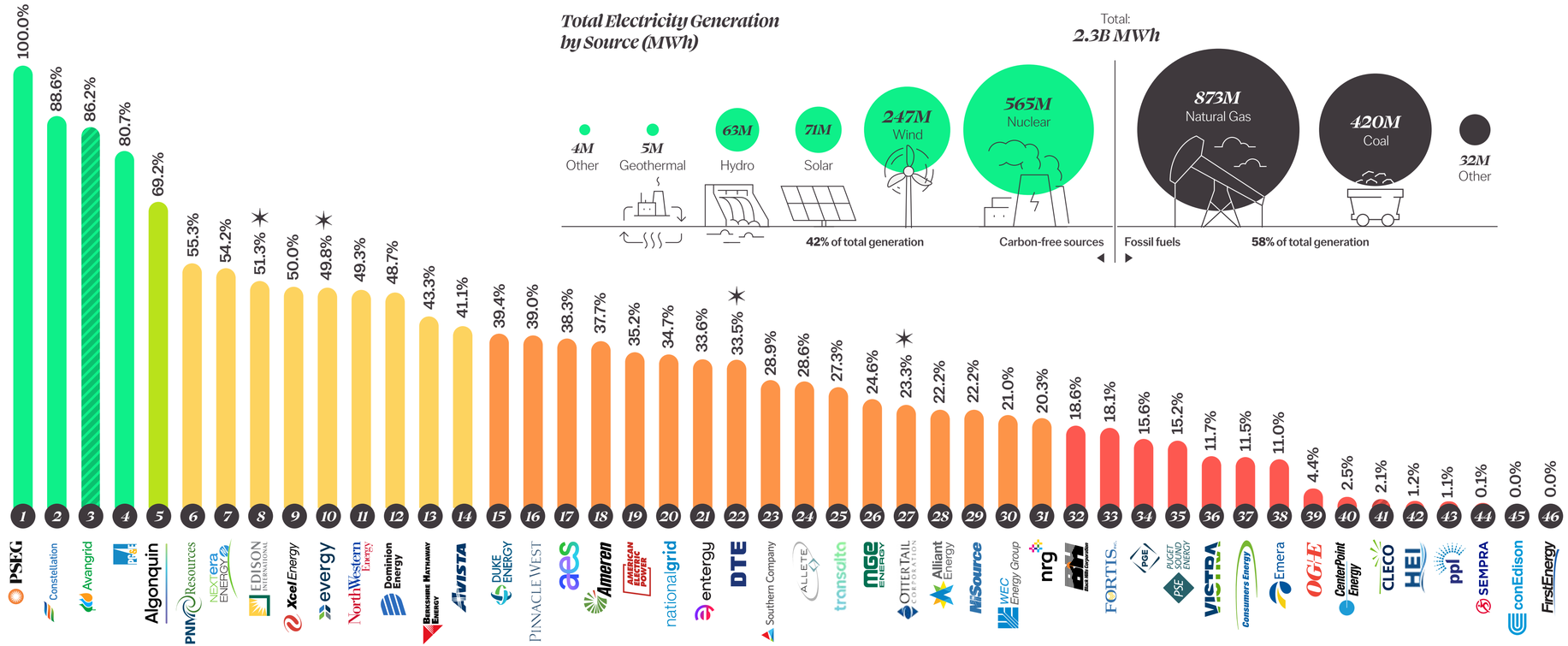
Share of Carbon-Free Sources in Owned Electricity Generation

Nuclear & Renewables

	Score
Greater than 80%	5
60–80%	4
40–60%	3
20–40%	2
Less than 20%	1

✶ Includes purchased power

Unclear if total is only owned or owned + purchased



Total Electricity Generation by Source (MWh)

Total: *2.3B MWh*

Metric 05

Decarbonization Goals

Tracks each utility's interim greenhouse gas reduction goal, ultimate net-zero target, and reported progress toward net zero. Companies aligned with our set baselines receive a 50% score of 2.5, and the rest are comparatively scored based on their ambition and progress.

The scoring for this metric involves subjectivity due to the variations in goal structures, targets, timelines, and reporting practices across utilities.

■ Included ☐ Not included or differentiated

Baselines

INTERIM GOAL
50% reduction in Scope 1 and 2 emissions and minimum 20% reduction in Scope 3 emissions by 2030

or

70–80% reduction in Scope 1 and 2 emissions by 2030 (No mention of Scope 3)

ULTIMATE GOAL
Net zero Scope 1 and 2 emissions and a minimum 70% reduction in Scope 3 emissions by 2050

REPORTED PROGRESS TOWARD NET ZERO
38% reduction in all Scopes between 2005-22

or

45% reduction in Scopes 1 and 2 between 2005-22

	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS (Scopes included)	Score
PSEG 1	CO_2	Same as ultimate goal — 1 ■ 2 ■ 3 ☐	Net-zero by 2030 — 1 ■ 2 ■ 3 ■	▼87% 2020–2023 — 1 ■ 2 ■ 3 ☐	4.3
EDISON INTERNATIONAL 2	CO_2	▼80% by 2030 — 1 ■ 2 ☐ 3 ■	Net-zero by 2045 — 1 ■ 2 ■ 3 ■	▼71% 2005–2023 — 1 ■ 2 ☐ 3 ■	4.2
ppl 3	GHG	▼70% by 2035 — 1 ■ 2 ■ 3 ■	Net-zero by 2050 — 1 ■ 2 ■ 3 ■	▼59% 2010–2023 — 1 ■ 2 ■ 3 ■	4.0
SEMPRA 4	GHG	▼50% by 2030 — 1 ■ 2 ■ 3 ☐	Net-zero by 2050 — 1 ■ 2 ■ 3 ■	▼67% 2020–2023 — 1 ■ 2 ☐ 3 ■	3.7
PG&E 5	CO_2-eq	▼50% Scope 1 & 2, by 2030 — 1 ■ 2 ■ 3 ■ ▼25% Scope 3, by 2030	Net-zero by 2040 — 1 ■ 2 ■ 3 ■	▼27% Scope 1 & 2, 2015–2023 — 1 ■ 2 ■ 3 ■ ▼19% Scope 3, 2015–2023	3.2
transalta 6	CO_2	▼75% by 2026 — 1 ■ 2 ■ 3 ☐	Net-zero by 2045 — 1 ■ 2 ■ 3 ■	▼66% 2015–2023 — 1 ■ 2 ■ 3 ☐	3.1

■ Included ☐ Not included

	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS	Scopes included	Score
nrg 7	CO_2-eq	▼50% by 2025	Net-zero carbon emissions by 2050	▼58% 2014–2023	1 2 3	3.0
PGE 8	GHG	▼80% by 2030	Net-zero by 2040	▼19% 2012–2023	1 2 3	2.8
NiSource 9	GHG	▼90% by 2030	Net-zero by 2040	▼72% 2005–2023	1 2 3	2.8
Consumers Energy 10	CO_2-eq	▼100% by 2040	-100% by 2050, entire business	▼28% 2005–2023	1 2 3	2.7
aes 11	CO_2	Net-zero by 2040	Net-zero by 2050	▼16% 2022–2023	1 2 3	2.4
AMERICAN ELECTRIC POWER 12	GHG	▼80% by 2030	Net-zero by 2045	▼68% 2005–2023	1 2 3	2.4
entergy 13	GHG	▼50% by 2030	Net-zero by 2050	▼29% 2000–2023	1 2 3	2.4
Xcel Energy 14	GHG	▼80% by 2030	Net-zero by 2050	▼54% 2005–2023	1 2 3	2.3
ALLETE 15	CO_2	▼80% by 2035	100% carbon free energy, 2040–2050	▼60% 2005–2023	1 2 3	2.3
Emera 16	CO_2	▼55% by 2025	Net-zero by 2050	▼47% 2005–2023	1 2 3	2.3

Interim goal applies to emissions from electric business only.

■ Included ☐ Not included

	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS	Score
				Scopes included	
evergy 17	CO_2	▼70% by 2030 ■ ☐ ☐ (1 2 3)	Net-zero carbon emissions by 2045 ■ ■ ■ (1 2 3)	▼53% 2005–2023 ■ ☐ ☐ (1 2 3)	2.3
Dominion Energy 18	N/A	Not available ☐ ☐ ☐ (1 2 3)	Net-zero by 2050 ■ ■ ■ (1 2 3)	▼54% 2005–2023 ■ ☐ ■ (1 2 3)	2.2
MGE ENERGY 19	CO_2	▼80% by 2030 ■ ☐ ■ (1 2 3)	Net-zero by 2050 ■ ☐ ■ (1 2 3)	▼40% 2005–2023 ■ ☐ ■ (1 2 3)	2.2
WEC Energy Group 20	CO_2	▼80% by 2030 ■ ☐ ☐ (1 2 3)	Net-zero by 2050 ■ ■ ■ (1 2 3)	▼54% 2005–2023 ■ ☐ ☐ (1 2 3)	2.1
DTE 21	CO_2	▼65% by 2028 ■ ☐ ☐ (1 2 3)	Net-zero by 2050 ■ ■ ■ (1 2 3)	▼43% 2005–2023 ■ ☐ ■ (1 2 3)	2.0
OGE 22	GHG	▼50% by 2030 ■ ■ ☐ (1 2 3)	Retire 95% of fossil-fuel generation by 2050 ■ ■ ■ (1 2 3)	▼63% 2005–2023 ■ ☐ ☐ (1 2 3)	2.0
Avangrid 23	CO_2	Same as ultimate goal ☐ ☐ ☐ (1 2 3)	Net-zero by 2030 ■ ■ ■ (1 2 3)	▼1% 2020 ■ ■ ☐ (1 2 3)	2.0
VISTRA 24	CO_2-eq	▼60% by 2030 ■ ■ ☐ (1 2 3)	Net-zero by 2050 ■ ■ ■ (1 2 3)	▼50% 2010–2023, scope 1 ■ ■ ☐ (1 2 3) ▼1% 2018–2023, scope 2	1.9

■ Included ☐ Not included

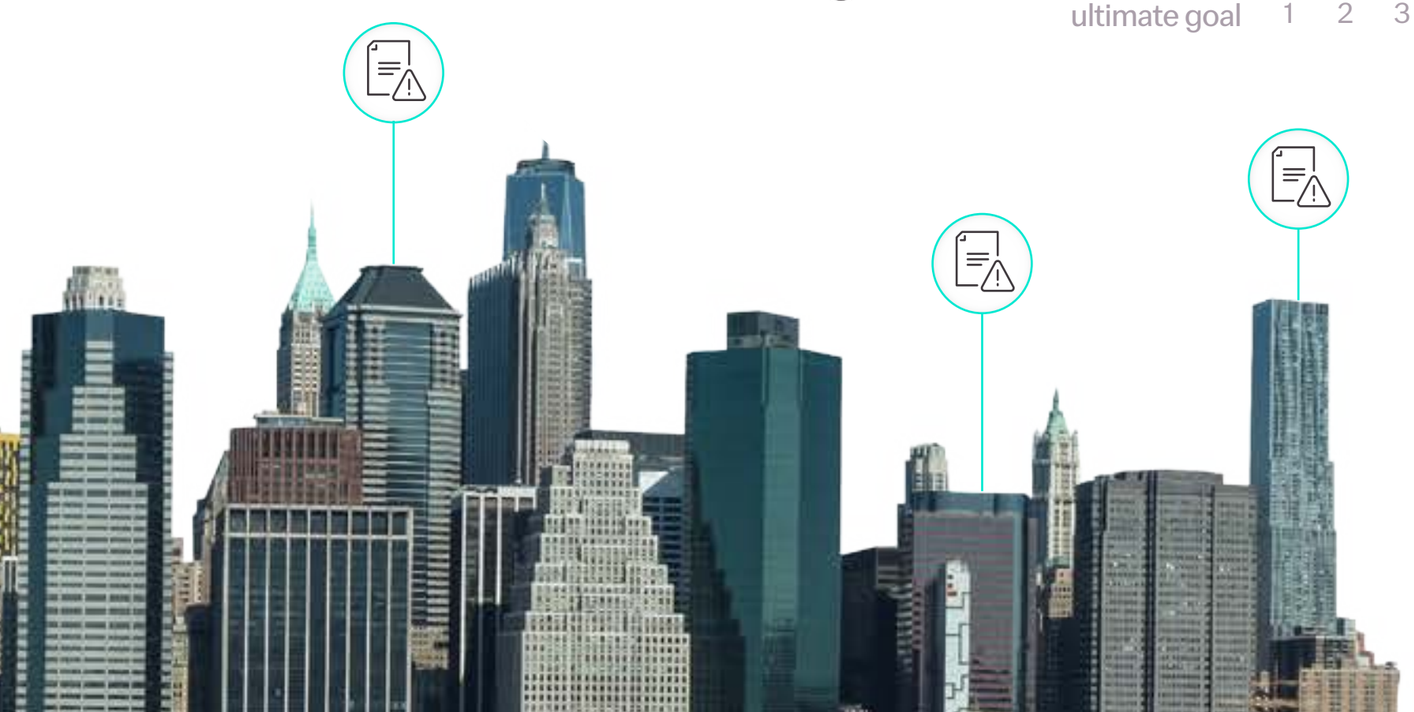
	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS	Scopes included	Score
Algonquin 25	Intensity	▼45% by 2030	Net-zero by 2050	▼41% 2017–2023	1 2 3	1.8
Constellation 26	CO_2	▼95% Scope 1 by 2030 ▼65% Scope 2 by 2030	Net-zero by 2040	▼49% 2013–2023 emissions intensity	1 2 3	1.8
FirstEnergy 27	N/A	None	Carbon neutral by 2050	▼84% 2005–2023	1 2 3	1.8
HEI 28	GHG	▼70% by 2030	Net-zero by 2045	▼26% 2005–2023	1 2 3	1.8
NEXTera ENERGY 29	Intensity	▼82% by 2030	Net-zero by 2045	▼31% 2005–2023	1 2 3	1.8
DUKE ENERGY 30	CO_2	▼50% by 2030	Net-zero by 2050	▼48% 2005–2023	1 2 3	1.8
PINNACLE WEST 31	CO_2-eq	▼70% by 2032	Net-zero by 2050	▼35% 2005–2023	1 2 3	1.8
Southern Company 32	GHG	▼50% by 2030	Net-zero by 2050	▼49% 2007–2023	1 2 3	1.8

■ Included ☐ Not included

	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS (Scopes included)	Score
Ameren 33	GHG	▼60% by 2030 (1 ■ 2 ■ 3 □) ▼85% by 2040 (1 ■ 2 ■ 3 □)	Net-zero by 2045 (1 ■ 2 ■ 3 ■)	▼37% 2005–2023 (1 ■ 2 ■ 3 ■)	1.6
OTTERTAIL CORPORATION 34	CO_2	▼50% by 2030 (1 ■ 2 □ 3 □)	▼97% by 2050 (1 ■ 2 ■ 3 ■)	▼39% 2005–2023 (1 ■ 2 ■ 3 ■)	1.6
BERKSHIRE HATHAWAY ENERGY 35	CO_2	▼50% by 2030 (Not Specified)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼34% 2005–2023 (1 ■ 2 ■ 3 ■)	1.5
Black Hills Corporation 36	Intensity	▼40% by 2030 (1 ■ 2 □ 3 ■)	▼70% by 2040 (1 ■ 2 ■ 3 ■)	▼22% 2005–2023 (1 ■ 2 ■ 3 ■)	1.5
nationalgrid 37	GHG	▼60% by 2030 (1 ■ 2 ■ 3 □)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼12% 2018–2023 (1 ■ 2 ■ 3 □)	1.5
Alliant Energy 38	GHG	▼50% by 2030 (1 ■ 2 □ 3 □)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼38% 2005–2023 (1 ■ 2 ■ 3 ■)	1.3
conEdison 39	GHG	▼85% by 2040 (1 ■ 2 □ 3 □)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼20% 2005–2023 (1 ■ 2 ■ 3 ■)	1.3
FORTIS INC. 40	GHG	▼50% by 2030 (1 ■ 2 □ 3 □)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼33% 2019–2023 (1 ■ 2 ■ 3 ■)	1.3
CLECO 41	CO_2	▼60% by 2030 (1 ■ 2 □ 3 □)	Net-zero by 2050 (1 ■ 2 ■ 3 ■)	▼24% 2021–2023 (1 ■ 2 ■ 3 ■)	1.3

■ Included ☐ Not included

	GOAL TYPE	INTERIM GOAL	ULTIMATE GOAL	REPORTED PROGRESS	
NorthWestern Energy 42	CO_2-eq	Not available (1 2 3)	Net-zero by 2050 (1 2 3)	▼35% 2008–2023 (1 2 3)	1.1
PNM Resources 43	N/A	Not available (1 2 3)	100% carbon-free generation by 2040 (1 2 3)	▼31% 2005–2022 (1 2 3)	1.0
PSE Puget Sound Energy 44	CO_2	Not available (1 2 3)	100% clean electricity supply by 2045 (1 2 3)	▲29% 2021–2023 (1 2 3)	0.9
CenterPoint Energy 45	GHG	Not available (1 2 3)	Net zero by 2035 (1 2 3)	▼23% 2019–2023 (1 2 3)	0.8
Avista 46	CO_2	Not available same as ultimate goal (1 2 3)	100% clean electricity by 2045 (1 2 3)	▲28% 2005–2023 (1 2 3)	0.8



Key Takeaways

- 66% of the included IOUs have not factored Scope 3 emissions into their ultimate decarbonization goals.
- While many companies report the yearly progression of their emissions, many do not report progress within the context of their set decarbonization goals.

Metric 06

Normalized Emissions Reduction per Billion Invested

The normalized decline in CO_2 emissions from owned and purchased generation per billion dollars in CAPEX from 2019–2023.

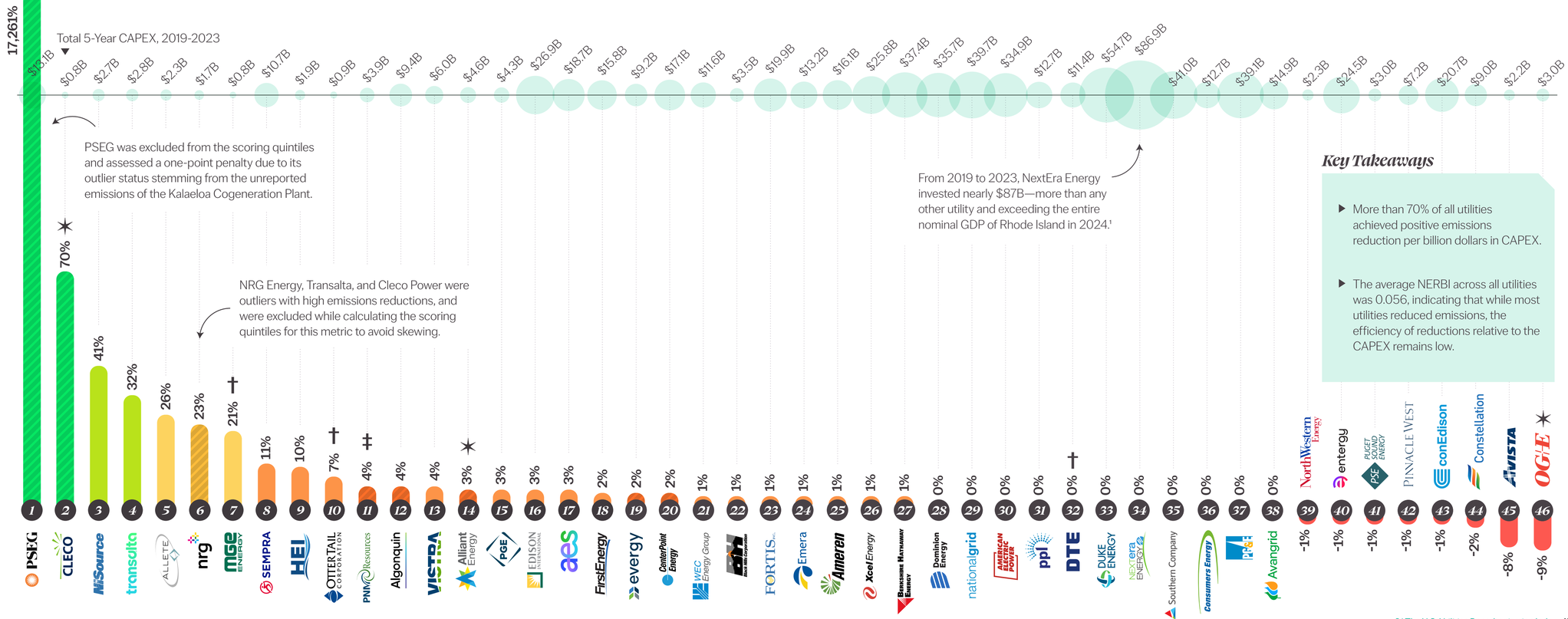
% of 2023 Emissions Offset by Emission Reductions

2019–2023, per $1B in CAPEX

	Score
More than 1.0M metric tons/$1B	5
683.7K–1.0M metric tons/$1B	4
341.7K–683.7K metric tons/$1B	3
0–341.7K metric tons/$1B	2
Less than 0 metric tons/$1B	1

✶ 2021–2023 † 2020–2023 ‡ 2018–2022

Purchased power not reported



Key Takeaways

- More than 70% of all utilities achieved positive emissions reduction per billion dollars in CAPEX.
- The average NERBI across all utilities was 0.056, indicating that while most utilities reduced emissions, the efficiency of reductions relative to the CAPEX remains low.

Yearly Progression

The primary aim of the Decarbonization Index is to provide an objective assessment of U.S. utilities' decarbonization efforts. However, it's also important to recognize the strides and progress that utilities are making on the transition to clean energy.

Every year, the scope of the Index varies due to changes in the number of utilities included and refinements in the methodology used. In 2025, the Index ranks utilities across five metrics, as opposed to six in previous years.

Notwithstanding these updates, here is how the Index rankings have changed for the top 20 companies, year-over-year.

NextEra Energy Resources and Florida Power and Light are subsidiaries of NextEra Energy.

Data updated January 2025.

	2022		2023		2024		2025
1	PSEG	+4	Constellation	+3	PG&E	+2	PSEG
2	NextEra Energy	+2	Avangrid	0	Avangrid	-1	PG&E
3	PG&E	-2	PSEG	0	PSEG	+5	Edison International
4	Avangrid	-1	PG&E	-3	Constellation	-2	Avangrid
5	Constellation	-	Edison International	+2	NextEra Energy	+1	Algonquin
6	PGE	-	Avista	+2	Algonquin	+3	Sempra
7	Dominion Energy	-5	NextEra Energy	+3	conEdison	+24	NiSource
8	FPL	-	Algonquin	-3	Edison International	-4	Constellation
9	PNM Resources	-	PSE Puget Sound Energy	+5	Sempra	+16	nationalgrid
10	Alliant Energy	+1	conEdison	+5	Dominion Energy	+2	Fortis
11	conEdison	-5	PGE	+6	Alliant Energy	-1	Dominion Energy
12	Fortis	-	NorthWestern Energy	+4	Fortis	+2	MGE Energy
13	American Electric Power	+2	evergy	-2	PGE	0	PGE
14	Consumers Energy	-	Sempra	+15	MGE Energy	+4	Xcel Energy
15	evergy	-8	Dominion Energy	+10	WEC Energy Group	+5	evergy
16	nrg	-4	Fortis	+3	Emera	+1	transalta
17	aes	-7	Alliant Energy	+9	transalta	+10	NorthWestern Energy
18	Xcel Energy	-	Pinnacle West	+5	Xcel Energy	-13	NextEra Energy
19	WEC Energy Group	+5	Emera	-1	Pinnacle West	+13	aes
20	DTE	+2	entergy	-7	evergy	-9	Alliant Energy

The U.S.

Public Utility Spotlight

An analysis of the fuel mix among the largest U.S. public utilities

U.S. Public Utilities

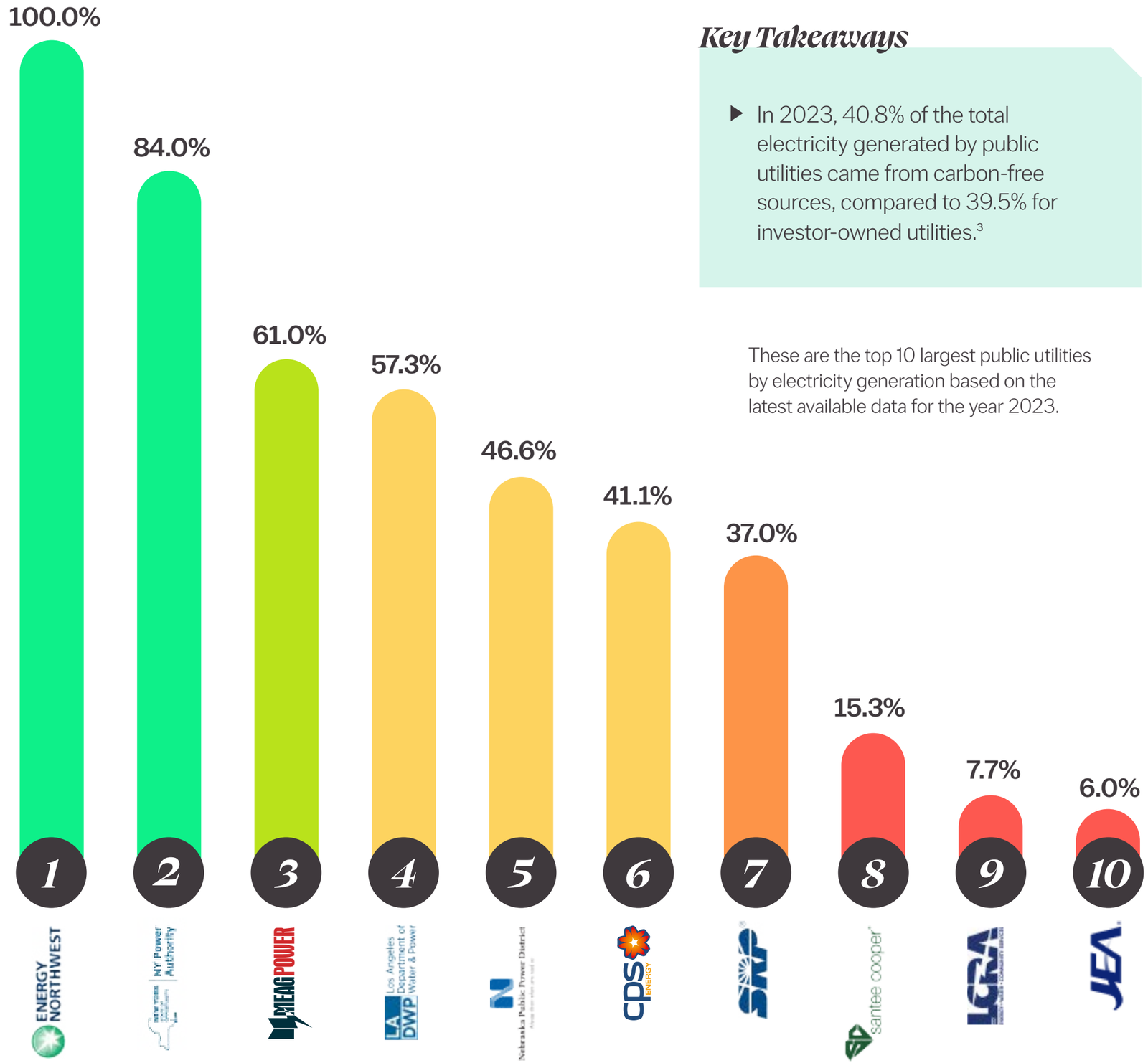
Fuel Mix Ranking

Public power utilities are electricity providers that are divisions of local governments and are owned by the communities they serve. They are highly localized, not-for-profit, and an important part of creating strong local economies.[2]

Share of Carbon-Free Sources in Owned Electricity Generation 2023

Nuclear & Renewables

	Score
Greater than 80%	5
60–80%	4
40–60%	3
20–40%	2
Less than 20%	1



Key Takeaways

- In 2023, 40.8% of the total electricity generated by public utilities came from carbon-free sources, compared to 39.5% for investor-owned utilities.[3]

These are the top 10 largest public utilities by electricity generation based on the latest available data for the year 2023.

Source: Public utility websites and reports

The U.S.

Gas Utility Spotlight

An analysis of gas-related emissions from the largest U.S. gas utilities

03

U.S. Gas Utilities Total Emissions Ranking

Reported CO_2-equivalent emissions, 2023 (Metric tons)

Natural gas accounts for over 40% of U.S. electricity generation annually, and gas utilities have an important role to play in decarbonization.[4]

This list shows gas-related emissions from the parent companies of the largest gas providers in the country.

	1	2	3	4	5	6
	0.4M	1.2M	9.1M	17.0M	17.6M	18.4M
Scopes included	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Parent Company	N/A	PSEG	DTE	CMS ENERGY	Xcel Energy	Southern Company

	7	8	9	10
	20.9M	43.4M	67.7M	68.1M
Scopes included	1 2 3	1 2 3	1 2 3	1 2 3
Parent Company	N/A	PG&E	SEMPRA	ENBRIDGE

04

The Path Forward

Closing thoughts by the
National Public Utilities Council

Looking Ahead

While the utility sector continues to make significant strides in its decarbonization efforts, the road ahead will demand even greater collaboration, innovation, and adaptability.

As the regulatory, technological, and operational landscapes evolve, utilities must remain agile and proactive to stay on course.

PLANNING WITH PRECISION:

The Role of Scenario Tools in Asset Strategy

Looking ahead, utilities should begin investing in advanced scenario planning technologies within their asset management systems.

Predictive analysis capabilities — particularly those that incorporate Net Present Value (NPV) forecasting — will be essential for long-term strategic planning. These tools can help utilities assess different decarbonization pathways, balance costs and risks, and ensure capital is directed where it delivers the highest environmental and financial return.

As we enter an era of increased uncertainty and demand growth, sharpening asset strategies through technology will be a key differentiator.[5] [6]

ALIGNING WITH NATIONAL PRIORITIES:

Energy Security and Innovation

As national policy discussions increasingly emphasize energy security and resilience, utilities have an opportunity to align their long-term strategies accordingly.

Investments in diverse, clean energy resources — including emerging nuclear technologies like Small Modular Reactors (SMRs) — can serve dual purposes: reducing emissions while enhancing reliability.

The focus should remain on scalable, cost-effective solutions that reflect regional needs and system constraints.[7] [8] [9]

Vendor Management and Scope 3 Accountability

Scope 3 emissions will remain a dominant challenge in the years ahead, particularly as utilities expand their supply chain engagement.

Continued effort is needed to establish strong vendor management practices, including the integration of Scope 1 and 2 emissions tracking for suppliers, performance benchmarking, and sustainability capacity building.

Utilities that lead in this area are not only mitigating risk but also reinforcing their broader climate commitments.[11] [12] [13] [14]

A Future Built on Insight and Integration

Data-driven transformation will define the next phase of utility decarbonization. With real-time data platforms already playing a critical role in emissions reporting and compliance, the next step is to ensure that data integration is future-proof. Utilities should invest in scalable, cyber-secure systems that enable cross-functional collaboration — from operations to finance to procurement.

These investments not only respond to today's compliance environment but lay the groundwork for intelligent, adaptive systems that can grow with evolving demands.[15] [16]

And there's more to come.

This summer, we'll be launching an exciting new Scope 3 & 4 Emissions Report — tackling one of the biggest challenges utilities are currently facing.

It will break down the complexities of Scope 3 reporting, introduce the concept of Scope 4 avoided emissions, and feature case studies and rankings to help utilities improve and lead in this critical area.[17]

05

About Us

About NPUC

The National Public Utilities Council

is a leading research organization dedicated to driving progress in the decarbonization of power generation. The council fosters collaboration between public utilities, providing a platform for sharing ideas and finding innovative solutions to the challenges of reducing carbon emissions.

NPUC's Goals

Share knowledge and experience across utilities and assist in lessons learned on decarbonization efforts.

Create a knowledge repository for utilities to use in pursuit of their decarbonization goals.

Gather research and information for utilities.

From championing practical solution-based roundtable discussions to being a repository of knowledge and research for utilities, NPUC is pioneering the decarbonization movement and forging new paths for utility decarbonization efforts.

Collaborators

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