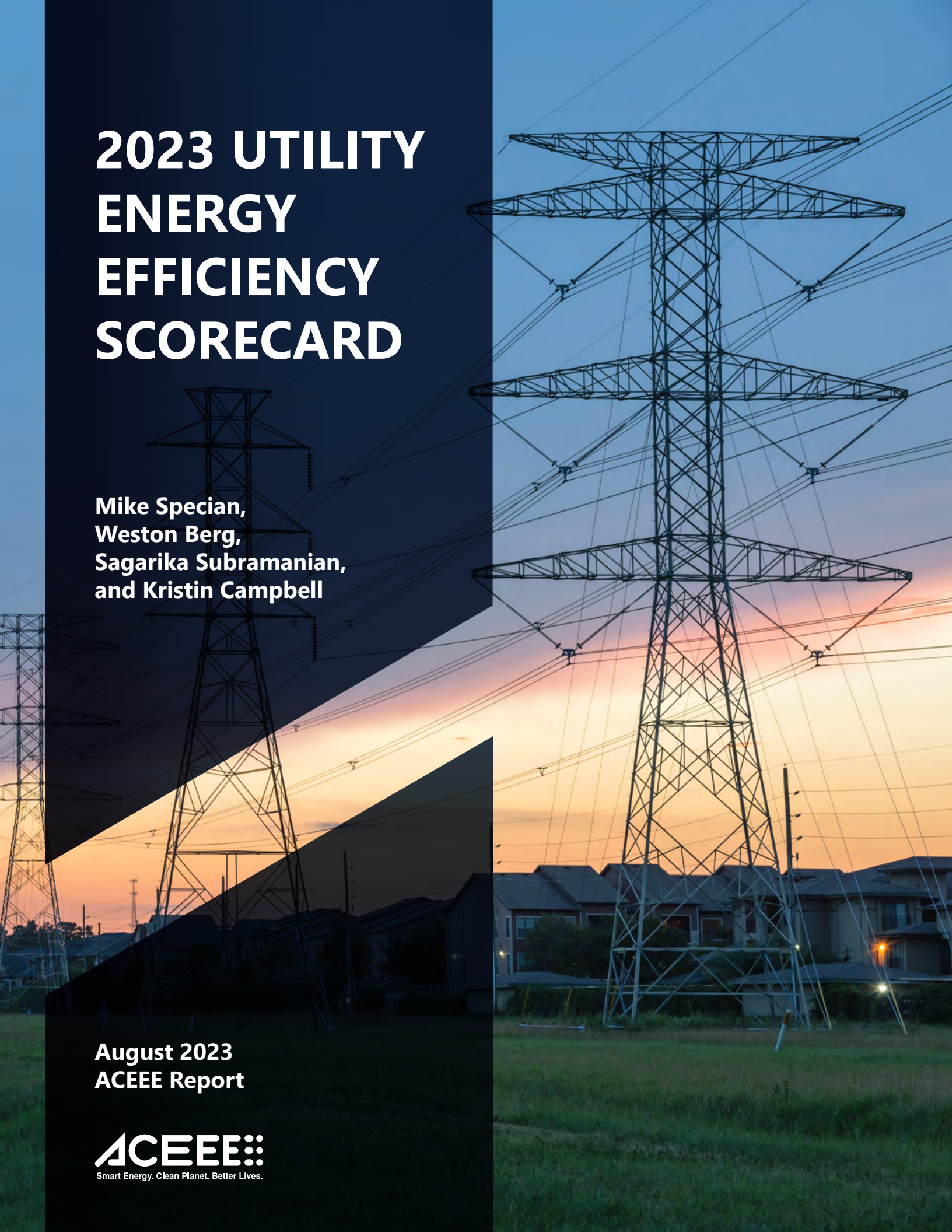
2023 UTILITY ENERGY EFFICIENCY SCORECARD

**Mike Specian,
Weston Berg,
Sagarika Subramanian,
and Kristin Campbell**



**August 2023
ACEEE Report**

ACEEE
Smart Energy. Clean Planet. Better Lives.

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About ACEEE

The American Council for an Energy-Efficient Economy (ACEEE), a nonprofit research organization, develops policies to reduce energy waste and combat climate change. Its independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

About the Authors

Mike Specian is a research manager in ACEEE's state and utility policy program, where his work focuses on the evolving role of energy efficiency in the changing energy landscape. Prior to joining ACEEE, Mike was an AAAS Science and Technology Policy Fellow in the U.S. Department of Energy's Building Technologies Office; a Mirzayan Science and Technology Policy Fellow at the National Academies of Sciences, Engineering, and Medicine; a scientific consultant for the U.S. Global Change Research Program; and a disaster preparedness researcher for Baltimore City. Mike holds a PhD in physics from Johns Hopkins University.

Weston Berg is a former senior researcher in ACEEE's state and utility policy program, where he conducted research, analysis, and outreach on energy efficiency policy areas including utility regulation, state government policies, and building energy codes.

Sagarika Subramanian is a senior research analyst in ACEEE's state and utility policy program, where she conducts research and analysis on state policies for ACEEE's *State Scorecard* and supports crosscutting research across the organization. Prior to joining ACEEE, Sagarika worked at the University of California, Los Angeles (UCLA) as a research assistant and as an intern at the Alliance to Save Energy. Sagarika holds a master of environmental management from the Yale School of the Environment and a bachelor's degree in environmental science from UCLA.

Kristin Campbell is a state policy manager in ACEEE's state and utility policy program. Her work is centered on state-focused policies for energy efficiency, which include industrial decarbonization policies. Prior to joining ACEEE, Kristin worked as the science and policy analyst at the Institute for Governance and Sustainable Development, and as a research and policy consultant for the NAACP Environmental and Climate Justice Program. Kristin holds a bachelor of science in meteorology from Florida State University, a master of arts in Climate and Society from Columbia University, and a dual degree of a juris doctor and a master of arts in environmental law and policy from Vermont Law School.

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Executive Summary

KEY FINDINGS

This report evaluates and ranks the largest U.S. electric utilities on their policy and program efforts related to energy efficiency. Results are from 2021 unless otherwise stated.

- The 53 utilities evaluated in this edition of *Utility Scorecard* collectively saved 18.7 terawatt-hours of energy in 2021, which is a 5.4% decrease in savings from 2018.
- Utility spending on electric energy efficiency programs dropped 4.9% since 2018, contributing to a 19% drop in peak demand reduction.
- On average, utilities are spending more than 12% of their total efficiency funding on low-income programs. Average low-income energy savings per residential customer have increased 9% since 2018.
- **Eversource Massachusetts** led the *Utility Scorecard* for the third consecutive edition. Rounding out the top six were Pacific Gas & Electric (CA), National Grid Massachusetts, Commonwealth Edison (IL), DTE (MI), and Consumers Energy (MI).
- **Dominion Virginia** was the most improved utility in both absolute and relative terms, jumping from 50th place in the 2020 edition to 27th place, driven by expanded programs following the passage of the Virginia Clean Economy Act. Other utilities that made noteworthy improvements since the previous edition include Long Island Power Authority, Public Service Electric & Gas (NJ), and Consolidated Edison (NY).
- The vast majority of utilities have yet to set a greenhouse gas reduction target for their energy efficiency programs. Moreover, most utilities are not tracking the data needed to measure progress toward electrification and decarbonization goals.
- Utilities exhibited uneven performance in advancing energy equity. Eversource MA and Pacific Gas & Electric topped all utilities, earning 84% of the equity points available.
- Utilities identified multiple barriers impeding their energy efficiency programs from achieving their full potentials. These include increased difficulty in constructing cost-effective portfolios, supply-chain issues, lack of skilled contractors, legislative or regulatory barriers, and low customer awareness of and interest in the programs.

Energy efficiency plays a crucial role in meeting our nation's energy needs. It lowers customer energy bills, reduces energy burden, improves in-home comfort, enhances

resilience, and improves indoor air quality. Energy efficiency helps utilities avoid energy, power plant, transmission, and distribution costs that would otherwise be passed onto customers. It plays a crucial role in decarbonization. And, when compared against fossil-fueled resources such as natural gas power plants or renewable energy resources paired with storage, energy efficiency emerges as the least-cost energy resource.

Utilities play a key role in delivering efficiency solutions to customers and, in turn, to the electric grid as a whole. In 2021, utilities invested more than $7.6 billion in energy efficiency incentives, rebates, and services (Subramanian et al. 2022). Nearly every person in the United States lives in a building served by a utility; given its enormous customer base, experience, and ability to scale solutions, the utility sector is perhaps the best positioned of any sector to deliver energy savings to Americans.

SCORES

In this report, the third triennial edition of the *Utility Energy Efficiency Scorecard*, we evaluate the energy efficiency achievements of the 53 largest U.S. electric utilities. Collectively, these utilities account for approximately 58% of total 2021 electricity sales. We evaluate these utilities along 27 dimensions, or *action categories*. We quantify their achievements using a scoring system that allocates up to 100 points across three groups:

- Program performance: 54 points
- Program offerings: 20 points
- Enabling programs: 26 points

The number of points associated with each of the 27 action categories is scaled to represent its relative importance in the utility energy efficiency ecosystem. The 53 utilities evaluated in this *Scorecard* operate across 31 different state and regulatory environments that play a determining role in supporting or stifling utility-driven energy efficiency. Consequently, the scores and rankings that utilities earn on this *Utility Scorecard* reflect not only the utilities themselves, but also the legislative and regulatory environments within which they operate.

Table ES-1 shows the overall scores for the top 30 utilities in the *2023 Utility Energy Efficiency Scorecard*. Figure ES-1 presents utility rankings for all 53 utilities by geography.

Table ES-1. Summary of points earned by the top-performing utilities

Rank	State	Utility	Program performance (54 pts.)	Program offerings (20 pts.)	Enabling mechanisms (26 pts.)	Total (100 pts.)
1	MA	Eversource MA	45.5	18.5	21	85
2	CA	Pacific Gas & Electric	40	19	21.5	80.5
2	MA	National Grid MA	46	15	19.5	80.5
4	IL	Commonwealth Edison	41.5	14.5	19.5	75.5
5	MI	DTE	35	18	20.5	73.5
6	MI	Consumers	32.5	18	17.5	68
7	CA	San Diego Gas & Electric	37	13.5	11.5	62
8	CT	Eversource CT	23	19	19	61
9	CO	Xcel Colorado	29	15	14.5	58.5
10	CA	Los Angeles Department of Water & Power	19	19.5	17	55.5
10	MN	Xcel Minnesota	31	14.5	10	55.5
12	MD	Baltimore Gas & Electric	23.5	16	15.5	55
13	CA	Southern California Edison	22	12	19.5	53.5
14	IL	Ameren IL	29.5	16.5	6.5	52.5
15	NY	Consolidated Edison	18.5	16.5	16	51
16	NY	Long Island Power Authority	19	14.5	15.5	49
17	MO	Ameren MO	21.5	11	15	47.5
18	AR	Entergy AR	28	7.5	9.5	45
19	AZ	Arizona Public Service	17	15	10	42
19	OR	Portland General Electric	13	15	14	42
21	UT	PacifiCorp UT	17	14	10.5	41.5
22	NY	National Grid NY	17.5	12	11	40.5
23	AZ	Salt River Project	24	6.5	6.5	37
24	TX	CPS	14	12	9.5	35.5
25	OK	Oklahoma Gas & Electric	15	8.5	11	34.5
25	NJ	Public Service Electric & Gas	12	12.5	10	34.5

Rank	State	Utility	Program performance (54 pts.)	Program offerings (20 pts.)	Enabling mechanisms (26 pts.)	Total (100 pts.)
27	VA	Dominion VA	5	14.5	13	32.5
28	WI	We Energies	14.5	12	5.5	32
29	NV	Nevada Power	11	10.5	10	31.5
30	NC	Duke Energy Carolinas (NC)	8.5	13.5	9	31

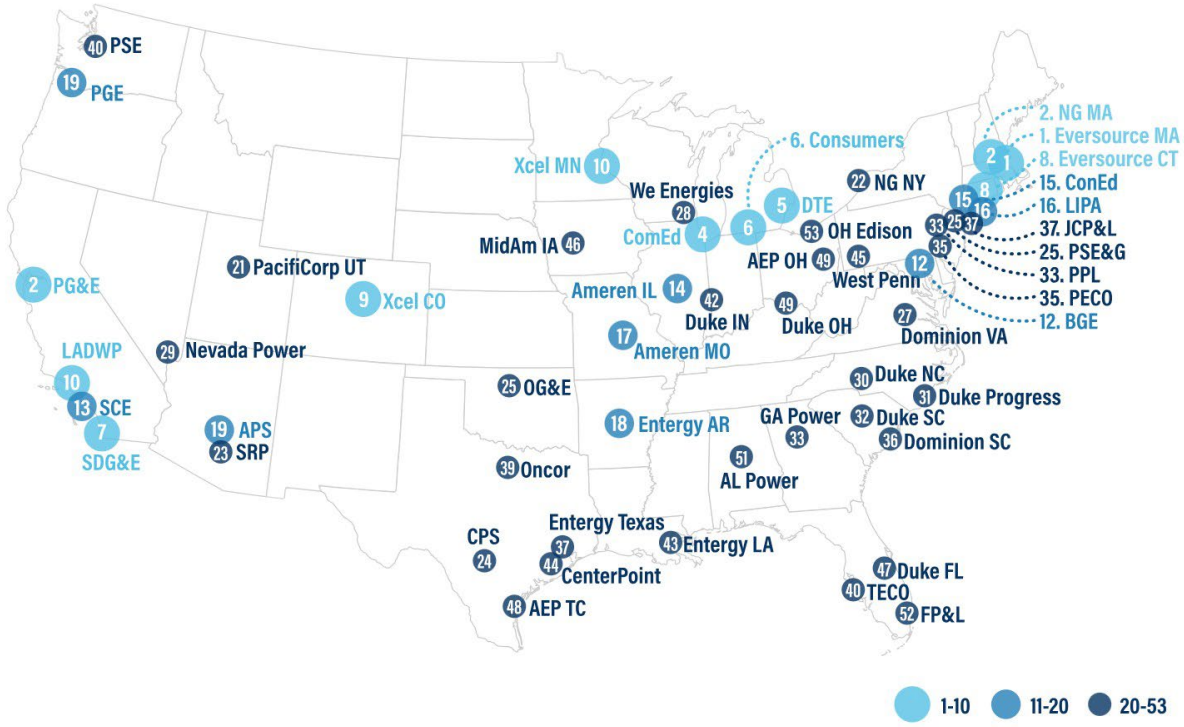

Figure ES-1. Utility rankings by geography

Regional Results

Figure ES-2 shows regional performance by utilities in the *2023 Scorecard*. Every region contained utilities that scored above and below the national average of 36.7 except for the Northeast, where every utility scored above average. The Northeast also contained two of the top three highest-scoring utilities, including the highest-scoring utility—Eversource Massachusetts. Southeastern utilities were the worst performing cohort, averaging only 22 points as a group. This finding aligns with a recent assessment from the Southern Alliance for Clean Energy (SACE), which reports that the Southeast "has consistently lagged far behind other regions and the nation as a whole on utility energy efficiency performance"

(Bradley-Wright 2023).[1] However, some southeastern utilities have improved their rankings, including Dominion South Carolina, which rose eight spots since the previous edition.

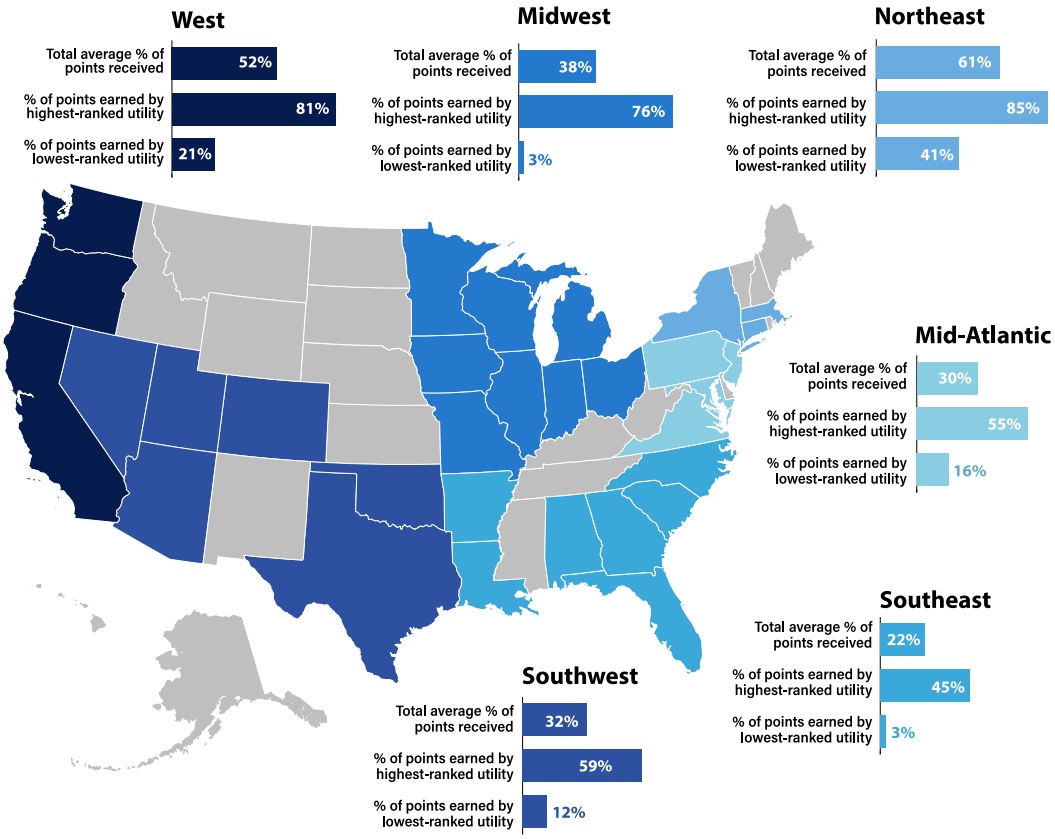

Figure ES-2. Utility performance by region. States in gray do not have utilities included in this Scorecard

CURRENT TRENDS AND NEEDS

The utility landscape has transformed in many ways since the previous *Utility Scorecard* was published in 2020. Major pieces of energy-efficiency-related legislation—including Illinois's Climate and Equitable Jobs Act, the federal Infrastructure Investment and Jobs Act, and the federal Inflation Reduction Act—made funding available to augment the scope and reach of utility programs.

Policy innovations that support energy efficiency as a resource occurred at the state level. California decided to split in three the energy efficiency portfolios of its investor-owned utilities (IOUs) in 2024 to deliver market transformation and equity more effectively.

[1] The *Utility Scorecard*'s definition of the Southeast includes Louisiana and Arkansas, while SACE's does not.

California also adopted the Total System Benefit mechanism, which will use the total economic benefits of energy efficiency—including greenhouse gas (GHG) reductions—to set resource efficiency goals. Georgia Power's 2022 integrated resource plan (IRP) not only increases its energy efficiency targets 15%, but it also puts efficiency on an equal playing field with supply-side resources by competitively modeling them together in future IRPs.

Elevated equipment efficiency standards (e.g., federal lighting standards) have improved energy performance baselines, though this will cut into the efficiency savings utilities can claim on these measures in the future. Economic conditions, including those related to the COVID-19 pandemic, challenged utilities in a variety of ways. Inflation raised the cost of materials, equipment, labor, and marketing. Supply chain issues have limited the amount of energy-efficient equipment available. In some areas, a lack of skilled contractors has kept efficiency from scaling to its full potential.

Utility energy efficiency programs are also beginning to evolve as policy expectations—such as environmental protection, equity, and economic development—have begun moving to the forefront in many states. One of the most prominent of these policy drivers is decarbonization; approximately about 83% of U.S. customer accounts are currently served by a utility with a carbon-reduction target. We are beginning to see a slow transition away from natural gas efficiency measures (particularly among dual fuel utilities) as the electrification of fossil-fueled end uses has emerged as a leading decarbonization strategy and a growing pathway for utility energy efficiency programs.

Renewable energy continued to grow around the country, placing greater emphasis on time-sensitive energy efficiency measures that reduce demand when the grid's carbon intensity is highest. Growing attention has also focused on energy efficiency's role in virtual power plants—that is, aggregations of small-scale, grid-interactive demand-side resources that, in combination, provide the same kind of reliability and services as conventional power plants.

Our analysis of the United States' largest utilities revealed several additional high-level findings.

Spending and savings. Total energy efficiency spending by the utilities scored in both the 2020 and 2023 editions of *Utility Scorecard* has dropped 4.9%, or a 0.35% decrease in the ratio of efficiency spending to total revenue. On average, utilities spent 2.2% of their revenue on energy efficiency, though the top-performing utilities in this edition of *Utility Scorecard* spent more than 11%. This decrease in energy efficiency program spending has led to a 5.4% decrease in achieved energy savings and a 19% drop in peak demand reduction achieved. The average (mean) peak demand reduction from energy efficiency was 0.71% of total peak demand, while the median peak demand reduction was 0.55%, indicating that the top-performing utilities are having an outsized impact on the group average. If we remove the

three Ohio utilities that had their efficiency programs effectively canceled by legislation (House Bill 6) in 2019, efficiency spending decreased only about 2.1% since 2018, while achieved energy savings stayed roughly even.

Program offerings. The utilities we evaluated collectively offered a wide variety of energy efficiency programs for residential, commercial, and industrial customers. The overall number of programs offered to these sectors has remained steady over the past three years. We reached the same conclusion for utility program innovation, as the number of "emerging" program types and pilots offered was similar to that in the 2020 edition. For the first time, *Utility Scorecard* evaluated utilities' energy efficiency program offerings for low-income customers as part of its own action category. Nearly half of the utilities we evaluated earned our maximum score in this category for providing measures specifically targeted to low-income populations.

Equity. In this *Utility Scorecard*, we greatly increased the focus on utility activities that support energy equity and found that utility accomplishments varied widely. Some utilities, such as Eversource Massachusetts, Pacific Gas & Electric, ComEd, National Grid Massachusetts, and DTE, scored highly in categories related to community engagement, language access, workforce development, energy burden reduction, access to financing solutions, and helping customers correct conditions that lead to utility shutoffs. In contrast, a handful of utilities did not earn any points in the equity categories. On average, however, utilities are spending approximately 12% of their total efficiency funding on low-income programs, leading to a 17% increase in total low-income energy savings since the last edition. Ideally, the percentage of total efficiency funding spent on low-income programs should reflect the prevalence of low-income households in a utility's service territory. Due to data limitations, however, we were unable to determine if this was the case for the utilities evaluated in this *Scorecard* edition.

Greenhouse gas reductions. While many states and utilities have established decarbonization targets, those targets have yet to work their way into energy efficiency programs for the vast majority of utilities we evaluated. Only a few (mostly Northeastern) utilities have set a fuel-neutral or GHG reduction target for their energy efficiency portfolio. Only about 10% of utilities we evaluated are even tracking the savings achieved through electrification initiatives. Configuring efficiency portfolios to maximize GHG reductions (as opposed to annual energy reductions) also remains in its infancy.[2]

[2] For additional steps that utilities can take to align their energy efficiency programs with decarbonization goals, see *A Roadmap for Climate-Forward Efficiency* (Specian et al. 2022).

Introduction

Energy efficiency is a clean energy resource that brings substantial benefits to customers, the electric grid, and society as a whole. Introducing new or updated building technologies that can provide equal or greater functionality while using less energy can help customers save money on their energy bills, alleviate energy burden,[3] improve indoor air quality, and enhance comfort. At the same time, lower energy demand helps utilities avoid costs related to providing, generating, and delivering energy. Moreover, the climate crisis and resultant need to rapidly decarbonize the energy sector make energy efficiency more important than ever. And perhaps no sector is better positioned to deliver those savings than electric utilities.

The goals of this *Utility Scorecard* are to

- evaluate and quantify electric utilities' energy efficiency accomplishments;
- spotlight exemplary policies, programs, and activities that can serve as models for efficiency-oriented utilities;
- rank and compare utilities to foster accountability and constructive competition; and
- drive ambitious, equitable clean energy actions.

The *Utility Scorecard* analyzes achievements in the utility sector, focusing primarily on electric end-use energy efficiency. Building on the second edition (published in 2020) and new research on utility-sector energy efficiency, this year's *Scorecard* examines 27 areas related to utilities' energy efficiency efforts.[4] We rely on primary data to assess critical aspects of energy efficiency and quantify utility progress using metrics. We have updated some 2020 metrics and include new scored metrics to ensure that the report reflects the current landscape of utility-sector programs, policies, and achievements—particularly as they relate to energy equity. As in 2020, we highlight the successes of leading utilities and also point out areas for improvement.

[3] Energy burden is the percentage of a household's income spent on home energy bills. High energy burdens refer to households that spend more than 6% of their income on energy bills. Households that spend more than 10% are considered to have severe energy burdens (Drehobl, Ross, and Ayala 2020).

[4] ACEEE anticipates updating this report every three years.

Methodology

In this section, we provide information on the selection of the utilities and the scoring metrics in our report. We also outline our approach to data collection, including limitations of the data we used.

SELECTION OF UTILITIES

Each edition of the *Utility Scorecard* evaluates the 50 largest U.S. electric utilities by retail sales volume, along with any other utilities that were evaluated in previous *Scorecard* editions. This edition focuses on 53 utilities—52 from the 2020 edition plus Entergy Texas, which rose to 48th place in retail sales in 2020.[5] Altogether, the 53 utilities serve approximately 79 million residential customers, representing approximately 60% of all U.S. households. We used 2020 retail sales data published by the U.S. Energy Information Administration (EIA) to determine which utilities to include (EIA 2022b).[6] We chose 2020 sales data because the 2021 sales data had not yet been finalized at the time of utility selection. All other data are for 2021, unless otherwise specified. The set of utilities in this *Scorecard* represents various regions, ownership types, and program administrator models. These utilities account for 58.4% of the total 2021 electricity sales and cover 31 states (EIA 2022b).

Our final list of utilities includes investor-owned utilities (IOUs), as well as municipal, state, and other public utilities, such as Long Island Power Authority.[7] We focused on state-jurisdictional utilities, often referred to as "operating companies," rather than parent or holding companies because most energy efficiency decisions are made at this level and because efficiency programs and policies may vary among different local distribution utilities under the same parent company. For example, we included Georgia Power and Alabama Power as two separate utilities rather than focusing on their parent, Southern Company. We included both of the Duke Energy subsidiaries in North Carolina (Duke Energy Carolinas and Progress Energy) as separate entities, as each individually ranks among the 53 largest

[5] Two of these utilities (Con Edison and Eversource Energy) are represented on ACEEE's board of directors. Ten others have been ACEEE Ally Program members, conference sponsors, and/or research sponsors over the past two years. All 53 utilities had the opportunity to review the data and metrics that led to their individual scores. None contributed to the report's funding.

[6] The only exceptions are the three Texas distribution-only utilities that do not report sales data as part of EIA Form-861: Oncor, AEP Texas Central, and CenterPoint. For these utilities, we use the total energy consumption from their 2021 Energy Efficiency Plan and Report documents, instead of EIA sales data (AEP Texas Central 2021, CenterPoint Energy Houston Electric LLC 2021, Oncor Electric Delivery Company LLC 2021).

[7] We did not include retail power marketers or utilities that do not operate a retail distribution system.

utilities. While local power companies in states served by the Tennessee Valley Authority (TVA) often offer energy efficiency programs under TVA's EnergyRight programs and the utility offers some programs directly to its large customers, we did not include TVA in this report because it is a wholesale supplier and none of its wholesale power customers rank among the 53 largest utilities.

A few states use a third-party program administration model to deliver energy efficiency programs to retail customers. In those states, we worked with both the utilities and the program administrators to appropriately allocate savings, spending, and other program data within each utility's territory, regardless of who administered the program. These administrators include Focus on Energy in Wisconsin, Energy Trust of Oregon, New York State Energy Research and Development Authority (NYSERDA), and New York Power Authority (NYPA).[8] Even when utilities do not directly administer programs, they can help or hinder third-party or state efforts through their rate design, data sharing, resource planning, and other practices. In some cases, utilities offer "voluntary" energy efficiency programs to supplement and complement non-utility administered programs, as in Wisconsin's Focus on Energy. It is important to note that it can be difficult for third-party administrators to allocate data to specific utility territories, as programs are often run with a statewide orientation; as a result, allocations in some cases may be an approximation instead of an exact value.

Table 1 lists the utilities in this report, sorted by sales, and shows 2021 data on revenues, sales, and customers. All utilities are IOUs except CPS, Los Angeles Department of Water and Power (LADWP), Long Island Power Authority (LIPA), and Salt River Project (SRP). Sales figures include both bundled and unbundled sales.[9]

[8] Utilities with portfolios that were fully or partially administered by the state or third parties in 2021 include Ameren IL, BGE, ComEd, ConEd, JCP&L, LADWP, LIPA, NG NY, PG&E, PGE, PSE&G, SCE, SDG&E, and We Energies.

[9] Bundled sales include energy and delivery together, and unbundled sales are direct to the customer from another entity but delivered by the utility (EIA 2022c).

Table 1. Utilities in the 2023 Utility Scorecard, by sales volume

Name	Abbreviation	State	Revenue ($1,000s)	Sales (GWh)	Customers
Oncor Electric Delivery*	Oncor	TX	3,762,692	135,522	3,765,464
Florida Power & Light	FP&L	FL	11,375,859	112,396	5,214,219
CenterPoint Energy*	CenterPoint	TX	3,717,000	96,898	2,651,169
Virginia Electric & Power	Dominion VA	VA	7,345,571	87,554	2,574,230
Commonwealth Edison	ComEd	IL	5,407,921	85,410	4,095,262
Georgia Power	GA Power	GA	8,481,710	82,944	2,657,949
Southern California Edison	SCE	CA	13,480,168	80,814	5,192,855
Pacific Gas & Electric	PG&E	CA	14,880,465	78,907	5,623,301
Duke Energy Carolinas	Duke NC	NC	4,711,607	58,152	2,129,426
Entergy Louisiana	Entergy LA	LA	4,382,415	54,633	1,106,510
Consolidated Edison	ConEd	NY	8,595,383	51,327	3,530,574
Alabama Power	AL Power	AL	5,501,132	51,172	1,510,098
DTE Electric	DTE	MI	5,605,871	45,839	2,249,459
Ohio Power	AEP OH	OH	2,613,660	44,003	1,511,448
Public Service Electric & Gas	PSE&G	NJ	4,189,798	40,159	2,323,293
Duke Energy Florida	Duke FL	FL	4,646,648	39,454	1,899,991
Progress Energy	Duke Progress	NC	3,587,448	37,308	1,472,129
PPL Electric Utilities	PPL	PA	2,022,981	37,003	1,466,284
PECO Energy	PECO	PA	2,226,148	36,375	1,682,172
Consumers Energy	Consumers	MI	4,681,931	35,895	1,871,096
Ameren Illinois	Ameren IL	IL	1,642,616	34,771	1,228,566
Niagara Mohawk Power (National Grid New York)	NG NY	NY	2,672,971	33,937	1,706,025
AEP Texas Central*	AEP TC	TX	969,500	32,975	1,511,454

Name	Abbreviation	State	Revenue ($1,000s)	Sales (GWh)	Customers
Ameren Missouri	Ameren MO	MO	2,864,623	31,059	1,244,264
Salt River Project	SRP	AZ	2,935,672	30,163	1,098,151
Arizona Public Service	APS	AZ	3,500,264	29,228	1,317,266
Baltimore Gas & Electric	BGE	MD	2,123,511	29,091	1,320,805
Public Service Co. of Colorado	Xcel CO	CO	3,049,509	28,933	1,535,755
Northern States Power	Xcel MN	MN	3,368,042	28,814	1,329,386
Duke Energy Indiana	Duke IN	IN	2,762,411	26,939	860,972
MidAmerican Energy	MidAm. IA	IA	1,939,746	25,909	713,409
PacifiCorp	PacifiCorp UT	UT	2,103,854	25,657	983,418
Oklahoma Gas & Electric	OG&E	OK	2,077,786	25,096	805,816
Wisconsin Electric Power	We Energies	WI	2,906,607	23,573	1,144,822
Nevada Power	Nevada Power	NV	2,047,740	23,367	984,770
Puget Sound Energy	PSE	WA	2,367,219	23,283	1,196,851
Ohio Edison	OH Edison	OH	1,402,657	23,210	1,062,269
Eversource MA	Eversource MA	MA	2,644,928	22,869	1,475,929
City of San Antonio, TX	CPS	TX	2,282,561	22,605	885,307
Entergy Arkansas	Entergy AR	AR	1,878,939	22,282	727,735
Dominion Energy South Carolina	Dominion SC	SC	2,531,540	21,411	771,620
Los Angeles Department of Water & Power	LADWP	CA	4,141,442	20,800	1,465,281
Portland General Electric	PGE	OR	2,039,485	20,532	912,209
Eversource CT	Eversource CT	CT	3,038,506	20,501	1,272,008
Duke Energy Carolinas	Duke SC	SC	1,647,724	20,440	635,497
Tampa Electric	TECO	FL	2,123,498	20,093	802,049
Jersey Central Power & Light	JCP&L	NJ	1,708,952	19,865	1,150,247

Name	Abbreviation	State	Revenue ($1,000s)	Sales (GWh)	Customers
Entergy Texas	Entergy TX	TX	1,644,711	19,679	481,816
Duke Energy Ohio	Duke OH	OH	975,045	19,630	735,921
West Penn Power	West Penn	PA	921,618	19,277	733,761
Massachusetts Electric (National Grid Massachusetts)	NG MA	MA	2,458,477	19,088	1,344,807
Long Island Power Authority	LIPA	NY	3,886,754	18,798	1,147,438
San Diego Gas & Electric	SDG&E	CA	3,823,901	17,215	1,478,307

***Revenue, sales, and customer data came from the utility's 2021 Energy Efficiency Plan and Report, rather than from EIA. Sources: Revenue, sales, and customer data are from an EIA form (EIA 2022b) that utilities complete annually.**

METRICS AND SCORING

The *2023 Utility Scorecard* evaluates utilities across a range of action categories related to the delivery of energy efficiency. These categories span a range of activities including achieved electricity savings, programs offered,[10] business models, and equity. Some cover conventional ratepayer-funded programs and initiatives, while others relate to energy efficiency more broadly (e.g., utility business models). We evaluate utility performance in most action categories quantitatively using metrics. The combination of scoring metrics in *Utility Scorecard* is diverse enough to allow flexibility in how utilities can earn points, and represents our vision of a well-rounded, high-performing energy-saving utility.

Utilities operate in a diverse landscape of state and regulatory policies that strongly influence planning, administration, and implementation of energy efficiency programs. Our metrics attempt to evaluate utility performance on the basis of actions that utilities can take to advance energy efficiency, including in the regulatory or policy arena. However, we recognize that utilities are regulated entities that often act only with regulatory approval. As a result, our scoring reflects the totality of actions and conditions that allow energy efficiency

[10] To quantify programs, we asked utilities to indicate where a program they offered matched the description we provide in our data request. If a program they offered had overlap with multiple options, we asked them to select only the option that most matched the description we provided.

to flourish in a service territory, including those actions that result from legislative or regulatory processes that may not reside within a utility's sphere of influence.

Defining Key Terms

Action category: A classification given to a set of policies, programs, actions, or accomplishments related to a specific aspect of utility energy efficiency activities.

Metric: A way of measuring utility accomplishments within an action category.

Score: A quantitative measure of utility performance determined by evaluating the metric associated with an action category.

Equity: A quality of the energy system in which the economic, health, and social benefits of energy efficiency are informed by and extend to all potential participants regardless of race, income, gender, ability, or other aspect of social status, prioritizing those with greatest need.

For example, utilities can earn points in our "utility business model" action category if they have requested or their state has approved revenue decoupling, lost-revenue adjustment mechanisms, or energy efficiency performance incentive mechanisms (PIMs).[11] However, the ability to adopt such mechanisms is not always in the utility's direct control. In Pennsylvania, for instance, under Act 129, utilities are legally prohibited from recovering costs incurred due to reduced energy consumption or changes in energy demand (Pennsylvania General Assembly 2008). It is beyond the scope of this *Scorecard* to attribute responsibility for actions or conditions that inhibit the optimal use of energy efficiency. Our scoring simply reflects the current states of top utilities with respect to energy efficiency, regardless of whether their state, regulatory commission, or the utility itself is ultimately most responsible for the state of play.

In this edition of *Utility Scorecard*, our project team evaluated utilities across 27 action categories (one of which was unscored) and allocated a total of 100 points. We sorted these action categories thematically into three groups:

- Performance Group: 54 points (8 action categories)
- Programs Group: 20 points (5 action categories)

[11] See the Utility Business Model section for definitions of these terms.

- Enabling Group: 26 points (14 action categories, including 1 unscored)

We scaled the numbers of points associated with these metrics to represent their relative importance in the utility energy efficiency ecosystem; figure 1 and table 2 offer summaries. The points account not only for current-year performance, but also for long-term planning and policies that are critical to the continued success of energy efficiency programs. The 100 potential points utilities can earn represent a doubling of points from the previous edition of the *Utility Scorecard*. We made this change to accommodate seven new metrics and to allow greater granularity within the scoring itself. Our *Utility Scorecard* project team designed these metrics as a compromise between an idealized evaluation and what is practical given the data that utilities capture and make public. For this reason, we have eliminated the program participation metric in this edition; utilities have varying definitions of participants and track them inconsistently, so we found it too difficult to compare them on an equal basis.

Table 2. Metrics and scoring

Action category	Description	2023 points available	Change from 2020
Performance Group		54	+2
Net incremental electric energy savings	Net electricity savings realized in 2021 (as percentage of total sales)	16	0
Spending	Total 2021 energy efficiency (EE) spending as a percentage of revenue (includes performance incentives, excludes dedicated natural gas efficiency spending)	11	–3
Peak demand reduction	Percentage of total peak demand reduction from electric EE measures installed in 2021 (does not include demand response)	7	–1
Net lifetime energy savings	Net lifetime electricity savings from measures installed in 2021 as a percentage of total retail sales	7	0
Non-electric savings	Capturing data related to electrification and collateral non-electric fuel savings resulting from electric EE programs	2	+2

Action category	Description	2023 points available	Change from 2020
Low-income savings (E)	Net incremental low-income energy savings realized in 2021 per residential customer (kWh)	5	+3
Low-income spending (E)	Low-income spending as percentage of total (i.e., residential and commercial & industrial (C&I)) EE spending	4	+2
Achievement of savings target	Percentage of 2021 MWh savings target achieved	2	–2
Programs Group		20	–5
Residential program comprehensiveness	Number of residential EE programs offered	3	–1
C&I program comprehensiveness	Number of C&I EE programs offered	3	–1
Emerging program areas	Number of cutting-edge EE programs or pilots offered	6	0
Low-income program implementation (E)	Number of low-income EE programs offered	3	+1
Electric vehicles	Number of transportation electrification programs offered	5	–1
Enabling Group		26	+3
Utility business model	Status of revenue decoupling, lost-revenue adjustment mechanism, and PIMs	4	0
Resource planning	Consideration of EE in the utility resource planning process as either a load forecast reduction or alongside supply-side resources	2	0
Energy savings targets	2018–2020 net incremental energy savings targets as a percentage of 2018 sales	2	–3

Action category	Description	2023 points available	Change from 2020
Greenhouse gas targets	Establishing explicit GHG targets for EE programs to achieve	0	0
Data access	Providing customers access to individual meter or multifamily building energy data	2	0
Evaluation, measurement, and verification (EM&V)	Independence of EM&V and the calculation of net savings	3	–1
Customer charge	Level of residential fixed customer charge in the primary rate option	1	–1
Time-of-use (TOU) rates	Availability of opt-in or default TOU rate for residential customers	2	0
Community engagement (E)	Efforts to solicit and incorporate feedback from potential EE program participants	2	+2
Energy affordability (E)	Goals for reducing energy burden and tracking targeted solutions that impact energy-burdened customers	2	+2
Financing (E)	Facilitation of financing solutions to help customers pay for EE upgrades	2	+2
Language access (E)	Actions taken to reduce language barriers to EE program participation	1	+1
Workforce development (E)	Actions taken to support a diverse and equitable EE workforce	2	+2
Utility shutoff (E)	Steps taken to direct customers at risk of utility disconnection toward EE programs	1	+1
Total		100	0

The 2020 Utility Scorecard evaluated utilities on a 50-point scale, so we normalized the 2020 points by doubling them before reporting the change in this edition. (E) indicates an action category related to equity. Categories in bold are new or substantially restructured in this edition. The change in points available in the Performance, Programs, and Enabling groups may not equal the sum of the change in points available for the action categories within them due to the introduction, removal, or restructuring of metrics in ways that are

not reflected in this table. For more detailed descriptions of these action categories, see Appendix B or the sections of the report dedicated to each action category.

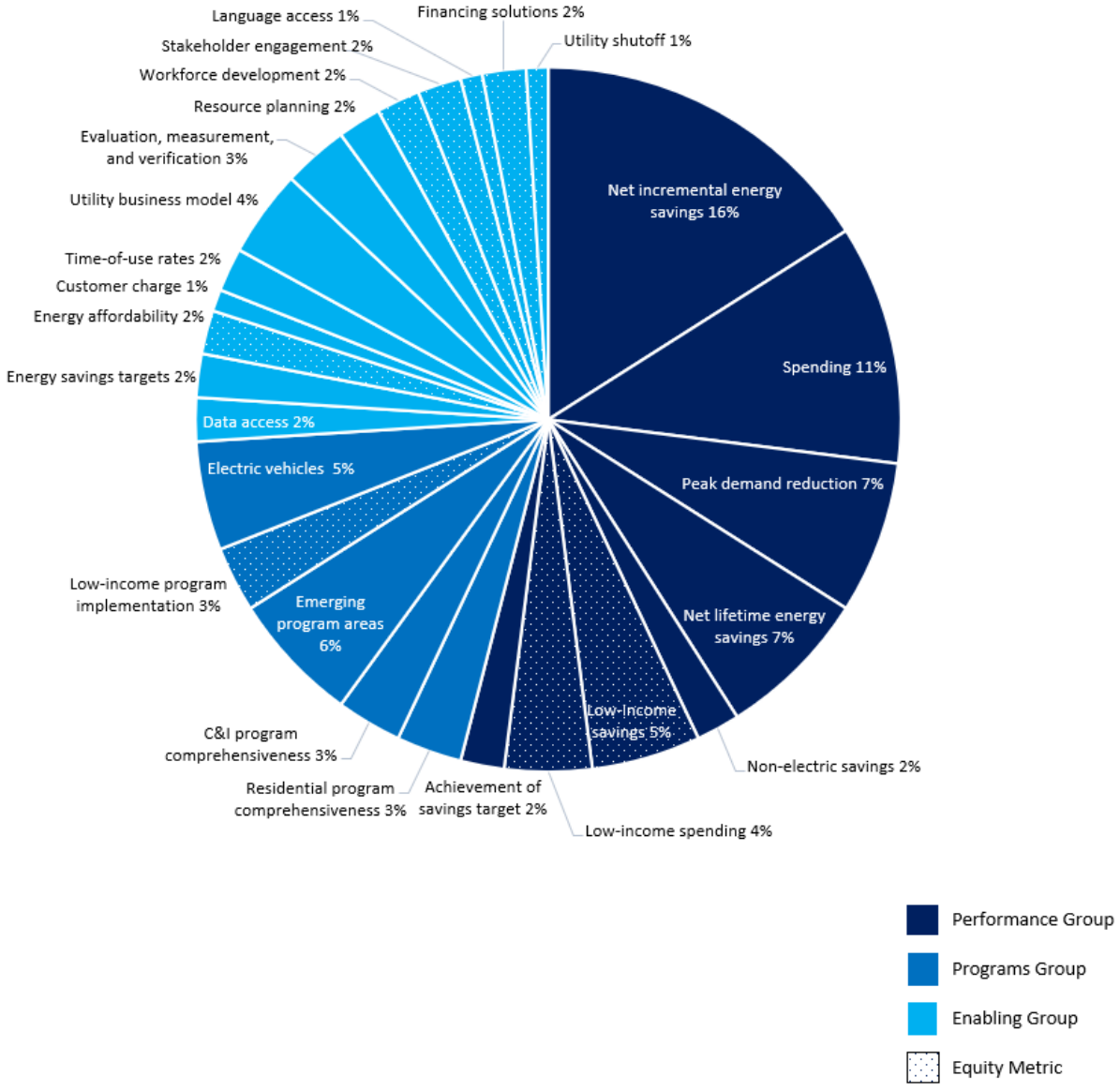

Figure 1. Weight of each metric. Dark blue wedges represent program performance metrics, medium-blue wedges represent program offering metrics, and light blue wedges represent enabling program metrics. Wedges with dots indicate an equity metric.

THE "PERFECT" UTILITY

While there is no such thing as a "perfect" electric utility, it is possible for a utility to earn a perfect score on the *Utility Scorecard*. This is what it would take.

First, the utility would need to spend at least 9% of its revenue on energy efficiency programs, and at least one-quarter of that would have to go toward low-income customers. The utility would need to achieve net annual savings of at least 3% (of retail sales) and at least 13 kWh of low-income savings per residential customer. It must reduce at least 2% of annual peak demand through energy efficiency, and the net lifetime savings of efficiency measures deployed in 2021 must be at least 30% of annual retail sales. The utility must set and meet high energy savings targets. It also must track and report non-electric and fuel-neutral savings achieved through electric efficiency or electrification measures.

Second, the utility would need to offer its various customer segments a variety of different energy efficiency programs. This includes at least 13 types of residential programs, 12 types of commercial and industrial programs, 12 types of "emerging" programs, 4 low-income programs, and 4 electric vehicle (EV) programs. The utility would also need to offer EV charging rates for both residential and commercial customers.

Finally, the utility must meet the following conditions:

- Have revenue decoupling and approved performance incentive mechanisms (PIMs) that reward more than incremental savings
- Treat energy efficiency on par with supply-side resources in the resource planning process
- Have three-year incremental energy savings targets that cumulatively exceed 5% of annual retail sales
- Provide customers in multi-tenant buildings with access to both individual meter energy data and aggregated energy use data for the building
- Have energy efficiency programs that are independently evaluated
- Study and report the net savings directly attributable to efficiency programs
- Offer default, opt-out time-of-use (TOU) rates and keep fixed utility bill charges below $7/month
- Facilitate robust engagement with the communities that energy efficiency programs intend to serve and incorporate their feedback into programs

- Track customer energy burden and have targets in place to reduce them
- Offer accessible financing solutions to assist with payment of energy efficiency programs
- Institute a process to determine which languages energy efficiency information needs to be communicated to customers in to maximize equitable access to programs, then take action to expand language access to customers
- Take a variety of steps to improve the quality and diversity of energy efficiency workforce
- Direct customers at risk of electric service disconnection due to nonpayment toward energy efficiency programs or measures

METRIC CHANGES

The utility landscape around energy efficiency continues to evolve. Energy efficiency emerged in the 1970s and 1980s as a least-cost utility resource for avoiding energy costs, reducing generation capacity requirements, lowering transmission and distribution system costs, and so on (York et al. 2012). In the 2000s, energy efficiency policy was touted as a low-cost way to address electric reliability issues and price volatility due to utility restructuring (Kushler, Vine, and York 2003). More recently, jurisdictions have placed additional emphasis on energy efficiency's ability to support a wider range of goals including decarbonization, economic development, and advancing equity. Simultaneously, the utility landscape is rapidly evolving to accommodate greater amounts of distributed energy resources (DERs),[12] renewable energy, and storage.

These policy and technology changes affect utility business models and create new opportunities for utilities to deliver energy efficiency. To ensure that the metrics we use in the *Utility Scorecard* are relevant to today's grid, we engaged in an effort in mid-2022 to systematically review and update the action categories that utilities would be evaluated on, as well as the metrics used to quantify achievements in those areas. In this section, we summarize the changes to the scoring process for this edition.

[12] DERs are resources "sited close to customers that can provide some or all of their immediate electric or power needs and can also be used by the system to either reduce demand (as with energy efficiency) or provide support to satisfy the energy, capacity, or ancillary service needs of the distribution grid" (Baatz, Relf, and Nowak 2018).

Energy Equity

Energy equity exists along multiple dimensions. *Procedural* equity involves embedding inclusive, accessible, and authentic engagement into the program development process. *Distributional* equity ensures that the benefits and burdens of programs and policies are fairly distributed across all segments of a community, prioritizing those who are of highest need. *Structural* equity involves institutionalizing accountability for decision making that accounts for historical, cultural, and institutional dynamics that have routinely advantaged privileged groups and resulted in chronic, cumulative disadvantage for subordinated groups. *Transgenerational* equity considers the impacts of today's policies on future generations to minimize unfair burdens on them (Energy Equity Project 2022; Hays et al. 2021; Park 2014).

A variety of terminology has emerged to describe those whom these energy equity principles are designed to serve. In California, the term "disadvantaged community" (DAC) has become well established. Colorado uses "highly impacted communities" (HICs), while New Jersey refers to "overburdened communities." Other jurisdictions refer to these communities as "vulnerable," "marginalized," "environmental justice," "underserved," "historically excluded," or simply "low-income" (see, for example, Ashby et al. 2020). These terms often appear in legislation and are subsequently interpreted by state agencies (e.g., utility commissions, environmental agencies). In this context, the precise definitions of these communities matter.

For the purposes of *Utility Scorecard,* however, we primarily use "low-income communities" to refer to the intended targets of energy equity actions. In this context, low-income communities are characterized by high barriers to participation in the decision-making process and historic levels of disinvestment; they also experience consequences or impacts of policy decisions more acutely than other communities due to historic marginalization. Although we use the descriptor "low-income" in this *Utility Scorecard,* the term should be understood to be inclusive of any marginalized groups whose life outcomes are disproportionately and often negatively affected by institutional structures, including people of color, the elderly, recently arrived immigrants, those with limited English proficiency, and people with disabilities, regardless of their income status.

The most significant change in this edition is an increased emphasis on energy equity. As part of ACEEE's Leading with Equity initiative, we committed to including equity considerations in the definition of a successful utility (ACEEE 2023).[13] We collaborated with community-based organizations (CBOs) in a transparent process to ensure that their perspectives and priorities were integrated into the *2023 Utility Scorecard*. As part of that, ACEEE committed to ensuring that energy equity metrics account for at least 20% of possible points in this and future editions of the *Utility Scorecard* (ACEEE 2023). To that end, as table 3 shows, we have introduced six new equity-related metrics in this edition to better capture the impacts of energy efficiency policies and programs on customers who have been historically under-resourced including communities of color, low-income communities, immigrant communities, and rural communities. In addition, we split the single equity-related metric in the previous edition of the *Utility Scorecard*—low-income program implementation—into three metrics that separately evaluate a utility's low-income program offerings, low-income program spending, and low-income customer savings achieved. In total, these nine metrics have increased the equity-related share of our scoring from 6% to 22%.[14]

Table 3. New equity-related metrics introduced in the 2023 Utility Scorecard

Action category	Description	2023 points available
Community engagement	Efforts undertaken to solicit and incorporate feedback from potential EE program participants	2
Energy affordability	Goals for reducing energy burden and tracking targeted solutions that impact energy-burdened customers	2
Financing	Facilitation of financing solutions to help customers pay for EE upgrades	2

[13] Additional details on Leading with Equity, including the motivation behind the initiative and its goals, can be found on its website: https://www.aceee.org/energy-equity-initiative.

[14] For more on the process through which these new equity action categories were developed, see *ACEEE Utility Scorecard Equity Metrics Implementation Strategy* (Dewey et al. 2022). A more complete summary of the Leading with Equity initiative's 2022 accomplishments is available on the ACEEE website (Dewey and Runge 2023).

Action category	Description	2023 points available
Language access	Actions taken to reduce language barriers to EE program participation	1
Workforce development	Actions taken to support a diverse and equitable EE workforce	2
Utility shutoff	Steps taken to direct customers at risk of utility disconnection toward EE programs	1

Another utility trend that prompted the introduction of new action categories in this edition is the growth of renewable energy and decarbonization goals. While utility energy efficiency goals have historically targeted annual electricity savings, in the future they are increasingly likely to be tasked with reducing fuel-neutral energy consumption and GHG emissions. An emerging energy efficiency approach is electrification—that is, the conversion of fossil-powered equipment such as natural gas furnaces and internal combustion engine vehicles to more-efficient electric alternatives. When executed correctly, electrification can lower overall energy usage and GHG emissions by shifting load that would be met by fossil fuels onto the decarbonizing electric grid.

Given this, we introduced two new action categories to capture early progress in decarbonizing our energy system through energy efficiency. The first of these metrics assesses whether utilities are tracking the energy savings achieved through converting fossil-based technologies to electric alternatives. We also assess whether utilities track collateral non-electric fuel savings that result from electric energy efficiency measures (e.g., reduced natural gas consumption through building envelope upgrades). In addition, we introduce an (unscored) action category that looks at whether utilities have set explicit GHG reduction goals to be achieved through their energy efficiency portfolios.

Our final addition resulted from splitting the existing portfolio comprehensiveness action category—which assessed the offerings of various residential, commercial, and industrial programs—in two. We now separately assess the comprehensiveness of efficiency programs offered to residential and commercial and industrial (C&I) customers.

Finally, we removed two action categories from this edition of *Utility Scorecard*. We eliminated a standalone category on advanced metering, opting to incorporate that information into the data access category. We also removed our program participation metric due to difficulty in acquiring the data needed to properly compare utilities in this area. Utilities have vastly different definitions of an energy efficiency program participant,

ranging from an individual who picks up a free energy efficiency kit to a business that undergoes a deep building retrofit. Even when participants are defined similarly across utilities, they are often not measured consistently. The previous edition of *Utility Scorecard* worked around this limitation by using the percentage of residential customers served by home retrofit programs as a proxy. Ultimately, our team concluded that because of these inconsistencies, reporting on participation numbers would not be as informative as we would like.[15] Given that various other metrics quantify achievement in delivering energy savings, we decided to remove this action category for this edition, though we will likely consider alternative approaches for measuring participation in future editions.

DATA COLLECTION

Each of the 27 action categories evaluated in this report relies heavily on primary data collected by ACEEE. We drew most information from utility annual reports, program plans, evaluations, and utility websites. This list of resources—many of which are utility specific—is shared in Appendix A. All data in this edition of *Utility Scorecard* are for 2021 unless otherwise stated. For utilities that do not operate on the calendar year, we used data from the 2020–2021 program year.[16]

As Appendix E describes, we also sent data requests to each of the 53 utilities we evaluated; we sent those requests to existing contacts or to the utility's energy efficiency program administrator (e.g., Energy Trust of Oregon for Portland General Electric). The data requests were in the form of an Excel workbook that included space for our questions, utility responses, and references to documents that verify the utility responses. Appendix B shows a text version of the questions included in the data request. Almost 90% of our surveyed utilities completed and returned the data requests to ACEEE by fall 2022.[17] The *Utility Scorecard* project team filled in the data requests from the remaining utilities using primary sources and targeted inquiries via phone or web to clarify answers to questions that we were unable to locate in published materials. We also experienced additional data limitations, which we share in Appendix C.

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[15] Citing a lack of customer awareness as a likely driver, J.D. Power estimates that only 14% of residential electric utility customers participated in one or more energy management programs offered by their utilities in 2022, a rate that was unchanged from 2020 (Heath 2023).

[16] For example, West Penn was evaluated on the basis of "Program Year 12," which began on June 1, 2020, and Salt River Project was evaluated on the basis of Fiscal Year 2021, which covers May 2020–April 2021.

[17] Six utilities did not submit a response to the data request: Alabama Power Co, Florida Power & Light Co., Oklahoma Gas & Electric Co., Ohio Edison Co. (First Energy), Salt River Project, and West Penn Power Company (First Energy).

Next, our project team reviewed each utility's response to our data request. In cases where we were unable to score utilities based on the answers provided, we sent more focused follow-up questions to our utility contacts to clarify their responses. We also sent follow-up questions when the submitted data appeared inconsistent with reasonable expectations of utility performance, when it seemed like a utility misinterpreted a question (e.g., providing gross savings versus net savings), or when data were outliers without explanation. We also gave utilities an opportunity to make any final corrections during our external review process. Utilities were provided with finalized versions of our scoring metrics along with copies of the data we based our scoring on. We invited them to make any needed corrections, provided that they offered clear links or references to published data that we could verify.

We also relied on publicly available data collected from EIA Form 861 for revenue, sales (in MWh), residential customer count, weighted average life cycle, and total peak demand. We used publicly available data and information collected from other ACEEE research to cross-check data provided in utility filings. We used 2021 EIA Form 861 energy efficiency data for utilities that did not respond to requests for information and for which we were unable to find regulatory filings or specific data. For our rate-related metrics—that is, time-of-use (TOU) and monthly customer charges—we leveraged data gathered by the OpenEI Utility Rate Database.

In tallying sales, revenue, and customer counts for each utility, we included customers who are eligible to opt out of energy efficiency programs. This accounts for the negative impact of opt-out provisions that allow large customers to avoid participating in utility energy efficiency programs. In all tables in this report, blank cells indicate that no data were found.

Overall Scores

Our review of the largest 53 utilities demonstrates wide variation in energy efficiency programs, actions, and other areas. When reviewing performance results, it is important to consider the varied regulatory and state policy landscapes that may constrain utilities' behavior. Table 4 shows the scores for each utility for all three categories of metrics.

Table 4. Group and overall scores

Rank	State	Utility	Performance Group (54 pts.)	Programs Group (20 pts.)	Enabling Group (26 pts.)	Total (100 pts.)
1	MA	Eversource MA	45.5	18.5	21	85
2	CA	PG&E	40	19	21.5	80.5
2	MA	NG MA	46	15	19.5	80.5

Rank	State	Utility	Performance Group (54 pts.)	Programs Group (20 pts.)	Enabling Group (26 pts.)	Total (100 pts.)
4	IL	ComEd	41.5	14.5	19.5	75.5
5	MI	DTE	35	18	20.5	73.5
6	MI	Consumers	32.5	18	17.5	68
7	CA	SDG&E	37	13.5	11.5	62
8	CT	Eversource CT	23	19	19	61
9	CO	Xcel CO	29	15	14.5	58.5
10	CA	LADWP	19	19.5	17	55.5
10	MN	Xcel MN	31	14.5	10	55.5
12	MD	BGE	23.5	16	15.5	55
13	CA	SCE	22	12	19.5	53.5
14	IL	Ameren IL	29.5	16.5	6.5	52.5
15	NY	ConEd	18.5	16.5	16	51
16	NY	LIPA	19	14.5	15.5	49
17	MO	Ameren MO	21.5	11	15	47.5
18	AR	Entergy AR	28	7.5	9.5	45
19	AZ	APS	17	15	10	42
19	OR	PGE	13	15	14	42
21	UT	PacifiCorp UT	17	14	10.5	41.5
22	NY	NG NY	17.5	12	11	40.5
23	AZ	SRP	24	6.5	6.5	37
24	TX	CPS	14	12	9.5	35.5
25	OK	OG&E	15	8.5	11	34.5
25	NJ	PSE&G	12	12.5	10	34.5
27	VA	Dominion VA	5	14.5	13	32.5

Rank	State	Utility	Performance Group (54 pts.)	Programs Group (20 pts.)	Enabling Group (26 pts.)	Total (100 pts.)
28	WI	We Energies	14.5	12	5.5	32
29	NV	Nevada Power	11	10.5	10	31.5
30	NC	Duke NC	8.5	13.5	9	31
31	NC	Duke Progress	7	13.5	9	29.5
32	SC	Duke SC	7	12.5	9	28.5
33	GA	GA Power	5	11	11.5	27.5
33	PA	PPL	10.5	7	10	27.5
35	PA	PECO	7	10.5	8	25.5
36	SC	Dominion SC	5.5	8.5	9.5	23.5
37	TX	Entergy TX	10	6.5	6	22.5
37	NJ	JCP&L	3.5	11.5	7.5	22.5
39	TX	Oncor	8	8.5	5.5	22
40	WA	PSE	11.5	4	5	20.5
40	FL	TECO	9.5	8	3	20.5
42	IN	Duke IN	3.5	8	8	19.5
43	LA	Entergy LA	2	9	6	17
44	TX	CenterPoint	5	4	7	16
45	PA	West Penn	6.5	3	6	15.5
46	IA*	MidAm. IA	5	8	2	15
47	FL	Duke FL	2	8.5	2	12.5
48	TX	AEP TC	7.5	0	4	11.5
49	OH*	AEP OH	0	6	3	9
49	OH*	Duke OH	4	0	5	9
51	AL	AL Power	0	3	2	5

Rank	State	Utility	Performance Group (54 pts.)	Programs Group (20 pts.)	Enabling Group (26 pts.)	Total (100 pts.)
52	FL	FP&L	0	1.5	1.5	3
53	OH*	OH Edison	0	0	2.5	2.5

*** In 2018 and 2019, Iowa and Ohio passed legislation significantly limiting energy efficiency programs.**

Figure 2 breaks down each utility's score by group category. Figure 3 represents total utility scores by geography.

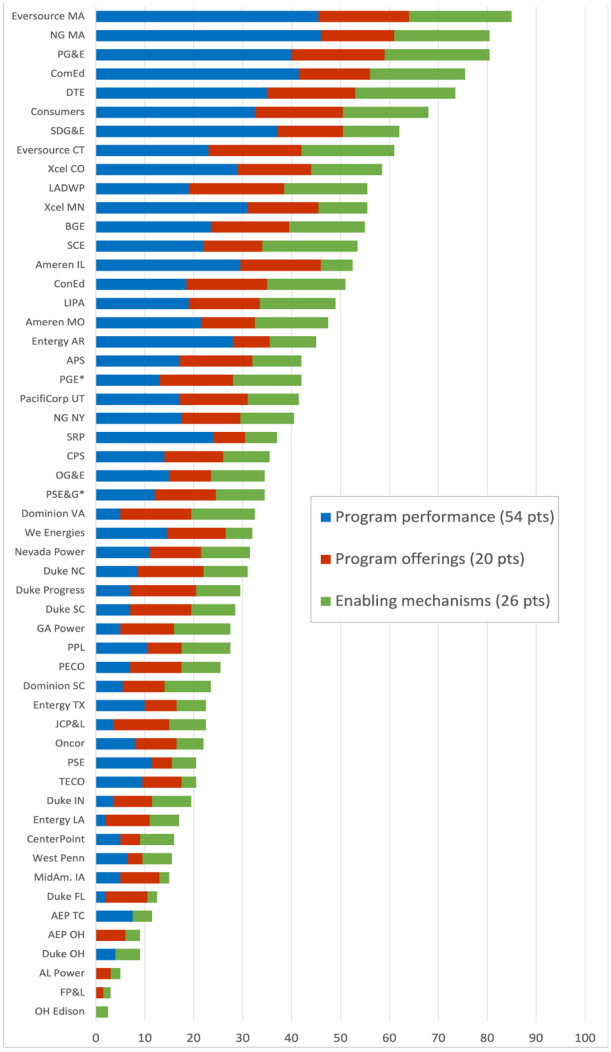

Figure 2. Scores by category

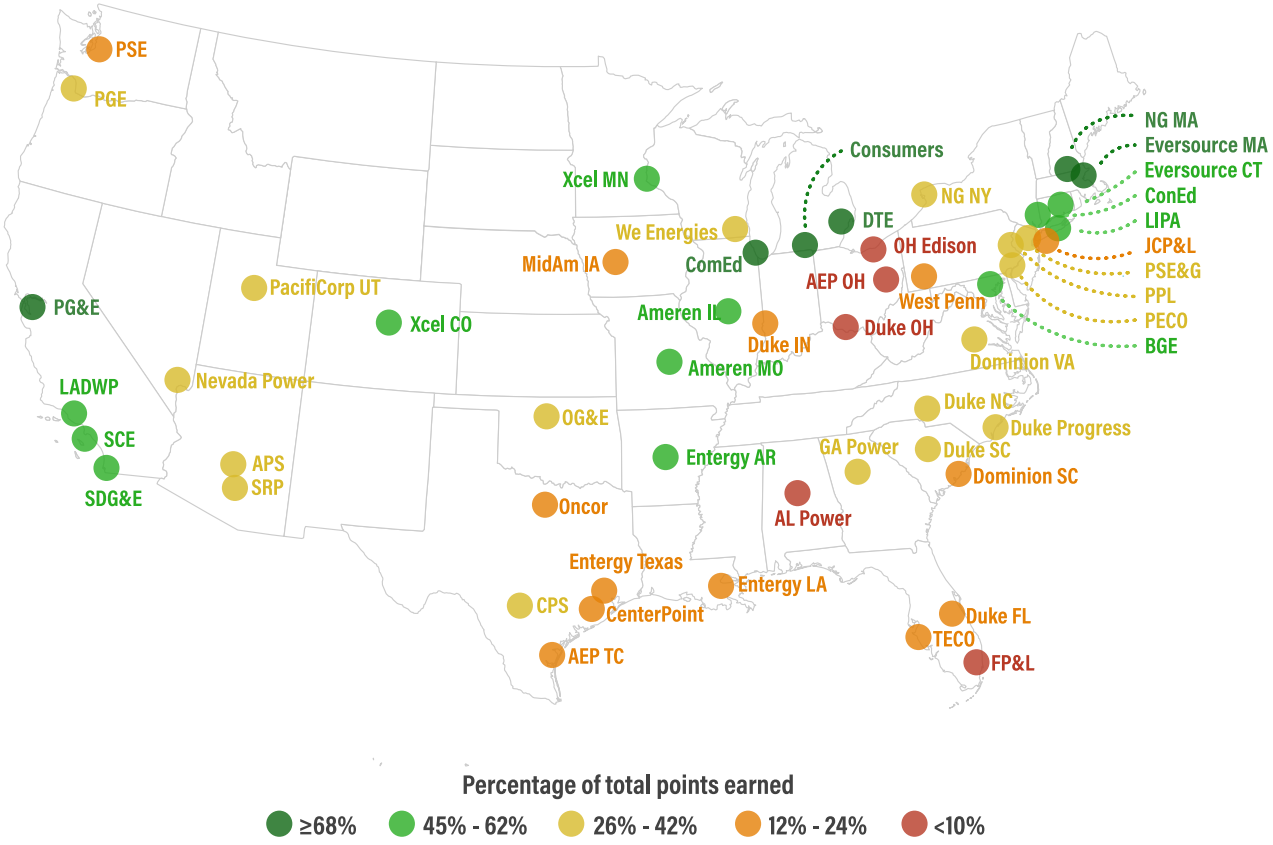

Figure 3. Geographic distribution of scores earned by each utility

On average, the 53 utilities earned about 36.8 points out of the available 100. The median was slightly lower at 32. The top 10 performers are located in seven states, including two utilities each from Massachusetts and Michigan and three from California. The top 10 performers range significantly in size based on 2021 sales, from the fifth- and eighth-largest utilities (ComEd and PG&E) to the smallest (SDG&E); the top 10 also includes two utilities within each of the parent companies Xcel Energy and Eversource. In contrast, four of the bottom 10 utilities are in the Midwest, three are in the Southeast, and two are in the Southwest (both in Texas). All three Ohio utilities are among the bottom 10 performers. The standings indicate that company commitment level and regional and state pressures and policy contexts are important to high-efficiency achievement.[18]

[18] ACEEE's *Roadmap for Climate-Forward Efficiency* provides guidance for utilities and policymakers to equitably align energy efficiency and decarbonization goals in state and utility portfolios (Specian et al. 2022).

Eversource Massachusetts (Eversource MA) earned the most points with 85 out of 100, faring well in all three groups. The utility also ranked first in the 2017 and 2020 reports. This three-time leader is 4.5 points in front of the next utility (Pacific Gas & Electric) and 29.5 points ahead of the utilities that tied for 10th place (Xcel MN and LADWP). This gap indicates significant opportunity for improvement even among the top performers.

Eversource MA is especially strong in the Performance Group of quantitative program performance metrics. Eversource also scores well in metrics that assess energy savings targets. In addition to company commitment, its high level of achievement in these categories reflects strong regulatory support and its state's policy goal of reaching high levels of savings. Eversource also scored nearly full points in the Programs Group, demonstrating the breadth of energy efficiency programs it offers.

Regionally, there is wide variation in scores (see Figure 4). The Northeast and West were the highest-scoring regions, with 61% and 52% of available points earned, on average, respectively, while the Southeast earned an average of only 22% of all possible points. The West's electric grid has the lowest average emissions rate nationally, while the Southeast has the second highest and the Midwest has the highest (EPA 2023). As a result, each megawatt-hour saved from energy efficiency in the Southeast and Midwest is on average displacing relatively greater emissions than in other regions. This makes energy efficiency a particularly valuable tool for GHG reduction in these regions, especially in the Southeast, which has the most potential for energy efficiency growth based on *Scorecard* performance.

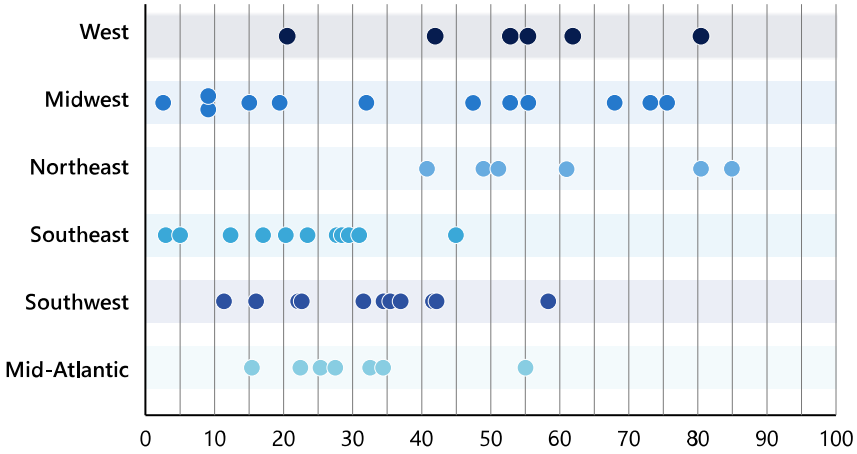

Figure 4. Distribution of total scores (out of 100) earned by utilities in this edition of Utility Scorecard. Table 1 shows the utility locations, while figure ES-2 illustrates the extent of each region.

Dominion VA and Long Island Power Authority (LIPA) were two of the most improved utilities relative to 2020. In 2020, Virginia established an energy efficiency resource standard (EERS) through the Virginia Clean Economy Act (VCEA), requiring Dominion VA to achieve

5% energy savings by 2025 relative to a 2019 baseline. The VCEA also increases Dominion VA's proposed investment in low-income energy efficiency programs from 5% to 15% of total program spending. These policy changes have enabled Dominion VA to rise in the rankings. LIPA scored well in the Programs Group, with an impressive suite of comprehensive energy efficiency program offerings, emerging program areas, low-income programs, and electric vehicles (EVs). LIPA gained points for some equity-related metrics such as having goals to reduce energy burden and directing customers at risk of utility shutoffs toward energy efficiency programs, leading to a rise in the utility's rank.

In 2018 and 2019, respectively, Iowa and Ohio passed legislation greatly limiting energy efficiency programs (Berg et al. 2020). Utilities in these states (MidAmerican Energy, AEP OH, Duke OH, and OH Edison) have seen major drops in the *Scorecard* rankings by missing out on opportunities for economic development, increased affordability for residents, and cost-effective carbon reduction strategies from rolling back energy efficiency programs.

Table 5 shows how utilities in each region performed, the percentage of possible points earned by the top and bottom utilities, and the three top-scoring utilities in each region.[19]

Table 5. Utility performance by region

Region	Number of utilities	Average % of total points achieved	% of points earned by highest-ranked utility	% of points earned by lowest-ranked utility	Top three utilities in the region (% of available points)
Northeast	6	61%	85%	41%	Eversource MA (85%), National Grid MA (81%), Eversource CT (61%)
West	6	52%	81%	21%	PG&E (81%), SDG&E (62%), LADWP (56%)
Midwest	12	38%	76%	3%	Commonwealth Edison (76%), DTE (74%), Consumers (68%)

[19] The Midwest includes utilities in IA, IL, IN, MI, MN, MO, OH, and WI. The Northeast includes utilities in CT, MA, and NY. The Mid-Atlantic includes utilities in MD, NJ, PA, and VA. The Southeast includes utilities in AL, AR, FL, GA, LA, NC, and SC. The Southwest includes utilities in AZ, CO, NV, OK, UT, and TX. The West includes utilities in CA, OR, and WA.

Region	Number of utilities	Average % of total points achieved	% of points earned by highest-ranked utility	% of points earned by lowest-ranked utility	Top three utilities in the region (% of available points)
Southwest	11	32%	59%	12%	Xcel CO (59%), Arizona Public Service (42%), PacifiCorp UT (42%)
Mid-Atlantic	7	30%	55%	16%	BGE (55%), PSE&G (35%), Dominion VA (33%)
Southeast	11	22%	45%	3%	Entergy AR (45%), Duke NC (31%), Duke Progress (30%)

All of the metrics in *The 2023 Utility Energy Efficiency Scorecard* are important to building a well-balanced, effective, and forward-thinking energy efficiency portfolio. This report offers a baseline to assess utility performance and provides insights into trends that will help inform portfolio design and delivery in the future. The benefits of efficiency for utilities and their customers are numerous, as evidenced by the achievements of the group of utilities leading the way in this report. For utilities that are just getting started or continuing to develop their portfolios, this report can provide information on the elements that are important to include.

Issues Impeding Utilities from Reaching Their Full Efficiency Potentials

After reviewing the completed utility data requests in fall 2022, we had specific follow-up questions for 38 of our 53 scored utilities. While these utilities were in the process of clarifying their original responses, we took the opportunity to ask them one additional question:

> *If you had to identify the three leading bottlenecks that impede your energy-efficient program from achieving the savings technically achievable within your territory, what would they be in priority order?*

We informed the utilities that their answers would not be scored but would instead serve as a "temperature check" of challenges they face. In this section, we summarize and categorize the range of responses that we received. To be clear, in this section we are simply presenting utilities' responses as they were shared with us; we did not independently fact-check them.

One of the largest bottlenecks reported by our utilities relates to the increased difficulty in constructing **cost-effective energy efficiency portfolios**. Utilities cited several causes for

this, including inflation making all aspects of energy efficiency delivery more expensive, **rising baseline efficiency standards** (e.g., elevated federal lighting standards) making energy savings more difficult to achieve, and cost-effectiveness screens being correspondingly more difficult to pass. Utilities that have been successfully implementing energy efficiency programs for years reported experiencing market saturation for some efficiency measures and decreasing amounts of remaining savings. Others claimed that there was no technology that could easily fill the gap left by lighting. Low avoided energy and capacity costs were also listed as a challenge to keeping energy efficiency programs cost-effective.[20]

Inflation manifested itself in multiple ways, including that it increased the cost of materials and equipment needed for energy efficiency, the labor costs for those needed to install equipment, the fuel costs, and marketing expenses. Utilities were also concerned that increased energy efficiency delivery costs would put **upward pressure on electric rates.** The same impact was also cited for programs that have achieved more savings than anticipated, and that required more ratepayer funds to expand.

Many utilities also cited **supply-chain issues** as being a barrier to energy efficiency. Energy-efficient qualifying products were revealed as not being available on the scale needed to saturate a service territory. One utility referred to this as technology "not keeping up with the speed of the business" and cited accessing upgraded HVAC equipment in a timely manner as an example. In these cases, customers unwilling to wait for efficient equipment will resort to conventional non-efficient equipment to complete their projects in a timely manner. One utility placed some blame for this on federal and state governments for failing to exert sufficient influence on upstream markets.[21]

Utilities also reported difficulty reaching and appealing to customers. A few referred to difficulties in raising **customer awareness** of energy efficiency incentives and intervention opportunities. Multiple utilities struggled to capture the attention of their low-income customers in particular.

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[20] Utility energy efficiency programs usually need to pass a cost-effectiveness screen. The costs that energy efficiency helps utilities avoid include those for energy, for having sufficient power plants (i.e., generation capacity), and for building electricity delivery infrastructure (i.e., transmission and distribution capacity). Jurisdictions interested in achieving equity-related goals have multiple options for overcoming the challenge that the relatively higher cost of low-income energy efficiency programs poses for traditional cost-effectiveness tests (NEEP 2022; NESP 2023).

[21] Utilities have the ability to influence upstream and midstream markets through market transformation activities; see, for example, (York, Nadel, and Subramanian 2022).

Even when customers were aware, another challenge utilities mentioned was increasing **customers' willingness** to participate in energy efficiency programs or to accept what was offered. Some utilities argued that even when customers recognized the benefits of energy efficiency, those benefits are not always large enough to attract their time and attention. Other customers, particularly businesses, expect shorter paybacks on energy efficiency projects than utilities are able to deliver, or prioritize other projects deemed more essential to their company's performance. One utility noted that this challenge was even greater with electrification, where projects are occasionally capable of increasing customer energy spending. In a competition between energy efficiency and other sustainability interventions, customers may opt for alternatives such as solar-plus-storage.

Several utilities noted that there were often **not enough skilled contractors** to scale energy efficiency toward its full potential (BPA 2022; Lee 2023; NASEO and EFI 2020). Labor shortages were cited as a driver of increased contractor wages, which negatively impact cost effectiveness. For utilities interested in equity and facilitating a diverse workforce, they noted particular difficulty in finding enough contractor business partners owned by minorities or women. In addition, existing contractors have not always accepted—or have been unwilling to promote—the adoption of more-efficient equipment, especially when that equipment comes with a higher up-front cost. After utilities exhaust the "low-hanging fruit" of energy efficiency savings (e.g., lighting measures), the remaining projects may be more complex than historic interventions, requiring higher levels of technical sophistication than implementers can offer. Several utilities noted that the COVID-19 pandemic limited the ability of energy efficiency program managers to make site assessments and of implementers to deliver energy efficiency solutions.

Finally, multiple utilities identify **legislative or regulatory barriers** (beyond cost effectiveness) to delivering energy efficiency benefits. These barriers ranged from the modest (e.g., regulatory rules being too open to interpretation) to the extreme (e.g., Ohio prohibiting its utilities from offering energy efficiency programs). Some of these barriers related to costs, as utilities cited tension between spending more money to deliver the magnitude of savings needed to reach energy efficiency's potential and regulators' desire to keep costs low enough to avoid raising electric rates. Some utilities noted that fuel-switching restrictions continue to pose a barrier to switching customers off fossil-fueled equipment to more-efficient electric alternatives. Utilities also reported long waits before their demand-side management (DSM) plans were reviewed and approved by regulators or before regulatory commissions finalized relevant rules.

Energy Efficiency Program Performance

In the Performance Group, we review utility-sector energy efficiency program performance in several key areas: incremental energy savings, program spending, low-income savings and spending, peak demand reduction, net lifetime savings, progress toward 2021 energy savings targets, and incremental non-electric energy savings. Table 6 shows scores for action categories in the Performance Group, and Figure 5 visualizes their distribution.

Table 6. Utility scores by metric for Performance Group action categories

Utility	Incre-mental savings (16 pts.)	Spending (11 pts.)	Low-income savings (5 pts.)	Low-income spending (4 pts.)	Peak demand reduction (7 pts.)	Lifetime energy savings (7 pts.)	Achievement of savings target (2 pts.)	Non-electric savings (2 pts.)	Total (54 pts.)	% of category
NG MA	14	11	5	2.5	5	4.5	2	2	46	85%
Eversource MA	13	11	5	2.5	5.5	5	1.5	2	45.5	84%
ComEd	13.5	7.5	5	2.5	4.5	5.5	2	1	41.5	77%
PG&E	13	2.5	5	3.5	6	7	2	1	40	74%
SDG&E	16	1	0	3	7	7	2	1	37	69%
DTE	12.5	3.5	4	3	4.5	4.5	2	1	35	65%
Consumers	11	4	5	2	4	5	1.5	0	32.5	60%
Xcel MN	13.5	3.5	0	0	5	7	2	0	31	57%
Ameren IL	7.5	7	5	3	2.5	3.5	1	0	29.5	55%
Xcel CO	9.5	2.5	5	1.5	3.5	5.5	1.5	0	29	54%
Entergy AR	8	3	5	2	3.5	4.5	1	1	28	52%
SRP	11	1	0.5	0	6	3.5	2	0	24	44%
BGE	7.5	6	0.5	2.5	3.5	1.5	1	1	23.5	44%
Eversource CT	5.5	6	2	2.5	2	2	1	2	23	43%
SCE	10.5	1	3.5	4	0	0	2	1	22	41%
Ameren MO	5	2.5	3	2.5	5	3	0.5	0	21.5	40%
LADWP	6.5	2.5	0.5	0.5	2.5	4	0.5	2	19	35%
LIPA	8.5	2	0	0.5	3	2	1	2	19	35%
ConEd	7	1	2.5	0.5	1	2.5	2	2	18.5	34%

Utility	Incre-mental savings (16 pts.)	Spending (11 pts.)	Low-income savings (5 pts.)	Low-income spending (4 pts.)	Peak demand reduction (7 pts.)	Lifetime energy savings (7 pts.)	Achievement of savings target (2 pts.)	Non-electric savings (2 pts.)	Total (54 pts.)	% of category
NG NY	8	2	0	0	2.5	3.5	1.5	0	17.5	32%
APS	4.5	1	0.5	3	5	2.5	0.5	0	17	31%
PacifiCorp UT	6	3	1.5	0	2.5	3	1	0	17	31%
OG&E	3	1.5	5	3	1	1	0.5	0	15	28%
We Energies	1.5	2	5	4	1	1	0	0	14.5	27%
CPS	1.5	1	3.5	4	2.5	1	0.5	0	14	26%
PGE	4	4	0	0	2	2.5	0.5	0	13	24%
PSE&G	4.5	2.5	0	1	0.5	2.5	1	0	12	22%
PSE	3	4	0	0	2	2	0.5	0	11.5	21%
Nevada Power	4	1	0	2	2	1.5	0.5	0	11	20%
PPL	1.5	2.5	2	3	0.5	1	0	0	10.5	19%
Entergy TX	0	0	4.5	3.5	1.5	0	0.5	0	10	19%
TECO	0.5	0.5	3	1	1	2.5	1	0	9.5	18%
Duke NC	3.5	1	0	1.5	1.5	0.5	0.5	0	8.5	16%
Oncor	0	1	2.5	4	0.5	0	0	0	8	15%
AEP TC	0	1.5	2	3	1	0	0	0	7.5	14%
Duke Progress	3.5	1	0	0	1	1	0.5	0	7	13%
Duke SC	3.5	1	0	1.5	0	0.5	0.5	0	7	13%
PECO	2.5	2.5	0.5	0.5	0	0.5	0.5	0	7	13%
West Penn	1.5	1.5	1	2.5	0	0	0	0	6.5	12%
Dominion SC	0	0.5	2	1.5	0.5	0	0	1	5.5	10%
CenterPoint	0	0.5	1	3	0.5	0	0	0	5	9%
Dominion VA	0	0.5	0	3.5	0	0	0	1	5	9%
GA Power	0.5	0.5	1.5	1.5	0.5	0.5	0	0	5	9%
MidAm. IA	1	1	0	0	2	1	0	0	5	9%

Utility	Incre-mental savings (16 pts.)	Spending (11 pts.)	Low-income savings (5 pts.)	Low-income spending (4 pts.)	Peak demand reduction (7 pts.)	Lifetime energy savings (7 pts.)	Achievement of savings target (2 pts.)	Non-electric savings (2 pts.)	Total (54 pts.)	% of category
Duke OH	0	0	0	4	0	0	0	0	4	7%
Duke IN	1.5	0.5	0	0	1	0.5	0	0	3.5	6%
JCP&L	0	0	0	3.5	0	0	0	0	3.5	6%
Duke FL	0	0	0	2	0	0	0	0	2	4%
Entergy LA	0	0	0	2	0	0	0	0	2	4%
AEP OH	0	0	0	0	0	0	0	0	0	0%
AL Power	0	0	0	0	0	0	0	0	0	0%
FP&L	0	0	0	0	0	0	0	0	0	0%
OH Edison	0	0	0	0	0	0	0	0	0	0%

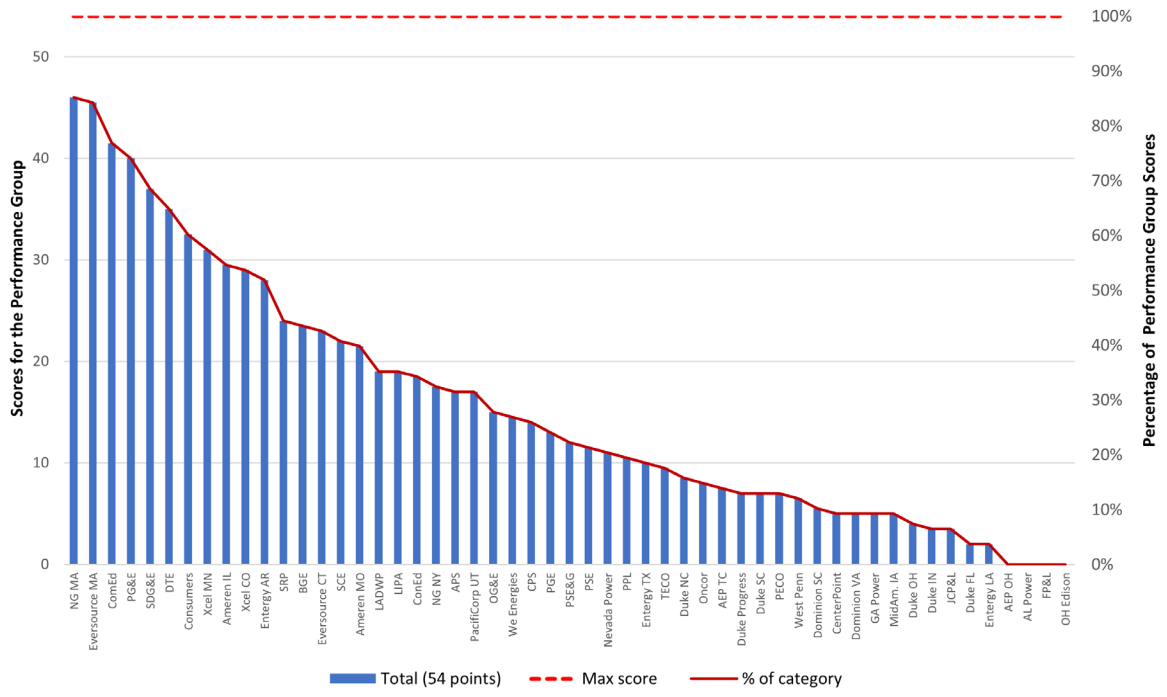

Figure 5. Distribution of Performance Group scores

Utilities could earn more than half of the *Scorecard*'s total possible points in the Performance Group. This group is the most heavily weighted in the *Scorecard* because energy and peak demand savings—and their associated benefits, including GHG emission reductions in most scenarios—are the primary benefit of energy efficiency portfolios. The group's results are a strong indicator of a utility's energy efficiency performance. National Grid MA and Eversource MA were the top two utilities in the Performance Group with 46 points and 45.5 points, respectively. No utilities earned more than 85% of the possible points in this category. ComEd was the only other utility to score more than 40 points. On average, utilities earned just 15.6 points. The top 10 utilities in this category include two from Massachusetts, two from Illinois, two from California, and two from Michigan. Xcel Minnesota and Xcel Colorado placed 8th and 10th in this category, respectively; both are operating companies of Xcel Energy.

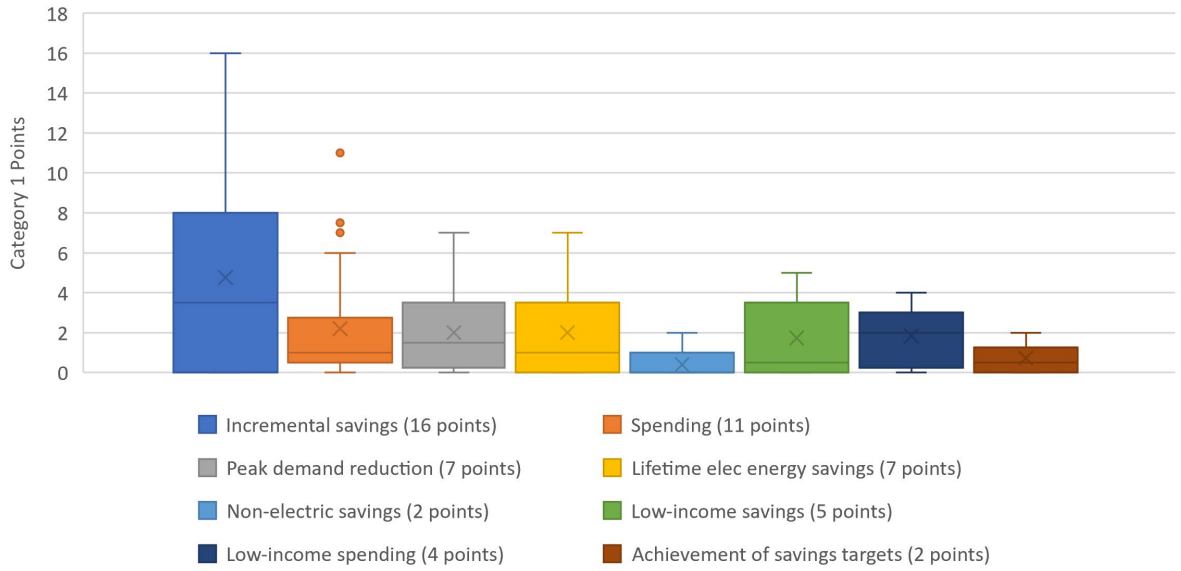

Figure 6. Box and whisker plot of scores in the Performance Group.[22] Each plot shows the maximum and minimum points achieved, the median (denoted by a line in the middle of the box), the mean (displayed as an "X"), and any outliers (the dots in the spending action category).

Figure 6 above is a box and whisker plot of the points distribution for all utilities in each action category. For most of the Performance Group's action category scores, the mean is greater than the median, meaning that a few utilities scored highly, which pushed the overall average up. The box and whisker plots also show that for some action categories, such as

[22] See Tableau 2023 for more information on box and whisker plots.

incremental savings or spending, 75% of the utilities score well below the maximum number of points available (i.e., 75% of utilities score 8 points or lower in the incremental net savings action category). These results indicate that performance for the group of utilities overall is lacking, but that a few utilities are performing much better than the others.

Incremental net savings as a percentage of retail sales is the most heavily weighted metric in the report, with 16 available points. We weigh net incremental savings heavily because it is the primary metric of success for energy efficiency portfolios in most states and is relatively easy to compare across utilities. Savings achievements are also awarded points in the peak demand savings, lifetime savings, low-income savings, and target achievement metrics. On average, the set of 53 evaluated utilities realized incremental net energy savings of 0.91% of retail sales in 2021. However, strong performance is not universal; 13 utilities attained savings of 0.25% or less. In contrast, SDG&E achieved energy savings of 3% and National Grid MA saved almost 2.3%. National Grid MA and Eversource MA led the group with more than 11% of utility revenue spent on energy efficiency programs in 2021. Those in the top nine in this metric all spent more than 3.4% of revenue on efficiency; on average, the figure was 2.23%.[23]

The low-income metrics assess annual low-income program savings per residential customer and spending on low-income programs as a percentage of total efficiency spending. While savings per customer is an important indicator of achievement, this metric represents a simplified approach. Ideally, savings would be normalized on the basis of the number of low-income customers in a utility's service territory, but these data are not readily available and are inconsistent due to varying definitions of "low-income," so we use residential customers instead to normalize low-income program savings. Low-income energy efficiency performance has increased since the last *Scorecard* edition. The 10 utilities that saved the most energy through low-income programs averaged approximately 34 kWh per residential customer, which is an increase of almost 36% from the previous edition of the *Scorecard*. Since that edition, total energy savings from low-income programs increased by 13%, and utilities used an average of approximately 12.8% of their efficiency spending on low-income programs.

One utility (SDG&E) earned full points for peak demand reduction. Notably, the top 10 for this metric included two California, two Massachusetts, and two Arizona utilities, indicating a supportive regulatory environment for peak demand reduction in these three states. Additionally, most of these utilities have high energy savings, which could contribute to high

[23] See Appendix D for spending data.

peak demand savings. On average, the 53 utilities reduced their peak demand by 0.71% in 2021.

Three utilities—SDG&E, PG&E, and Xcel MN—achieved more than 30% lifetime savings as a percentage of 2021 retail sales. The top 10 performers in this category have programs with a weighted average measure life of 12 years.[24] This is important because a focus on long-lasting energy efficiency measures can indicate that utilities are acting to optimize their portfolio to drive the market transformation needed to reach GHG reduction targets (Gold and Nowak 2019).

We evaluated each utility's progress toward its 2021 energy savings target. This metric is important, as research shows that targets drive energy efficiency performance, and that results surpassing the established target indicate that a utility has gone beyond its own expectations (Gold, Gilleo, and Berg 2019). However, it is also important to consider target stringency; utilities that surpassed their targets by the highest percentages also delivered some of the lowest overall savings. As in the 2020 *Scorecard,* our scoring in this edition considers the magnitude of the target to account for this effect. Notably, SDG&E saved more than twice its target, amounting to savings of 1.4% of sales, and NG MA achieved 92% of its target, equivalent to 2.5% of sales.

The final Performance Group metric is a new addition to the *Scorecard*. It awards points for utilities that track and report non-electric energy savings achieved from electric energy efficiency measures and energy savings achieved through electrification of fossil-fueled end uses. Only five utilities out of 53 received full points for tracking non-electric energy savings.

UTILITY SPOTLIGHTS: ENERGY EFFICIENCY PROGRAM PERFORMANCE

XCEL ENERGY (MINNESOTA)

Xcel Energy (Xcel MN) performed well in the Performance Group, ranking eighth overall and fourth in net incremental energy savings. The utility's 2021 program performance marked the 10th year in a row that it exceeded the state's energy targets. It also surpassed the state's new 1.75% electricity savings target (gross) established under the 2021 Energy Conservation and Optimization (ECO) Act, which made several reforms to strengthen efficiency programs and promote building electrification efforts. The company attributed the program portfolio's success to strong residential programs to address home energy efficiency at a time when many customers continued to spend more time at home amid the

[24] The average measure life for all utilities that reported one in EIA Form-861 is 11.67 years

COVID-19 pandemic, but also acknowledged that supply chain issues and workforce shortages were a challenge in 2021.

Xcel Energy was also the first major U.S. utility to announce, in 2018, that it would move to 100% carbon-free electricity by 2050. The utility added several new programs and offerings in 2021, including the following:

- Community Code Support, which is designed to improve code compliance via training and support for city code officials.
- Smart Water Heating Program, which offers customers with qualifying heat pump water heaters bill savings in exchange for allowing the utility to adjust settings on their water heaters. This adds to other residential demand response programs that the utility already offers for smart thermostats and air conditioners.
- CIP Workforce Development and Education (CIP-WDE) program, which began training its first cohort in 2022 to address workforce shortages.

In coordination with the Center for Energy and Environment and community partners, the CIP-WDE program will track and report workforce development training, internship and worker demographics, program progress, and outcomes in future annual status reports. Per regulatory requirements, the utility has also begun to take steps to better understand program impacts to underserved customers by including information on anticipated and actual low-income and renter customers' participation levels in each program, and the number of buildings and units served by market-rate versus affordable housing for multifamily programs (Minnesota Department of Commerce 2020).

NATIONAL GRID (MASSACHUSETTS)

National Grid and Eversource, both located in Massachusetts, continued to lead many action categories in the Performance Group, supported by a state regulatory environment that has long prioritized utility-sector energy efficiency. This includes the 2008 Green Communities Act (GCA), which first established the state's EERS policy framework and required electric and gas utilities to pursue all cost-effective energy efficiency. Since the GCA's enactment, the state's utilities have continued to strengthen and evolve their portfolio of efficiency programs to deliver among the highest levels of savings in the United States. The state's 2021 climate legislation, An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, spurred further climate-forward program improvements by establishing GHG reduction targets for three-year utility efficiency plans and directing increased investments toward heat pumps and home energy retrofits.

National Grid ranked first in the Performance Group, and it delivered the second highest levels of electric savings as a percentage of sales in 2021, leading all other northeast utilities in this year's Scorecard.

As part of its plan to achieve net zero GHG emissions by 2050, National Grid has introduced various new strategies and programs. In 2022, the Department of Public Utilities (DPU) approved the utility's Geothermal Program Implementation Plan intended to deliver networked geothermal energy systems that provide efficient space heating and cooling to commercial and residential customers connected to the same system as an alternative to natural gas and prioritizing low-income and environmental justice communities (National Grid 2022a). Also this year, the utility released its Clean Energy Vision, outlining plans to eliminate fossil fuel from its gas networks and replace it with renewable natural gas (RNG) and green hydrogen, while maximizing energy efficiency and helping customers electrify their heat (National Grid 2022b).

We now review each Performance Group metric in greater detail.

INCREMENTAL SAVINGS: NET SAVINGS AS A PERCENTAGE OF RETAIL SALES

With 16 possible points, incremental net savings as a percentage of retail sales is the metric with the highest point value. This metric evaluates the level of electric savings (MWh) achieved in 2021 from energy efficiency programs run by the utility in its territory. We used 2021 total retail sales data to calculate each utility's savings as a percentage of its total sales in order to normalize savings data across utilities of different sizes and in different regions. Table 7 shows the scoring for this metric.

Table 7. Scoring for net savings as a percentage of retail sales

Net savings as % of retail sales	Score	Net savings as % of retail sales	Score
3.00	16	1.29–1.35	7.5
2.42–2.99	15.5	1.22–1.28	7
2.36–2.41	15	1.15–1.21	6.5
2.29–2.35	14.5	1.08–1.14	6
2.22–2.28	14	1.01–1.07	5.5
2.15–2.21	13.5	0.94–1.00	5
2.07–2.14	13	0.87–0.93	4.5
2.00–2.06	12.5	0.80–0.86	4
1.93–1.99	12	0.73–0.79	3.5
1.86–1.92	11.5	0.66–0.72	3

Net savings as % of retail sales	Score	Net savings as % of retail sales	Score
1.79–1.85	11	0.58–0.65	2.5
1.72–1.78	10.5	0.51–0.57	2
1.65–1.71	10	0.44–0.50	1.5
1.58–1.64	9.5	0.37–0.43	1
1.51–1.57	9	0.30–0.36	0.5
1.44–1.50	8.5	<0.3	0
1.36–1.43	8		

We define incremental annual savings as the savings in program year 2021 from all the measures implemented under the programs in that year only. These are annualized or full-year savings, regardless of when measures were installed during the program year. The numbers we present here may not match the values that utilities report for spending and savings, as we adjusted savings data to be net at the generator level and removed demand response and renewable energy programs where applicable.[25] We adjusted gross savings using a net-to-gross ratio (NTGR) of 0.895 to make it comparable with net savings figures reported by other states.[26] We derived this NTGR based on the median NTGR values among those states that reported NTGRs.

Table 8 shows scores for net savings as a percentage of retail sales.

[25] We do not include any spending or savings data related to demand response and renewable energy in any metrics in this report. While we encourage integrated programs that combine efficiency with other distributed energy resources when the net benefits exceed the integration costs, we limited consideration of those programs to the chapter on energy efficiency program offerings (York, Relf, and Waters 2019). We may consider integrated energy efficiency and demand response programs in future editions.

[26] The net-to-gross ratio is an assessment of net versus gross savings. Net savings are changes in energy consumption attributable directly to a program, which may implicitly or explicitly include factors such as induced market effects, free ridership, and participant and nonparticipant spillover. Gross savings are changes in energy consumption attributable to a program from program participants regardless of why they participated (ACEEE 2017).

Table 8. Scores for net savings as a percentage of retail sales in 2021

Utility	Net incremental savings (MWh)	Savings as % of sales	Points	Utility	Net incremental savings (MWh)	Savings as % of sales	Points
SDG&E[b]	525,365	3.00%	16	Duke NC	467,245	0.76%	3.5
NG MA[a]	471,451	2.29%	14	Duke Progress[a]	294,689	0.75%	3.5
ComEd	1,967,714	2.17%	13.5	PSE[a]	178,309	0.73%	3
Xcel MN[a]	665,743	2.16%	13.5	OG&E[a]	179,154	0.68%	3
PG&E[ab]	1,816,873	2.14%	13	PECO[a]	233,423	0.60%	2.5
Eversource MA[a]	520,065	2.09%	13	CPS	119,613	0.50%	1.5
DTE	1,008,424	2.06%	12.5	Duke IN	142,044	0.49%	1.5
Consumers	715,458	1.86%	11	West Penn[a]	93,966	0.47%	1.5
SRP[a]	560,217	1.81%	11	PPL	182,053	0.45%	1.5
SCE[ab]	1,455,845	1.74%	10.5	We Energies	112,506	0.44%	1.5
Xcel CO	487,129	1.58%	9.5	MidAm. IA[a]	110,793	0.40%	1
LIPA[a]	295,034	1.49%	8.5	TECO[a]	77,762	0.37%	0.5
Entergy AR	318,701	1.38%	8	GA Power[a]	281,858	0.33%	0.5
NG NY	476,914	1.36%	8	Entergy TX	62,076	0.29%	0
Ameren IL	470,532	1.30%	7.5	Dominion SC	54,254	0.24%	0
BGE	398,933	1.29%	7.5	AEP TC[a]	69,340	0.24%	0
ConEd[a]	682,561	1.27%	7	CenterPoint[a]	221,698	0.22%	0
LADWP[a]	277,422	1.21%	6.5	Oncor[a]	281,495	0.20%	0
PacifiCorp UT[a]	310,586	1.14%	6	Dominion VA[a]	180,170	0.20%	0
Eversource CT	222,964	1.04%	5.5	Entergy LA	58,326	0.10%	0
Ameren MO	326,043	0.99%	5	Duke FL	41,967	0.10%	0
PSE&G	402,614	0.92%	4.5	JCP&L[a]	13,124	0.07%	0
APS[a]	284,795	0.91%	4.5	FP&L[a]	39,580	0.03%	0

Utility	Net incremental savings (MWh)	Savings as % of sales	Points	Utility	Net incremental savings (MWh)	Savings as % of sales	Points
Nevada Power[a]	205,889	0.84%	4	AL Power*[a]	5,366	0.01%	0
PGE[a]	178,133	0.84%	4	OH Edison*[a]	2,454	0.01%	0
Duke SC[a]	167,873	0.77%	3.5	Duke OH	225	0.00%	0
				Average		0.91%	

Savings are net at the generator level. We adjusted EIA retail sales data (shown in Table 1) for line loss factors to be consistent with the generator-level reporting of savings. See Appendix D for meter-level savings and loss factors. *Savings from EIA (2022a). [a]We adjusted the gross portion by an NTGR of 0.895 (the median of NTGRs reported by utilities for 2021 savings). [b]Savings data for California's IOUs (SDG&E, PG&E, and SCE) were obtained from the Californa Public Utilities Commission during ACEEE's 2022 State Energy Efficiency Scorecard data request process.

SDG&E earned 16 points as the top performer, with savings of 3%. NG MA was the next highest, at 2.29% savings. On average, the utilities achieved savings of 0.91% of retail sales. Of the 53 utilities, 20, or 37%, reached savings of 1% or higher.

Eleven utilities achieved savings levels higher than 1.50% in 2021, compared with 13 utilities in 2018. The overall group average decreased by 0.12 percentage points since 2018. SDG&E, NG MA, ComEd, Xcel MN, PG&E, Eversource MA, SRP, and SCE all remained in the top 10 spots for net incremental savings. They were joined by DTE and Consumers in this edition, and BGE and LADWP fell out of the top 10. SDG&E increased its savings by 0.65% of retail sales, the largest increase of the group.

SPENDING AS A PERCENTAGE OF TOTAL REVENUE

Utilities could earn up to 11 points for energy efficiency program spending. This is a critical indicator of a utility's commitment to energy efficiency; higher levels of spending indicate significant investment in program administration and evaluation. However, spending is weighted less heavily than savings achievements, which are considered in multiple metrics in this report. Total spending includes all direct spending on energy efficiency programs, which may include direct incentives and technical services to customers; program administration, marketing, planning, and delivery; evaluation, measurement, and verification (EM&V); and education.[27] Total spending also includes utility performance incentives, as these are

[27] We do not include any spending or savings data related to demand response and renewable energy in any metrics in this report. While we encourage integrated programs that combine efficiency with other distributed

customer funded. Appendix B provides more detail on performance incentive costs. To compare spending across utilities of different sizes, we calculated spending as a percentage of total utility revenue from retail sales.[28]

Table 9 shows scoring for spending as a percentage of total revenue.

Table 9. Scoring for spending as a percentage of revenue

Spending as % of revenue	Score	Spending as % of revenue	Score
9.00+	11	4.60–4.99	5.5
8.60–8.99	10.5	4.20–4.59	5
8.20–8.59	10	3.80–4.19	4.5
7.80–8.19	9.5	3.40–3.79	4
7.40–7.79	9	3.00–3.39	3.5
7.00–7.39	8.5	2.60–2.99	3
6.60–6.99	8	2.20–2.59	2.5
6.20–6.59	7.5	1.80–2.19	2
5.80–6.19	7	1.40–1.79	1.5
5.40–5.79	6.5	1.00–1.39	1
5.00–5.39	6.0	0.60–0.99	0.5

energy resources when the net benefits exceed the integration cost, we limited consideration of those programs to the chapter on energy efficiency program offerings (York, Relf, and Waters 2019). We may include integrated energy efficiency and demand response programs in additional metrics in future editions.

[28] Revenue from retail sales does not include wholesale power sales.

Table 10 shows scores for spending as a percentage of total revenue.

Table 10. Scores for spending as a percentage of revenue in 2021

Utility	Spending	Spending as % of revenue	Points	Utility	Spending	Spending as % of revenue	Points
NG MA	$294,739,379	11.99%	11	Duke Progress	$49,760,808	1.39%	1
Eversource MA	$309,667,826	11.71%	11	SCE[a]	$179,991,049	1.34%	1
ComEd	$351,101,993	6.49%	7.5	CPS	$29,468,025	1.29%	1
Ameren IL	$99,280,781	6.04%	7	Nevada Power	$25,061,682	1.22%	1
Eversource CT	$156,985,073	5.17%	6	Duke SC	$20,110,905	1.22%	1
BGE	$109,324,264	5.15%	6	Oncor	$45,870,901	1.22%	1
PSE	$82,906,365	3.50%	4	ConEd	$104,347,765	1.21%	1
Consumers	$161,737,103	3.45%	4	APS	$41,807,441	1.19%	1
PGE	$70,302,780	3.45%	4	Duke NC	$55,986,079	1.19%	1
Xcel MN	$109,504,882	3.25%	3.5	SDG&E[a]	$45,422,499	1.19%	1
DTE	$181,137,870	3.23%	3.5	MidAm. IA	$21,889,000	1.13%	1
PacifiCorp UT	$62,067,389	2.95%	3	CenterPoint	$36,987,985	1.00%	0.5
Entergy AR	$49,691,064	2.64%	3	Duke IN	$26,682,558	0.97%	0.5
LADWP	$107,297,471	2.59%	2.5	Dominion SC	$20,528,634	0.81%	0.5
Xcel CO	$76,193,395	2.50%	2.5	TECO	$17,061,275	0.80%	0.5
PECO	$54,820,000	2.46%	2.5	Dominion VA	$53,627,751	0.73%	0.5
Ameren MO	$70,244,926	2.45%	2.5	GA Power	$53,034,373	0.63%	0.5
PSE&G	$98,931,397	2.36%	2.5	Entergy TX	$7,416,208	0.45%	0
PPL	$44,846,355	2.22%	2.5	JCP&L	$7,388,000	0.43%	0
PG&E[a]	$328,442,954	2.21%	2.5	FP&L*	$33,432,986	0.29%	0
NG NY	$58,447,003	2.19%	2	Entergy LA	$9,230,062	0.21%	0
We Energies	$57,333,657	1.97%	2	Duke FL	$8,648,688	0.19%	0
LIPA	$74,960,000	1.93%	2	OH Edison*	$2,506,117	0.18%	0

Utility	Spending	Spending as % of revenue	Points	Utility	Spending	Spending as % of revenue	Points
OG&E*	$34,394,489	1.66%	1.5	AL Power*	$1,470,851	0.03%	0
West Penn	$13,914,700	1.51%	1.5	Duke OH	$41,537	0.00%	0
AEP TC	$14,111,247	1.46%	1.5	AEP OH	—	0.00%	0
SRP*	$40,942,000	1.39%	1	Average		2.23%	

***Where 2021 spending was not directly available from utilities, we used EIA (2022b) data. [a]Spending data for California's IOUs (SDG&E, PG&E, and SCE) were obtained from the Californa Public Utilities Commission during ACEEE's 2022 State Energy Efficiency Scorecard data request process.**

NG MA and Eversource MA earned a full 11 points, with both spending more than 11% of their respective revenue on energy efficiency programs. On average, utilities spent 2.23% of their revenue on energy efficiency. Much more variability exists in spending levels among the top performers than among those lower on the list. The top 10 utilities' energy efficiency spending ranged from less than 3.3% to nearly 12%—a difference of 8.7 percentage points—while the rest of the utilities all fell below 3.3%. It is important to note that some states have implemented energy efficiency spending caps for utilities that limit cost-effective savings opportunities.[29]

In this *Scorecard* edition, 27 utilities earned 1 point or less for spending in 2021 compared with 17 utilities in 2018, and the overall group average fell by 0.35 percentage points, from 2.58% to 2.23% of revenue spent on energy efficiency programs. Eversource MA and Eversource CT increased their spending the most, by 2.53 and 1.58 percentage points, respectively. Spending by NG NY, MidAm. IA, and Duke OH all fell by more than 2.5% of revenue.

LOW-INCOME PROGRAM SAVINGS AND SPENDING

Utility programs are an important pathway to delivering the benefits of energy efficiency to low-income customers. By reducing energy bills, utility programs can help provide much needed energy affordability, particularly to low-income customers who often face disproportionately high energy burdens. Low-income customers also experience many barriers to participating in energy efficiency programs; these barriers include lack of capital

[29] For example, Pennsylvania limits utility spending on customer energy efficiency programs to 2% of the electric distribution company's total annual revenue (Pennsylvania PUC 2023), and Iowa enacted legislation in 2018 imposing a restrictive spending cap (Berg et al. 2020).

or credit, housing conditions that require repair prior to weatherization, lack of trust of energy efficiency program administrators, and competing life priorities (Hayes et al. 2022).

To assess utility performance in administering low-income energy efficiency programs, we collected savings and spending data (mainly from utility contacts) on programs that target low- or limited-income customers. Utilities use varying definitions of "low income" and "limited income,"[30] and they may employ different methods of calculating qualifying incomes or include different types of customers such as age-qualifying or commercial customers. These differences limit our ability to directly compare utility performance in this area and further demonstrate the importance of all utilities using a robust, evidence-based, and context-specific definition of "low-income" and "limited income."

In this *Scorecard*, utilities could earn up to 5 points for savings achieved per residential customer.[31] While achieved savings demonstrate the actual performance of low-income programs, it is important to consider spending as well, so utilities could also earn up to 4 points for spending on low-income energy efficiency programs. A 2019 ACEEE evaluation of utility low-income programs found that these programs need more investment and bigger budgets to ensure that low-income customers are not underserved (Morales and Nadel 2022).

Low-income programs are not always deemed cost effective when using cost-effectiveness tests that do not capture the full range of health, safety, and environmental benefits. In fact, these programs are often exempted by the state's utility regulatory commission from cost-effectiveness screening, or they go through alternative cost-effectiveness tests that better account for non-energy and other benefits that low-income programs provide (Subramanian et al. 2022). Some dwellings also require health and safety repairs before participating in weatherization or energy efficiency programs. Comprehensive low-income programs that address the whole building envelope require more resources than lower-cost direct install programs, yet they achieve more energy savings and other benefits for customers (Morales and Nadel 2022). Therefore, spending can be one indicator of a robust program.

We used EIA data to determine the total number of residential customers that a utility serves to normalize low-income savings figures across utilities. Ideally, these figures would be normalized on the basis of the number of low-income customers in a utility's service territory, but these data are not readily available and are inconsistent due to varying

[30] Appendix A of a 2022 ACEEE report provides eligibility criteria for low-income energy efficiency programs offered by electric utilities that serve the 100 largest metro areas in the country (Morales and Nadel 2022).

[31] In this report, low-income programs do not include bill assistance programs.

definitions of "low income."[32] Additionally, we normalized low-income spending by assessing the percentage of total spending (defined in our efficiency program spending metric) that went to low-income programs. This also poses certain challenges, including differences in how utilities attribute the costs of administering low-income programs. We also found that some high-scoring utilities in the low-income spending action category had low annual net electricity savings as a percentage of their retail sales (less than 0.5%) and/or had low overall energy efficiency program budgets.[33] For these utilities, scoring highly is not necessarily indicative of a robust commitment to low-income programs. In future *Utility Scorecards*, we will aim to scrutinize these programs further to ensure that utilities are making meaningful progress toward supporting energy efficiency for low-income customers.

Table 11 shows the scoring criteria for these action categories.

Table 11. Scoring for low-income savings and spending

Low-income kWh savings per residential customer	Score	Low-income spending as % of total spending	Score
13+	5	25+	4
11.78–12.99	4.5	20–24.99	3.5
10.56–11.77	4	13–19.99	3
9.33–10.55	3.5	9–12.99	2.5
8.11–9.32	3	7–8.99	2
6.89–8.10	2.5	5–6.99	1.5
5.67–6.88	2	4–4.99	1
4.44–5.66	1.5	3–3.99	0.5
3.22–4.43	1	0–2.99	0
2.00–3.21	0.5	—	—
0–1.99	0	—	—

Table 12 shows the scores for low-income savings and spending.

[32] Table 5 in a 2022 ACEEE report estimates the number of low-income customers for electric and natural gas utilities that serve the 100 largest metro areas in the United States (Morales and Nadel 2022).

[33] Duke OH, We Energies, Oncor, JCP&L, Entergy TX, Dominion VA, AEP TC, PPL, and CenterPoint.

Table 12. Scores for low-income program savings and spending in 2021

Utility	Annual low-income electric savings (MWh)	Low-income savings per residential customer (kWh)	Savings per customer points	Low-income spending	Low-income spending as a % of total spending	% spending on low-income points	Total low-income points
We Energies	176,199	171.80	5	$33,948,588	59.21%	4.0	9
PG&E	68,104	13.76	5	$81,556,000	24.83%	3.5	8.5
Entergy TX	5,164	12.23	4.5	$1,645,556	22.19%	3.5	8
Ameren IL	18,152	17.08	5	$19,218,876	19.36%	3.0	8
OG&E	13,224	19.22	5	$6,077,350	17.67%	3.0	8
SCE	46,070	10.23	3.5	$81,222,072	45.13%	4.0	7.5
CPS	7,413	9.35	3.5	$10,342,293	35.10%	4.0	7.5
NG MA	15,413	13.05	5	$29,876,826	10.14%	2.5	7.5
Eversource MA	17,987	14.33	5	$30,567,314	9.87%	2.5	7.5
ComEd	95,340	25.77	5	$34,201,923	9.74%	2.5	7.5
DTE	22,957	11.27	4	$24,322,316	13.43%	3.0	7
Consumers	29,991	18.26	5	$14,493,194	8.96%	2.0	7
Entergy AR	8,315	13.73	5	$3,652,787	7.35%	2.0	7
Oncor	25,446	7.81	2.5	$12,174,689	26.54%	4.0	6.5
Xcel CO	42,487	32.32	5	$4,293,738	5.64%	1.5	6.5
Ameren MO	10,009	9.29	3	$ 8,425,671	11.99%	2.5	5.5
AEP TC	5,337	6.55	2	$2,773,491	19.65%	3.0	5
PPL	8,025	6.28	2	$5,950,513	13.27%	3.0	5
Eversource CT	6,781	5.87	2	$9,925,766	12.69%	2.5	4.5
Duke OH	225	0.34	0	$41,537	100.00%	4.0	4
CenterPoint	8,579	3.67	1	$4,851,253	13.12%	3.0	4
TECO	5,947	8.34	3	$790,505	4.63%	1.0	4
JCP&L	350	0.34	0	$1,736,000	23.50%	3.5	3.5

Utility	Annual low-income electric savings (MWh)	Low-income savings per residential customer (kWh)	Savings per customer points	Low-income spending	Low-income spending as a % of total spending	% spending on low-income points	Total low-income points
Dominion VA	1,352	0.59	0	$10,776,948	20.10%	3.5	3.5
APS	3,205	2.72	0.5	$7,979,215	19.09%	3.0	3.5
West Penn	2,152	3.41	1	$1,521,510	10.93%	2.5	3.5
Dominion SC	3,779	5.69	2	$1,432,317	6.98%	1.5	3.5
SDG&E	1,701	1.29	0	$7,762,167	17.09%	3.0	3
BGE	3,563	2.99	0.5	$11,547,075	10.56%	2.5	3
GA Power	11,718	5.06	1.5	$3,187,734	6.01%	1.5	3
ConEd	23,267	7.91	2.5	$3,736,654	3.58%	0.5	3
Nevada Power	1,273	1.46	0	$2,130,247	8.50%	2.0	2
Duke FL	903	0.53	0	$716,470	8.28%	2.0	2
Entergy LA	1,577	1.65	0	$717,603	7.77%	2.0	2
Duke SC	673	1.27	0	$1,224,149	6.09%	1.5	1.5
Duke NC	1,872	1.03	0	$3,407,192	6.09%	1.5	1.5
PacifiCorp UT	4,309	4.90	1.5	$1,713,822	2.76%	—	1.5
PSE&G	2,613	1.31	0	$4,486,159	4.53%	1.0	1
PECO	4,818	3.18	0.5	$2,192,000	4.00%	0.5	1
LADWP	3,397	2.49	0.5	$3,420,486	3.19%	0.5	1
LIPA	1,892	1.85	0	$2,424,077	3.23%	0.5	0.5
SRP	2,840	2.87	0.5	$1,050,149	2.56%	—	0.5
MidAm. IA	460	0.75	0	$526,447	2.41%	—	0
PSE	1,120	1.06	0	$1,744,533	2.10%	—	0
FP&L	4,683	1.01	0	$670,000	2.00%	—	0
Xcel MN	1,387	1.17	0	$2,191,944	2.00%	—	0
Duke IN	293	0.39	0	$371,653	1.39%	—	0

Utility	Annual low-income electric savings (MWh)	Low-income savings per residential customer (kWh)	Savings per customer points	Low-income spending	Low-income spending as a % of total spending	% spending on low-income points	Total low-income points
Duke Progress	688	0.55	0	$571,378	1.15%	—	0
PGE	603	0.75	0	$307,174	0.44%	—	0
AEP OH	—	—	0	—	0.00%	—	0
OH Edison	—	—	0	—	0.00%	—	0
AL Power	—	—	0	—	0.00%	—	0
NG NY	—	—	0	—	0.00%	—	0

Savings are net at the generator level, calculated with the same NTGR values used for the incremental savings we calculated earlier. Residential customer data are from EIA (2022b). Blanks indicate no data were found.

Two utilities—We Energies and PG&E—earned full points for both the low-income savings and spending metrics. On average, utilities reported 9.2 kWh of low-income energy savings per residential customer and spent about 12.8% of total energy efficiency program funds on low-income programs. However, the medians for both of these categories are lower: 3.2 kWh per residential customer, and 8.3% spending on low-income programs. Notably, We Energies saved 172 kWh per residential customer and Xcel CO saved 32 kWh per residential customer through their programs for low-income customers. We Energies spent almost 60% of its total expenditures on low-income programs, while SCE devoted 45% to low-income programs. We were unable to locate low-income savings and spending data for some utilities, which indicates either a lack of publicly available data or that the utility does not offer an income-based program.

PEAK DEMAND REDUCTION AS A PERCENTAGE OF TOTAL PEAK DEMAND

While our primary focus here is energy savings, peak demand reduction is also an important aspect of utility-sector energy efficiency programs. Reducing peak demand provides multiple benefits to both the utility and the customer. Utilities avoid higher peak period supply costs that must be recovered from customers, and they may also be able to avoid or defer costly investment in new power plants and transmission and distribution infrastructure that would otherwise be needed to meet future peak demand (Specian, Cohn, and York 2021). The growth of solar generation can create more distinct late-day net load peaks (e.g.,

the "Duck Curve"),[34] which further increases the importance of deploying energy efficiency to meet time-specific system needs. Although this metric partly captures the time value of energy efficiency, future editions may credit programs that more explicitly target efficiency for its time value.

We focus on peak demand reductions from energy efficiency rather than from demand response programs. While demand response initiatives provide added reductions during peak periods and complement the benefits of efficiency, demand response typically shifts demand rather than reducing overall consumption. Without additional policies—such as performance incentives—in place, utilities are more likely to undertake demand response programs, which do not decrease sales. We collected peak demand savings for the peak periods defined by each utility. These periods vary widely across utilities and jurisdictions and may be defined as coincident with the utility's own peak demand or with the broader system or region's peak demand (Mims Frick et al. 2019).[35]

In this *Scorecard*, utilities could earn up to 7 points for peak demand reduction from energy efficiency as a percentage of total peak demand in 2021. Table 13 shows the scoring breakdown, and Table 14 shows the utility scores for peak demand reduction.

Table 13. Scoring for peak demand reduction

Peak demand reduction as a % of total peak demand	Score	Peak demand reduction as a % of total peak demand	Score
2 or greater	7	0.92–1.05	3
1.87–1.99	6.5	0.79–0.91	2.5
1.73–1.86	6	0.65–0.78	2
1.6–1.72	5.5	0.52–0.64	1.5
1.46–1.59	5	0.38–0.51	1

[34] The Duck Curve, first published in 2013 by the California Independent System Operator, is a chart visualizing the net load (difference between electricity demand and solar generation) in a 24-hour period. The Duck Curve shows that electricity demand is low during the day when solar generation is high and then rapidly peaks in the evening as the sun goes down (Jones-Albertus 2017).

[35] "Broader system" in this case refers to utilities that are part of an independent system operator or regional transmission organization. To learn more about how utilities define peak periods, see table B-3 in (Mims Frick et al. 2019).

Peak demand reduction as a % of total peak demand	Score	Peak demand reduction as a % of total peak demand	Score
1.33–1.45	4.5	0.25–0.37	0.5
1.19–1.32	4	0–0.24	0
1.06–1.18	3.5		

Table 14. Scores for peak demand reduction

Utility	Peak savings (MW)	Peak savings as % of total peak demand	Points	Utility	Peak savings (MW)	Peak savings as % of total peak demand	Points
SDG&E	101.5	2.63%	7	OG&E[a]	28.0	0.47%	1
PG&E	340.8	1.87%	6	ConEd	56.3	0.47%	1
SRP	138.4	1.81%	6	We Energies	22.1	0.42%	1
Eversource MA	73.6	1.63%	5.5	Duke Progress	52.2	0.41%	1
Ameren MO	107.8	1.55%	5	Duke IN	23.4	0.41%	1
APS	116.6	1.54%	5	AEP TC	19.4	0.40%	1
NG MA	69.9	1.51%	5	TECO	17.1	0.39%	1
Xcel MN	112.4	1.49%	5	PPL	27.8	0.38%	0.5
ComEd	303.5	1.43%	4.5	PSE&G	34.5	0.34%	0.5
DTE	148.1	1.35%	4.5	Oncor	86.1	0.32%	0.5
Consumers	92.3	1.25%	4	Dominion SC	14.7	0.32%	0.5
Xcel CO	82.0	1.19%	3.5	GA Power	47.6	0.29%	0.5
BGE	75.0	1.16%	3.5	CenterPoint	53.9	0.29%	0.5
Entergy AR	53.3	1.14%	3.5	West Penn[a]	9.3	0.24%	0
LIPA	52.6	1.01%	3	PECO	19.9	0.23%	0
CPS	43.4	0.88%	2.5	SCE	41.2	0.20%	0
Ameren IL	71.8	0.86%	2.5	Duke FL	13.4	0.14%	0

Utility	Peak savings (MW)	Peak savings as % of total peak demand	Points	Utility	Peak savings (MW)	Peak savings as % of total peak demand	Points
LADWP	41.5	0.85%	2.5	Entergy LA	9.8	0.10%	0
PacifiCorp UT	44.8	0.84%	2.5	Dominion VA	13.7	0.08%	0
NG NY	54.7	0.82%	2.5	FP&L[a]	18.7	0.08%	0
PSE	32.1	0.77%	2	AL Power[a]	5.1	0.05%	0
PGE	33.5	0.75%	2	JCP&L	1.3	0.02%	0
Eversource CT	36.2	0.73%	2	OH Edison[a]	0.3	0.01%	0
Nevada Power	41.4	0.66%	2	Duke OH	0.0	0.00%	0
MidAm. IA	34.2	0.65%	2	Duke SC*	34.5	0.00%	0
Entergy TX	22.3	0.60%	1.5	AEP OH	0.0	0.00%	0
Duke NC	95.9	0.55%	1.5	Average		0.71%	

Total peak demand data are from EIA (2022b). *We were unable to find total peak demand data for Duke SC. Savings are net at the generator level. We adjusted total peak demand figures for line loss factors to be consistent with the generator-level reporting of savings. See Appendix D for meter-level savings and loss factors. [a]Peak demand savings data are from EIA (2022a).

SDG&E earned full points for this metric, with more than 2.63% demand savings as a percentage of peak demand. The average peak demand reduction from energy efficiency was 0.71% of total peak demand. The median, however, was only 0.55%, indicating that the top-performing utilities are bringing up the group average. Twenty-three utilities achieved savings above the group's average, 13 utilities at the bottom achieved very small savings and earned no points, and we lacked peak demand data for one utility. Overall, average peak demand savings decreased, from 0.81% to 0.71%, since the previous *Scorecard*.

NET LIFETIME SAVINGS AS A PERCENTAGE OF TOTAL SALES

Lifetime savings are an important indicator of a utility's investment in long-term energy efficiency. Higher net lifetime savings indicate that the measures installed or programs run by the utility will continue to provide savings over a longer useful life. Addressing climate change requires continued savings. Focusing on long-term energy savings allows utilities to include energy efficiency as a low-carbon resource in the time frame of other investments, such as physical infrastructure, in their future planning processes (Gold and Nowak 2019).

Many utilities do not report on lifetime savings or measure lives.[36] Our research finds that most utilities and program administrators have goals and incentives focused on first-year savings, which leads to an emphasis on programs with low costs on a first-year basis (Gold and Nowak 2019). Some do focus more heavily on long-life measures, however. For example, New York's Deeper Energy Efficiency Lifetime Savings performance incentive encourages ConEd to value long-term savings by incentivizing complex and deeper energy efficiency projects. ConEd earned $4.3 million by exceeding the lifetime savings target by 1% (ConEd 2021a).

Methodologies for calculating measure lives for technologies and programs vary across utilities. We relied on annual reports, other filings, and data requests for lifetime savings. For any utilities that did not provide lifetime savings data, we used EIA data on the weighted average useful life to multiply with net annual savings.

Utilities could earn up to 7 points for net lifetime savings as a percentage of 2021 retail sales. In the future, we may increase the available points for this metric to reflect its importance in achieving deep energy savings. We present net lifetime savings data as a percentage of retail sales to allow comparison across utilities of different sizes. Table 15 shows the scoring for this metric.

Table 15. Scoring for net lifetime savings as a percentage of retail sales

% of retail sales	Score
30+	7
28–29.99	6.5
26–27.99	6.0
24–25.99	5.5
22–23.99	5.0
20–21.99	4.5
18–19.99	4.0
16–17.99	3.5
14–15.99	3.0
12–13.99	2.5

[36] Measure lives refers to the duration of energy efficiency measures.

% of retail sales	Score
10–11.99	2.0
8–9.99	1.5
6.00–7.99	1.0
4.00–5.99	0.5
0	0.0

Table 16 shows the scores for net lifetime savings as a percentage of retail sales.

Table 16. Scores for net lifetime savings in 2021

Utility	Weighted average measure life	Net lifetime savings as % of sales	Points	Utility	Weighted average measure life	Net lifetime savings as % of sales	Points
SDG&E	13.37	47.02%	7	CPS	12.92	6.71%	1
PG&E	12.73	32.29%	7	PPL	13.05	6.64%	1
Xcel MN	16.25	31.11%	7	MidAm. IA	14.35	6.14%	1
ComEd	10.64	25.46%	5.5	We Energies	13.35	6.13%	1
Xcel CO	14.51	24.41%	5.5	Duke Progress	9.38	6.00%	1
Consumers	10.83	22.38%	5	Duke SC	7.68	5.61%	0.5
Eversource MA	9.31	22.37%	5	Duke NC	7.68	5.49%	0.5
Entergy AR	15.44	21.27%	4.5	GA Power	10.17	5.16%	0.5
DTE	10.41	20.68%	4.5	PECO*	12.00	4.45%	0.5
NG MA	6.56	20.54%	4.5	Duke IN	8.42	4.03%	0.5
LADWP	12.72	18.22%	4	West Penn*	10.63	3.85%	0
Ameren IL	12.98	17.22%	3.5	Entergy TX	11.86	3.75%	0
SRP*	8.73	16.73%	3.5	CenterPoint	15.28	3.52%	0
NG NY	11.04	16.03%	3.5	Dominion SC	11.59	2.79%	0
PacifiCorp UT	9.14	14.84%	3	Oncor*	12.46	2.69%	0

Utility	Weighted average measure life	Net lifetime savings as % of sales	Points	Utility	Weighted average measure life	Net lifetime savings as % of sales	Points
Ameren MO	15.11	14.68%	3	AEP TC	12.64	2.57%	0
PSE&G	12.91	12.94%	2.5	Dominion VA	10.65	1.96%	0
PGE	12.85	12.32%	2.5	Entergy LA	15.81	1.63%	0
APS	12.88	12.31%	2.5	SCE	6.07	1.37%	0
TECO	20.00	12.09%	2.5	Duke FL	12.96	1.30%	0
ConEd	9.06	12.06%	2.5	JCP&L	11.31	0.70%	0
LIPA	14.24	11.41%	2	FP&L	11.86	0.42%	0
Eversource CT	10.34	11.26%	2	OH Edison*	10.03	0.11%	0
PSE	13.75	10.12%	2	AL Power*	14.10	0.04%	0
Nevada Power	10.02	8.81%	1.5	Duke OH*	7.16	0.01%	0
BGE	6.02	8.32%	1.5	AEP OH	—	0.00%	0
OG&E*	11.78	7.06%	1	Average		10.70%	

Savings are net at the generator level. We adjusted EIA retail sales data (shown in Table 1) for line loss factors to be consistent with the generator-level reporting of savings. See Appendix D for meter-level savings and loss factors. *In some cases, we used EIA data (EIA 2022a) on incremental life cycle savings. [a]EIA (2022a) includes data on sector-level weighted average measure life (WAML). We calculated a portfolio-wide WAML for each utility using the weighted average based on the amount of savings in each sector.

There is a large variation in the savings achieved in this metric, with a difference of more than 47 percentage points between the top and bottom performers. The average achieved net lifetime savings was 10.7% of retail sales, and the median was 7.06%. Sixteen utilities earned no points, while only three earned the full 7 points, showing a substantial opportunity to achieve deeper, longer-lived savings. Ten utilities had lifetime savings of more than 20% of sales, and SDGE&E, PG&E, and Xcel MN all topped 30%.

SDG&E and PG&E increased their lifetime savings the most since 2018, by almost 18% and 13.3% of retail sales, respectively. SCE decreased its lifetime savings by more than 15 percentage points. The average lifetime savings decreased by only about 0.69% of retail sales from 2018 to 2021.

2021 ENERGY SAVINGS TARGET ACHIEVEMENT

Energy efficiency targets are an effective tool for encouraging higher levels of energy savings by utilities (Gold, Gilleo, and Berg 2019; Molina and Kushler 2015). They provide long-term market signals for utilities to invest in energy efficiency. In some states, utilities are further encouraged to meet their targets through the opportunity to earn monetary performance incentives aligned with target achievement (Sergici and Irwin 2019). While many targets are driven by state or regulatory commission directives, others are utility specific. We used targets as reported by utilities in the data request and confirmed them through a review of their filings. We adjusted targets to be net at the generator level using line loss factors and NTGRs, as we did for other metrics. While there is overlap, we considered utility-specific targets instead of mandated targets, and therefore this metric is not a review of EERS.[37]

In the 2017 *Scorecard,* we found that the utilities achieving the highest percentage of their target had some of the lowest targets among the group and were receiving points for achieving less ambitious targets than other utilities. Some regulatory and performance incentive structures may encourage savings achievement by rewarding utilities that exceed their target by a large margin; for example, Massachusetts historically has awarded its maximum incentive at 125% of target achievement or greater (Mass Save 2021). In the *2020 Scorecard,* we indexed target achievement to the magnitude of the target itself. We continue to use this method in this edition of the *Scorecard* to reward utilities that achieve a high percentage of more challenging targets.

To index the scores, we multiplied the utility's achieved savings by the percentage of its target achieved, then normalized those values by dividing them by total sales. For example, a utility that achieved 10 MWh of savings with 1,000 MWh of total sales and a target of 6.67 MWh would have an indexed achievement of 1.5%:

(10 MWh savings achieved * 150% of target achieved)/1,000 MWh sales = 1.5%

Table 17 shows how points were awarded for this metric.

[37] For more information on EERS, see aceee.org/topics/energy-efficiency-resource-standard-eers.

Table 17. Scoring for achievement toward 2021 energy savings target

Energy savings target achievement, indexed to magnitude of target (%)	Score
2.0+	2.0
1.5–1.99	1.5
1.0–1.49	1.0
0.5–0.99	0.5
0–0.49, no target	0.0

Table 18 shows scores for the percentage achievement of an energy target.

Table 18. Scores for percentage achievement of 2021 energy target, indexed to target as a percentage of sales

Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points	Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points
SDG&E	244,071	215%	6.46%	2.0	PGE	214,220	83%	0.69%	0.5
ComEd	1,171,560	168%	3.64%	2.0	Duke NC	553,639	84%	0.64%	0.5
PG&E	1,077,000	169%	3.61%	2.0	Duke SC	203,363	83%	0.64%	0.5
SCE	1,035,924	141%	2.44%	2.0	Entergy TX	29,328	212%	0.62%	0.5
SRP	466,847	120%	2.18%	2.0	PSE	219,424	81%	0.59%	0.5

Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points	Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points
Xcel MN	665,735	100%	2.16%	2.0	PECO	247,377	94%	0.57%	0.5
DTE	976,935	103%	2.13%	2.0	CPS	119,612	100%	0.50%	0.5
NG MA	511,669	92%	2.11%	2.0	West Penn	90,386	104%	0.48%	—
ConEd	420,520	162%	2.06%	2.0	AEP TC	34,653	200%	0.48%	—
Eversource MA	549,906	95%	1.97%	1.5	Duke FL	8,950	469%	0.47%	—
NG NY	331,412	144%	1.96%	1.5	CenterPoint	105,571	210%	0.45%	—
Consumers	724,852	99%	1.83%	1.5	PPL	215,845	84%	0.38%	—
Xcel CO	500,000	97%	1.54%	1.5	Duke IN	191,717	74%	0.36%	—
TECO	19,059	408%	1.50%	1.0	Oncor	156,559	180%	0.35%	—
Entergy AR	310,640	103%	1.42%	1.0	MidAm. IA	164,796	67%	0.27%	—
LIPA	314,419	94%	1.39%	1.0	GA Power	400,342	70%	0.23%	—
BGE	369,766	108%	1.39%	1.0	Dominion SC	99,357	55%	0.13%	—
PacifiCorp UT	261,198	119%	1.36%	1.0	Entergy LA	45,763	127%	0.13%	—
Ameren IL	465,091	101%	1.32%	1.0	FP&L	55,800	71%	0.02%	—

Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points	Utility	2021 target (MWh)	% of target achieved	% of target achieved indexed to target as a % of sales*	Points
Eversource CT	190,441	117%	1.22%	1.0	Dominion VA	—	0%	0.00%	—
PSE&G	317,612	127%	1.16%	1.0	AL Power	—	0%	0.00%	—
LADWP	350,214	79%	0.96%	0.5	AEP OH	—	0%	0.00%	—
APS	285,799	100%	0.91%	0.5	We Energies	—	0%	0.00%	—
Ameren MO	355,211	92%	0.91%	0.5	OH Edison	—	0%	0.00%	—
Nevada Power	223,418	92%	0.78%	0.5	Duke OH	—	0%	0.00%	—
OG&E	165,745	108%	0.74%	0.5	JCP&L	—	0%	0.00%	—
Duke Progress	317,842	93%	0.70%	0.5					

***These data do not indicate actual savings as a percentage of sales; instead, they show the percentage of target achieved indexed to target as a percentage of sales. To view actual 2021 incremental utility savings, see Table 8. Savings and targets are net at the generator level. See Appendix D for meter-level savings and loss factors. Blanks indicate no data were found.**

Nine utilities earned full points for this metric, and almost half of the utilities (26) achieved or surpassed their target. The average achievement was 111%. This decreased slightly from the *2020 Scorecard*, where average target achievement was 115%.

SDG&E had the highest indexed achievement. Its target was more than 1% of sales, and it achieved 215% of the target. Notably, NG MA had a 2021 target of 2.5% of sales and achieved 92% of its target. At the other end of the spectrum, FP&L had a target of just 0.05% of sales but achieved 71% of the target. We provide additional information on targets as a percentage of sales in our discussion of the Enabling Group.

NON-ELECTRIC ENERGY SAVINGS

This edition of the *Utility Scorecard* resembles previous editions in that its primary focus is assessing the state of utility *electric* energy efficiency efforts. The scoring category that we summarize here is the lone exception.

One important trend in states and utilities across the country is the transition toward a decarbonized future. On the supply side, this largely involves installing more renewable energy capacity, namely wind and solar. On the demand side, it involves transitioning fossil-fueled end uses toward more-efficient electric end uses that take advantage of clean generation, then prioritizing the timing of those demand reductions to align with hours of low-carbon generation.

This practice, known as electrification, will shift energy demand currently being met by fossil fuels (e.g., natural gas, propane, oil) onto the electricity system. If managed properly, the result will be a decrease in total energy consumption (across all fuels) and a reduction in GHG emissions, but it will also likely increase the electric load.

To assess progress in this area, we asked utilities to quantify the fossil-fuel savings that result from their electric energy efficiency or electrification initiatives. In reviewing their responses, we discovered that most utilities are still in very early stages in these areas. A few utilities have developed methodologies that connect average GHG emissions rates on the grid and energy savings to calculate avoided emissions. Others use energy savings achieved across all fuels or other proxy metrics to quantify the benefit of beneficial electrification in non-GHG terms. This progress aligns with our understanding that ambiguity remains regarding the best way to account for GHG reductions achieved through energy efficiency programs.

Regardless of which approaches ultimately receive mainstream acceptance, it is crucial that utilities track certain types of data needed to make these quantifications possible. In the case of beneficial electrification, the two core pieces of data are 1) the energy consumption of the efficient electric technology, and 2) the energy consumption of the fossil-fueled technology it replaces, in common units measured over the same time period. Tracking data is a no-regrets (albeit cost-incurring) action that provides context for regulators interested in targets or PIMs.[38]

[38] Converting energy savings to GHG reductions also requires knowledge of the grid's carbon intensity. These data are typically held by independent system operators or regional transmission organizations and can, in principle, be released at a resolution of five minutes (as PJM did in 2021). Preliminary research indicates that under current grid conditions, annual averages of marginal emission rates should be sufficient for most

Therefore, as table 19 summarizes, utilities can earn up to 2 points in this category if they track and report non-electric energy savings achieved through electric energy efficiency measures and fuel-neutral savings achieved through electrification of fossil-fueled end uses. An example of the former, which we also refer to as collateral energy savings, would include reductions in natural gas furnace usage that result from envelope improvements. Collateral energy savings can also be negative. For example, one utility reported fossil fuel use increase in commercial buildings as a result of efficient lighting that reduced incidental thermal heating. Finally, utilities can earn points in this category only if the savings they track are non-zero.

Table 19. Scoring for incremental non-electric energy savings

Points	Condition
1	Utility tracks and reports non-electric energy savings achieved through electric EE measures
1	Utility tracks and reports fuel neutral savings achieved through electrification of fossil-fueled end uses

Only six of the evaluated utilities earned full points for tracking non-electric energy savings, as

Table 20 shows. Eight of the nine utilities that earned only 1 point in this category earned that point for tracking collateral energy savings, and not for tracking gains from electrification.

Table 20. Scores for incremental non-electric energy savings

Utility	Reports non-electric energy savings	Tracks savings via electrification	Total points
ConEd	Yes	Yes	2
Eversource CT	Yes	Yes	2
Eversource MA	Yes	Yes	2

accounting, though more granular accounting might be needed as renewable energy, especially solar, continues to comprise a greater share of annual generation (Specian et al. 2022).

Utility	Reports non-electric energy savings	Tracks savings via electrification	Total points
LADWP	Yes	Yes	2
LIPA	Yes	Yes	2
NG MA	Yes	Yes	2
BGE	Yes	No	1
ComEd	Yes	No	1
Dominion SC	Yes	No	1
Dominion VA	Yes	No	1
DTE	Yes	No	1
Entergy AR	Yes	No	1
PG&E	Yes	No	1
SCE	No	Yes	1
SDG&E	Yes	No	1
AEP OH	No	No	0
AEP TC	No	No	0
AL Power	No	No	0
Ameren IL	No	No	0
Ameren MO	No	No	0
APS	No	No	0
CenterPoint	No	No	0
Consumers	No	No	0
CPS	No	No	0
Duke FL	No	No	0
Duke IN	No	No	0
Duke NC	No	No	0

Utility	Reports non-electric energy savings	Tracks savings via electrification	Total points
Duke OH	No	No	0
Duke Progress	No	No	0
Duke SC	No	No	0
Entergy LA	No	No	0
Entergy TX	No	No	0
FP&L	No	No	0
GA Power	No	No	0
JCP&L	No	No	0
MidAm. IA	No	No	0
Nevada Power	No	No	0
NG NY	No	No	0
OG&E	No	No	0
OH Edison	No	No	0
Oncor	No	No	0
PacifiCorp UT	No	No	0
PECO	No	No	0
PGE	No	No	0
PPL	No	No	0
PSE	No	No	0
PSE&G	No	No	0
SRP	No	No	0
TECO	No	No	0
We Energies	No	No	0
West Penn	No	No	0

Utility	Reports non-electric energy savings	Tracks savings via electrification	Total points
Xcel CO	No	No	0
Xcel MN	No	No	0

We recommend that when utilities calculate natural gas, propane, fuel oil, wood, and other non-electric fuel savings achieved through their energy efficiency programs, that they distinguish between those savings that will persist following electrification and those that will not. For example, energy efficiency measures that incentivize the purchase of more-efficient natural gas water heaters, propane furnaces, or other fossil-fueled end uses will deliver savings only for the lifetime of the end-use technology itself. However, energy efficiency measures that support weatherization, smart thermostats, or other actions that reduce a house's thermal demand will continue to deliver savings even after the fossil-fueled heating system is converted to an electric air source heat pump. For states and utilities interested in leveraging energy efficiency as an intentional driver of GHG reductions, measures that fall into the latter category are likely to be more valuable.

Energy Efficiency Programs

In the Programs Group, we evaluate several areas of energy efficiency program offerings: energy efficiency portfolio comprehensiveness, emerging program areas, low-income program offerings, and EVs. A total of 20 points were available for this group. Table 21 summarizes the scores for Programs Group metrics, and Figure 7 shows the distribution of scores in the group.

Table 21. Utility scores for the Programs Group action categories

Utility	Residential comprehensiveness (3 points)	C&I comprehensiveness (3 points)	Emerging areas (6 points)	Low-income program offerings (3 points)	Electric vehicles (5 points)	Total (20 points)	% of category
LADWP	2.5	3	6	3	5	19.5	98%
Eversource CT	3	3	6	3	4	19	95%
PG&E	2.5	3	5.5	3	5	19	95%
Eversource MA	3	3	6	3	3.5	18.5	93%

Utility	Residential comprehensiveness (3 points)	C&I comprehensiveness (3 points)	Emerging areas (6 points)	Low-income program offerings (3 points)	Electric vehicles (5 points)	Total (20 points)	% of category
Consumers	3	2	6	3	4	18	90%
DTE	3	3	6	3	3	18	90%
Ameren IL	2	3	5.5	3	3	16.5	83%
ConEd	2	2.5	5.5	3	3.5	16.5	83%
BGE	3	2	6	2	3	16	80%
APS	1.5	2	6	2	3.5	15	75%
NG MA	3	2.5	4.5	3	2	15	75%
PGE	2.5	2.5	4.5	1	4.5	15	75%
Xcel CO	2.5	2.5	4	2	4	15	75%
ComEd	2.5	2	5	3	2	14.5	73%
Dominion VA	2.5	2	5.5	3	1.5	14.5	73%
LIPA	2.5	2	5	2	3	14.5	73%
Xcel MN	2.5	2	2.5	3	4.5	14.5	73%
PacifiCorp UT	2.5	2.5	3.5	3	2.5	14	70%
Duke NC	2	1.5	5	2	3	13.5	68%
Duke Progress	2.5	1.5	4.5	2	3	13.5	68%
SDG&E	1.5	2	2.5	3	4.5	13.5	68%
Duke SC	2	1.5	4.5	3	1.5	12.5	63%
PSE&G	2.5	1.5	2	3	3.5	12.5	63%
CPS	1.5	2.5	3	2	3	12	60%
NG NY	1.5	2.5	3.5	2	2.5	12	60%
SCE	1.5	2	0.5	3	5	12	60%
We Energies	1.5	2.5	3	2	3	12	60%

Utility	Residential comprehensiveness (3 points)	C&I comprehensiveness (3 points)	Emerging areas (6 points)	Low-income program offerings (3 points)	Electric vehicles (5 points)	Total (20 points)	% of category
JCP&L	2	2.5	0.5	2	4.5	11.5	58%
Ameren MO	2.5	2	1	3	2.5	11	55%
GA Power	2.5	2	2	1	3.5	11	55%
Nevada Power	1.5	2.5	1.5	0	5	10.5	53%
PECO	2	2	2	2	2.5	10.5	53%
Entergy LA	2	2	2	3	0	9	45%
Dominion SC	1.5	2.5	1.5	3	0	8.5	43%
Duke FL	0.5	1.5	0	3	3.5	8.5	43%
OG&E	1	2.5	2	2	1	8.5	43%
Oncor	1	2.5	3	2	0	8.5	43%
Duke IN	2	1.5	1.5	1	2	8	40%
MidAm. IA	2	1.5	0	3	1.5	8	40%
TECO	1.5	1	2	3	0.5	8	40%
Entergy AR	2	2.5	3	0	0	7.5	38%
PPL	2.5	2.5	2	0	0	7	35%
Entergy TX	1.5	1.5	2	1	0.5	6.5	33%
SRP	1.5	1	2	1	1	6.5	33%
AEP OH	0	0	2	0	4	6	30%
CenterPoint	1	1.5	0.5	1	0	4	20%
PSE	2	1.5	0.5	0	0	4	20%
AL Power	1	2	0	0	0	3	15%
West Penn	1.5	1.5	0	0	0	3	15%
FP&L	0.5	0.5	0	0	0.5	1.5	8%

Utility	Residential comprehensiveness (3 points)	C&I comprehensiveness (3 points)	Emerging areas (6 points)	Low-income program offerings (3 points)	Electric vehicles (5 points)	Total (20 points)	% of category
AEP TC	0	0	0	0	0	0	0%
Duke OH	0	0	0	0	0	0	0%
OH Edison	0	0	0	0	0	0	0%

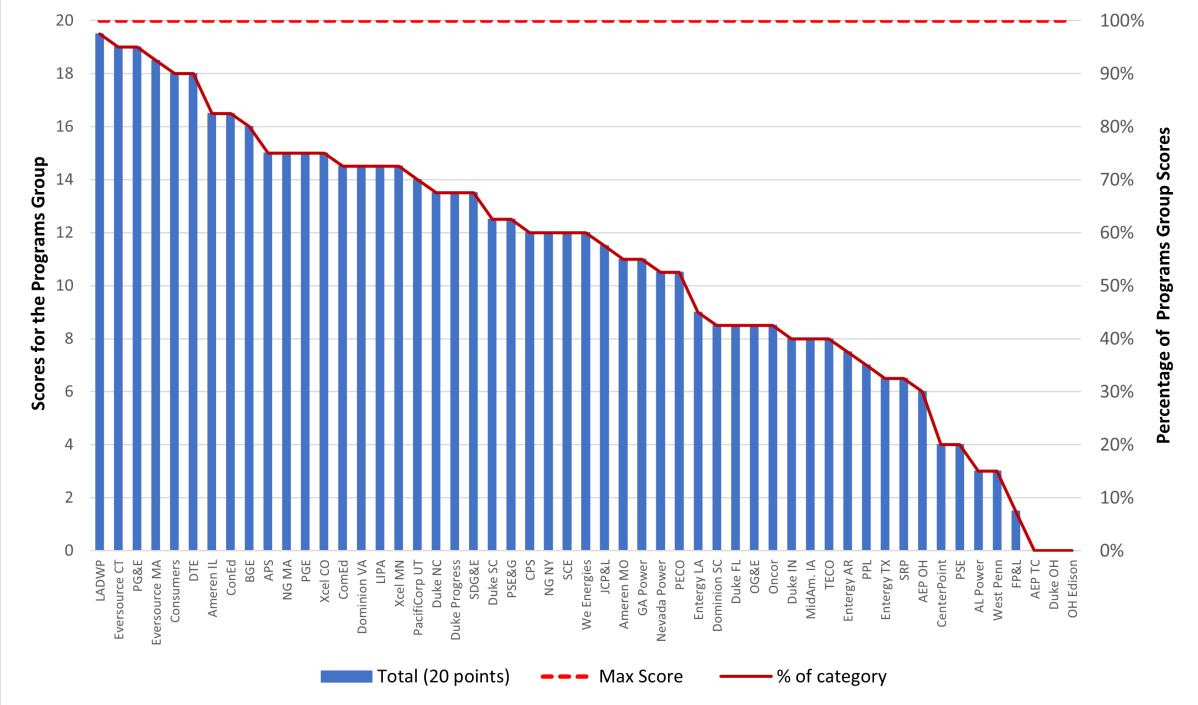

Figure 7. Distribution of scores in the Programs Group

None of the utilities received all 20 available points in the Programs Group. LADWP was close with 19.5 points, followed by Eversource CT (19 points) and Eversource MA (18.5 points). Three utilities earned 18 points: Consumers, DTE, and PG&E. Slightly more than half of the utilities earned at least 50% of the points.

Portfolio comprehensiveness evaluates both residential programs and C&I programs, which are worth up to 6 points combined. Overall, utilities earned similar points for the number of residential programs and C&I programs they offered. Having a comprehensive portfolio of programs for one sector was a strong indicator of having the same for the other.

For emerging programs, utilities could earn the full 6 points for having 12 or more new technologies or programs; this allowed them to receive full credit for having a substantial number of programs without having to have them all, especially as they are newer technologies and practices. Pilot programs are also credited under the emerging programs metric, rather than as a stand-alone metric.

The previous *Utility Scorecard* edition looked only at whether utilities had low-income programs that went beyond a direct installation affecting the building envelope. In this edition, the low-income programs metric assesses the number of programs that utilities offer to specifically address the needs of low-income customers. To emphasize utilities that are taking extra steps, we awarded points for having more than one program. A utility earned all 3 points if it offered four or more programs.

The last metric in the Programs Group concerns EVs. For this metric, utilities could earn up to 5 points split among offering EV programs, having EV charging rates, and having an EV equity program.

We now review each metric in greater detail, focusing on the importance of each metric, our data sources and assumptions, and the scoring.

ENERGY EFFICIENCY PORTFOLIO COMPREHENSIVENESS

The breadth and types of energy efficiency programs are essential determinants of utility energy efficiency capability and performance. ACEEE research into program best practices in areas such as small business, low-income, and multifamily demonstrates that when utilities offer programs for specific customer segments and targeted energy end uses, energy savings increase by expanding the reach of the programs to more customers (Cluett, Amann, and Ou 2016; Johnson 2013; Nowak 2016). Aiming programs at all major customer segments and end uses is also a strategy utility managers can use to ensure the equity of their portfolio of offerings. The goal is not to depict all program types but rather to assess the extensiveness of portfolios at a high level; this allows utilities to see if some programs could be streamlined and work together, which is not always captured by tallying the number of programs.

For this metric, we used a checklist of 25 program types: 13 residential, and 12 C&I.[39] In selecting these program types, our objective was to include programs that serve particular markets with high potential for energy savings; potential for non-energy benefits and fuel-neutral savings; and potential for long-term or lifetime savings. Low-income and EV

[39] We reviewed other literature on program types including Hoffman et al. 2013.

programs are covered in a separate metric. We also gave utilities credit in this metric for energy efficiency programs offered by statewide program administrators in their state.

We awarded points for the following residential program types (see Appendix B for program definitions):

- Appliance recycling
- Behavior-based/feedback
- Education
- Heat pump ater heaters
- High-efficiency consumer electronics
- Home appliances
- Home energy audits
- Home retrofits
- HVAC equipment
- Lighting
- Multifamily
- New construction
- Smart thermostats

We also awarded points for the following C&I program types:

- Agriculture
- Custom
- Data centers
- Efficient motor systems
- HVAC
- Kitchens and restaurants
- Lighting
- Lighting systems and controls
- Retrocommissioning
- Small business
- Strategic energy management
- Whole-building retrofits

In this *Scorecard*, we added some granularity to the metric by scoring utilities separately on their total number of residential and C&I programs offered in 2021. Utilities could earn up to 3 points for the total number of residential programs offered, and another 3 points for the total number of C&I programs offered. The previous edition of *Utility Scorecard* did not differentiate between residential and C&I programs.

Recognizing that utilities may categorize program types differently or may offer multiple program types under a single program name, we provided utilities with program definitions. Although categorizing programs has its limitations, it does enable a broad review of a portfolio's comprehensiveness.

For utilities in states with statewide program administrators, program types were counted for the utilities if the administrators' programs were available in the utility service territory in 2021. Table 22 shows scoring for the portfolio comprehensiveness metric, and Table 23 shows the utility scores.

Table 22. Scoring for portfolio comprehensiveness

Number of residential programs	Number of C&I programs	Score
13	12	3.0
11–12	10–11	2.5
9–10	8–9	2.0
7–8	6–7	1.5
5–6	4–5	1.0
3–4	2–3	0.5
0–2	0–1	0.0

Table 23. Scores for portfolio comprehensiveness

Utility	Residential programs score	C&I programs score	Total portfolio score
DTE	3.0	3.0	6.0
Eversource CT	3.0	3.0	6.0

Utility	Residential programs score	C&I programs score	Total portfolio score
Eversource MA	3.0	3.0	6.0
LADWP	2.5	3.0	5.5
NG MA	3.0	2.5	5.5
PG&E	2.5	3.0	5.5
Ameren IL	2.0	3.0	5.0
BGE	3.0	2.0	5.0
Consumers	3.0	2.0	5.0
PacifiCorp UT	2.5	2.5	5.0
PGE	2.5	2.5	5.0
Xcel CO	2.5	2.5	5.0
PPL	2.5	2.5	5.0
Ameren MO	2.5	2.0	4.5
ComEd	2.5	2.0	4.5
ConEd	2.0	2.5	4.5
Dominion VA	2.5	2.0	4.5
Entergy AR	2.0	2.5	4.5
JCP&L	2.0	2.5	4.5
LIPA	2.5	2.0	4.5
Xcel MN	2.5	2.0	4.5
GA Power	2.5	2.0	4.5
CPS	1.5	2.5	4.0
Dominion SC	1.5	2.5	4.0
Duke Progress	2.5	1.5	4.0
Entergy LA	2.0	2.0	4.0

Utility	Residential programs score	C&I programs score	Total portfolio score
Nevada Power	1.5	2.5	4.0
NG NY	1.5	2.5	4.0
PECO	2.0	2.0	4.0
PSE&G	2.5	1.5	4.0
We Energies	1.5	2.5	4.0
APS	1.5	2.0	3.5
Duke IN	2.0	1.5	3.5
Duke NC	2.0	1.5	3.5
Duke SC	2.0	1.5	3.5
MidAm. IA	2.0	1.5	3.5
OG&E	1.0	2.5	3.5
Oncor	1.0	2.5	3.5
PSE	2.0	1.5	3.5
SCE	1.5	2.0	3.5
SDG&E	1.5	2.0	3.5
AL Power	1.0	2.0	3.0
West Penn	1.5	1.5	3.0
Entergy TX	1.5	1.5	3.0
CenterPoint	1.0	1.5	2.5
SRP	1.5	1.0	2.5
TECO	1.5	1.0	2.5
Duke FL	0.5	1.5	2.0
FP&L	0.5	0.5	1.0
AEP OH	—	—	—

Utility	Residential programs score	C&I programs score	Total portfolio score
AEP TC	—	—	—
Duke OH	—	—	—
OH Edison	—	—	—

Three utilities earned full points for covering all the program areas in 2021: DTE, Eversource CT, and Eversource MA. Of the listed programs, residential and commercial HVAC were the most prevalent, with 46 of the 53 utilities offering residential HVAC and 49 offering C&I HVAC in 2021. Additionally, 48 utilities had custom C&I programs and offered commercial lighting programs. Only 20 utilities offered agriculture programs, which were the least common program type.

Overall, the 53 utilities offered nearly 900 programs or measure types in 2021. Although our addition and removal of eligible program types since the last edition of *Utility Scorecard* inhibits an exact comparison, we found approximately the same number of programs as were offered in 2018.

EMERGING PROGRAM AREAS

Emerging technologies and program areas push the bounds of what is currently standard and widely implemented across the utility sector. Some of the technologies lead directly to greater energy and demand savings, while others make energy efficiency programs run more effectively. This action category considers 20 emerging program areas, including pilot programs, that are important to the future of energy efficiency in the utility sector. While some of these technologies and programs may have existed for a number of years, they remain part of this metric because they are not yet prevalent across the country. Also, pilot programs are an important way to test new program ideas on a small scale and can provide valuable data to inform design and administration of a full-scale program. Given this, we count pilot projects under this action category to give utilities credit for these efforts.

Many of the emerging programs considered in the previous *Scorecard* remain, but we moved data centers and consumer electronics for residential customers from the emerging programs category to the residential program comprehensiveness category. We also merged residential geo-targeting and C&I geo-targeting—in which utilities target customers in specific geographic locations with high savings potential—into a single category. Finally, for this edition, we added new five programs: code compliance, controlled environment agriculture, cool roofs, industrial process electrification, and window treatments.

To assess whether the utilities were undertaking the selected emerging programs (including pilot programs), we asked them to provide information on the programs they ran in 2021 and to list any pilots that they offered. We used utility filings and websites to confirm program and measure offerings. Table 24 shows the areas we selected as important emerging technologies and programs for the utility sector, based on current research and new trends in the industry.

Utilities can earn a total of 6 points for the emerging areas metric. Of the 20 programs considered, utilities can earn the full 6 points by offering 12 or more programs. For fewer than 12 programs, a utility earned 0.5 points for each program. Table 25 shows the scoring breakdown.

Table 24. Emerging program areas

Emerging area	Description
Code compliance	Funding or operating a program to improve compliance with building energy codes, typically through training activities.
Conservation voltage reduction or volt/var optimization	Improving the efficiency of a utility's transmission and distribution system through voltage reduction systems, whether explicitly included in the utility's energy efficiency portfolio or not.
Controlled environment agriculture	Measures that lower energy use in controlled agricultural facilities, including lighting and environmental control systems.
Cool roofs	Measures that increase the reflectivity (albedo) of roofs to reduce heat flow from the roof into the occupied building space.
Energy-efficient fuel switching	Encouraging fuel switching that delivers overall source Btu energy savings, GHG reductions, and customer cost savings.
Energy use feedback to consumers in real time	Allowing consumers to better understand their energy usage behavior and react to increase savings. Includes programs that provide feedback in near real time. Typically requires advanced metering infrastructure (AMI) installation.
Geo-targeting	Targeting residential, commercial, or industrial buildings in specific geographic locations that will yield high savings. Does not include geo-targeted marketing efforts or comparative home energy or business energy report programs.

Emerging area	Description
Greenhouse gas reductions	Programs designed specifically to reduce GHG emissions through means other than direct reductions in energy consumption, for example, tree planting, refrigerant management.
Grid-interactive efficient buildings	Incentivizing buildings that reduce energy waste and carbon emissions while offering flexible building loads to the grid. May include integrating energy efficiency and demand response to better value the many benefits of grid-interactive efficient buildings.
Industrial process electrification	Incentivizing measures that replace fossil-fueled industrial technologies with more-efficient electric alternatives including industrial heat pumps, infrared heating, radio frequency or microwave heating, electric boilers or hot-water heaters, and on-site hydrogen production.
Heat pumps	Incentivizing the adoption of cold- or warm-climate heat pumps with heating seasonal performance factor (HSPF) above 10. Must provide extra incentives for advanced heat pumps relative to those provided for moderate-efficiency heat pumps.
High-efficiency ceiling fans	Promoting the installation of high-efficiency ceiling fans, either stand-alone or included as a part of another program.
High-efficiency residential clothes dryers	Offering rebates for high-efficiency clothes dryers that meet the ENERGY STAR Most Efficient specification (e.g., heat pump dryers).
Midstream programs	Transforming the market for energy-efficient products by targeting midstream retailers and partners to improve choices and reduce costs for consumers. Includes midstream lighting, high-efficiency HVAC, heat pump water heater, and appliance programs.
Programs using data disaggregation	Extracting end-use and/or appliance-level data from an aggregate or whole-building energy signal to engage consumers and to target relevant programs to specific customers. This can also include in-home devices that disaggregate end uses at the meter and provide feedback to customers via an app or web interface.

Emerging area	Description
Quality HVAC installation	Improving and ensuring the quality installation of HVAC equipment, such as incentivizing installation to ANSI/ACCA Standard 5.[40]
Reduction of plug and other miscellaneous load in commercial buildings	Reducing plug or other loads in commercial buildings, including midstream and upstream programs for equipment such as advanced power strips (tier 1 and 2) and smart plugs.
Window treatments	Passive window coverings or attachments that reduce heat transfer between the interior and exterior environments including interior shades and drapes, films applied directly to glass, exterior shades, shutters, awnings, and storm windows.
Zero net energy buildings	Promoting zero-energy buildings through incentives, technical assistance, codes and standards, or other methods. Could also include a tiered approach, such as a zero-energy "step codes." Does not include participation in zero net energy forums or coalitions.
Pilot programs	Any pilot programs run by the utility since 2021.

Table 25. Scoring for emerging program areas

Number of programs	Score
12+	6.0
11	5.5
10	5.0
9	4.5
8	4.0
7	3.5

[40] ANSI = American National Standards Institute. ACCA = Air Conditioning Contractors of America.

Number of programs	Score
6	3.0
5	2.5
4	2.0
3	1.5
2	1.0
1	0.5
0	0.0

Table 26 shows the scores for the emerging areas action category.

Table 26. Scores for emerging areas

Utility	Number of programs	Score	Utility	Number of programs	Score
LADWP	18	6.0	AEP OH	4	2.0
Eversource CT	17	6.0	Entergy LA	4	2.0
DTE	16	6.0	Entergy TX	4	2.0
Eversource MA	14	6.0	GA Power	4	2.0
Consumers	13	6.0	OG&E	4	2.0
APS	12	6.0	PECO	4	2.0
BGE	12	6.0	PPL	4	2.0
Ameren IL	11	5.5	PSE&G	4	2.0
ConEd	11	5.5	SRP	4	2.0
Dominion VA	11	5.5	TECO	4	2.0
PG&E	11	5.5	Dominion SC	3	1.5
ComEd	10	5.0	Duke IN	3	1.5
Duke NC	10	5.0	Nevada Power	3	1.5

Utility	Number of programs	Score	Utility	Number of programs	Score
LIPA	10	5.0	Ameren MO	2	1.0
Duke Progress	9	4.5	CenterPoint	1	0.5
Duke SC	9	4.5	JCP&L	1	0.5
NG MA	9	4.5	PSE	1	0.5
PGE	9	4.5	SCE	1	0.5
Xcel CO	8	4.0	AEP TC	—	—
NG NY	7	3.5	AL Power	—	—
PacifiCorp UT	7	3.5	Duke FL	—	—
CPS	6	3.0	Duke OH	—	—
Entergy AR	6	3.0	FP&L	—	—
Oncor	6	3.0	MidAm. IA	—	—
We Energies	6	3.0	OH Edison	—	—
SDG&E	5	2.5	West Penn	—	—
Xcel MN	5	2.5			

None of the evaluated utilities offered programs in all 20 emerging program areas in 2021. Seven utilities earned full points with 12 or more programs offered, indicating their commitment to advancing and transforming the energy efficiency market. On the other end of the spectrum, eight utilities did not receive any points, meaning that they did not offer any of the emerging programs. Midstream programs were offered by 34 utilities, making this the most prevalent of the emerging program options. This is partly explained by the fact that midstream programs can apply to multiple building technologies including lighting, high-efficiency HVAC, and other appliances.

Another program with substantial deployment was heat pumps, with 28 utilities offering the program. Similar to the previous *Scorecard*, grid-interactive efficient building programs had some of the lowest participation, with seven this edition compared to eight in 2020. Similarly, only six utilities offered GHG programs such as tree planting or refrigerant management that specifically target reducing emissions through means other than direct reduction in energy consumption.

The 53 utilities combined offered a total of 317 emerging programs. The previous *Scorecard* found that its 52 utilities offered a total of 298 emerging programs. These numbers are not directly comparable, however, given the addition and removal of programs between editions.

LOW-INCOME PROGRAM OFFERINGS

Installing energy efficiency measures helps consumers reduce the amount they spend on energy each month, a particularly valuable benefit for low-income customers, who often face higher energy burdens.[41] These customers are also the least able to participate in programs requiring customer investment in energy efficiency measures (Drehobl and Castro-Alvarez 2017; Morales and Nadel 2022). The existence of programs designed with low-income customers in mind is important because it helps promote equity in program offerings for all who pay into the program.

This metric changed significantly between the prior *Scorecard* edition and this one. The last *Scorecard* did not measure low-income program offerings, but instead was a composite metric of two factors: the utility offering more than one low-income program, and program measures that go beyond "direct install to address the whole building envelope." In this edition, the metric measures the breadth of programs that utilities are offering to low-income customers. We collected data on programs and efforts by utilities to reach these customers across various program categories: multifamily programs, increased rebates for low-income customers, income-qualified weatherization, manufactured housing programs, and other income-qualified initiatives and programs. While manufactured homes are not designated specifically for low-income residents, they are an essential, affordable housing option that is less energy efficient than other housing stock. Promoting energy efficiency investments for manufactured homes can thus benefit low-income customers by reducing their energy costs (Bell-Pasht and Ungar 2022).

This metric had 3 points available. To highlight utilities that are taking proactive steps to assist their low-income customers, utilities received points in this category only if they have more than one program for low-income customers. Utilities offering four or more programs receive all 3 points.

Table 27 summarizes the different low-income programs.

Table 27. Low-income program descriptions

[41] Energy burden is sometimes amplified by low-income customers having energy efficiency program surcharges on their bill despite not receiving the full extent of these benefits and services.

Low-income program	Description
Low-income weatherization	Measures that reduce unintended energy exchange between the interior and exterior environments of non-manufactured housing occupied by low-income customers, including through air sealing, improved ventilation, storm doors and windows, insulation, and siding.
Low-income multifamily	Efficiency measures targeted to multifamily buildings that predominantly house low-income customers; measures in this category include those delivered to multiple individual dwelling units and those that target common areas and shared equipment (e.g., heat pump water heaters, HVAC).
Manufactured housing	Weatherization measures targeted for manufactured (formerly mobile) homes including energy-efficient doors and windows; belly, roof, and wall insulation; roof cap; and air sealing.
Low-income rebates and incentives	Programs that provide higher levels of efficiency rebates or point-of-sale incentives for income-qualified customers, up to and/or including the entire cost of the measure.
Other	Any additional program types that the utility offers specifically to low-income customers.

Table 28 shows the scoring criteria for the low-income program comprehensiveness metric.

Table 28. Scoring criteria for low-income programs

Number of programs	Score
0–1	0
2	1
3	2
4+	3

Table 29 shows the scores for low-income programs.

Table 29. Scores for low-income program

Utility	Number of programs offered	Comprehensiveness score	Utility	Number of programs offered	Comprehensiveness score
DTE	5	3	Duke Progress	3	2
Eversource MA	5	3	JCP&L	3	2
NG MA	5	3	LIPA	3	2
SCE	5	3	NG NY	3	2
Ameren IL	4	3	OG&E	3	2
Ameren MO	4	3	Oncor	3	2
ComEd	4	3	PECO	3	2
ConEd	4	3	We Energies	3	2
Consumers	4	3	Xcel CO	3	2
Dominion SC	4	3	CenterPoint	2	1
Dominion VA	4	3	Duke IN	2	1
Duke FL	4	3	Entergy TX	2	1
Duke SC	4	3	GA Power	2	1
Entergy LA	4	3	PGE	2	1
Eversource CT	4	3	SRP	2	1
LADWP	4	3	AEP OH	1	0
MidAm. IA	4	3	FP&L	1	0
PacifiCorp UT	4	3	Nevada Power	1	0
PG&E	4	3	PPL	1	0
PSE&G	4	3	PSE	1	0
SDG&E	4	3	AEP TC	0	0
TECO	4	3	AL Power	0	0
Xcel MN	4	3	Duke OH	0	0

Utility	Number of programs offered	Comprehensiveness score	Utility	Number of programs offered	Comprehensiveness score
APS	3	2	Entergy AR	0	0
BGE	3	2	OH Edison	0	0
CPS	3	2	West Penn	0	0
Duke NC	3	2			

For this metric, 23 utilities received all 3 points for having four or more programs; 13 received 2 points for having three programs; 6 received 1 point for two programs; and 12 utilities received 0 points for having one or no programs. Of the various programs, 43 utilities had low-income weatherization programs, which was the component with the highest participation from utilities; 15 utilities had programs defined as "other" equity-based initiatives and programs; and 26 utilities had programs related to manufactured housing.

ELECTRIC VEHICLES

Although EVs increase the need for electricity production, they are typically more energy efficient than conventional gasoline-fueled vehicles, even when power generation and distribution losses are taken into account (Huether 2022; Khan and Vaidyanathan 2018). This action category evaluates utilities on the programs that enable transportation electrification, rate design, and equity. EV programs include EV service equipment (EVSE), Make-Ready programs, EV purchase incentives, and utility-owned EV infrastructure. This is a slight change from the previous *Scorecard*, which did not specifically consider equity or separate residential and C&I customers when evaluating EV enabling rates.[42]

Table 30 shows the scoring criteria.

[42] EV equity programs specifically target low-income customers that would otherwise be limited in participating in programs that help consumers purchases EVs; the EV enabling rate is a specific charging rate for utility customers with electric vehicles, which can include time-of-use rates (Howard et al. 2021).

Table 30. Scoring for electric vehicles

Description	Score (5 points total)
EV programs	
No programs offering incentives for EVSE, Make-Ready, EV purchases, and/or utility-owned EV infrastructure	0
1 program offering incentives for EVSE, Make-Ready, EV purchases, or utility-owned EV infrastructure	0.5
2 programs offering incentives for EVSE, Make-Ready, EV purchases, or utility-owned EV infrastructure	1.0
3 programs offering incentives for EVSE, Make-Ready, EV purchases, or utility-owned EV infrastructure	1.5
4 programs offering incentives for EVSE, Make-Ready, EV purchases, or utility-owned EV infrastructure	2
EV rates	
No specific EV rate	0
TOU rate offered, but not specific to EVs	0.5
EV charging rate offered for residential customers OR commercial customers, but not both	1
EV charging rate offered for both residential and commercial customers	2
EV equity	
Utility does not offer incentives, rebates, rates, or other EV programs that are specially designed and targeted to benefit low-income, historically disinvested, environmental justice, or otherwise underserved communities	0
Utility offers incentives, rebates, rates, or other EV programs that are specially designed and targeted to benefit low-income, historically disinvested, environmental justice, or otherwise underserved communities	1

Table 31 shows the scores for this metric.

Table 31. Scores for electric vehicles

Utility	Number of programs	Programs points	EV rates points	EV equity points	Total points
LADWP	4	2	2	1	5
Nevada Power	4	2	2	1	5
PG&E	4	2	2	1	5
SCE	4	2	2	1	5
JCP&L	3	1.5	2	1	4.5
PGE	3	1.5	2	1	4.5
SDG&E	3	1.5	2	1	4.5
Xcel MN	3	1.5	2	1	4.5
AEP OH	2	1	2	1	4
Consumers	2	1	2	1	4
Eversource CT	2	1	2	1	4
Xcel CO	5	2	1	1	4
APS	3	1.5	2	0	3.5
ConEd	1	0.5	2	1	3.5
Duke FL	3	1.5	1	1	3.5
Eversource MA	1	0.5	2	1	3.5
GA Power	3	1.5	1	1	3.5
PSE&G	1	0.5	2	1	3.5
Ameren IL	0	0	2	1	3
BGE	2	1	1	1	3
CPS	2	1	2	0	3
DTE	2	1	2	0	3
Duke NC	2	1	2	0	3
Duke Progress	2	1	2	0	3

Utility	Number of programs	Programs points	EV rates points	EV equity points	Total points
LIPA	2	1	1	1	3
We Energies	2	1	1	1	3
Ameren MO	1	0.5	2	0	2.5
NG NY	1	0.5	1	1	2.5
PacifiCorp UT	3	1.5	1	0	2.5
PECO	1	0.5	1	1	2.5
ComEd	0	0	2	0	2
Duke IN	2	1	1	0	2
NG MA	2	1	1	0	2
Dominion VA	1	0.5	1	0	1.5
Duke SC	1	0.5	1	0	1.5
MidAm. IA	3	1.5	0	0	1.5
OG&E	0	0	1	0	1
SRP	2	1	0	0	1
Entergy TX	1	0.5	0	0	0.5
FP&L	1	0.5	0	0	0.5
TECO	1	0.5	0	0	0.5
AEP TC	0	0	0	0	0
AL Power	0	0	0	0	0
CenterPoint	0	0	0	0	0
Dominion SC	0	0	0	0	0
Duke OH	0	0	0	0	0
Entergy AR	0	0	0	0	0
Entergy LA	0	0	0	0	0
OH Edison	0	0	0	0	0

Utility	Number of programs	Programs points	EV rates points	EV equity points	Total points
Oncor	0	0	0	0	0
PPL	0	0	0	0	0
PSE	0	0	0	0	0
West Penn	0	0	0	0	0

For this metric, 4 utilities earned all 5 points and 12 utilities earned no points. Looking at the metric's individual components, 15 utilities did not offer any programs, and only 5 utilities offered four or more. About half the utilities offered both a charger incentive and an EVSE Make-Ready program, and 21 utilities had utility-owned ESVE programs. For EV incentives, only six utilities offered a light-duty EV incentive and only one utility had a medium- or -heavy-duty EV incentive, which could be an option for improving future program offerings. For EV rate promotion, 22 utilities earned points for offering incentives for both residential and commercial customers; 14 utilities offered only one of the incentives; and 17 offered neither incentive. For equity-focused offerings, 30 utilities received 0 points and the remaining 23 received 1 point.

Enabling Mechanisms

In this section, we review several action categories related to key mechanisms for equitably scaling energy efficiency. These categories include metrics around data access, energy savings targets, residential rate design, utility business models, program evaluation, resource planning, community engagement, and workforce. A total of 26 points are available in the Enabling Group. Table 32 presents the scores that utilities earned in this group, and Figure 8 shows their distribution.

The average utility earned 10 points (39%) across action categories in the Enabling Group. No utility earned more than 83% of the category's total available points. This suggests that utilities and their local policymakers have many available actions that they can take to better enable their energy efficiency programs to scale equitably.

Table 32. Utility scores for the Enabling Group's action categories

Rank	Utility	Data access (2 points)	Energy savings targets (2 points)	Energy affordability targets (2 points)	Fixed charges (1 point)	TOU rates (2 points)	Utility business model (4 points)	EM&V (3 points)	Resource planning (2 points)	Workforce (2 points)	Language access (1 point)	Community engagement (2 points)	Financing solutions (2 points)	Utility shutoff (1 point)	Total points (out of 26)	% of Enabling Group points
1	PG&E	2	2	2	1	2	2.5	3	2	0.5	0	1.5	2	1	21.5	83%
2	Eversource MA	2	1.5	2	0.5	0	4	3	2	1	1	2	1	1	21	81%
3	DTE	2	2	1.5	0.5	2	2	3	2	1	0.5	1	2	1	20.5	79%
4	ComEd	2	1.5	2	0	1	4	3	1	1.5	0	0.5	2	1	19.5	75%
4	NG MA	1	2	2	0.5	1	4	3	1	2	1	0	2	0	19.5	75%
4	SCE	2	0.5	1	1	2	4	3	2	0	0.5	0.5	2	1	19.5	75%
7	Eversource CT	2	1	1.5	0.5	1	4	3	1	1	0.5	0.5	2	1	19	73%
8	Consumers	2	2	0.5	0.5	2	2.5	3	1	0.5	0	0.5	2	1	17.5	67%
9	LADWP	1	1.5	1	1	1	2	3	1	1.5	0.5	1.5	1	1	17	65%
10	ConEd	2	1	0	0	1	4	3	1	2	0	0	2	0	16	62%
11	BGE	2	1.5	0	0.5	1	2	3	2	0.5	0.5	0.5	2	0	15.5	60%
11	LIPA	1	1.5	2	0	1	4	1.5	1	0	0	0.5	2	1	15.5	60%
13	Ameren MO	2	1	0	0.5	1	3	3	1	0.5	0	1	2	0	15	58%
14	Xcel CO	1	1.5	1	1	2	2	1.5	1	1.5	0	0	2	0	14.5	56%
15	PGE	1	1	0.5	0	1	0.5	1.5	2	2	0.5	2	2	0	14	54%
16	Dominion VA	1	1	1	1	1	2	3	1	0.5	0	1.5	0	0	13	50%
17	GA Power	0	0.5	2	0	1	1	3	1	0.5	0.5	0	2	0	11.5	44%
17	SDG&E	0	1.5	1	0	2	0	3	2	0	0	0	2	0	11.5	44%

Rank	Utility	Data access (2 points)	Energy savings targets (2 points)	Energy affordability targets (2 points)	Fixed charges (1 point)	TOU rates (2 points)	Utility business model (4 points)	EM&V (3 points)	Resource planning (2 points)	Workforce (2 points)	Language access (1 point)	Community engagement (2 points)	Financing solutions (2 points)	Utility shutoff (1 point)	Total points (out of 26)	% of Enabling Group points
19	NG NY	1	1	0	0	0	4	3	1	0	0	0	1	0	11	42%
19	OG&E	0	0.5	2	0	1	3.5	3	1	0	0	0	0	0	11	42%
21	PacifiCorp UT	2	1	0	1	1	0	1.5	2	0	0	0	2	0	10.5	40%
22	APS	2	1	1	0	2	2	0	1	0	0.5	0.5	0	0	10	38%
22	Nevada Power	2	1	1	0	1	1	3	1	0	0	0	0	0	10	38%
22	PPL	1	0.5	1	0	0	0	3	1	2	0	0.5	0	1	10	38%
22	PSE&G	0	1	1	1	0	4	0	0	1	0	0	2	0	10	38%
22	Xcel MN	2	1	0	0.5	1	1.5	1.5	1	0.5	0	0	0	1	10	38%
27	CPS	1	1	2	0.5	0	0	1.5	1	0.5	0	1	0	1	9.5	37%
27	Dominion SC	0	0.5	0	0.5	1	2	3	1	0.5	0	1	0	0	9.5	37%
27	Entergy AR	1	1.5	0	0.5	1	1	3	1	0.5	0	0	0	0	9.5	37%
30	Duke NC	0	1	0.5	0	1	3	1.5	1	0	0	0	1	0	9	35%
30	Duke Progress	0	1	0.5	0	1	3	1.5	1	0	0	0	1	0	9	35%
30	Duke SC	0	1.5	0	0	1	3	1.5	1	0	0	0	1	0	9	35%
33	Duke IN	0	0.5	0	0.5	0	2	3	2	0	0	0	0	0	8	31%
33	PECO	2	1	0	0	0	0	3	1	0.5	0	0.5	0	0	8	31%
35	JCP&L	0	0	1	1	1	2	1.5	0	0	0	0	1	0	7.5	29%
36	CenterPoint	1	0	1	0.5	0	1	3	0	0	0	0.5	0	0	7	27%
37	Ameren IL	0	1.5	0	0	0	0	3	0	0	0	0	2	0	6.5	25%

Rank	Utility	Data access (2 points)	Energy savings targets (2 points)	Energy affordability targets (2 points)	Fixed charges (1 point)	TOU rates (2 points)	Utility business model (4 points)	EM&V (3 points)	Resource planning (2 points)	Workforce (2 points)	Language access (1 point)	Community engagement (2 points)	Financing solutions (2 points)	Utility shutoff (1 point)	Total points (out of 26)	% of Enabling Group points
37	SRP	1	1.5	0	0	1	0	0	1	0	0	0	2	0	6.5	25%
39	Entergy LA	1	0	0	0.5	0	1.5	1.5	1	0.5	0	0	0	0	6	23%
39	Entergy TX	1	0	0	0	1	1	1.5	1	0.5	0	0	0	0	6	23%
39	West Penn	0	0.5	0	0.5	1	0	3	0	0	0	0	0	1	6	23%
42	Oncor	0	0	1	1	0	2	1.5	0	0	0	0	0	0	5.5	21%
42	We Energies	0	0	0	0	1	0	3	1	0.5	0	0	0	0	5.5	21%
44	Duke OH	0	0	0	1	1	0	3	0	0	0	0	0	0	5	19%
44	PSE	0	1	0.5	0.5	0	1	0	1	0	0.5	0.5	0	0	5	19%
46	AEP TC	0	0	0.5	1	0	1	1.5	0	0	0	0	0	0	4	15%
47	AEP OH	2	0	0	0	1	0	0	0	0	0	0	0	0	3	12%
47	TECO	1	0	0	0	1	0	0	1	0	0	0	0	0	3	12%
49	OH Edison	0	0	0	1	0	0	1.5	0	0	0	0	0	0	2.5	10%
50	AL Power	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8%
50	Duke FL	0	0	0	0	1	0	0	1	0	0	0	0	0	2	8%
50	MidAm. IA	0	0.5	0	0.5	1	0	0	0	0	0	0	0	0	2	8%
53	FP&L	0	0	0	0.5	1	0	0	0	0	0	0	0	0	1.5	6%

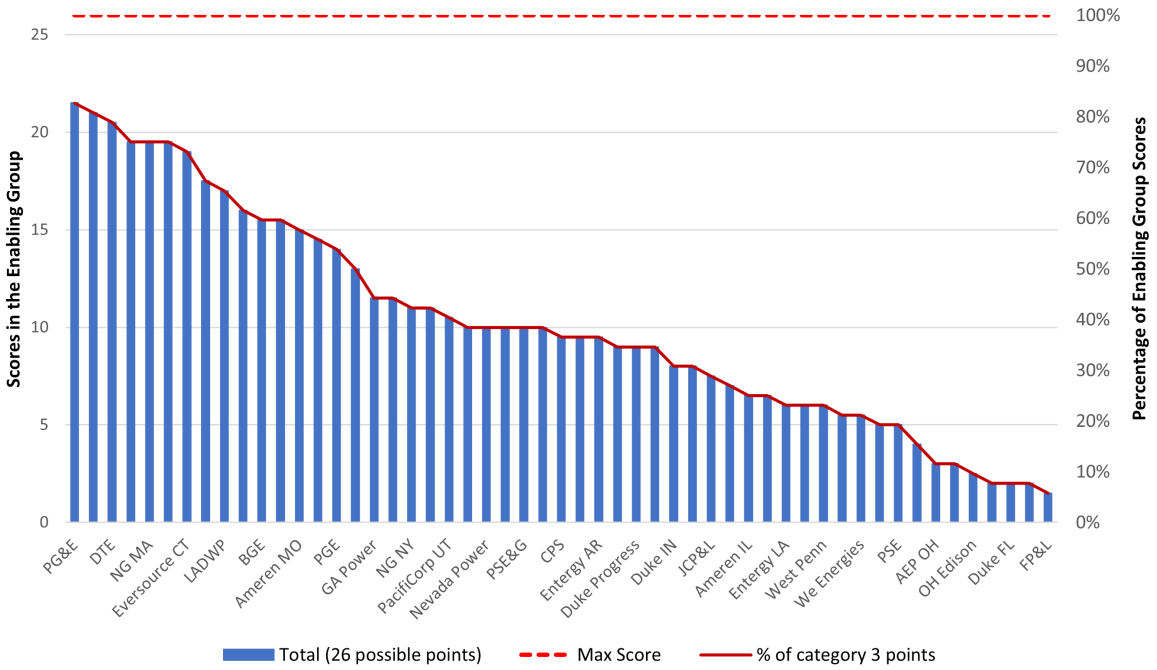

Figure 8. Distribution of scores in the Enabling Group

Among action categories common to both the 2020 and 2023 editions of *Utility Scorecard*, utilities scored about 1 point (7%) worse in this edition than they did three years ago. If we include the six new action categories in this edition (see Table 3), utility performance in the Enabling Group was about 3.2 points (12%) worse in this edition than in the 2020 *Utility Scorecard*. If the 2020 scores are normalized to this edition's 26-point scale, 42 utilities saw their points decrease, while only 10 saw an increase. This indicates that most of the point drops in the Enabling Group are due to the introduction of new action categories.

Utilities tended to perform best in established categories such as EM&V and resource planning. They performed worst in our new equity categories, with language access having particularly poor performance. Performance in community engagement and workforce development were only slightly better.

Failure to perform well equity categories is not surprising. A recent study finds that less than half of U.S. states have taken executive, legislative, or regulatory action on energy equity, and the energy equity metrics that do exist are in their infancy (Hanus et al. 2023). The standard for what constitutes equitable energy actions is context specific, and best practices have yet to be fully implemented. However, there is still ample opportunity for utilities to take action to advance more equitable outcomes in their service territories.

Seven utilities cracked the threshold to earn 70% of the available points. Those utilities are PG&E, Eversource MA, DTE, ComEd, National Grid MA, Southern California Edison, and Eversource CT. PG&E led all utilities in the Enabling Group, scoring 21.5 of 26 available points. The biggest jumps in Enabling Group performance from the 2020 edition were Dominion VA, LIPA, and Ameren MO. The top 20 utilities in this category were fairly equally distributed across the Northeast/Mid-Atlantic, Midwest, and West Coast. The worst performing utilities in the Enabling Group tended to be in the Southeast, Texas, and Ohio. The biggest drops from the 2020 edition belong to Duke Ohio, SDG&E, and AEP Ohio.

In the following, we dive into the details of each Enabling Group action category.

UTILITY BUSINESS MODEL

Among the critical drivers of utility-sector energy efficiency programs are policies that attempt to address the economic disincentives—such as lost sales revenue and diminished returns on capital investments—that utilities face if customers use less electricity. Here, we consider two important elements of utility business models: full revenue decoupling and performance incentives. We scored decoupling and performance incentives as separate metrics.[43]

Full Revenue Decoupling

In the context of traditional revenue recovery, utility revenues and return on investment are based on sales volumes. This model provides a disincentive for utilities to promote reductions in consumption. Full revenue decoupling disconnects revenue recovery from sales volumes, thereby reducing the utility disincentive to promote customer conservation and energy efficiency.[44] In combination with energy savings targets and performance incentives, revenue decoupling positively correlates with energy efficiency results (Gold and Shipley 2020; Molina and Kushler 2015). For this metric, we award full points for utilities that have revenue decoupling in place. We award partial points to utilities with a lost-revenue adjustment mechanism (LRAM), another regulatory policy aimed at mitigating the utility disincentive to pursue energy efficiency, but that historically has had less impact on removing the throughput incentive (i.e., profits linked to increased energy sales) (Gilleo et al. 2015).

Performance Incentives

Performance incentives offer utilities a financial return on energy efficiency achievements. They reward utilities for meeting optional targets related to lifetime savings, electrification,

[43] For additional background on utility regulatory structures and business models, see (York and Kushler 2011).

[44] See RAP 2016) for a full discussion of decoupling.

decarbonization, and other areas. These incentives can take a variety of forms, but they are most commonly calculated as a percentage of the present value of the net benefits from energy efficiency (Nowak et al. 2015). Successful performance incentives are aligned with policy goals, support new and improved services, balance utility financial gains with customer and societal benefits, and avoid negative consequences (Goldenberg et al. 2020).

Scores

This metric is worth a total of 4 points, with decoupling and performance incentives worth 2 points each. Table 33 summarizes the scoring conditions. For revenue decoupling, utilities receive 0 points if they have not had revenue decoupling or LRAM enacted and have not requested such policies within the last three years. If a utility has requested such a mechanism only recently and it has yet to be approved, it earned 0.5 points. Utilities with an LRAM but not full decoupling earned 1 point; utilities with full revenue decoupling get the full 2 points.

Points for PIMs are similarly structured. Utilities receive 0 points if they have not enacted performance incentives for demand-side programs and have not requested such policies within the last three years. A requested PIM that has yet to be approved is worth 0.5 points, a PIM that is enabled for only first-year energy savings gets 1 point, and PIMs going beyond the first-year savings get the full 2 points.

Table 34 shows the results.

Table 33. Scoring for utility business model

Points	Criteria
Decoupling/LRAM	
0.5	Utility has requested revenue decoupling or lost-revenue adjustment mechanism within the past three years, but has not yet had it approved
1	Utility has a lost-revenue adjustment mechanism in place, but not revenue decoupling
2	Utility has revenue decoupling in place
Performance incentive mechanisms	
0.5	Utility has requested a PIM, but has not yet had it approved
1	Utility has an approved PIM directly related to first-year energy savings

Points	Criteria
2	Utility has an approved PIM that rewards more than incremental (i.e., first-year) energy efficiency savings

Table 34. Scores for utility business model

Utility	Revenue decoupling (2 pts.)	Performance incentive mechanism (2 pts.)	Total points
ComEd	2	2	4
ConEd	2	2	4
Eversource CT	2	2	4
Eversource MA	2	2	4
LIPA	2	2	4
NG MA	2	2	4
NG NY	2	2	4
PSE&G	2	2	4
SCE	2	2	4
OG&E	1.5	2	3.5
Ameren MO	1	2	3
Duke NC	1	2	3
Duke Progress	1	2	3
Duke SC	1	2	3
Consumers	0.5	2	2.5
PG&E	2	0.5	2.5
APS	1	1	2
BGE	2	0	2
Dominion SC	1	1	2

Utility	Revenue decoupling (2 pts.)	Performance incentive mechanism (2 pts.)	Total points
Dominion VA	1	1	2
DTE	0	2	2
Duke IN	1	1	2
JCP&L	1	1	2
LADWP	2	0	2
Xcel CO	1	1	2
Oncor	0	2	2
Entergy LA	1	0.5	1.5
Xcel MN	0.5	1	1.5
AEP TC	0	1	1
CenterPoint	0	1	1
Entergy AR	0	1	1
Entergy TX	0	1	1
GA Power	0	1	1
Nevada Power	1	0	1
PSE	1	0	1
PGE	0.5	0	0.5
AEP OH	0	0	0
AL Power	0	0	0
Ameren IL	0	0	0
CPS	0	0	0
Duke FL	0	0	0
Duke OH	0	0	0
FP&L	0	0	0

Utility	Revenue decoupling (2 pts.)	Performance incentive mechanism (2 pts.)	Total points
MidAm. IA	0	0	0
OH Edison	0	0	0
PacifiCorp UT	0	0	0
PECO	0	0	0
PPL	0	0	0
SDG&E	0	0	0
SRP	0	0	0
TECO	0	0	0
We Energies	0	0	0
West Penn	0	0	0

For revenue decoupling, 24 utilities scored 0 points, and only 12 received the full 2 points. The PIM scores were similar, with 22 utilities scoring 0 points and 17 getting the full 2 points. When combined, 17 utilities received 0 points, 10 got halfway with 2 points, and only 9 earned all 4 points.

ENERGY EFFICIENCY IN RESOURCE PLANNING

Many states require their utilities to periodically assess and plan to meet their future electric needs. These plans, typically referred to as *integrated resource plans* (IRPs) or long-term resource plans, examine both supply and demand before recommending that a set of resources be deployed in the future to ensure electric needs are met safely, reliably, and affordably. Safety and reliability serve as constraints that must be met (e.g., through maintaining adequate reserve margins), while affordability is often achieved through an optimization that solves for the least-cost set of resources needed to keep the grid operational. Restructured utilities that do not own their own generation assets can

participate in the planning process by coordinating with wholesale market or grid operators, including independent system operators or regional transmission organizations.[45]

Unfortunately, supply- and demand-side options are often treated asymmetrically in the resource planning process. Many resource plans assume future levels of demand using factors such as population trends, economic growth, and changes in productivity. Once future demand is determined, supply-side resources compete against each other to determine how much natural gas, solar, wind, and other generation resources will be needed to meet it. This approach deprives demand-side solutions such as energy efficiency the opportunity to fairly compete against supply-side resources (O'Neill et al. 2023).

For this reason, utilities that consider efficiency akin to other supply-side side resources in their planning processes or (for restructured states) provide information to grid planners for that purpose earn the full 2 points, as Table 35 shows. We award 1 point to utilities that consider efficiency as a reduction to their load forecast. While this may not enable the utility to procure as much energy efficiency as they would if they considered it alongside supply-side resources, it does help reduce the amount of generation capacity and other resources that would otherwise be needed to meet that load (Takahashi 2015). A utility earns 0 points if energy efficiency is not considered in its planning process.

Table 35. Scoring for energy efficiency in resource planning

Points	Condition
2	Utility ensures that energy efficiency is treated akin to supply-side resources in the resource planning process
1	Utility ensures that energy efficiency is treated as a reduction to load, but not akin to supply-side resources, in the resource planning process
0	Utility does not consider energy efficiency in the resource planning process

Nine of the utilities we reviewed earned the full 2 points for ensuring that energy efficiency is treated akin to supply-side resources in the planning process (see Table 36). Another 32 utilities earned 1 point for ensuring that energy efficiency is considered in their planning processes as a reduction in forecasted load. Twelve utilities earned 0 points because they failed to consider energy efficiency in their resource planning.

[45] For more details on load forecasting, energy efficiency, and the IRP process see reports from Carvallo et al. 2016, Kahrl et al. 2016, and Lamont and Gerhard 2013.

Table 36. Scores for energy efficiency in resource planning

Utility	Inclusion of efficiency in resource planning (akin to supply-side resource or reduction in forecast load)	Total points
BGE	Both	2
DTE	Both	2
Duke IN	Akin to supply-side resource	2
Eversource MA	Both	2
PacifiCorp UT	Both	2
PG&E	Akin to supply-side resource	2
PGE	Both	2
SCE	Both	2
SDG&E	Akin to supply-side resource	2
AL Power	Reduction in forecast load	1
Ameren MO	Reduction in forecast load	1
APS	Reduction in forecast load	1
ComEd	Reduction in forecast load	1
ConEd	Reduction in forecast load	1
Consumers	Reduction in forecast load	1
CPS	Reduction in forecast load	1
Dominion SC	Reduction in forecast load	1
Dominion VA	Reduction in forecast load	1
Duke FL	Reduction in forecast load	1
Duke NC	Reduction in forecast load	1
Duke Progress	Reduction in forecast load	1
Duke SC	Reduction in forecast load	1
Entergy AR	Reduction in forecast load	1

Utility	Inclusion of efficiency in resource planning (akin to supply-side resource or reduction in forecast load)	Total points
Entergy LA	Reduction in forecast load	1
Entergy TX	Reduction in forecast load	1
Eversource CT	Reduction in forecast load	1
GA Power	Reduction in forecast load	1
LADWP	Reduction in forecast load	1
LIPA	Reduction in forecast load	1
Nevada Power	Reduction in forecast load	1
NG MA	Reduction in forecast load	1
NG NY	Reduction in forecast load	1
OG&E	Reduction in forecast load	1
PECO	Reduction in forecast load	1
PPL	Reduction in forecast load	1
PSE	Reduction in forecast load	1
SRP	Reduction in forecast load	1
TECO	Reduction in forecast load	1
We Energies	Reduction in forecast load	1
Xcel CO	Reduction in forecast load	1
Xcel MN	Reduction in forecast load	1
AEP OH	Neither	0
AEP TC	Neither	0
Ameren IL	Neither	0
CenterPoint	Neither	0
Duke OH	Neither	0
FP&L	Neither	0

Utility	Inclusion of efficiency in resource planning (akin to supply-side resource or reduction in forecast load)	Total points
JCP&L	Neither	0
MidAm. IA	Neither	0
OH Edison	Neither	0
Oncor	Neither	0
PSE&G	Neither	0
West Penn	Neither	0

ENERGY SAVINGS TARGETS

Some states have binding EERS mandating that regulated utilities achieve MWh energy savings targets at or beyond a set percentage of retail sales. State-established savings targets are important because they demonstrate an intent to build a substantial energy efficiency resource over time. ACEEE research finds that EERS is an effective state policy to achieve long-term energy savings impacts. In 2017, states with an EERS saved an average of four times more electricity than states without one (ACEEE 2019).

The correlation holds true at the utility level as well (Gold, Gilleo, and Berg 2019). For this metric, we included not only targets mandated by policy, but also any planned MWh annual savings for the years 2021–2023 published in regulatory filings or other plan documents. A state or a utility may not have a mandatory, binding target, but it may have identified some type of goal for one or more years. We give credit for such goals because they indicate a future-oriented, longer-term commitment to energy efficiency. These softer future savings levels might be expressed as "planned," "estimated," or "forecasted" savings. In cases with both mandated and non-mandated targets, we generally used the former for scoring, but if the utility proposed lower targets that were approved by regulators, then we used those targets instead. This metric complements the 2021 target achievement metric in the Performance Group; it is just as important to set strong targets as to achieve them.

We compiled annual incremental savings targets estimated as net savings at the generator level. If targets were expressed as gross, we applied an NTGR of 89.5% to normalize it unless a utility-specific ratio was available. We then took the sum of the targets for 2021, 2022, and 2023 and divided by total 2021 sales.

Table 37 shows the scoring for this metric.

Table 37. Scoring for 2021–2023 savings targets

Sum of incremental savings targets for three years	Score
5%+	2.0
3.50–4.99%	1.5
2.0–3.49%	1.0
0.5–1.99%	0.5
<0.5%	0.0

Table 38 shows the scores and the corresponding three-year savings targets.

Table 38. Scores for 2021–2023 savings targets

Utility	2021 Target MWh	% of sales	2022 Target MWh	% of sales	2023 Target MWh	% of sales	Total % of sales	Points
DTE	976,935	2.00%	946,632	1.93%	949,317	1.94%	5.87%	2
NG MA	511,669	2.48%	307,475	1.49%	290,573	1.41%	5.38%	2
PG&E	1,077,000	1.27%	1,672,581	1.97%	1,737,201	2.04%	5.28%	2
Consumers	724,852	1.88%	648,013	1.68%	658,919	1.71%	5.27%	2
Xcel CO	500,000	1.62%	500,000	1.62%	500,000	1.62%	4.87%	1.5
SRP	466,847	1.51%	495,271	1.60%	526,884	1.71%	4.82%	1.5
LADWP	350,214	1.53%	378,406	1.65%	364,444	1.59%	4.78%	1.5
LIPA	314,419	1.58%	309,306	1.56%	221,810	1.12%	4.26%	1.5
SDG&E	244,071	1.39%	244,071	1.39%	248,139	1.42%	4.21%	1.5
Entergy AR	321,493	1.39%	319,831	1.39%	319,831	1.39%	4.17%	1.5
Eversource MA	549,906	2.21%	244,023	0.98%	199,624	0.80%	3.99%	1.5
Ameren IL	465,091	1.28%	456,136	1.26%	449,116	1.24%	3.79%	1.5
ComEd	1,171,560	1.29%	1,159,188	1.28%	1,032,367	1.14%	3.70%	1.5
BGE	369,766	1.19%	370,979	1.20%	376,318	1.21%	3.60%	1.5

Utility	2021 Target MWh	% of sales	2022 Target MWh	% of sales	2023 Target MWh	% of sales	Total % of sales	Points
Duke SC	203,363	0.94%	267,466	1.23%	291,534	1.34%	3.51%	1.5
PSE	219,424	0.90%	313,621	1.28%	250,990	1.03%	3.21%	1
PGE	214,220	1.00%	243,828	1.14%	221,373	1.04%	3.19%	1
PSE&G	317,612	0.72%	549,391	1.25%	530,739	1.21%	3.18%	1
NG NY	331,412	0.95%	366,082	1.05%	408,130	1.17%	3.16%	1
PacifiCorp UT	261,198	0.96%	313,155	1.15%	237,778	0.88%	2.99%	1
Duke NC	553,639	0.90%	596,241	0.97%	577,644	0.94%	2.80%	1
ConEd	420,520	0.78%	483,281	0.90%	565,154	1.05%	2.73%	1
Dominion VA	—	0.00%	800,666	0.87%	1,601,330	1.74%	2.62%	1
Nevada Power	223,418	0.91%	199,467	0.81%	201,345	0.82%	2.55%	1
CPS	119,612	0.50%	246,427	1.04%	235,351	0.99%	2.53%	1
Duke Progress	317,842	0.81%	359,147	0.92%	315,417	0.80%	2.53%	1
PECO	247,377	0.64%	308,987	0.79%	362,694	0.93%	2.36%	1
Eversource CT	190,441	0.89%	165,766	0.77%	140,421	0.66%	2.32%	1
Ameren MO	355,211	1.08%	217,924	0.66%	170,887	0.52%	2.27%	1
Xcel MN	665,735	2.16%	—	0.00%	—	0.00%	2.16%	1
APS	285,799	0.92%	362,477	1.16%	—	0.00%	2.08%	1
OG&E	165,745	0.63%	178,578	0.68%	176,058	0.67%	1.98%	0.5
MidAm. IA	164,796	0.59%	180,036	0.65%	186,387	0.67%	1.91%	0.5
PPL	215,845	0.54%	216,000	0.54%	228,361	0.57%	1.64%	0.5
SCE	348,768	0.42%	441,150	0.53%	478,518	0.57%	1.51%	0.5
GA Power	400,342	0.47%	399,785	0.46%	462,333	0.54%	1.47%	0.5
Dominion SC	99,357	0.44%	112,092	0.50%	114,233	0.51%	1.45%	0.5
West Penn	90,386	0.45%	90,386	0.45%	90,386	0.45%	1.34%	0.5

Utility	2021 Target MWh	% of sales	2022 Target MWh	% of sales	2023 Target MWh	% of sales	Total % of sales	Points
Duke IN	191,717	0.66%	198,977	0.68%	—	0.00%	1.34%	0.5
Entergy TX	29,328	0.14%	29,701	0.14%	29,701	0.14%	0.42%	0
AEP TC	34,653	0.12%	35,040	0.12%	35,460	0.12%	0.36%	0
Oncor	156,559	0.11%	157,553	0.11%	160,701	0.11%	0.33%	0
CenterPoint	105,571	0.10%	107,544	0.10%	107,892	0.11%	0.31%	0
Entergy LA	45,763	0.08%	55,815	0.10%	65,448	0.12%	0.29%	0
TECO	19,059	0.09%	18,006	0.09%	17,059	0.08%	0.26%	0
FP&L	55,800	0.05%	58,100	0.05%	60,500	0.05%	0.15%	0
Duke FL	8,950	0.02%	5,370	0.01%	3,580	0.01%	0.04%	0
JCP&L	—	0.00%	0	0.00%	0	0.00%	0.00%	0
AEP OH	—	0.00%	—	0.00%	—	0.00%	0.00%	0
AL Power	—	0.00%	—	0.00%	—	0.00%	0.00%	0
Duke OH	—	0.00%	—	0.00%	—	0.00%	0.00%	0
OH Edison	—	0.00%	—	0.00%	—	0.00%	0.00%	0
We Energies	—	0.00%	—	0.00%	—	0.00%	0.00%	0

Savings, targets, and 2021 sales are net at the generator level. Blanks indicate that no data were found.

Utilities in states with relatively strong EERS policies—such as Michigan, California, and Massachusetts—tended to score highest. Forty-three utilities had targets published for all three years, while six had no targets. Of the 43 utilities reporting savings goals for all three years, 11 had targets with year-to-year percentage increases, while most others had a consistent percentage savings target for all three years. This suggests that policies may not require utilities to ramp-up energy savings each year or that utilities are accountable for results only at the end of each planning cycle.

GHG EMISSIONS TARGETS

Most customers are served by a utility that has a corporate decarbonization goal, usually in the form of a lower emissions target relative to some baseline by 2030, 2040, or 2050. In

practice, most of the planning around such targets occurs on the supply side. Decarbonization actions can include retiring coal plants, procuring more renewable energy, and replacing natural gas with RNG. However, far less progress has been made in linking decarbonization targets with energy efficiency programs.

As a result, we asked utilities in our data request to share the specific emissions reduction targets they had attached to their energy efficiency programs. Although 28 of the 53 utilities we scored have established some form of carbon reduction target, only two—National Grid Massachusetts and Eversource Massachusetts—had explicitly done so for their energy efficiency programs (SEPA 2022).[46] As part of Massachusetts's goal of achieving net zero emissions by 2050, the Secretary of Energy and Environmental Affairs is required to set GHG reduction goals for the Mass Save Energy Efficiency Plans every three years (see box below for additional details) (Theoharides 2021).

Massachusetts's Decarbonization Path

On March 26, 2021, Massachusetts signed into law An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, which requires the state to pursue emissions reductions with an eye toward cost effectiveness, equity, and economic development (Massachusetts General Court 2021). In July 2021, Massachusetts set forth its GHG emission reduction goals in its 2022–2024 Energy Efficiency Plans. These goals are expressed as cumulative annual metric tons of CO_2 equivalent reductions expected in 2030 as a direct result of the energy efficiency measures implemented from 2022–2024. In practice, the 2021 roadmap has compelled Massachusetts to prioritize energy efficiency measures with long-duration benefits (e.g., weatherization and electrification) while giving lower priority to measures with shorter lives (e.g., behavioral measures, lighting) (Massachusetts EEAC 2021).

GHG goals can be articulated explicitly in terms of GHG (e.g., tons of CO_2/year), lifetime energy saved across fuels (e.g., MMBtu), or proxy metrics that do not involve measures of energy, power, or emissions (e.g., the number of heat pumps installed or EVs purchased). Or they could incorporate the economic value of avoided GHG into a framework that selects efficiency measures according to the total system benefit that they will provide (e.g., California's total system benefit metric, coming in 2024). Despite these alternatives, the vast

[46] While not an explicit GHG reduction goal, in 2018, New York State adopted a statewide site energy reduction target of 185 TBtu, which implicitly aids decarbonization by supporting beneficial electrification (NYSERDA 2018).

majority of utilities have yet to set any sort of GHG reduction target for their energy efficiency programs.[47]

Because so few utilities have set these GHG goals, we do not score this category in this edition of the *Utility Scorecard*. Instead, we encourage utilities to collaborate with their program administrators, implementors, state environmental agencies, legislators, regulators, and other stakeholders to translate decarbonization goals into DSM targets. We also encourage them to publish roadmaps with interim DSM targets that detail the decarbonization contributions of different energy efficiency technology categories; to account for interactive effects between efficiency solutions and supply-side reduction costs; and to ensure equitable distribution of costs and benefits. Once energy efficiency program goals and investment plans are aligned with climate commitments, utilities should ensure that they have the necessary data (e.g., granular energy savings shapes, marginal emissions rates) to calculate their realized GHG reductions.

UTILITY CUSTOMER DATA ACCESS

Customers with access to information regarding energy usage can better manage their consumption and engage with opportunities to increase energy efficiency. Utilities that provide energy usage information to residential households and/or owners and managers of large buildings allow these customers to better plan budgets, select and evaluate energy efficiency programs, and reduce overall energy consumption. Allowing customers to track their reduction in energy usage and corresponding dollar savings demonstrates the value of energy efficiency and encourages further investments in it (Mission:data Coalition 2019).

For individual households, we asked utilities if they provided individual meter energy data to customers and/or third parties in a common electronic format, such as a Green Button. For multi-tenant buildings, we asked utilities if they had a system through which aggregated energy use data may be requested.

As Table 39 shows, utilities could earn 1 point for providing either the individual meter energy data to customers or the system for providing aggregated energy use data on multi-tenant buildings. If they provide access to both, they received the full 2 points for this metric. This is a change from the previous *Scorecard* in that we removed scoring based only on automated benchmarking services and expanded on customer access to data usage to include both individual meters and multifamily buildings.

[47] One exception is the Sacramento Municipal Utility District (SMUD), which has established GHG reduction targets as the primary goal of its energy efficiency portfolio. SMUD was not assessed as part of the *2023 Utility Scorecard*.

Table 39. Scoring for data access

Description	Score
Provides access to both individual meter energy data and aggregated energy use data for multi-tenant buildings	2
Provides access to individual meter energy data or aggregated energy use data for multi-tenant buildings	1
Provides access to neither individual meter energy data nor aggregated energy use data for multi-tenant buildings	0

ENERGY STAR and Green Button CMD are standardized ways to provide energy consumption data to residential customers and owners and managers of large buildings. Doing this gives households the opportunity to understand their energy usage patterns and reduce their consumption of and spending on energy. Additionally, customers can share data directly and automatically with contractors and other service providers who can interpret it and recommend priority actions.

Table 40 shows the scores for data access.

Table 40. Scores for data access

Utility	Individual meter data access	Multifamily building data access	Score	Utility	Individual meter data access	Multifamily building data access	Score
AEP OH	Yes	Yes	2	PPL	Yes	No	1
Ameren MO	Yes	Yes	2	SRP	Yes	No	1
APS	Yes	Yes	2	TECO	No	Yes	1
BGE	Yes	Yes	2	Xcel CO	No	Yes	1
ComEd	Yes	Yes	2	AEP TC	No	No	0
ConEd	Yes	Yes	2	AL Power	No	No	0
Consumers	Yes	Yes	2	Ameren IL	No	No	0
DTE	Yes	Yes	2	Dominion SC	No	No	0
Eversource CT	Yes	Yes	2	Duke FL	No	No	0
Eversource MA	Yes	Yes	2	Duke IN	No	No	0

Utility	Individual meter data access	Multifamily building data access	Score	Utility	Individual meter data access	Multifamily building data access	Score
Nevada Power	Yes	Yes	2	Duke NC	No	No	0
PacifiCorp UT	Yes	Yes	2	Duke OH	No	No	0
PECO	Yes	Yes	2	Duke Progress	No	No	0
PG&E	Yes	Yes	2	Duke SC	No	No	0
SCE	Yes	Yes	2	FP&L	No	No	0
Xcel MN	Yes	Yes	2	GA Power	No	No	0
CenterPoint	Yes	No	1	JCP&L	No	No	0
CPS	Yes	No	1	MidAm. IA	No	No	0
Dominion VA	Yes	No	1	OG&E	No	No	0
Entergy AR	Yes	No	1	OH Edison	No	No	0
Entergy LA	Yes	No	1	Oncor	No	No	0
Entergy TX	Yes	No	1	PSE	No	No	0
LADWP	No	Yes	1	PSE&G	No	No	0
LIPA	Yes	No	1	SDG&E	No	No	0
NG MA	Yes	No	1	We Energies	No	No	0
NG NY	Yes	No	1	West Penn	No	No	0
PGE	Yes	No	1				

In total, 16 of the 53 utilities earned the full 2 points for this metric, 14 received 1 point, and 22 received 0 points. Of those earning points, 28 utilities offered access to individual meter data, and 19 utilities offered access to multifamily building data.

EVALUATION, MEASUREMENT, AND VERIFICATION

EM&V is another critical aspect of utility-sector energy efficiency programs. EM&V validates the energy and demand savings from programs, estimates how many customers would have installed the measures even without the program, and provides useful guidance on program performance and ways to improve. EM&V can be a complex process involving sophisticated

measurement and analysis of energy savings data. Since EM&V is not a standardized process across jurisdictions, the rigor of evaluation can vary by utility and state (York, Cohn, and Kushler 2020). For this metric, we focused on two key EM&V aspects: the independence of the evaluation process, and the estimation of net savings. While not yielding a complete picture of EM&V, a focus on these factors can lead to improved EM&V efforts.[48]

EM&V independence involves freedom from influence during the evaluation process. A utility often conducts program evaluations in-house or hires a third-party contractor to complete the work. For this metric, we considered an evaluation process to be independent only when another layer of review or participation existed beyond the utility staff or contractor. An independent evaluation might occur through direct oversight of the evaluation process (including oversight of the third-party contractor) from an outside group, such as utility regulatory commission staff or other energy offices. For example, in Maryland, program evaluations are conducted by the utilities and also verified by a consultant retained by the Maryland Public Service Commission.

To determine whether a utility's EM&V process was independent in 2021, we asked utilities about it on the data request and reviewed evaluation framework documents, public filings related to the evaluation process, technical resource manuals, and evaluation reports. We awarded 1.5 points for evidence of independence beyond a third-party contractor hired by the utility.

Estimation of net savings is important because it demonstrates energy savings directly attributable to a program.[49] Several factors should be included in a net savings estimation, including free ridership, spillover, and market effects.[50] Not all utilities account for all factors. Estimating net savings is useful in modifying program design after understanding how a market responds, assessing market transformation over time, and evaluating resource options in a procurement planning process (Violette and Rathbun 2017). Although EM&V continues to be an important tool to assess and verify program performance, regulators and

[48] For additional information and resources related to EM&V, see aceee.org/sector/state-policy/toolkit/emv.

[49] Calculating gross savings may become more common as utilities begin tracking GHG reductions associated with energy efficiency programs.

[50] A free rider is a program participant who would have implemented the program measure or practice even in the absence of the program. Spillover refers to energy consumption and/or demand reductions caused by an energy efficiency program's presence, beyond the program-related gross savings of participants and without financial or technical assistance from the program. Market effects are changes in the structure or functioning of a market, or the behavior of participants in a market, that result from one or more program efforts (NEEP 2016).

program administrators must highlight the importance of evaluation being completed in a timely manner (York, Cohn, and Kushler 2020).

We awarded 1.5 points to utilities reporting net savings. We did not consider specific factors such as measurement of free ridership, spillover, or market effects. For states that assume net is equal to gross, we gave credit only if that assumption was verified by a study completed within the past three years. Table 41 below shows how utilities earned points for this action category.

Table 41. Scoring for EM&V

Points	Criteria
1.5	Utility's EM&V process is independent, with another layer of review or participation beyond the utility staff or contractor
1.5	Utility reports net savings; for utilities that assume net is equal to gross, credit is given only if a study was completed in the past three years verifying that assumption

Table 42 shows the scores for evaluation process independence and net savings reporting.

Table 42. Scores for EM&V independence and net savings calculations

Utility	Independence	Net savings	Points	Utility	Independence	Net savings	Points
Ameren IL	1.5	1.5	3	Dominion VA	1.5	1.5	3
Ameren MO	1.5	1.5	3	AEP TC	1.5	0	1.5
BGE	1.5	1.5	3	CPS	0	1.5	1.5
CenterPoint	1.5	1.5	3	Duke NC	0	1.5	1.5
ComEd	1.5	1.5	3	Duke Progress	0	1.5	1.5
ConEd	1.5	1.5	3	Duke SC	0	1.5	1.5
Consumers	1.5	1.5	3	Entergy LA	0	1.5	1.5
Dominion SC	1.5	1.5	3	Entergy TX	0	1.5	1.5
DTE	1.5	1.5	3	JCP&L	1.5	0	1.5
Duke IN	1.5	1.5	3	LIPA	0	1.5	1.5
Duke OH	1.5	1.5	3	OH Edison	1.5	0	1.5

Utility	Independence	Net savings	Points	Utility	Independence	Net savings	Points
Entergy AR	1.5	1.5	3	Oncor	1.5	0	1.5
Eversource CT	1.5	1.5	3	PacifiCorp UT	0	1.5	1.5
Eversource MA	1.5	1.5	3	PGE	0	1.5	1.5
GA Power	1.5	1.5	3	Xcel CO	0	1.5	1.5
LADWP	1.5	1.5	3	Xcel MN	0	1.5	1.5
Nevada Power	1.5	1.5	3	AEP OH	0	0	0
NG MA	1.5	1.5	3	AL Power	0	0	0
NG NY	1.5	1.5	3	APS	0	0	0
OG&E	1.5	1.5	3	Duke FL	0	0	0
PECO	1.5	1.5	3	FP&L	0	0	0
PG&E	1.5	1.5	3	MidAm. IA	0	0	0
PPL	1.5	1.5	3	PSE	0	0	0
SCE	1.5	1.5	3	PSE&G	0	0	0
SDG&E	1.5	1.5	3	SRP	0	0	0
We Energies	1.5	1.5	3	TECO	0	0	0
West Penn	1.5	1.5	3				

Of the 53 utilities, 32 had independent EM&V oversight in 2021, 39 reported net savings, and 28 received points in both categories. We awarded both of these points based on publicly available data. Some utilities, such as APS and SRP, calculate net savings but do not report results publicly or have not updated the research within the past three years.

RESIDENTIAL RATES: CUSTOMER FIXED CHARGES

In this section, we consider the first of two categories related to electric rates: the size of the fixed residential customer charges. These customer charges, also known as fixed monthly charges, are intended to cover utility expenses unrelated to the volumetric consumption of electricity. Such expenses might include metering, billing, customer service, and maintaining the electric distribution system (Baatz 2017).

Large fixed charges disincentivize energy efficiency because they constitute costs that customers must pay, even if they reduce their monthly consumption to zero. Moreover, utility bills with higher customer charges are likely to have lower volumetric (i.e., per kWh)

charges because of the fixed revenue requirement for each customer class. In combination, large fixed charges reduce the financial incentive for customers to engage in energy efficiency. They also result in higher relative costs for low-usage customers.

To assess utilities in this action category, we reviewed customer charges gathered as part of the OpenEI Utility Rate Database (Zimny-Schmitt and Huggins 2020). Reported values are accurate as of April 2020. Most of the customer charges were expressed as monthly amounts. Those expressed as a daily amount were converted to monthly, assuming a 30-day month. To score this metric, we used a tiered approach, awarding utilities 1 point for a customer charge of $6.99 per month or less, 0.5 points for a customer charge between $7.00 and $9.99 per month, and 0 points for $10 or more per month. Table 43 shows the scoring for this metric.

Table 43. Scoring for monthly fixed customer charges

Score	Description
1.0	$6.99 or less
0.5	$7.00–9.99
0.0	$10.00+

Table 44 shows the scores for the customer charge metric. The median residential customer charge for our scored utilities is $9.08, and the average is $9.79, which is an increase of approximately $0.73 since 2018. TECO has the highest customer charge at $21.29 per month. Only 7 of the 53 utilities have a customer charge higher than $15 per month, and 23 utilities—five more than in 2020—have a charge that is $10 or higher. Slightly more than half of the utilities increased their fixed monthly charges since the last *Scorecard* edition, approximately 30% had no change, and approximately 13% had a decrease in customer charges. Of the utilities that saw an increase, about half were increases of less than a dollar, while four had increases of more than $3. The decreases in fixed monthly charges ranged from $0.01 to a $2.75 decrease at Nevada Power.

Table 44. Scores for monthly customer charges

Utility	Customer charge	Score	Utility	Customer charge	Score
PG&E	$0.00	1	MidAm. IA	$9.42	0.5
SCE	$0.94	1	Dominion SC	$9.50	0.5
LADWP	$1.75	1	Eversource CT	$9.62	0.5
JCP&L	$2.78	1	APS	$10.00	0

Utility	Customer charge	Score	Utility	Customer charge	Score
Oncor	$3.42	1	Entergy TX	$10.00	0
OH Edison	$4.18	1	SDG&E	$10.49	0
AEP TC	$4.79	1	PECO	$10.51	0
PSE&G	$4.95	1	Duke Progress	$11.78	0
PacifiCorp UT	$5.00	1	Duke SC	$11.78	0
Xcel CO	$5.71	1	AEP OH	$11.83	0
Duke OH	$6.00	1	PGE	$12.04	0
Dominion VA	$6.58	1	Duke FL	$12.45	0
Eversource MA	$7.00	0.5	Nevada Power	$12.50	0
NG MA	$7.00	0.5	OG&E	$13.25	0
Entergy LA	$7.04	0.5	Ameren IL	$13.54	0
West Penn	$7.44	0.5	LIPA	$13.99	0
PSE	$7.49	0.5	GA Power	$14.00	0
BGE	$7.90	0.5	AL Power	$14.50	0
Xcel MN	$8.00	0.5	Duke NC	$14.94	0
FP&L	$8.34	0.5	We Energies	$16.00	0
Entergy AR	$8.40	0.5	ComEd	$16.27	0
DTE	$8.42	0.5	ConEd	$16.50	0
CenterPoint	$8.52	0.5	NG NY	$17.00	0
Consumers	$8.87	0.5	PPL	$17.94	0
Duke IN	$9.01	0.5	SRP	$20.00	0
Ameren MO	$9.06	0.5	TECO	$21.29	0
CPS	$9.10	0.5			

It is worth acknowledging that while high fixed charges can dissuade customers from pursuing energy efficiency, placing too much emphasis on volumetric charges can have its own drawbacks. One philosophy of rate design argues that customers should pay their fair share of costs for using and drawing electricity from the grid, regardless of how those costs are structured. California has some of the highest volumetric electricity rates in the country. Much of its IOUs' fixed costs appear on customers' bills as volumetric charges, a setup that violates the fair-share rate design philosophy, particularly for customers who can afford to lower their bills through rooftop solar generation.[51,52] High volumetric rates also serve as a disincentive for electrification, which is itself (usually) a form of energy efficiency.

We recognize that rate design can be complicated, especially when trying to simultaneously embed equity and economic efficiency into customer rates. Novel approaches, such as treating rooftop solar customers as their own customer class, or progressively scaling fixed charges with customers' incomes have been suggested (Borenstein et al. 2021; California State Legislature 2022; Costello 2022). Here, this metric's current favoring of low fixed charges should not be interpreted as an argument against these alternative rate design approaches. Future editions of the *Utility Scorecard* will monitor developments in this space, and we may modify this metric if doing so would more properly reward utilities for approaches that manage to fairly incentivize energy efficiency while maximizing equitable outcomes for all customers.

RESIDENTIAL RATES: TIME-OF-USE RATES

In this section, we cover the second of two categories related to electric rates: the availability of residential TOU rates. Under TOU rates, utilities charge customers different prices ($/kWh) for electricity during different seasons or times of day. Most TOU rates have higher prices during peak grid periods, such as summer afternoons and evenings. The purpose is to align what customers pay for electricity with the cost of operating the grid as a function of time. In this way, TOU rates support the vision of a dynamic, flexible, low- to no-carbon grid.

TOU rates not only send a signal to customers that indicates when the cost of delivering electricity is higher, but they also provide a financial incentive to save energy during those higher-cost periods. While only a small percentage of U.S. electricity customers are currently

[51] For example, without fixed charges, rooftop solar customers who generate enough electricity to cover their monthly load could conceivably reduce their electricity bills to zero even though they utilize (and would not pay for) grid access to acquire that benefit.

[52] As of this writing, California is in the midst of a proceeding that would peg fixed charges to customer income. The upshot will be lower volumetric rates and higher fixed charges for most, if not all customers, leading to utility bill reductions for low-income customers and utility bill increases for high-income customers.

subscribed to TOU rates, the rates are offered by about half of U.S. IOUs (Faruqui, Hledik, and Sergici 2019), and customers that do subscribe tend to lower their energy consumption (Baatz 2017; Folks and Hathaway 2020). For this reason, we reward all utilities that offer TOU to their customers with 1 point in this action category. If utilities offer TOU rates as the default (meaning that customers are automatically enrolled and have to opt-out if they wished to be on a standard electricity rate), we offer an additional point. Table 45 summarizes this point breakdown.

Table 45. Scoring for time-of-use rates

Score	Description
2	Utility offers default opt-out TOU rates
1	Utility offers opt-in TOU rates
0	Utility does not offer TOU rates

As with the fixed charges action category, we gathered utility TOU rate data from the OpenEI Utility Rate Database (Zimny-Schmitt and Huggins 2020). Table 46 shows the results of our scoring for utility TOU rate offerings in 2021. If a utility had different TOU offerings, we assigned to it the rate that was in place for most of the year. To earn points in this category, the utility must offer a TOU rate for the majority of the year.

Table 46. Scores for time-of-use rates

Utility	TOU Rate	Default?	Score	Utility	TOU Rate	Default?	Score
APS	Yes	Yes	2	LIPA	Yes	No	1
Consumers	Yes	Yes	2	MidAm. IA	Yes	No	1
DTE	Yes	Yes	2	Nevada Power	Yes	No	1
PG&E	Yes	Yes	2	NG MA	Yes	No	1
SCE	Yes	Yes	2	OG&E	Yes	No	1
SDG&E	Yes	Yes	2	PacifiCorp UT	Yes	No	1
Xcel CO	Yes	Yes	2	PGE	Yes	No	1
AEP OH	Yes	No	1	SRP	Yes	No	1
AL Power	Yes	No	1	TECO	Yes	No	1
Ameren MO	Yes	No	1	We Energies	Yes	No	1

Utility	TOU Rate	Default?	Score	Utility	TOU Rate	Default?	Score
BGE	Yes	No	1	West Penn	Yes	No	1
ComEd	Yes	No	1	Xcel MN	Yes	No	1
ConEd	Yes	No	1	AEP TC	No	—	0
Dominion SC	Yes	No	1	Ameren IL	No	—	0
Dominion VA	Yes	No	1	CenterPoint	No	—	0
Duke FL	Yes	No	1	CPS	No	—	0
Duke NC	Yes	No	1	Duke IN	No	—	0
Duke OH	Yes	No	1	Entergy LA	No	—	0
Duke Progress	Yes	No	1	Eversource MA	No	—	0
Duke SC	Yes	No	1	NG NY	No	—	0
Entergy AR	Yes	No	1	OH Edison	No	—	0
Entergy TX	Yes	No	1	Oncor	No	—	0
Eversource CT	Yes	No	1	PECO	No	—	0
FP&L	Yes	No	1	PPL	No	—	0
GA Power	Yes	No	1	PSE	No	—	0
JCP&L	Yes	No	1	PSE&G	No	—	0
LADWP	Yes	No	1				

Of the 53 utilities, 39 offer residential TOU rates, the same number as in 2018. APS, Consumers, DTE, and Xcel CO join the three California IOUs as the only seven of the 53 utilities with default TOU rates.

In promoting TOU rates, we recognize that how these rates are designed and implemented plays a key role in their eventual success (Chitkara et al. 2016). We caution against plans that deprive customers of the ability to opt-out of TOU rates, lest they discover that they would save more money on a standard rate plan. Regulators should also carefully monitor utility promotion of TOU rates, including verifying that utility-driven cost comparisons between standard and TOU rates reflect what customers would actually pay, and are not, for example, directing customers to the plan that would generate the greatest revenue for the utility.

Equity should be a guiding principle in TOU rate development, since not all customers are guaranteed to benefit from TOU rates at all times. Utilities should clearly communicate any seasonal billing variations that might result from TOU rates (e.g., higher bills in peaking months, but lower bills in off-peak months) (George et al. 2017). This is especially a concern for low-income customers, who may not have the flexibility to exchange higher bills in part of the year for lower bills at other times.

COMMUNITY ENGAGEMENT

One of the categories new to this *Scorecard* edition is community engagement. We asked utilities to share whether they had taken an expanded approach to conducting community engagement with low-income groups in their service territory to inform the design or improvement of their energy efficiency programs. Such actions are examples of procedural equity, which is a dimension of equity focused on decision-making processes and power. Procedurally equitable processes are designed to ensure that groups are included in the program planning process and to provide authentic opportunities for engagement and other factors (Park 2014).

Community Engagement in Action

Speaking at the Washington DC Clean Energy Summit in January 2023, Dr. Tony Reames, an associate professor of environment and sustainability at the University of Michigan, shared an anecdote that highlights the importance of community engagement. Referring to interviews he conducted with underserved Kansas City residents regarding an Obama-era stimulus initiative, the Green Impact Zone, Reames said the following:

> *I did interviews because I wanted to know what residents in the new Green Impact Zone thought about these resources coming. I was like, "This is a great thing! You are going to get efficient housing. You might get solar. You'll have clean buses driving down your street."*
>
> *One elder in the community sat me on her porch. The first thing she talked about was energy conservation in the 1980s during the Reagan era, focused on reducing energy usage because we were coming out of the oil energy crisis. And she pointed out every house where one of her neighbors lost their house because of predatory lending, coming through and taking out second mortgages to get new windows, to make your home more efficient. So she was afraid. She said to me, "I've been here before, and I won't let it happen again." So now we have millions of dollars coming into this community to do energy efficiency and people are afraid to take the government assistance.*
>
> *The second thing she said, recognizing that she couldn't afford her utilities, [was that] every time she sees a utility truck [her] heart rate goes up. This was back in the day when you still rolled trucks out to do shutoffs. I asked her why, and she said, "If the utility truck is not coming to shut me off, it's going to shut off one of my neighbors. And that still impacts me because I'm storing their groceries, or I'm running an extension cord to their house, or their kids have to come over and do their homework in the light."* (District of Columbia PSC 2023).

In the text box, we share an anecdote from University of Michigan Professor Tony Reames that illustrates the longstanding issues that people have with institutions that have broken their trust, either by not delivering results or by causing actual harm. Failure to engage community members during program design sends the message that decisions are being made *for* them, rather than *with* them. When the goal is to create durable, long-term energy solutions for communities, it is imperative to identify and address structural issues that could impede the effective delivery of those solutions, rather than impose solutions that turn out to be band-aids, no matter how well intended.

The Energy Equity Project (EEP), a collaborative national endeavor purposed with developing a framework for measuring and advancing energy equity, identifies several principles to pursue in service of energy equity. The first is *trust*, which centers around relationships that build community power and create authentic and inclusive opportunities for engagement. The second is *credibility*, which can require evolving the utility's explicit and implicit norms by ensuring flexibility, actively targeting those who most need energy services, being transparent, and so on. The third is *power*, which aims to ensure agency for communities in the decision-making process in support of utility outcomes (Energy Equity Project 2022).

The scoring conditions for this action category, shown in Table 47, are an initial attempt to meet these principles of trust, credibility, and power. Utilities can earn points by demonstrating that they have taken actions to better understand how to effectively deliver energy efficiency solutions to low-income customers. Utilities can earn additional points by taking steps to actively facilitate robust representation from members of those communities. Finally, the utility can earn points by proving that they have incorporated community feedback into their energy efficiency program offerings.

Table 47. Scoring for community engagement

Points	Condition
0.5	Utility holds or attends meetings aimed at better understanding how to equitably deliver energy efficiency solutions to low-income customers or commissions a comprehensive survey of customer needs
0.5	Utility takes actions to facilitate active representation from members of the communities that the meeting intends to serve
0.5	Utility demonstrates that it has incorporated input from community feedback sessions into a plan to facilitate more equitable delivery of energy efficiency programs
0.5	Utility enacts the plan to facilitate more equitable delivery of energy efficiency programs based on the incorporated input

Examples of qualifying actions to facilitate active representation from communities include the following:

- Holding meetings at locations/events that are easily accessible to community members
- Compensating low-income community members for their participation
- Providing funding or in-kind support to municipal or nonprofit organizations to facilitate more equitable energy efficiency delivery
- Inviting community members or CBO representatives to co-run meetings or present as panelists or advisory board members
- Utilizing an independent monitor to ensure adequate representation of community members
- Leveraging CBOs that have existing relationships with community members to enhance participation

We did not award points for one-way communications from utilities to community members, advertisements, or similar forms of outreach that specifically target low-income communities.[53]

Table 48 shows the points earned by each utility for community engagement. Only two utilities, Eversource Massachusetts and Portland General Electric, received the full 2 points; three utilities, Dominion Virginia, LADWP, and Pacific Gas & Electric, earned 1.5 points; four utilities earned 1 point; and 11 earned 0.5 points.[54]

Table 48. Scores for community engagement

Utility	Score	Utility	Score
Eversource MA	2.0	Duke NC	0.0
PGE	2.0	Duke OH	0.0
Dominion VA	1.5	Duke Progress	0.0

[53] We also did not award points for receiving feedback via the regulatory process, as that is a de facto standard for most utility actions and does not, in our view, live up to the standard of equitable community engagement.

[54] Some utilities are required to conduct community engagement in their service territory. Our conditions for quality community engagement may or may not be consistent with these preexisting regulatory requirements and should not be used as an indicator of whether those requirements have been met.

Utility	Score	Utility	Score
LADWP	1.5	Duke SC	0.0
PG&E	1.5	Entergy AR	0.0
Ameren MO	1.0	Entergy LA	0.0
CPS	1.0	Entergy TX	0.0
Dominion SC	1.0	FP&L	0.0
DTE	1.0	GA Power	0.0
APS	0.5	JCP&L	0.0
BGE	0.5	MidAm. IA	0.0
CenterPoint	0.5	Nevada Power	0.0
ComEd	0.5	NG MA	0.0
Consumers	0.5	NG NY	0.0
Eversource CT	0.5	OG&E	0.0
LIPA	0.5	OH Edison	0.0
PECO	0.5	Oncor	0.0
PPL	0.5	PacifiCorp UT	0.0
PSE	0.5	PSE&G	0.0
SCE	0.5	SDG&E	0.0
AEP OH	0.0	SRP	0.0
AEP TC	0.0	TECO	0.0
AL Power	0.0	We Energies	0.0
Ameren IL	0.0	West Penn	0.0
ConEd	0.0	Xcel CO	0.0
Duke FL	0.0	Xcel MN	0.0
Duke IN	0.0		

Eversource MA earned points for committing to strategic partnerships focused on expanding equitable access to energy efficiency services. Through its newly redesigned Community First Partnership (CFP) programs, Eversource MA collaborates with historically underserved municipalities to set savings targets and develop strategies to serve priority populations

such as renters, bilingual customers, income-eligible customers, and microbusinesses (Mass Save 2023). That collaboration has yielded improvements, including the development of an Energy Advocate role to serve as a liaison between energy efficiency programs and residents/businesses. The role was created in response to community and municipal feedback indicating that low-income populations often require guidance on energy programs from their municipality or community organizations.

PGE did well in community engagement by holding a series of summits in which community leaders and customers shared their perspectives on Energy Trust of Oregon (PGE's energy efficiency program administrator). Participant feedback helped PGE understand how to serve communities of color and low-income customers more equitably, and their feedback was subsequently incorporated into PGE's 2022 diversity, equity, and inclusion (DEI) plan. PGE also undertook specific engagement efforts, such as hiring dedicated staff and creating, tracking, and managing relationships with at least 59 CBOs (Energy Trust of Oregon 2022).

In reviewing the responses to this question, it was clear that many utilities conflate community outreach and education with community engagement. Numerous utilities provided information about how they attempt to identify low-income or hard-to-reach customers or to more efficiently verify which customers qualify for low-income energy efficiency offerings. Those engagement sessions may include educational components, or even leverage CBOs to help spread the word from a trusted community resource. From our perspective, such activities would manifest in the form of low-income program spending, savings, and offerings, so we score them elsewhere.

There is a substantial difference between informing customers about utility programs and actively soliciting their input to improve the programs themselves. Most utilities in this *Scorecard* reported little to no effort in substantive community engagement. This indicates that plenty of headroom remains for utilities to expand the effectiveness of their low-income energy efficiency programs, including by understanding and addressing the factors that can help customers to participate and save.

We recommend that utilities identify principles of energy equity that can anchor all participants in a community engagement process with a collective, unified vision. Practical considerations can follow that vision, including making sure that all communities are engaged proactively and have their voices heard; setting metrics and targets; deciding how to collect data to track and evaluate progress; determining whether utility actions are sufficient to meet the vision; estimating how much time will be required to reach that vision (and whether that change will occur quickly enough); and defining roles and responsibilities.

ENERGY AFFORDABILITY

This is also a new metric for the *Scorecard;* it evaluates the utility's goals for energy savings for low-income customers. More than a quarter of U.S. households experience a high energy

burden—defined as having energy bills that exceed 6% of household income—and this share is higher for low-income customers and other historically disadvantaged and marginalized communities (Drehobl, Ross, and Ayala 2020). We scored utilities on whether there is a formal goal in legislation or regulation, an informal goal in the utility's own planning documents, and how the utility is tracking and delivering targeted solutions to energy-burdened customer groups.

We developed the metric for this action category to identify utilities that have been seriously tracking and implementing solutions related to energy affordability. Utilities can earn points in two ways, as Table 49 summarizes. The utilities provided statements about the steps they were taking to alleviate energy burden; those that provided sufficient details about the goals and how they were tracking the low-income customers received full points for this metric. The first way is by tracking energy burdens and their impact on low-income customers groups in their service territories. The second is by having an energy affordability, spending, savings, or participation target in place, either through legislation or regulation. For those that outlined an internal goal without information about how they would track the impacts, the utility received partial credit, since it is not binding like a goal established through legislation or regulation. Table 50 summarizes utilities' scores for the energy affordability action category.

Table 49. Scoring for energy affordability

Points	Criteria
1	Utility tracks energy burdens and low-income customer groups in its service territory
1	Utility has an energy affordability, spending, savings, or participation target in place through legislation or regulation; a utility can earn 0.5 points if targets are in place as part of internal goals

Table 50. Scores for energy affordability

Utility	Total score	Utility	Total score
ComEd	2	PSE	0.5
CPS	2	AEP OH	0
Eversource MA	2	AL Power	0
GA Power	2	Ameren IL	0
LIPA	2	Ameren MO	0
NG MA	2	BGE	0

Utility	Total score	Utility	Total score
OG&E	2	ConEd	0
PG&E	2	Dominion SC	0
DTE	1.5	Duke FL	0
Eversource CT	1.5	Duke IN	0
APS	1	Duke OH	0
CenterPoint	1	Duke SC	0
Dominion VA	1	Entergy AR	0
JCP&L	1	Entergy LA	0
LADWP	1	Entergy TX	0
Nevada Power	1	FP&L	0
Oncor	1	MidAm. IA	0
PPL	1	NG NY	0
PSE&G	1	OH Edison	0
SCE	1	PacifiCorp UT	0
SDG&E	1	PECO	0
Xcel CO	1	SRP	0
AEP TC	0.5	TECO	0
Consumers	0.5	We Energies	0
Duke NC	0.5	West Penn	0
Duke Progress	0.5	Xcel MN	0
PGE	0.5		

Of the 53 utilities, only eight earned the full 2 points; two came close, earning 1.5 points. On the other end of the spectrum, 25 utilities received 0 points for this category, and six utilities earned just 0.5 points.

FINANCING SOLUTIONS

This is another new *Scorecard* metric. Here, we are evaluating whether the utility facilitates financing solutions to help customers pay for home energy efficiency upgrades and

improvements.[55] Financing can occur via the customer's energy bills or through a separate billing mechanism. The utility might provide this financing itself or facilitate it through a separate third-party entity such as a bank or green bank. Actions such as these help to support distributional equity.

Of the 2 points possible for this metric, utilities earn 1 point if they offer some financing solutions and the full 2 points if these solutions are offered via the customer's energy bill ("on-bill financing"), as Table 51 shows. Table 52 shows the utility scores.

Table 51. Scoring for financing solutions

Points	Condition
1	Utility offers a financing solution to assist customers with energy efficiency improvements or upgrades
1	Utility offers on-bill financing

Table 52. Scores for financing solutions

Utility	Total	Utility	Total
Ameren IL	2	AEP TC	0
Ameren MO	2	AL Power	0
BGE	2	APS	0
ComEd	2	CenterPoint	0
ConEd	2	CPS	0
Consumers	2	Dominion SC	0
DTE	2	Dominion VA	0
Eversource CT	2	Duke FL	0
GA Power	2	Duke IN	0
LIPA	2	Duke OH	0
NG MA	2	Entergy AR	0

[55] On-bill financing avoids predatory lending, which is why we awarded utilities that offered it an additional point.

Utility	Total	Utility	Total
PacifiCorp UT	2	Entergy LA	0
PG&E	2	Entergy TX	0
PGE	2	FP&L	0
PSE&G	2	MidAm. IA	0
SCE	2	Nevada Power	0
SDG&E	2	OG&E	0
SRP	2	OH Edison	0
Xcel CO	2	Oncor	0
Duke NC	1	PECO	0
Duke Progress	1	PPL	0
Duke SC	1	PSE	0
Eversource MA	1	TECO	0
JCP&L	1	We Energies	0
LADWP	1	West Penn	0
NG NY	1	Xcel MN	0
AEP OH	0		

For this metric, 27 utilities received 0 points. Of the utilities that had programs, 7 utilities earned 1 point for offering financial solutions to their customers, and 19 earned the full 2 points for having financial solutions with on-bill financing as an option.

LANGUAGE ACCESS

Participation in energy efficiency programs should be as easy as possible. Approximately 8.2% of the U.S. population reports not being able to speak English very well, and that percentage reaches upward of 45% in some counties (Census Bureau 2020).[56] Individuals

[56] The lack of English-language proficiency may actually be higher than this due to the undercounting and overcounting of different populations (Khubba, Heim, and Hong 2022).

unable to effectively read, write, speak, or understand English will be limited in their ability to effectively interact with and use utility energy efficiency programs if information about them is provided only in English. For this reason, this edition of the *Utility Scorecard* introduces a new action category that assesses how well utilities are lowering language-related barriers to participation.

Utilities can earn up to 1 point in this category by taking two actions: instituting a process to determine which languages need to be offered in their utility territory to improve equitable access, and taking actions to actually expand that access. Our utilities earned credit for the former in various ways, including developing a language access plan; soliciting input from customer surveys or stakeholder processes; conducting focus groups featuring public, private, and business organizations that interact with English-isolated families; or using U.S. Census data to understand the languages spoken in their service territory. The concept of a language access plan is more common in the healthcare, judicial, and government sectors than in the energy sector, but several utilities and regulatory commissions have developed them, including the Massachusetts Department of Public Utilities (Massachusetts DPU 2018) and certain Massachusetts utilities (see text box).

A Model for Equitable Language Access

As part of its three-year energy efficiency plan, Mass Save (the energy efficiency program implementer for National Grid Massachusetts, Eversource Massachusetts, and several other utilities) approaches language access in a way that can serve as a model for other utilities. Mass Save's plan clearly articulates the impacts of language access barriers; quantifies participation, investment, and savings levels for language-isolated customers; commits to the creation of a formal Language Access Plan; and promises to work with CBOs to close the language gap. In addition, Mass Save provides in-language marketing with "the intent of resonating with customers who speak that language." Its educational materials on energy efficiency have already been translated into 13 languages, with additional updates promised. Mass Save's strategy also involves training new and diverse job candidates, specifically calling out people with fluency in multiple languages (Mass Save 2021).

Utilities can earn credit for actions that expand language access in various ways. Such actions, which support both procedural and distributional equity, include running advertising campaigns with prominent non-English news outlets or with the assistance of an agency that specializes in reaching non-English populations; participating in long-form, in-language television or social media interviews on a program that serves as a prominent resource for the non-English community; or offering in-language presentations as part of community

events to reach non-English customers in person. Table 53 summarizes how we awarded the points.[57]

Table 53. Scoring for language access

Points	Condition
0.5	Utility institutes a process to determine the languages in which energy efficiency information needs to be communicated to customers to maximize equitable program access
0.5	Utility takes at least two of the following actions to expand language to its customers: • Publishes information in the service territory's four most commonly spoken primary languages or in enough languages to cover 98% of customers' primary language • Creates bespoke campaigns designed to resonate with non-English speakers • Partners with CBOs to leverage the benefits of culturally appropriate non-English communication channels • Establishes customer language-access goals, identifies barriers, and develops a plan to better deliver services to non-English speakers

Examples of qualifying actions under the final bullet in Table 53 include customer journey maps that show how English-isolated customers interact with energy efficiency programs, and training workforce candidates with fluency in multiple languages. While this *Scorecard* has established thresholds for adequate language access (i.e., the four most commonly spoken primary languages or 98% coverage of customers' primary languages), we acknowledge that the appropriate thresholds are up for debate. The primary goal should be to holistically expand access to safe, reliable, and affordable energy services, with language access being just one component. Achieving 100% coverage with culture- and language-appropriate messaging on energy efficiency can impose additional utility administrative costs. These costs are likely to be borne by ratepayers, and higher electric rates can

[57] For additional context on language access barriers faced by utility energy efficiency programs and recommendations to overcome them, see Kelley, Jaeger Johnson, and Milla 2022.

negatively impact equity and affordability in other ways. Given this, we recommend that utilities take steps to understand the language access barriers in their own utility territory before determining the optimal amount of coverage needed to meet equity and efficiency goals.

We did not award points to utilities for publishing in languages based off requests from their internal marketing teams unless those teams were identified as using one of the qualifying actions listed above. We also did not award points for basing language coverage on incomplete information, such as one-off customer requests or requests from individual CBOs. Many utilities reported providing language access in English and Spanish, often with no further explanation. On its own, this did not meet our minimum threshold for ensuring equitable access, so we awarded no points for this approach. We also did not award points for translation services that were made available only on customer request or that required customers' working through a call center.

Table 54 shows the scores for language access. Only the two Massachusetts utilities earned full credit for their language access actions, while another nine utilities earned half a point. Almost 80% of utilities we scored received no credit in this category.

Table 54. Scores for language access

Utility	Score	Utility	Score
Eversource MA	1.0	GA Power	0.0
NG MA	1.0	Duke Progress	0.0
APS	0.5	Duke SC	0.0
BGE	0.5	Entergy AR	0.0
DTE	0.5	Entergy LA	0.0
Eversource CT	0.5	Entergy TX	0.0
GA Power	0.5	FP&L	0.0
LADWP	0.5	JCP&L	0.0
PGE	0.5	LIPA	0.0
PSE	0.5	MidAm. IA	0.0
SCE	0.5	Nevada Power	0.0
AEP OH	0.0	NG NY	0.0

Utility	Score	Utility	Score
AEP TC	0.0	OG&E	0.0
AL Power	0.0	OH Edison	0.0
Ameren IL	0.0	Oncor	0.0
Ameren MO	0.0	PacifiCorp UT	0.0
CenterPoint	0.0	PECO	0.0
ComEd	0.0	PG&E	0.0
ConEd	0.0	PPL	0.0
Consumers	0.0	PSE&G	0.0
CPS	0.0	SDG&E	0.0
Dominion SC	0.0	SRP	0.0
Dominion VA	0.0	TECO	0.0
Duke FL	0.0	We Energies	0.0
Duke IN	0.0	West Penn	0.0
Duke NC	0.0	Xcel CO	0.0
Duke OH	0.0		

WORKFORCE

Energy efficiency supports nearly 2.2 million American jobs. These jobs span multiple industries, including manufacturing and trade, construction, and professional services (E4TheFuture and E2 2022). These industries need all types of workers, from white collar to blue collar, from engineers to salespeople to administrators. Utilities invest more than $8 billion per year in energy efficiency, giving them substantial influence over the entire energy efficiency enterprise. As a result, this edition of the *Utility Scorecard* has introduced a new action category that assesses utility efforts to develop a robust and diverse workforce.

We score utilities on four workforce-related characteristics that support procedural, distributional, structural, and transgenerational equity. The first concerns data. An important component of equitable action is understanding the regional workforce well enough to set goals surrounding it. We reward utilities for studying and publishing data required to achieve that understanding. These data include demographic statistics on utility employees

and energy efficiency contractors. Alternatively, utilities may earn credit for significant participation in working groups or similar initiatives aimed at developing strategies to improve workforce diversity.

The second characteristic we score on is goal setting. We reward any requirements or targets that the utility establishes to improve the strength and diversity of the energy efficiency workforce associated with utility efforts. Utility requirements can send a clear signal to the labor market that companies, workforce educators, and the utility itself can respond to. The *Scorecard* utilities earned points in this area in several ways, including establishing workforce program goals with metrics and minimum performance thresholds; requiring that traditionally underrepresented workers are adequately represented in trainings, internship cohorts, and hiring pools; establishing a minimum diverse-certified supplier spend goal; and linking executive compensation to hitting DEI targets.

The third way that utilities can earn points in the workforce category is through supplier and contractor initiatives. Utilities' massive purchasing power with respect to energy efficiency provides them tremendous influence over how outside parties embed equity into their own efforts. Our utilities reported a wide array of qualifying activities in this area including

- Incentivizing or requiring subcontractors to work with diverse suppliers
- Asking suppliers and contractors to set explicit equity goals in their proposals and contracts, then evaluating those as part of the partner selection process
- Offering diverse contractors energy efficiency education, technical assistance, or networking opportunities
- Building strategic partnerships with certified women- or minority-owned businesses
- Maintaining a list of diverse business contractors for vendors as part of program solicitation efforts

The final way that utilities can earn points in this workforce category is through other workforce initiatives not involving suppliers or third-party contracts. A sample of actions that our utilities performed that earned points in this sub-category include

- Developing a school-to-industry pipeline through partnerships with vocational high schools, prioritizing schools in low-income communities
- Distributing job marketing materials designed to appeal specifically to underrepresented workers
- Offering fast track pathway into internships or job placement for diverse candidates that meet minimum criteria
- Preferring local job candidates who will be able to serve their own communities

- Remove obstacles for diverse candidates to up-skill (e.g., paid training, grants, interpersonal skills, job readiness, executive mentoring)
- Facilitating the creation of—or supporting employee resource groups that offer—support and professional development opportunities to historically underrepresented workers

Table 55 summarizes these scoring criteria, and Table 56 shows the scores that utilities earned.

Table 55. Scoring for workforce

Points	Condition
0.5	Utility publishes workforce diversity data or participates in (or significantly leverages) research aimed at developing strategies to improve workforce diversity
0.5	Utility institutes minimum DEI workforce requirements
0.5	Utility strengthens workforce diversity through supplier/contractor initiatives
0.5	Utility institutes workforce development initiatives not involving suppliers or third-party contractors

Table 56. Scores for workforce

Utility	Data	Requirements	Supplier initiatives	Workforce development	Total points
ConEd	✓	✓	✓	✓	2.0
NG MA	✓	✓	✓	✓	2.0
PGE	✓	✓	✓	✓	2.0
PPL	✓	✓	✓	✓	2.0
ComEd		✓	✓	✓	1.5
LADWP	✓	✓		✓	1.5
Xcel CO	✓	✓	✓		1.5
DTE			✓	✓	1.0
Eversource CT	✓	✓			1.0
Eversource MA		✓		✓	1.0

Utility	Data	Requirements	Supplier initiatives	Workforce development	Total points
PSE&G			✓	✓	1.0
Ameren MO			✓		0.5
BGE			✓		0.5
Consumers			✓		0.5
CPS			✓		0.5
Dominion SC		✓			0.5
Dominion VA		✓			0.5
Entergy AR			✓		0.5
Entergy LA			✓		0.5
Entergy TX			✓		0.5
GA Power			✓		0.5
PECO		✓			0.5
PG&E				✓	0.5
We Energies			✓		0.5
Xcel MN				✓	0.5
AEP Ohio					0.0
AEP TC					0.0
AL Power					0.0
Ameren IL					0.0
APS					0.0
CenterPoint					0.0
Duke FL					0.0
Duke IN					0.0
Duke NC					0.0
Duke OH					0.0
Duke Progress					0.0
Duke SC					0.0
FP&L					0.0

Utility	Data	Requirements	Supplier initiatives	Workforce development	Total points
JCP&L					0.0
LIPA					0.0
MidAm. IA					0.0
Nevada Power					0.0
NG NY					0.0
OG&E					0.0
OH Edison					0.0
Oncor					0.0
PacifiCorp UT					0.0
PSE					0.0
SCE					0.0
SDG&E					0.0
SRP					0.0
TECO					0.0
West Penn					0.0

ConEd, National Grid Massachusetts, Portland General Electric, and PPL are standouts in the workforce category, and they were the only four utilities to earn full points. All four included DEI of workforce as significant components of their annual or tri-annual reports (Energy Trust of Oregon 2022; Mass Save 2021). For example, ConEd published an annual DEI report that provides statistics on employee demographics, develops DEI metrics to guide decision-making, sets goals such as linking executive compensation to meeting DEI goals, explains the utility's strong coordination with underrepresented suppliers, describes internal employee resource groups, describes tools to help employees advance into management positions, and more (ConEd 2021b). Twenty-one additional utilities earned points in this workforce category, with most earning credit only for their supplier/contractor initiatives.

UTILITY SHUTOFF

Disconnecting someone's electricity service can have extremely adverse impacts on their well-being. Leaving customers without electricity often deprives them of services such as heating, cooling, refrigeration, lighting, ventilation, connectivity, and access to electric medical equipment.

Utility disconnections, also known as shutoffs, most often impact energy burdened customers who pay a disproportionately large share of their incomes on energy bills. The problem is widespread. American families currently have approximately $16 billion in utility debt, a number that has roughly doubled since 2019 (NEADA 2022). Approximately one-third of the 44 million renter households in the United States were behind on their energy bills in 2021 (Samarripas and Lee 2022). These conditions have led to an estimated 4.2 million instances of utilities' shutting off electric service to customers in the first 10 months of 2022 (Bell et al. 2023). This situation is likely to worsen, as the price of residential electricity was 7.5% higher at the end of 2022 than in 2021, and is projected to increase another 3.3% in 2023 (EIA 2023).

We introduce utility shutoff as a new action category related to distributional equity in this edition of the *Utility Scorecard*. We asked utilities to report whether they have explicit programs to connect energy efficiency services to customers at risk of disconnection. Providing such resources, which can help reduce a customer's electricity bill by 10% or more, strengthens customers' ability to stay current on their bills and avoid service shutoff. The efficiency benefits also deliver repeat savings every month, and they can be passed on to future building tenants.

For this reason, we grant 1 point to all utilities that have a program or process that directs customers at risk of utility disconnection for nonpayment toward energy efficiency measures that could lower their energy burden, as

Table 57 shows. Examples of qualifying actions include connecting customers who miss payments with energy efficiency program information; offering case management service for customers who miss payments, where those services include connection to energy efficiency solutions; and including energy efficiency measure solutions as part of bill assistance programs.

Table 57. Scoring for utility shutoff

Score	Description
1	Utility directs customers at risk of electric service disconnection due to nonpayment to energy efficiency programs or measures
0	Utility does not direct customers at risk of disconnection to energy efficiency programs

Table 58 summarizes the scores utilities earned in this category. Of the 53 utilities, 13 earned credit in the utility shutoff category. Among the other utilities, many reported offering forms of financial assistance to customers to help pay bills (e.g., installment plans, extensions, debt

relief, or connection with external payment assistance programs like the Low-income Home Energy Assistance Program (LIHEAP)) or reported having shutoff moratoria. While such actions are laudable, they do not address the cause of high energy burden, and therefore do not qualify for points.

Table 58. Scores for utility shutoff

Utility	Score	Utility	Score
ComEd	1.0	Duke OH	0.0
Consumers	1.0	Duke Progress	0.0
CPS	1.0	Duke SC	0.0
DTE	1.0	Entergy AR	0.0
Eversource CT	1.0	Entergy LA	0.0
Eversource MA	1.0	Entergy TX	0.0
LADWP	1.0	FP&L	0.0
LIPA	1.0	GA Power	0.0
PG&E	1.0	JCP&L	0.0
PPL	1.0	MidAm. IA	0.0
SCE	1.0	Nevada Power	0.0
West Penn	1.0	NG MA	0.0
Xcel MN	1.0	NG NY	0.0
AEP OH	0.0	OG&E	0.0
AEP TC	0.0	OH Edison	0.0
AL Power	0.0	Oncor	0.0
Ameren IL	0.0	PacifiCorp UT	0.0
Ameren MO	0.0	PECO	0.0
APS	0.0	PGE	0.0
BGE	0.0	PSE	0.0
CenterPoint	0.0	PSE&G	0.0
ConEd	0.0	SDG&E	0.0
Dominion SC	0.0	SRP	0.0
Dominion VA	0.0	TECO	0.0

Utility	Score	Utility	Score
Duke FL	0.0	We Energies	0.0
Duke IN	0.0	Xcel CO	0.0
Duke NC	0.0		

Another class of actions that utilities reported, but that also did not receive points, was offering or advertising energy efficiency programs to low-income customers, but not specifically to customers at risk of disconnection. The benefits of energy efficiency program offerings to low-income customers are captured through other metrics in the *Scorecard*. This metric rewards directly connecting customers at risk of disconnection with energy efficiency solutions to help them address the specific problem of service shutoffs. Blanket advertising to all low-income customers, whether they are at risk of disconnection or not, is insufficient to meet that goal.

A more appropriate solution would meld financial assistance with energy efficiency intervention, such as DTE's Payment Troubled Customer Initiative, which uses a coordinated combination of low-income payment plans and energy efficiency services (DTE Energy 2021). Rather than pay incentives directly to its low-income residential customers, DTE provides in-kind services including weatherization, furnace tune-up and replacement, water heater replacement, and efficient refrigerator replacement.

Another model solution to utility shutoffs is provided by CPS. In addition to offering a variety of flexible payment plan options, the San Antonio municipal utility provides information and enrolls customers at risk of disconnection in its Casa Verde Weatherization program (CPS Energy 2023). The program is free to income-qualified customers. CPS's Energy Advisors and Community Outreach teams also provide information on energy efficiency rebate programs along with their Affordability Discount Program.

We recommend that the solutions that utilities provide be delivered in a form that customers at risk of shutoff can access. Modern access channels, such as email and social media, may not be sufficient for customers who are unable to afford Internet access, for example. Preferred communication channels include those that utilize trusted messengers to ensure that customers adequately understand their situation and the range of energy efficiency remedies available to them. Such forums should also allow customers to ask questions relevant to their individual circumstances.

Looking Forward

This report offers a snapshot of the utility energy efficiency landscape in 2021 and provides insights into trends that developed over the three years since the previous edition of the

Scorecard. New policies and developments have emerged since 2021 that our scoring may not have captured. These developments provide a window into what we might expect from utilities in the coming years.

The federal Inflation Reduction Act and Infrastructure Investment and Jobs Act represent the largest investments in climate and energy efficiency in the nation's history. These bills allocate more than $25 billion through programs and tax incentives to electrify, decarbonize, and improve the efficiency of American homes. Utilities should play a leading role in communicating and promoting these programs to their customers and, where possible, braiding available federal funding with their own ratepayer-funded initiatives.

Some utilities have either proposed or gained approval for large new energy efficiency portfolios. In response to Massachusetts's 2021 Climate Act,[58] the 2022–2024 Three-Year Energy Efficiency Plan for the state's utilities prioritizes projects that reduce GHG emissions through increased electrification from electric heat pumps. New program offerings have been approved for commercial deep energy retrofits, weatherization, and affordable multifamily deep energy retrofits (Mass Save 2021). Minnesota's 2021 Energy Conservation and Optimization Act (ECO Act) strengthens the state's EERS and allows cost-effective load management and fuel switching to be eligible for efficiency incentives. Importantly, the ECO Act triples the minimum spending requirement for IOUs such as Xcel Energy to fund programs for low-income customers (Wazowicz 2021). Illinois passed the Clean and Equitable Jobs Act (CEJA), which commits the state to 100% clean energy by 2050. CEJA was developed with a focus on equity and includes components related to workforce development, economic justice, inclusive financing, carbon-free power, energy efficiency, electric transportation, utility accountability, grid planning, low-income relief, and fuel switching as part of broader electrification efforts.

One state policy, Ohio's House Bill 6—enacted in 2019—severely affected the performance of the state's utilities in the 2023 *Utility Scorecard* by effectively canceling Ohio's energy efficiency programs. We expect further shifts in the state's utility rankings in the next edition of the *Scorecard* based on state policy developments post-2021. The Ohio legislature is considering HB 389, a bill that would partially restore energy efficiency programs to the utilities (Ohio General Assembly 2023). If passed, Ohio utilities may see modest improvements in scores for future *Scorecard* editions.

[58] An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy (Massachusetts General Court 2021)

AREAS FOR FUTURE RESEARCH

We did not score several aspects of energy efficiency and utility operations in this edition of *Utility Scorecard*. This was due either to 1) a lack of available data needed to evaluate a metric or 2) ambiguity regarding what constitutes best practices. Despite these limitations, the *Utility Scorecard* team believes that the topics summarized in the following are or will be important aspects of a robust utility-driven energy efficiency ecosystem. We will continue to monitor these areas and may include related action categories in future editions.

Utility Business Model

The *Utility Scorecard's* current assessment of utility business models is limited to decoupling, lost-revenue adjustment mechanisms, and PIMs. While these reflect the preeminent elements of utility business models related to energy efficiency, some state regulatory commissions are beginning to adopt elements of performance-based regulation (PBR) (see, for example, Connecticut PURA 2023 and Hawaii PUC 2022. PBR could shift the current cost-of-service model, which rewards utilities for prudently incurred costs and investments, to one that rewards achievement of specified policy outcomes. Future *Utility Scorecard* editions may introduce new PBR-related metrics is they prove to be correlated with energy- and demand-savings accomplishments.

Electrification and Non-Electric Energy Savings

Annual incremental electricity savings are currently the *Utility Scorecard*'s highest-weighted metric, but they may not remain the primary metric for evaluating energy efficiency programs in the future. While significant potential remains for energy efficiency programs to continue delivering high savings, as utilities transition to a greater focus on GHG reductions or fuel-neutral energy reductions, we may need new metrics that measure progress specifically along those dimensions. As we learned in this edition of *Utility Scorecard*, utilities still have a long way to go in terms of even *tracking* data related to these areas, let alone achieving measurable progress in them. Developing metrics that are fair to all utilities—regardless of the maturity of their energy efficiency programs—while simultaneously rewarding utilities that are leading the charge toward electrification and decarbonization is a challenge worthy of a separate research effort that we recommend be undertaken prior to the next *Utility Scorecard*.

Energy Equity

By necessity, equity considerations are usually local. The "standard" to advance equity in one location is not always the same as the best practice in another, and even people in the same community may differ by customer class. It is therefore typically necessary to work directly with affected communities to understand their circumstances and to develop solutions tailored to their experiences and needs. The equity-related metrics in this report reflect the best efforts of our research team to operationalize current understanding of issues such as energy burden, community engagement, and workforce development. The metrics were

informed by the Energy Equity Project's research and developed in coordination with ACEEE's Leading with Equity initiative stakeholders; nonetheless, they remain our first attempt at quantifying utility progress in these areas. Certain thresholds (e.g., what constitutes *enough* languages to share energy efficiency information in a utility territory) will certainly evolve. *Utility Scorecard* team members will continue to accept feedback on these action categories and metrics, and we will strive to improve our scoring by staying aligned with emerging best practices.

Participation

The diversity of approaches that utilities take to both define participation in energy efficiency programs and to track that participation makes it challenging to compare utility progress in this area. The *Utility Scorecard* team will likely reconsider what constitutes best practice for tracking the number of customers who engage with energy efficiency programs. This may include recommending a standard measure of participation or assessing whether utilities have clearly defined what a "participant" means. Other considerations include whether participation should be divided by customer class (e.g., low income), split by program offering, or assessed on the basis of who benefits (e.g., number of households versus number individuals in a household).

Community Wealth Building

Community wealth building is an example of an equity-related concept that will require more research and a better understanding of its relationship to energy efficiency before we can incorporate it into future *Utility Scorecard* editions. In response to feedback from ACEEE's Leading with Equity workshop, we added to our utility data request a question about how energy efficiency can contribute to community wealth. However, community wealth building may have numerous definitions depending on the context of the communities involved. To get an initial baseline of how utilities understand and approach this topic, we asked utilities if they had explicit strategies to build wealth in communities, such as installing renewable energy resources owned by community members, clean energy investments that build homeowner wealth, and upgrades to community-owned affordable housing. Few utilities responded to this question, and the ones that did answer mainly gave examples of community solar programs. ACEEE will continue to work with Leading with Equity stakeholders to better define and understand this concept. This will inform how we can meaningfully evaluate utilities on their support of community wealth building in future *Utility Scorecard* editions.

Rate Design

The rates that customers pay for electricity service are subject to various policy drivers. The load profiles of newly electrified end uses (e.g., heat pumps, EVs) and the growth of DERs (e.g., rooftop solar, battery storage) are changing utilities' conventional cost recovery pathways. Jurisdiction-specific issues, such as energy burden among low-income California

residents, are altering how utilities recover fixed and variable costs (see Borenstein et al. 2021, for example). The *Utility Scorecard*'s current TOU rates metric may need to be amended to ensure TOU rates do not lead to inequitable outcomes (e.g., by rewarding rate-comparison tools or rate education). We will continue to monitor these trends and may alter our rate-related metrics if doing so would better reward rate designs that equitably incentivize energy efficiency.

Total Annual Energy Savings

Total annual energy savings, sometimes called cumulative annual persisting savings, are the total energy savings in a given year from all programs and measures installed in that year *and* those installed in previous years that continue to save energy (i.e., that have not yet reached the end of their useful life). Some measures save energy for decades, meaning that the total annual energy savings in 2021 could contain savings from programs put in place as far back as the mid-1990s. These savings are also critical to mitigating climate change. Some states, such as Arizona and Illinois, have utility-sector energy efficiency targets based on total annual savings. While we did not include total annual energy savings as a metric for this report due to a lack of data, we do consider it to be an important metric because it indicates energy savings from longer-lived measures and a longer history of program implementation. Future *Scorecards* might capture long-established energy efficiency measure savings given more data and information about how utilities consider energy efficiency in the resource planning process.

Integrated Energy Efficiency and DERs

Customer-sited technologies that enable energy efficiency, demand flexibility, storage, and distributed generation (i.e., DERs) can be combined and co-optimized to deliver decarbonization, utility bill savings, grid benefits, resilience, and more. However, when it comes to achieving these goals, such technologies can either complement or conflict with each other (see Satchwell et al. 2020 and Specian et al. 2020, for example). A holistic systems perspective is often needed to ensure that these resources are best achieving the intended policy goals. Customer-sited technologies are not yet prevalent. But as grid-interactive efficient buildings, strategic energy management, data disaggregation, and their related methods and enabling technologies become more widespread, the *Utility Scorecard* team will consider whether to included integrated programs that deliver these enhanced benefits in future editions.

Front-of-Meter Efficiency

Behind-the-meter end-use energy efficiency is the primary focus of this report. However, utilities also have significant opportunity to improve system efficiency at the generation, transmission, and distribution levels. In the distribution system, utilities can reduce line losses and install higher-efficiency transformers, such as amorphous core transformers. This type of improvement can greatly increase distribution system efficiency, reducing the need

for generation infrastructure. We included conservation voltage reduction as a component of our program offerings metrics but did not otherwise consider distribution system efficiency in this report, primarily due to data limitations in this area. We hope to collect more data on these issues for future *Scorecard*s.

Non-Wires Alternatives

Some of the largest grid capacity benefits delivered by energy efficiency are those that offset or defer the need for costly upgrades of the transmission or distribution systems. Energy efficiency, especially when integrated with DERs, provides a non-wires alternative to this challenge through targeted load reductions that mitigate the need for more capital investment. Absent legislative or regulatory requirements, however, utilities that operate under the standard cost-of-service model have a financial incentive to install infrastructure—which can earn them a rate of return—rather than deploy energy efficiency. Future editions of the *Utility Scorecard* will consider the inclusion of an action category that rewards utilities for choosing energy efficiency over avoidable or deferable capital development.

Gas and Electric System Coordination

One of the biggest challenges in decarbonizing the energy sector is transitioning the role of natural gas utilities. Unlike electricity, which has the potential to be generated entirely by zero-carbon sources, natural gas consumption almost certainly results in the release of GHG into the atmosphere. While solutions such as using alternative fuels (e.g., RNG, geothermal microdistricts) have been suggested, there are major questions about whether they can scale nationally. Although future *Utility Scorecard* editions will remain focused on the electric sector, we will continue to monitor for best practices that enable the equitable transition of natural gas consumption to decarbonized electricity consumption through electrification of end uses.

Conclusion

Utilities demonstrate their commitment to energy efficiency through the programs they offer, the savings they achieve, and the policies that enable both. In this edition of *Utility Scorecard,* we evaluated the largest U.S. utilities across these three areas and ranked them according to their accomplishments. This year's *Scorecard* shows a clear commitment to energy efficiency on the part of many utilities, but it also recognizes substantial opportunities to realize additional savings. We highlighted exemplary utility actions that can serve as models for others and offer recommendations for improvements.

In this edition, we greatly increased our focus on utilities' equity-related actions and recalibrated our scoring process to better prioritize accomplishments in this area. Through this process, we discovered that utility progress on energy equity varies widely. We also learned that despite decarbonization commitments made by utility parent companies, progress has largely failed to trickle down to energy efficiency programs, where

electrification and data collection efforts remain nascent. Well-rounded utility energy efficiency programs need to save energy, have diverse offerings, center equity, and be aligned with a low-carbon future. We encourage you to use this report and forthcoming related materials to evaluate growth opportunities for energy efficiency, and we invite you to reach out to ACEEE for support in implementing them.

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Appendix B. Utility Data Request

This appendix contains the questions and explanations we provided as part of our data request to the evaluated utilities. The questions are separated into our three evaluation areas: program performance, program offerings, and evaluated programs. We indicate questions that were repeated with minor revisions (at most) from the 2020 *Utility Scorecard*, questions that were substantially modified, and questions that were brand new to this 2023 edition. We also include baseline questions that help place utilities' energy efficiency accomplishments in context of overall utility performance.

PROGRAM PERFORMANCE

Baseline Questions

- Are the savings reported throughout this data request net or gross savings? We define "net savings" as energy savings attributable to energy efficiency programs. Net savings correct for (i.e., exclude or include as appropriate) savings achieved through free ridership, participant and nonparticipant spillover, and induced market effects. If available, please include a reference to the methodology the utility uses to calculate net savings.
- What net-to-gross ratio, if any, do you use to convert between net savings and gross savings?
- Are the savings you are reporting throughout this data request measured at the generator or meter level? Savings reported at the generator account for additional savings from avoided line losses, while savings reported at the meter do not.
- What line loss factor do you use (e.g., 6%) to account for electric energy lost on your transmission and distribution system?
- What were your utility's retail electricity sales (MWh) in 2021?
- How many residential customers did your utility serve with electricity service in 2021?
- How many commercial and industrial (C&I) customers did your utility serve with electricity service in 2021?

Returning Questions

- How much **net incremental electric energy savings** (MWh) did you achieve from EE programs initiated in your service territory in 2021? In this case, incremental savings are defined as the first-year energy savings from EE measures installed in 2021. These should be counted as annualized or full-year savings, regardless of when measures were installed during the program year. Do not include energy savings resulting from demand response or renewable energy programs.

- What was your total **energy efficiency program spending** in 2021? Total spending includes all direct spending on energy efficiency programs, which may include direct incentives and technical services to customers; program administration, marketing, planning, and delivery; evaluation, measurement, and verification (EM&V); and education. Do not include spending on dedicated natural gas efficiency programs.
- What are the expected **net lifetime electricity savings** (MWh) from electric energy efficiency measures installed in 2021? This is commonly estimated by taking incremental electric savings and multiplying by an average measure life.
- What was the total **peak demand savings** (MW) achieved through electric energy efficiency programs installed in 2021? Do not include peak savings achieved through demand response programs.

Modified Questions

- Does your utility identify low-income, historically disinvested, or underserved customers for the purpose of targeted energy efficiency program delivery? If so, please describe the criteria used to identify these customers. Example criteria may include a customer's income, census tract, housing condition, race, gender, age, or enrollment in relevant government programs.
- How many low-income customers do you have in your service territory? How many of these customers were served by low-income energy efficiency programs installed in your service territory in 2021?
- How much **net annual incremental electric savings** (MWh) did you achieve from **low-income** energy efficiency programs installed in your service territory in 2021?
- What was your actual **low-income energy efficiency program spending** in 2021?

New Questions

How much **net incremental non-electric energy savings** did you achieve from energy efficiency programs initiated in your service territory in 2021? Please separately identify (in applicable fuel units):

- **Collateral non-electric energy savings** from EE programs and measures (e.g., reduced gas/propane consumption by virtue of envelope improvements or smart thermostat operation; do not include therms savings resulting from dedicated natural gas efficiency programs)
- **Energy savings achieved through electrification** of fossil-fueled building end uses (e.g., space heating, water heating, ranges, but excluding savings from electric vehicle programs).

Please include or reference the methodology the utility used to calculate these savings.

PROGRAM OFFERINGS

Returning Questions

This category evaluates utilities on the programs offered in their electric portfolio. We review areas including diversity of programs, emerging program or measure offerings, pilot programs, low-income programs, and electric vehicles.

The following two sections—residential program comprehensiveness and commercial & industrial program comprehensiveness—will register which programs the utility offered in 2021, as well as how many customers participated in them. Check the box next to the program type if the utility offered a program in 2021 that matches the given description.

This section will also assess how many of the utility's customers participated in energy efficiency programs in 2021. **If your utility does track** the number of participants by EE program type, indicate next to the appropriate program description how many participated, and how participation is defined for that program. Do not double-count single instances of EE program participation. If a single EE intervention fits under multiple categories (e.g., a full home retrofit could qualify as "home energy audit" or "home retrofit"), count participation in the category that more closely matches the provided description. If participation numbers are only known for aggregations of the categories below, indicate the total number of participants, how those participants are defined, and which categories comprise the aggregation.

If your utility does not track the number of participants by program type, indicate your best estimate for the number of residential customers that participated in comprehensive retrofit programs, as well as how that estimate was generated. Do the same for C&I retrofits.

To assess **residential program comprehensiveness**, indicate which of the following residential programs you offered in 2021:

- Appliance recycling [Removing less efficient appliances (typically refrigerators and freezers) from households.]
- Behavior-based/feedback [Reducing energy consumption through social science theories of behavior change by providing information to customers, by leveraging interpersonal interactions, or by providing consumer education. Excludes programs that rely on traditional program strategies such as incentives, rebates, or regulations.]
- Education [Providing education on energy efficiency to students, not including marketing programs.]
- Heat pump water heaters [Incentivizing the purchase of heat pump water heaters (and/or condensing gas heaters), either standalone or included as part of another program.]

- High-efficiency consumer electronics (residential) [Promoting the purchase and use of high-efficiency consumer electronics, including through rebates, midstream and upstream programs, and the use of smart strips with consumer electronics.]
- Home appliances [Incentivizing the sale, purchase, and installation of appliances (e.g., refrigerators, dishwashers, clothes washers and dryers) that are more efficient than current standards.]
- Home energy audits [In-person or virtual survey of customer's home to determine where energy is being lost, including recommendations for actions the resident can take to improve their home's efficiency.]
- Home retrofit [Combining a comprehensive energy assessment or audit that identifies energy savings opportunities with house-wide improvements in air sealing, insulation and, often, HVAC systems and other end uses.] **Check all that you offer**:
    - Rebates
    - On-bill financing
    - Third-party financing
- HVAC equipment [Incentivizing the sale/purchase and installation of heating, cooling and/or ventilation systems at higher efficiency than current energy performance standards, across a broad range of unit sizes and configurations.]
- Lighting [Encouraging the sale/purchase and installation of more-efficient lighting in the home. These programs range from point-of-sale rebates to mailings or giveaways. Measures tend to be LED lamps, fixtures, and holiday lights and lighting controls, including occupancy monitors/switches and daylighting controls.]
- Multifamily [Encouraging the installation of energy efficient measures in common areas, units, or both for residential structures of more than four units.]
- New construction [Providing incentives and possibly technical services to ensure new homes are built or manufactured to energy performance standards higher than applicable code.]
- Smart thermostats [Increasing energy-efficient behaviors through smart thermostats. Includes learning thermostats, Wi-Fi enabled thermostats, grid-connected thermostats, and other smart thermostat programs.]
- Other [Please indicate if you offer other types of residential programs that are not included on this list and provide a description of or link to each.]

To assess **commercial and industrial program comprehensiveness**, indicate which of the following C&I programs you offered in 2021:

- Agriculture [Offering incentives for energy-efficient farm field- and orchard-based equipment such as irrigation pumping.]
- Custom [Delivering site-specific industrial and commercial projects typically characterized by an extensive onsite energy assessment and identification and installation of multiple measures unique to that facility.]
- Data centers [Incentivizing measures to improve data center energy efficiency, such as through high-efficiency cooling systems, servers, and other equipment.]
- Efficient motor systems [Incentivizing improvements to motor systems, including installation of adjustable speed drives, optimization of pump and fan systems and compressed air system controls.]
- HVAC [Encouraging the sale/purchase and installation of heating, cooling and/or ventilation systems at higher efficiency than current energy performance standards, across a broad range of unit sizes and configurations.]
- Kitchen and restaurants [Offering energy-efficient measures for commercial food service equipment.]
- Lighting [Incentivizing the installation of efficient lighting including high efficiency lamps and fixtures.]
- Lighting system and control [Incentivizing lighting occupancy monitors/switches and daylighting controls.]
- Retrocommissioning [Diagnosing energy consumption in a commercial facility and optimizing its operations to minimize energy waste. Program activities tend to be characterized by tuning or retuning, coordinating, and testing the operation of existing end uses, systems and equipment for energy efficient operation.]
- Small business [Offering energy-efficient measures to retail, grocery, small offices, convenience stores, and other nonresidential customers with electric demand below 100 kW. Can include direct install or other delivery models.]
- Strategic energy management [Managing energy through continual improvement and a systematic approach to energy performance, including a commitment through policies, goals, and allocation of resources; energy management planning and implementation; and a system for measuring and reporting performance.]
- Whole building retrofit [Combining a comprehensive energy assessment or audit that identifies energy savings opportunities with building-wide improvements in air sealing, insulation and, often, HVAC systems and other end uses.]
- Other [Please indicate if you offer other types of C&I programs that are not included on this list and provide a description of or link to each.]

This category evaluates utilities on the programs offered in their electric portfolio. We review areas including diversity of programs, emerging program or measure offerings, pilot programs, low-income programs, and electric vehicles.

Please check the box next to the programs or measures that the utility offered in 2021 or 2022, including pilots. We recognize that each utility may not categorize programs in these same buckets and that there is potential for overlap among programs, or that measures may be offered as a part of a larger program category. We are trying to understand whether each utility has these offerings, so please mark the box if your utility offered something that meets the definition listed and provide more information about that program's name and scope in the comments and sources column.

To assess programs in **emerging program areas**, indicate which of the following programs the utility offered in 2021 or 2022:

- Code compliance [Funding or operating a program to improve compliance with building energy codes, typically through training activities]
- Conservation voltage reduction (CVR) or volt/var optimization (VVO) [Improving the efficiency of a utility's transmission and distribution system through voltage reduction systems, whether explicitly included in the utility's energy efficiency portfolio or not.]
- Controlled environment agriculture [Measures that lower energy use in controlled agricultural facilities, including lighting and environmental control systems.]
- Cool roofs [Measures that increase the reflectivity (albedo) of roofs in order to reduce heat flow from the roof into the occupied building space]
- Energy-efficient fuel switching [Encouraging fuel switching that delivers overall source BTU energy savings, greenhouse gas reductions, and customer cost savings.]
- Energy use feedback to consumers in real time [Allowing consumers to better understand their energy usage behavior and react to increase savings. Includes programs that provide feedback in near real time. Typically requires advanced metering infrastructure (AMI) installation.]
- Geotargeting [Targeting residential, commercial, or industrial buildings in specific geographic locations that will yield high savings. Does not include geo-targeted marketing efforts or comparative home energy or business energy report programs.]
- Greenhouse gas reductions [Programs designed specifically to reduce GHG emissions through means other than direct reductions in energy consumption, e.g., tree planting, refrigerant management.]

- Grid-interactive efficient buildings [Incentivizing buildings that reduce energy waste and carbon emissions while offering flexible building loads to the grid. This may include integrating energy efficiency and demand response to better value the many benefits of grid-interactive efficient buildings.]
- Heat pumps [Incentivizing the adoption of cold- or warm-climate heat pumps with heating seasonal performance factor (HSPF) above 10. Must provide extra incentives for advanced heat pumps relative to those provided for moderate-efficiency heat pumps.]
- High-efficiency ceiling fans [Promoting the installation of high-efficiency ceiling fans, either stand-alone or included as a part of another program.]
- High-efficiency residential clothes dryers [Offering rebates for high-efficiency clothes dryers that meet the ENERGY STAR Most Efficient specification (e.g., heat pump dryers).]
- Industrial process electrification [Incentivizing measures that replace fossil-fueled industrial technologies with more-efficient electric alternatives including industrial heat pumps, infrared heating, radio frequency or microwave heating, electric boilers or hot water heaters, and on-site hydrogen production.]
- Midstream programs [Transforming the market for energy-efficient products by targeting midstream retailers and partners to improve choices and reduce costs for consumers. Includes midstream lighting, high-efficiency HVAC, heat pump water heater, and appliance programs.]
- Programs using data disaggregation [Extracting end-use and/or appliance-level data from an aggregate or whole-building energy signal to engage consumers and to target relevant programs to specific customers. This can also include in-home devices that disaggregate end uses at the meter and provide feedback to customers via an app or web interface.]
- Quality HVAC installation [Improving and ensuring the quality installation of HVAC equipment, such as incentivizing installation to ANSI/ACCA Standard 5.]
- Reduction of plug and other miscellaneous load in commercial buildings [Reducing plug or other loads in commercial buildings, including midstream and upstream programs for equipment like advanced power strips (tier 1 and 2) and smart plugs.]
- Window treatments [Passive window coverings or attachments that reduce heat transfer between the interior and exterior environments including interior shades and drapes, films applied directly to glass, exterior shades, shutters, awnings, and storm windows]
- Zero-energy buildings [Promoting zero-energy buildings through incentives, technical assistance, codes and standards or other methods. Could also include a

tiered approach, such as a zero-energy "step codes." Does not include participation in zero net energy forums or coalitions.]

- Pilot programs [Please check if your utility ran a pilot or multiple pilot programs since 2021 and list all pilot programs your utility has run since 2021.]

To assess **electric vehicle program comprehensiveness**, indicate which of the following the utility offered in 2021 or 2022:

- Charger incentive [Full or partial subsidy for charging equipment for residential or commercial customers]
- EV equity programs [Incentives, rebates, rates, or other EV programs that are specially designed and targeted to benefit low-income, historically disinvested, environmental justice, or otherwise underserved communities.]
- EVSE make-ready program [Full or partial subsidy for EV supply equipment up to but not including the charging equipment itself.]
- Light-duty EV incentive [Rebate for purchase of a new or used EVs under 10,000 pounds (i.e., Class 1, 2a, 2b) including passenger vehicles, SUVs, and pickup trucks.]
- Medium- or heavy-duty EV incentive [Rebate for purchase of a new or used EVs above 10,000 pounds (i.e., Class 3 or higher).]
- Specific EV charging rate for residential customers [Can include time-of-use rate, a managed charging program, charging subscription program, or other that incentivizes charging during advantageous (e.g., off-peak) periods.]
- Specific EV charging rate for commercial customers [Can include time-of-use rate, a managed charging program, charging subscription program, demand charge holiday or other.]
- Utility-owned EVSE program [Where the utility pays for and retains ownership of EVSE.]

Modified Questions

To assess **low-income program comprehensiveness**, indicate which of the following low-income programs you offered in 2021:

- Low-income multifamily [Efficiency measures targeted to multifamily buildings that predominantly house low-income customers; measures in this category include those delivered to multiple individual dwelling units and those that target common areas and shared equipment (e.g., heat pump water heaters, HVAC).]
- Low-income rebates and incentives [Provide higher levels of efficiency rebates or point-of-sale incentives for income-qualified customers, up to and/or including the entire cost of the measure.]

- Low-income weatherization [Measures that reduce unintended energy exchange between the interior and exterior environments of non-manufactured housing occupied by low-income customers including air sealing, improved ventilation, storm doors and windows, insulation, and siding.]
- Manufactured housing [Weatherization measures targeted for manufactured (formerly mobile) homes including energy-efficient doors and windows; belly, roof, and wall insulation; roof cap; and air sealing.]
- Other [Please indicate if you offer any additional program types specifically to low-income customers that are not included on this list, and provide a description of or link to each.]

ENABLING MECHANISMS

Baseline Questions

- Please specify the years covered in your most recently approved energy efficiency planning cycle.

Returning Questions

- What is your utility's **energy savings target** (MWh) for 2021? What are your utility's energy savings targets for 2022 and, if decided, 2023? If there is no service territory-specific target, please provide the proportion of the statewide target associated with your utility.
- Among the critical drivers of utility-sector energy efficiency programs are policies that attempt to address the economic disincentives (lost sales revenues) that utilities face if customers use less electricity. Here we consider two important elements of utility business models: full revenue decoupling and performance incentives. We also request information on whether your utility has recently requested these policies, recognizing regulatory influence on these policies. Does your utility have full **revenue decoupling** in place? If so, please provide a copy or link to a description of the revenue decoupling policy. If no, does your utility have a lost-revenue adjustment mechanism in place? If yes, please provide a description of how your LRAM work.
- Has your utility requested full revenue decoupling in the last three years? If so, please share the official request.
- Does your utility have efficiency **performance incentive mechanisms** (PIMs) in place? Performance incentives offer a utility a financial return on its energy efficiency achievements. If yes, do any of those PIMs offer rewards for more than incremental (i.e., first-year) energy efficiency savings? Please provide a copy or link to a description of your current energy efficiency PIM. If your utility does not have PIMs in

place, has your utility requested such a policy in the past 3 years? If so, please share the official request.

- Does your utility's **evaluation process** include another layer of review or participation beyond the utility staff or third-party contractor? This could include direct oversight of the evaluation process (including oversight of the third-party contractor) from an outside group, such as a government agency or stakeholder group. If so, please provide source documentation.
- Do you include energy efficiency in your integrated **resource planning** process or provide information to others for their planning purposes (for restructured states)? If yes, is efficiency included as a reduction in the forecast load and/or as a supply-side resource? The first approach typically estimates the expected annual energy savings from efficiency programs and reduces the load forecast accordingly. The second approach considers efficiency as an active resource and may involve the development of an energy efficiency supply curve, based on the levelized cost of specific energy efficiency investments, or creating blocks of energy efficiency savings based on historical performance or market potential studies.
    - ☐ Reduction in forecasted load
    - ☐ Supply-side resource
    - ☐ Both

Modified Questions

- Does your utility provide real-time feedback or grid signals (TOU prices) to customers via AMI, with meaningful alerts that enable customers to take real-time actions to change energy usage?
- Does your utility provide individual meter energy data to customers and/or third parties in a common electronic format (such as Green Button)?
- Does your utility have a system through which aggregated energy use data may be requested for multi-tenant buildings?

New Questions

- Has the utility set an **explicit target for the greenhouse gas emissions** (metric tons of CO_2 equivalent) that it intends to reduce via its energy efficiency program? If yes, please list the target, the year it is intended to be reached, and (if applicable) any interim goals. Only list GHG targets if they are goals in and of themselves (i.e., do not simply convert anticipated energy savings into a GHG equivalent).
    - Final target: _____; year: _____
    - Interim target 1: _____; year: _____

  - Interim target 2: _____; year: _____

- Does the utility have a goal in place (e.g., legislation, regulatory order, internal plan) to reduce energy costs for low-income, historically disinvested, or underserved customers? If yes, please describe the goal and how progress is tracked and measured (e.g., assessing customer energy burdens).
- Has the utility established diversity, equity, and inclusion (DEI) requirements or initiatives for its energy efficiency **workforce**? If yes, please describe. In this context, workforce refers to internal staff or third-party contractors who play a significant role in delivering EE solutions to customers. Requirements or initiatives could include things such as workforce development programs, pre-qualifying firms that meet DEI performance criteria, and contracting preferences for minority- or women-owned businesses.
- In what languages are information about utility EE programs made available to customers? How was the list of published languages determined? Please share any additional details on efforts the utility has taken to increase language access.
- Has the utility taken an expanded approach to conducting **community engagement** with marginalized groups within its service territory for the design or improvement of EE programs? If so, please describe any relevant activities the utility has undertaken and provide a link to or copy of documents or other materials detailing these activities. With this question, we are specifically asking about community engagement that offers marginalized residents the opportunity to engage in a direct dialogue with utility decision makers and provide their feedback or suggestions regarding an entire EE portfolio or individual initiatives. Examples of this could include conducting community forums in languages other than English, organizing added community meetings in low-income communities or communities or color, involving community-based organizations in leading these outreach efforts, or offering financial or other support to community-based organizations or individual members of the communities they represent to compensate them for their participation. In this context, marginalized groups are those whose life outcomes are disproportionately, often negatively affected by institutional structures. This can include low-income, historically disinvested, or underserved customers; people of color; the elderly; recently arrived immigrants; those with limited English proficiency; and people with disabilities.
- Does the utility facilitate **financing solutions** to help customers pay for EE improvements? If yes, indicate which of the following are offered and describe the financial program. If applicable, indicate how customers qualify to participate in the financial program and whether special provisions are offered for any customer segments, such as low-income customers or renters (e.g., ability to finance over 10+ years, cash-neutral requirements).

- ☐ On-bill financing
- ☐ Bank loans
- ☐ Green bank financing
- ☐ Other (please specify)

- Does the utility have explicit programs to connect energy efficiency services to customers at risk of disconnection? If yes, please describe.
- Does the utility have explicit strategies to build wealth in communities (such as installing renewable energy resources owned by community members, clean energy investments that build homeowner wealth, and upgrades to community-owned affordable housing)? If yes, please describe.

Appendix C. Data Limitations

Although our research team used a utility data request to improve the quality of reported data, we still encountered various challenges. Some utilities do not publicly disclose detailed information on energy efficiency programs and performance. Annual energy efficiency reports are not typically available on utility websites, and they are sometimes difficult to locate through public utility commission websites. Additionally, annual reports are sometimes broken into many documents without a summary, making data difficult to extract and interpret.

Utilities do not report data consistently and may include or exclude certain types of programs from their reporting, sometimes in response to regulatory requirements. For example, some utilities include third-party programs as part of their own portfolio, while others report these programs separately. Utilities may also separately report data from certain programs, such as conservation voltage reduction, on the basis of utility commission reporting standards and requirements. Utilities sometimes include demand response and renewable energy programs in efficiency portfolios. (We do not include any spending or savings data related to demand response and renewable energy in any metrics in this report.) While we encourage integrated programs that combine efficiency with other distributed energy resources (DERs) where the net benefits exceed the integration cost, we limit consideration of those programs to the chapter on energy efficiency program offerings (York, Relf, and Waters 2019).

The level of detail in annual reports also varies widely across utilities. Many include extensive program descriptions, while others list program names without descriptions or provide only summary data. These variations make it difficult to consistently interpret and analyze program and emerging technology offerings. Definitions of energy efficiency-related terms also vary widely across utilities. These variations make comparison of utility performance challenging for many metrics, especially those related to low-income programs.

Reported savings levels for utilities are also inconsistent. For example, it is often unclear in annual reports and filings whether utilities are reporting savings at the meter or the generator level. The difference between the two values is in the energy losses on the transmission and distribution system. Avoiding energy losses reduces the need for additional electricity and represents a large amount of energy savings. Many utilities also do not provide loss factors or program- or portfolio-level NTGRs.

For utilities that did not report generator-level savings, we adjusted meter-based energy and peak demand savings as well as savings targets to net savings at the generator level to account for additional savings from avoided line losses. For this adjustment, we applied an average loss factor to savings figures that were not already reported at the generator level. When utility-specific loss factors were unavailable, we used EIA Form 861's operational data

to calculate a line loss factor.[59] If we were unable to determine the reporting level for a utility's savings data (generator versus meter or net versus gross), we assumed gross at the meter level. We also applied loss factors to the EIA total retail sales and total peak demand data, as they are reported at the meter level. While we use average line losses in this report due to inconsistent data, utilities should use marginal line losses in valuing energy efficiency resources to account for varying value during peak and nonpeak periods.

In this report, we evaluate net savings, which are energy savings *attributable to* energy efficiency programs. These reported savings may implicitly or explicitly include the effects of factors such as free ridership, participant and nonparticipant spillover, and induced market effects (for a discussion of these effects, see Violette and Rathbun 2017). While it is not an exact comparison—because states and utilities measure net savings differently—using net savings allows a more-direct comparison of utility program achievement.

However, some utilities report only gross savings, and in other cases it is unclear whether the utility is reporting net or gross savings. When utilities reported gross savings, we adjusted these to net savings using the utility's NTGR. When we could not determine whether savings were net or gross, or when we could not find an NTGR, we applied an NTGR of 89.5%.[60] Appendix D provides more detail on reporting levels, line loss factors, and NTGRs.

Our data request allowed us to ask utilities directly about uncertain and unreported information and gave us more clarity on data reporting levels, NTGRs, and line loss factors. However, inconsistencies across regulatory environments and reporting requirements still left us with a number of the issues described above, both in dealing with directly reported information and in confirming it with filings and publicly available documents.

Most questions on our utility data request were formulated with scoring metrics in mind. However, the new equity-related action categories were an exception. For those categories, we formulated the scoring criteria only after reviewing the full set of utility responses. As a result, these questions (which were usually accompanied by an invitation to "please describe" their activities) were not specifically formulated to generate answers that would eventually be used in scoring. Rather, we had to interpret the answers to determine whether or not they satisfied criteria that were not known to either the utility or our *Utility Scorecard* team prior to their asking. While all utilities were provided the opportunity to amend their answers during the external review process, not all did, which opens the possibility that some utilities should have earned more equity points than they were awarded. Now that

[59] We calculated the line loss factor by dividing total energy losses by total disposition for utilities that reported values to EIA.

[60] This is the median of the NTGRs that were reported by utilities for 2021 savings.

these new equity-related criteria have been developed, future editions of this *Scorecard* will be less likely to suffer from this data issue.

The original intent of the *Utility Scorecard* team was to award points in the greenhouse gas (GHG) targets action category. Only after reviewing the utility responses to this question did we discover that only a few utilities had set any GHG target whatsoever associated with their energy efficiency programs. There were far too few targets to calibrate any sort of sliding point scale (where, for example, more ambitious GHG targets could earn more points). Moreover, the targets that did exist were not always represented in conventional GHG units, such as metric tons of CO_2 equivalent. Instead, some existed as "fuel-neutral" targets, such as the total Btus across all fuel categories reduced by energy efficiency programs. Even if sufficient data had existed to facilitate a comparison between utilities, the differences in units would have diminished the value of such comparisons.[61] In the end, there were not even enough utilities operating their energy efficiency programs with explicit GHG goals to score this action category by an alternate metric (such as a binary assessment of whether goals were set in terms of emissions or any fuel-neutral equivalent). As a result, we decided to share what we learned about utility energy efficiency GHG goals in this report, despite the state of play being too early in this action category to yet warrant an assignment of points.

A similar issue emerged in the non-electric energy savings action category. Only 14 of the 53 utilities we evaluated kept track of either the fossil fuel savings achieved through electric energy efficiency programs or the fuel-neutral savings achieved via electrification initiatives. This was too few utilities to establish a sliding scale scoring mechanism, so we opted instead for a metric that simply rewarded utilities for tracking those data. However, the clear trend in many states is toward decarbonization through electrification. We anticipate that this metric will evolve as soon as the next *Utility Scorecard* edition to include a quantitative assessment of electrification savings. Legislators and utility regulators cannot manage what they cannot measure, so we strongly encourage all utilities to begin tracking these data. Additional explanation and recommendations are provided in the section *Non-Electric Energy Savings*.

[61] Fuel-neutral Btus cannot be converted to a GHG equivalent without conversion factors between energy savings and emissions. These factors were not known to us.

Appendix D. Savings and Spending Data

Table D1. Energy efficiency (EE) savings data

Utility	Net incremental electric savings at meter (MWh)	Net incremental electric savings at generator (MWh)	Gross incremental electric savings at generator (MWh)	2021 system peak demand (MW)	Net peak demand savings at generator (MW)	Net lifetime electric savings at generator (MWh)	Weighted average useful life (years)
AEP OH	—	—	—	1,306	—	—	—
AEP TC	64,634	69,340	77,474	4,815	19.44	693,396	12.64
AL Power	5,164	5,366	5,995	10,870	5.06	22,938	14.10
Ameren IL	451,995	470,532	528,688	8,336	71.80	5,986,859	12.98
Ameren MO	308,402	326,043	412,712	6,974	107.82	4,559,752	15.11
APS	266,284	284,795	318,207	7,580	116.62	3,598,333	12.88
BGE	372,324	398,933	558,118	6,486	75.00	2,420,718	6.02
CenterPoint	209,723	221,698	247,707	18,595	53.86	3,413,305	15.28
ComEd	1,849,877	1,967,714	2,236,039	21,167	303.52	21,742,953	10.64
ConEd	651,360	682,561	762,638	12,065	56.27	6,188,976	9.06
Consumers	662,443	715,458	794,953	7,370	92.30	8,032,802	10.83
CPS*	113,632	119,613	—	4,935	43.40	1,517,533	12.92
Dominion SC*	51,826	54,254	—	4,563	14.70	596,790	11.59
Dominion VA	171,771	180,170	201,308	16,462	13.72	1,718,973	10.65
DTE	944,217	1,008,424	1,096,113	10,992	148.06	9,481,348	10.41
Duke FL	39,625	41,967	46,890	9,682	13.42	513,951	12.96
Duke IN*	130,680	142,044	—	5,753	23.40	1,085,339	8.42
Duke NC*	438,182	467,245	—	17,337	95.92	3,189,830	7.68
Duke OH	212	225	251	935	0.03	1,610	7.16
Duke Progress	279,660	294,689	329,262	12,655	52.15	2,239,419	9.38
Duke SC	157,432	167,873	187,568	—	34.46	1,146,054	7.68
Entergy AR	307,942	318,701	335,474	4,664	53.30	4,739,755	15.44
Entergy LA	56,082	58,326	53,023	9,973	9.78	888,241	15.81
Entergy TX	57,477	62,076	66,748	3,704	22.26	738,830	11.86
Eversource CT	213,608	222,964	337,824	4,958	36.16	2,308,149	10.34
Eversource MA	477,124	520,065	581,078	4,519	73.65	5,115,319	9.31
FP&L	37,213	39,580	44,223	24,042	18.71	469,344	11.86
GA Power	271,833	281,858	314,925	16,213	47.56	4,276,805	10.17

Utility	Net incremental electric savings at meter (MWh)	Net incremental electric savings at generator (MWh)	Gross incremental electric savings at generator (MWh)	2021 system peak demand (MW)	Net peak demand savings at generator (MW)	Net lifetime electric savings at generator (MWh)	Weighted average useful life (years)
JCP&L	12,971	13,124	14,664	6,170	1.30	139,417	11.31
LADWP	249,679	277,422	309,968	4,883	41.52	3,790,005	12.72
LIPA	279,203	295,034	329,647	5,217	52.61	2,145,762	14.24
MidAm. IA	103,063	110,793	123,791	5,236	34.16	1,590,377	14.35
NG MA	436,529	471,451	526,761	4,638	69.85	3,920,535	6.56
NG NY	463,023	476,914	529,904	6,681	54.69	5,439,907	11.04
Nevada Power	196,515	205,889	230,044	6,300	41.45	2,058,883	10.02
OG&E	170,957	179,154	200,172	5,933	28.01	1,770,790	11.78
OH Edison	2,316	2,454	2,742	5,504	0.34	24,600	10.03
Oncor	266,428	281,495	314,519	26,708	86.08	3,646,503	12.46
PacifiCorp UT	292,386	310,586	347,024	5,353	44.75	3,808,437	9.14
PECO	218,264	233,423	260,807	8,479	19.91	1,617,754	12.00
PG&E	1,686,976	1,816,873	2,030,025	18,251	340.76	25,480,753	12.73
PGE	171,462	178,133	199,031	4,447	33.46	2,529,557	12.85
PPL	167,405	182,053	267,725	7,313	27.76	2,455,644	13.05
PSE	169,810	178,309	199,228	4,182	32.14	2,357,245	13.75
PSE&G	368,387	402,614	402,614	10,064	34.46	5,197,458	12.91
SCE	1,402,548	1,455,845	1,626,642	20,750	41.23	1,104,130	6.07
SDG&E	516,602	525,365	571,049	3,860	101.49	8,094,708	13.37
SRP	547,182	560,217	625,940	7,635	138.36	5,047,497	8.73
TECO	73,848	77,762	86,885	4,393	17.11	2,429,259	20.00
We Energies	104,172	112,506	175,790	5,281	22.12	1,444,679	13.35
West Penn	89,596	93,966	104,990	3,940	9.34	741,635	10.63
Xcel CO*	456,050	487,129	—	6,910	81.99	7,062,312	14.51
Xcel MN	619,141	665,743	743,847	7,548	112.41	8,965,263	16.25

***We were unable to calculate gross savings for these utilities because they have an NTGR that varies by measure or product.**

Table D2. Energy efficiency (EE) spending data

Utility	Total EE program costs
AEP OH	$0
AEP TC	$14,111,247
AL Power	$1,470,851
Ameren IL	$99,280,781
Ameren MO	$70,244,926
APS	$41,807,441
BGE	$109,324,264
CenterPoint	$36,987,985
ComEd	$351,101,993
ConEd	$104,347,765
Consumers	$161,737,103
CPS	$29,468,025
Dominion SC	$20,528,634
Dominion VA	$53,627,751
DTE	$181,137,870
Duke FL	$8,648,688
Duke IN	$26,682,558
Duke NC	$55,986,079
Duke OH	$41,537
Duke Progress	$49,760,808
Duke SC	$20,110,905
Entergy AR	$49,691,064
Entergy LA	$9,230,062
Entergy TX	$7,416,208
Eversource CT	$156,985,073
Eversource MA	$309,667,826

Utility	Total EE program costs
FP&L	$33,432,986
GA Power	$53,034,373
JCP&L	$7,388,000
LADWP	$107,297,471
LIPA	$74,960,000
MidAm. IA	$21,889,000
NG MA	$294,739,379
NG NY	$58,447,003
Nevada Power	$25,061,682
OG&E	$34,394,489
OH Edison	$2,506,117
Oncor	$45,870,901
PacifiCorp UT	$62,067,389
PECO	$54,820,000
PG&E	$328,442,954
PGE	$70,302,780
PPL	$44,846,355
PSE	$82,906,365
PSE&G	$98,931,397
SCE	$179,991,049
SDG&E	$45,422,499
SRP	$40,942,000
TECO	$17,061,275
We Energies	$57,333,657
West Penn	$13,914,700
Xcel CO	$76,193,395
Xcel MN	$109,504,882

Table D3 shows whether each utility's data were originally reported as net or gross and at the meter or generator level; it also shows what we assumed if this information was not available. The table shows the NTGR and line loss factor used to adjust each utility's data as necessary. For utilities without an available NTGR, we used an NTGR of 89.5% to adjust figures as necessary. This is the average of NTGRs that were reported by utilities for the *2023 Utility Energy Efficiency Scorecard*. When a line loss factor was not available, we calculated it based on EIA data.

Table D3. Utility NTGR and line loss factor data

Utility	Data originally reported as net/gross	Data originally reported at meter/generator	NTG ratio	Line loss factor
AEP OH	Gross	Meter	0.895	0.045
AEP TC	Gross	Meter	0.895	0.073
AL Power	Gross	Meter	0.895	0.039
Ameren IL	Net	Meter	0.890	0.041
Ameren MO	Net	Meter	0.790	0.057
APS	Gross	Generator	0.895	0.065
BGE	Gross	Generator	0.715	0.067
CenterPoint	Gross	Meter	0.895	0.057
ComEd	Net	Meter	0.880	0.064
ConEd	Gross	Meter	0.895	0.048
Consumers	Net	Generator	0.900	0.074
CPS	Net	Generator	Varies by program	0.050
Dominion SC	Net	Meter	Varies by program	0.047
Dominion VA	Gross	Meter	0.895	0.049
DTE	Net	Meter	0.920	0.068
Duke FL	Gross	Generator	0.895	0.056
Duke IN	Net	Generator	Varies by measure	0.080
Duke NC	Net	Generator	Varies by measure	0.062

Utility	Data originally reported as net/gross	Data originally reported at meter/generator	NTG ratio	Line loss factor
Duke OH	Gross	Generator	0.895	0.056
Duke Progress	Net	Generator	0.895	0.051
Duke SC	Net	Generator	0.895	0.062
Entergy AR	Net	Meter	0.950	0.035
Entergy LA	Net	Meter	1.100	0.040
Entergy TX	Net	Meter	0.930	0.080
Eversource CT	Net	Meter	0.660	0.044
Eversource MA	Net	Meter	0.895	0.090
FP&L	Net	Generator	0.895	0.060
GA Power	Gross	Meter	0.895	0.037
JCP&L	Gross	Meter	0.895	0.012
LADWP	Gross	Generator	0.895	0.100
LIPA	Gross	Meter	0.895	0.057
MidAm. IA	Gross	Meter	0.895	0.075
NG MA	Net	Meter	0.895	0.080
NG NY	Gross	Meter	0.900	0.030
Nevada Power	Net	Meter	0.895	0.048
OG&E	Net	Meter	0.895	0.048
OH Edison	Gross	Meter	0.895	0.060
Oncor	Gross	Meter	0.895	0.057
PacifiCorp UT	Gross	Generator	0.895	0.059
PECO	Gross	Meter	0.895	0.069
PG&E	Net	Meter	0.895	0.077
PGE	Gross	Meter	0.895	0.039
PPL	Gross	Meter	0.680	0.088
PSE	Net	Meter	0.895	0.050
PSE&G	Gross	Meter	1.000	0.093
SCE	Net	Meter	0.895	0.038

Utility	Data originally reported as net/gross	Data originally reported at meter/generator	NTG ratio	Line loss factor
SDG&E	Net	Meter	0.920	0.017
SRP	Gross	Meter	0.895	0.024
TECO	Net	Meter	0.895	0.053
We Energies	Gross	Meter	0.640	0.080
West Penn	Gross	Generator	0.895	0.047
Xcel CO	Net	Generator	Varies by product	0.064
Xcel MN	Gross	Generator	0.895	0.070

Appendix E. Respondents to Utility and Administrator Data Requests and External Review Request

Table 59. Respondents to utility data request and external review request

Utility	Primary data request respondent(s)
AEP OH	Brian Billing, Energy Efficiency and Consumer Programs Manager
AEP TC	Robert Cavazos, Energy Efficiency/Consumer Programs Manager
AL Power	Brandi Hurst, Marketing DSM Programs Manager
Ameren IL	Fernando Morales, Regulatory and Planning Advisor
Ameren MO	Laureen Welikson, Senior Consultant Energy Efficiency Evaluation & Strategy
APS	Roger Krouse, Program Manager
BGE	Doug Gargano, Senior Business Analyst
CenterPoint	Shea Richardson, Energy Efficiency Program Manager
ComEd	Mike Catlett, Energy Efficiency Data Analytics Manager Ilse Ridriguez Nick Baraloukos, Director of Customer Solutions
ConEd	Rick Lieb, Financial Planning and Analysis Section Manager
Consumers	Ted Ykimoff, Director of Energy Waste Reduction Programs
CPS	Nick Hooper, Product Development Analyst Justin Chamberlain, Demand Response and Energy Efficiency Manager
Dominion SC	Sheryl Shelton, Demand Side Management Admin/EM&V Manager John Raftery, Regulation Director Therese Griffin, Strategic Partnerships and Energy Conservation Director
Dominion VA	Michael Hubbard, Energy Conservation Manager Selma Cosic, Energy Conservation Program Design Consultant
DTE	Chris Payne Kevin Bilyeu, Energy Efficiency Strategy and EM&V Manager
Duke FL Duke IN	Melissa Adams, Director of Analytics for Grid Strategy Enablement

Utility	Primary data request respondent(s)
Duke NC	
Duke OH	
Duke Progress	
Duke SC	
Entergy AR	Denice Jeter, Energy Efficiency Manager
Entergy LA Entergy TX	Andrew Owens, Regulatory Research Director Heather LeBlanc, Senior Staff Analyst Caroline Cenci, Research and Strategy Regulatory Analyst
Eversource CT	Karlyn Lempa, Energy Efficiency Senior Analyst
Eversource Massachusetts	Brian Greenfield, Energy Efficiency Regulatory & Planning Supervisor
FP&L	Brad Gunter, Commercial Sales and Operations Director
GA Power	Jeff Smith, Energy Efficiency Manager Jeannie Fair, Renewable Development Reporting Supervisor Jody Morris, Marketing Analyst Beth Walter, Supplier Diversity Development
JCP&L	Eren Demiray, Energy Efficiency Reporting Manager
LADWP	Craig Tranby, Environmental Supervisor
LIPA	Jossi Fritz-Mauer, Lead Program Support Analyst Ronan Murphy, Business Management Associate
MidAm IA	David McCammant, Senior Energy Efficiency Manager
Nevada Power	Brittney Abad, Energy Services Senior Analyst Chris Belcher, Demand Side Management Compliance Manager Alebachew Yimer, Demand Side Management Planning Specialist Patricia Rodriguez, Demand Side Management & Renewable Programs Director
NG MA	Steve Menges, Energy Efficiency/DSM Policy & Data Manager
NG NY	Ken Chan, Energy Efficiency Reporting Lead Analyst
OG&E	Donney Dorton, EM&V Specialist
OH Edison	Eren Demiray, Energy Efficiency Reporting Manager
Oncor	Jean Perez, Planning and Compliance Manager

Utility	Primary data request respondent(s)
PacifiCorp UT	Michael Snow, Regulatory Affairs & Procurement Manager
PECO	Marina Geneles, EM&V Lead Maria Mancuso, Senior Business Analyst
PG&E	Jake Richardson, Energy Efficiency Reporting & Compliance Supervisor Caroline Francis, Energy Efficiency Policy Shaping, Analysis & Compliance Manager
PGE	Jake Wise, Energy Efficiency Partner Liaison
PPL	Matt Webber, Energy Efficiency Consultant Mike Stanz, Energy Efficiency Consultant
PSE	JoEllen Fajardo, Senior Market Analyst
PSE&G	Tim Fagan, Evaluation Process Improvement and Control Manager Charlie Garrison
SCE	Joseph Llorens, Senior Compliance Analyst
SDG&E	Geneveve Bucsit, Regulatory Case Manager
SRP	Nathan Morey, Demand-Side Management Manager Dan Dreiling, Director of Customer Programs
TECO	Mark Roche, Regulatory Rates Manager Erika Perez, Senior Regulatory Rate Analyst
We Energies	Missie Muth, Principal Customer Programs Manager Briana Redmond
West Penn	Eren Demiray, Energy Efficiency Reporting Manager
Xcel CO	Byron Boyle, Regulatory Policy Specialist
Xcel MN	Angela Smelser