2025 State Energy Efficiency Scorecard

Mark Kresowik, Sagarika Subramanian, Mike Specian, Forest Bradley-Wright, Daivie Ghosh, Paul Mooney, Stephanie Sosa-Kalter, Archibald Fraser, Brian Fadie, and Joanna Mauer

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Research Report

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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

Mark Kresowik is ACEEE's senior policy director, where he supports the success of the members of ACEEE's policy team and partners shaping decisions at the local, state, utility, and federal levels across every part of the economy.

Sagarika Subramanian now works in the program development group on the program design team at VEIC, the Vermont Energy Investment Corp. From 2021–2024 she led ACEEE's *State Scorecard* and conducted research and analysis on state-level energy efficiency policies.

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. Mike holds a PhD in physics from Johns Hopkins University.

Forest Bradley-Wright leads ACEEE's state and utility policy program, which focuses on state policies, regulations, and utility programs that eliminate energy waste, reduce dependence on fossil fuel power plants, and increase energy affordability for utility customers.

Daivie Ghosh is a senior research analyst on the transportation team. She conducts research on the impact of transportation technologies and policies related to heavy-duty vehicles.

Paul Mooney conducted quantitative and qualitative research to support energy efficiency and decarbonized buildings at ACEEE from 2023 to 2024. Paul holds a bachelor of science in economics from the University of Delaware.

Archibald Fraser is a research analyst on ACEEE's industrial team, where his work has focused on flexible power usage by industry to enable electrification, the implementation of federal industrial decarbonization programs, and reducing emissions and toxicity within the chemicals sector.

Stephanie Sosa-Kalter is the deputy director for Residential Retrofits for Energy Equity (R2E2) at ACEEE, where she provides technical assistance to state, local, and tribal governments as well as community-based organizations. Stephanie holds a master of urban planning from New York University.

Brian Fadie is state policy manager for the Appliance Standards Awareness Project within ACEEE. He has 13 years of experience working on state-level environmental policy and holds a master of science in natural resource policy and planning from the University of Michigan.

Joanna Mauer is the deputy director of the Appliance Standards Awareness Project (ASAP). She leads ASAP's technical advocacy in U.S. Department of Energy rulemakings for efficiency standards for residential appliances and commercial and industrial equipment.

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Data and licensing information

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Executive summary

Key findings

- After a decrease through the initial years of the COVID pandemic, energy efficiency investment by states rebounded to a new record high level of an estimated $8.8 billion in 2023, including doubling support for low-income households to more than $2 billion from 2021 to 2023.
- Many states improved their efficiency programs to focus more on saving money for low-income households and reducing harmful pollution contributing to climate change.
- California, Massachusetts, New York, and Vermont continued to lead the country, with Maryland joining them at the top of the list for the first time. Colorado reached the top 10 for the first time, New Jersey returned to the top 10 for the first time since 2008, and Louisiana leaped up the ranks due to a significant improvement in building codes.
- Twelve states and the District of Columbia have now adopted the Advanced Clean Cars II rule to reach 100% zero-emission vehicles by 2035, and 10 states have adopted the Advanced Clean Trucks rule. Seventeen jurisdictions have adopted goals of reducing greenhouse gases or the number of miles traveled by vehicles (VMT), while 24 jurisdictions have reduced average VMT per person.
- Policies to support energy savings in existing buildings have increased in importance in recent years, with four states (Colorado, Maryland, Oregon, and Washington) and the District of Columbia adopting building performance standards.
- Nineteen states and the District of Columbia have set industrial decarbonization targets, mostly due to the Environmental Protection Agency's Climate Pollution Reduction Grants, with at least four of those states (Colorado, Maryland, Massachusetts, and Vermont) in the process of implementing or developing clean heat standards.
- Fifteen states and the District of Columbia have now established appliance energy efficiency standards and/or clean lighting policies, building on national policies that were already saving the average household in the United States more than $500 annually in 2015.

The *State Energy Efficiency Scorecard*, now in its 16th edition, ranks states on their policy and program efforts to advance energy efficiency. Energy efficiency remains our nation's least-cost energy resource while also delivering additional benefits such as grid reliability and resilience. In the wake of rapidly rising energy prices and electricity bills, many states are recognizing energy efficiency's important role in

keeping energy affordable by helping homeowners and businesses reduce costs, by improving living conditions, and by creating jobs, all while supporting increasingly ambitious state and local goals to reduce carbon emissions. The *Scorecard* assesses performance, documents best practices, and recognizes leadership. This report captures the latest policy developments and state efforts to save energy and highlights opportunities and policy tools available to governors, state legislators, and regulators.

The last two years showcased exciting trends reducing costs for businesses and households across multiple sectors, particularly for those who have been historically underserved by efficiency programs. Utility efficiency investments to help save money rebounded to a new record high of approximately $8.8 billion in 2023—an increase of approximately 16% compared with the recent low of 2020 and 6% more than the previous high in 2019. That was primarily driven by rising support for low-income households, as states nearly doubled their investment from 2021 to 2023 to more than $2 billion. Many states and utilities also reported efforts to grow and adapt program portfolios beyond lighting measures, targeting deep energy home retrofits, smart buildings, expansion of electric vehicle (EV) infrastructure, zero-energy buildings, and electrification of space and water heating.

Appliance standards are similarly critical for saving households money. Existing national appliance standards saved the average U.S. household about $500 a year on utility bills in 2015, or about 16% of average annual utility bill spending (deLaski and Mauer 2017), while national standards updated during the Biden administration will save a typical U.S. household more than $100 each year on average over the next two decades (Dunklin and Mauer 2024). Eight states updated or adopted energy efficiency standards for appliances or adopted a clean lighting policy in 2023 and 2024. This is in addition to seven other states and the District of Columbia that have adopted such standards within the last five years.

In our rankings, four of the top five states overall are unchanged from the previous edition, with Massachusetts, New York, Maryland, and Vermont, respectively, joining California at the top. Maryland jumped to fourth place on the strength of the state's transportation and buildings policies, tying with California for the highest score in that latter category. States rounding out the top 10 are Washington, Colorado, New Jersey, Oregon, and Maine. Each has established strong policy structures, incentives, and standards to drive savings through utility programs, efficient new construction, and improved sustainability in the transportation sector. Washington stands out on in the latter area with recent actions to help residents spend less on gasoline—and on time stuck in traffic—through policies to increase housing density and decrease the number of miles traveled by vehicles throughout the state.

Relative to the last edition, some of the most-improved states were Colorado**,** which shot up six spots and into the top 10 for the first time; New Jersey**,** which returned to the top 10 for the first time since 2008; and Louisiana, which had the most improvement in buildings policies, leapfrogging the state's residential and commercial building energy codes from IECC 2009 to IECC 2021. Louisiana made that decision primarily due to facing significantly increased insurance costs as a result of extreme weather exacerbated by climate change. Improving construction not only lowers energy costs, it also helps buildings and occupants withstand extreme weather and other climate risks. Other states can follow their cost-saving examples by updating building codes and investing more in energy efficiency, particularly for low-income households.

Chapter 1. Introduction, methodology, and results

Authors: Mark Kresowik and Sagarika Subramanian

The *State Energy Efficiency Scorecard*, now in its 16th edition, ranks states on their policy and program efforts to advance energy efficiency (EE) in service of economic savings, decarbonization, and other objectives. The *Scorecard* assesses performance, documents best practices, and recognizes leadership. This report captures the latest policy developments and state efforts to save energy and highlights opportunities and policy tools available to governors, state legislators, and regulators. This is the first edition of the *State Scorecard* that has been released after ACEEE made the decision to publish these reports on a biennial basis, or every two years. As such, data in this report primarily reflect programs and policy-related information from the last two years.

With states increasingly adopting ambitious climate goals and increasing energy efficiency's role in decarbonization, ACEEE has reimagined the *State Scorecard* with an expanded suite of scoring metrics that align with new and emerging state climate and equity priorities. In recognizing the potential for energy savings to reduce energy bills for households and businesses, create jobs, and reduce emissions, states are advancing efficiency across sectors to meet climate, economic, and other goals and to create an energy transition inclusive of all communities.

The new equity metrics for the last edition of the *Scorecard* were developed as part of ACEEE's Leading with Equity initiative, which aims to ensure that equity concerns are centered in all ACEEE *Scorecards,* and that top scorers are leading on equity (ACEEE 2022). Our current methodology continues to consider state efforts to ensure equitable distribution of clean energy benefits by strengthening community engagement processes, providing compensation for marginalized communities to participate in energy proceedings, and improving tracking of energy-equity-related data. We provide further details on changes in our methodology and scoring in the sections that follow.

Energy efficiency remains our nation's least-cost energy resource while also delivering additional benefits such as grid reliability and resilience. Utility electricity efficiency investments slowed from 2020 through 2022, but in 2023 reached a new high of $6.9 billion. With the $1.9 billion in gas efficiency investments, we estimate total utility efficiency program spending of approximately $8.8 billion in 2023—an increase of approximately 16% compared with the recent low of 2020 and 6% more than the previous high in 2019. Many states and utilities reported efforts to grow and adapt program portfolios to look beyond lighting measures, targeting deep energy home retrofits, smart buildings, expansion of electric vehicle (EV) infrastructure, zero-energy buildings, and electrification of space and water heating.

In the wake of rapidly rising energy prices and electricity bills, several states are recognizing energy efficiency's important role in keeping energy affordable by helping homeowners and businesses reduce costs, by improving living conditions, and by creating jobs, all while supporting increasingly ambitious state and local goals to reduce carbon emissions. This report seeks to capture and highlight those efforts.

The *Scorecard* is divided into seven chapters. In this chapter, we discuss our scoring methodology. We then present the overall results of our analysis and introduce strategies that states can use to improve their energy efficiency. We conclude the chapter by spotlighting leading states, most-improved states, and policy trends underlying the rankings.

Subsequent chapters present detailed results for six major policy areas. Chapter 2 covers utility and public benefits programs and policies. Chapter 3 discusses transportation policies. Chapter 4 deals with building energy code adoption, state code compliance efforts, and other building policies. Chapter 5 discusses state government initiatives, including financial incentives, lead-by-example policies, and equitable practices. Chapter 6 covers industrial energy efficiency and decarbonization policies. We then describe appliance and equipment efficiency standards in Chapter 7.

Scoring

States are the testing grounds for policies and regulations that may ultimately be adopted at the federal level or by other states, thus having a wider impact on energy savings and greenhouse gas (GHG) emissions. To reflect the enormous diversity of the United States, we chose metrics that are flexible enough to capture the range of policy and program options that states use to encourage energy efficiency. The policies and programs we evaluate in the *State Scorecard* aim to reduce end-use energy consumption, set long-term commitments for energy efficiency and equitable decarbonization, and establish mandatory performance codes and standards. These policies and programs also help to accelerate adoption of the most energy-efficient technologies; reduce market, regulatory, and information barriers to energy efficiency; and provide funding for efficiency programs.

We evaluated states in the six primary policy areas in which they are pursuing energy efficiency:

- Utility and public benefits programs and policies[1]
- Transportation policies
- Building energy efficiency policies
- State-government-led initiatives around energy efficiency
- Industrial energy efficiency policies
- Appliance and equipment standards

In prior *State Scorecard* editions, we allocated points among the policy areas to reflect the relative magnitude of energy savings possible through the measures scored. However, this approach sometimes overlooks certain efficiency technologies that have great carbon savings benefits, such as vehicle electrification and building decarbonization through energy-efficient heat pumps. Starting with the *2022 Scorecard,* we allocated points to align with recent findings from ACEEE and others that highlight best-practice energy efficiency policies that offer the greatest potential to deliver GHG emissions savings that support clean energy and emissions reduction goals (Nadel and Ungar 2019; Larson et al. 2020; Williams et al. 2021; IEA 2021; NASEM 2021). Our current methodology continues to include several equity-focused metrics across policy areas, accounting for more than 20% of the total points in this edition. More details about our process and commitment to centering equity in the *State Scorecard* can be found in ACEEE's State Scorecard Equity Metrics Implementation Strategy (ACEEE 2022). For the *2025 State Scorecard*, we decided to increase the total number of points available for states from 50 to 100 points. Primarily involving a simple doubling of points for each metric and policy area, this allows us more granularity with the scoring thresholds associated with quantitative metrics. Of the 100 total points possible, we allocated 29 points to utility and public benefits program and policy metrics; 26 points to transportation policies and programs; 24 points to building energy efficiency policies; 9 points

[1] A public benefits fund provides long-term funding for energy efficiency initiatives, usually through a small surcharge on electricity consumption on customers' bills.

to state-led initiatives (such as lead-by-example programs and state-sponsored incentives); 6 points to industrial energy efficiency policies; and 6 points to state appliance and equipment standards. Across all the policy categories, 22% of the points are devoted to equity metrics.

In each policy area, we developed a scoring methodology based on a diverse set of criteria that we detail in each policy chapter. We used these criteria to assign a score to each state. The scores were informed by responses to data requests sent to state energy officials, public utility commission (PUC) staff, and experts in each policy area. To the best of our knowledge, policy information included in this report is current as of December 2024. However, some performance-based scoring categories, such as those in Chapter 2 (utility programs), are informed by the latest available data from 2022 or 2023 program years.

Table 1 outlines the new scoring allocation and includes the revised metrics for the *2025 Scorecard*.

Table 1. Scoring by policy area and metrics

Policy areas and metrics	Maximum score out of 100
Utility and public benefits programs and policies	**29**
Incremental savings from electricity efficiency programs	9
Incremental savings from natural gas and fuel efficiency programs	4
Energy efficiency resource standards (EERS)	4
Performance incentives and fixed-cost recovery	3
Support of low-income energy efficiency programs (Equity)	4
Inclusion of non-energy benefits (NEBs) in cost-effectiveness (C/E) tests (Equity)	1
Specific screening or exemption from C/E for low-income energy efficiency programs (Equity)	1
Requirements for low-income energy efficiency program spending or savings (Equity)	1
Geographic tracking of distribution of program participation and health/pollution impacts (Equity)	1
Intervenor compensation (Equity)	1
Transportation policies	**26**
GHG tailpipe emissions standards	2
Zero-emission vehicle (ZEV) mandate	2
Electric vehicle (EV) registrations	2
EV fees*	1
Electric vehicle supply equipment (EVSE)	2
High-efficiency vehicle consumer incentives	1
Targets to reduce vehicle miles traveled (VMT)	2
Change in VMT	2

Policy areas and metrics	Maximum score out of 100
Integration of transportation and land-use planning	2
Transit funding	3
Transit legislation	1
Freight system efficiency goals	2
Equitable transportation access (Equity)	2
Equitable transportation electrification (Equity)	2
Building energy efficiency policies	**24**
Level of code stringency	8
Stretch code adoption*	1
Code compliance study	2
Fuel-switching enabling policies*	2
Energy transparency policies	1
Existing buildings standards	4
Zero-energy buildings (ZEBs)	1
Minimum energy performance standards for state housing agency–funded projects (Equity)	2
State efforts to remediate health/safety deficiency barriers to weatherization in low-income households (Equity)	2
ZEBs and electrification in affordable housing/construction (Equity)	1
State government initiatives	**9**
Financial incentives	2
Lead-by-example efforts in state facilities and fleets	2
Carbon pricing	1
Dedication of carbon pricing revenues to energy efficiency equity initiatives (Equity)	1
Statewide emission reduction goal	1
Statewide energy affordability or energy justice goal (Equity)	1
Equity task force or dedicated staff for equity concerns (Equity)	1
Industry energy efficiency policies	**6**
Statewide strategic energy management (SEM) program	2
Industrial decarbonization target or clean heat standard	2
Large customer opt-out programs*	

Policy areas and metrics	Maximum score out of 100
State-supported job training for industrial energy efficiency (Equity)	1
Industrial electrification programs	1
Appliance and equipment efficiency standards	**6**
Maximum total score	***100***

** We deduct points for programs and policies that are detrimental to energy efficiency. Metrics that are equity-focused are indicated by "(Equity)" in the table.*

The *State Scorecard* is meant to reflect the current policy landscape, incorporating changes from year to year. In the last edition, we made significant changes to focus on states' climate-related efforts and efforts that promote equitable access to clean energy and efficiency investments. We continue that focus in this edition. Moving forward, we will continue to adjust our methodology to ensure that the *State Scorecard* effectively captures state energy efficiency policies and programs that promote equitable decarbonization.

State Data Collection and Review

We rely on outreach to state-level stakeholders to verify the accuracy and comprehensiveness of the policy information that we use to score the states. As in past years, we asked each state utility commission to review statewide data for the customer-funded energy efficiency programs presented in Chapter 2. This year, 37 state commissions responded.

We also asked each state energy office to review information on transportation policies (Chapter 3), building energy codes (Chapter 4), state government initiatives (Chapter 5), and industrial energy efficiency policies (Chapter 6).

We received responses from energy offices in 37 states. We gave state energy office and utility commission officials the opportunity to review and submit updates to the material in ACEEE's State and Local Policy Database.[2] We also asked them to review and provide comments on a draft version of this *Scorecard* prior to publication. To evaluate states that did not respond to this year's data requests, we used publicly available data and responses from prior years.

In collaboration with our Leading with Equity initiative, we expanded our external reviewers list to include local, regional, and national organizations focused on environmental justice.

Data Limitations

Any effort to convert state spending data, energy savings data, and adoption of best-practice policies across six policy areas into a single state energy efficiency score has obvious limitations. One of the most pronounced is access to recent, reliable data on the results of energy efficiency. Because many states capture relatively little data on energy efficiency policy efforts and use various reporting protocols, we used a best-practices approach to score some policy areas. For example, while we score the stringency of building code adoption, implementation and enforcement is a critical factor in delivering energy savings. However, the actual, measurable success of these building codes in reducing energy

[2] Available at database.aceee.org.

consumption is unclear without ways to verify that implementation and enforcement. As data become more readily available, we will continue to explore ways to incorporate a more quantitative assessment of compliance in future *Scorecard*s.

We face similar difficulty in scoring state-backed financing and incentive programs for energy efficiency investments. Though many states have seemingly robust programs aimed at residential and commercial consumers, savings data from these programs are rarely tracked in a comprehensive or standardized manner that would allow straightforward comparisons between states. As a result, we can offer only a qualitative analysis of these programs. This lack of quantitative data is growing more pronounced as many states begin pouring financial resources into green banks. Without comparable results on dollars spent and rigorously evaluated energy savings, it is impossible to assess these programs with the same scrutiny that we use to evaluate utility programs.

Best-Practice Policy and Performance Metrics

The scoring framework described above is our best attempt to represent our more than 40 efficiency and equity metrics as a quantitative score. Converting spending data, energy savings data, and policy adoption metrics spanning six policy areas into one score clearly involves simplification. Quantitative energy savings performance metrics are confined primarily to programs run by utilities and statewide or third-party administrators using ratepayer funds. These programs are subject to strict evaluation, measurement, and verification (EM&V) standards. States engage in many other efforts to encourage efficiency, but such efforts are typically not evaluated with the same rigor, so it is difficult to capture comprehensive quantitative data for these programs.

Although our preference is to include metrics based on energy savings and GHG emissions reductions achieved in every sector, the lack of consistent ex post data currently makes this unrealistic. Therefore, except for utility policies, we have not scored the other policy areas on spending or reported savings attributable to a particular policy action. Instead, we have developed best-practice metrics for scoring the states. In most cases, these metrics do not score outcomes directly but rather credit states that are implementing equitable policies likely to lead to gains in energy efficiency. For example, we give credit for *potential* energy savings from improved building energy codes and appliance efficiency standards, since *actual* savings from these policies are rarely evaluated. We have also attempted to reflect outcome metrics to the extent possible; for example, EV registrations, reductions in vehicle miles traveled (VMT), and a metric for the number of publicly available EV charging ports all represent measurable results of transportation policies. Each chapter includes a full discussion of the policy and performance metrics.

Areas Beyond Our Scope: Local and Federal Efforts

Energy efficiency initiatives implemented by actors at the federal or local level or in the private sector (with the exception of investor-owned utilities, municipal-owned utilities, and cooperatives) generally fall outside the scope of this report. However, the $1 trillion available through the Infrastructure Investment and Jobs Act (IIJA) as well as federal funds from the 2021 American Rescue Plan Act offer states unprecedented levels of federal support for sustainable economic development and efforts to address climate change (117th Congress 2021). Billions of dollars from the Inflation Reduction Act (IRA) will also help states invest in clean energy and energy efficiency in the buildings, transportation, and industrial sectors (117th Congress 2022). State energy offices and other state agencies are primary beneficiaries of this large pot of funding and will have significant influence over the scale of energy efficiency and electrification projects implemented in coming years. As of January 2025, every state, except South Dakota, and the District of Columbia applied for funding available through DOE's Home

Energy Rebate program (DOE 2024a). While this edition of the *Scorecard* does not account for the impacts of federal funding on state-level energy efficiency programs, we do anticipate that future editions of the *Scorecard* will capture progress and implementation of these programs. For states interested in ways to leverage federal funding with existing state, local, and utility resources, please refer to a recent white paper from ACEEE, AnnDyl Policy Group, and the Building Performance Association (Amann and Saul-Rinaldi 2024).

It is important to note that regions, counties, and municipalities have become actively involved in developing energy efficiency programs, a positive development that reinforces state-level efficiency efforts. ACEEE's *City Clean Energy Scorecard* (Samarripas et al. 2024) captures data on these local actions; we do not specifically track them in the *State Scorecard*. However, a few *State Scorecard* metrics do capture local-level efforts, including the adoption of building codes and land-use policies, as well as state financial incentives for local energy efficiency initiatives. We also include municipal utilities in our dataset to the extent that they report energy efficiency data to the U.S. Energy Information Administration (EIA), state PUCs, or other state and regional groups. As much as possible, however, we focus on state-level energy efficiency activities.

The *State Scorecard* has not traditionally covered private-sector investments in efficient technologies beyond customer-funded or government-sponsored energy efficiency initiatives, codes, or standards. We do, however, recognize the need for metrics that capture the rapidly growing role of private financing mechanisms. We currently track states with active Property Assessed Clean Energy (PACE) programs, green bank financing, and loan programs offered by state agencies. However, incompleteness and variations in reporting program results have made development of a fair and transparent performance-based scoring metric a challenge. Until the reliability and completeness of savings data from these private initiatives improve, we award points for the presence of such programs but stop short of crediting levels of funding or savings.

This Year's Changes in Scoring Methodology

Historically, the *State Scorecard* has allocated the maximum number of points to the utility sector. More recently our methodology aims to redistribute points based on each sector's potential to achieve GHG savings and energy savings. For example, because the transportation sector provides the greatest potential for GHG savings, starting in 2022 we added to the number of points for transportation and reduced the maximum number of points a state can earn on utility programs and policies. Unlike past *Scorecards*, beginning in 2022 we decided to stop scoring state utility spending on energy efficiency programs, concentrating instead on incremental energy savings achieved. In 2022 (and again in 2025), we added three new metrics related to equity-driven utility practices. We credited states for including non-energy benefits such as health and safety in cost-effectiveness tests, transparently tracking and reporting equity-focused program data, and offering intervenor compensation for communities participating in utility proceedings.

We updated our scoring methodology in a few policy areas this year to better reflect potential energy savings and changing policy landscapes.

In Chapter 3 (transportation policies), we adjusted the metrics regarding California's vehicle-emissions standards to reflect states' adoption of California's Advanced Clean Cars II and Advanced Clean Trucks policies. We also refined the metric on freight system efficiency by adding extra points for states with freight plans that specified reducing freight VMT or shifting to lower emitting, more efficient freight modes.

In Chapter 4 (buildings policies), we increased the points for states with existing building policies relative to new construction, in recognition of the outsized role that existing building policies have in achieving broad building decarbonization. For metrics pertaining to residential and commercial energy code stringency, we decided to no longer use the New Building Institute's (NBI) Zero Energy Performance Index (zEPI) since we already account for statewide stretch code adoption in a separate metric. Finally, we expanded the metric on fuel-switching enabling policies to include a metric that rewards heat pump penetration in a state's housing stock, to avoid penalizing states that have restrictive fuel-switching policies but high heat pump penetration.

This will be the second time that a chapter aimed at supporting industrial energy efficiency policies and decarbonization is included in the *State Scorecard*. Energy-related GHG emissions from the industrial sector continue to grow; they can be addressed partly through energy efficiency policies such as energy management, industrial decarbonization targets, and workforce development. The metrics in Chapter 6 aim to identify states that are implementing these types of policies while acknowledging that much more action is needed. Based on available data, we may add a metric assessing state or utility programs that support industrial sector electrification in future *Scorecards*.

2025 State Energy Efficiency Scorecard Results

Figure 1 offers an overview of the *2025 State Scorecard* results, while table 2 describes them in more detail. In this section, we highlight key changes in state rankings, discuss which states are making notable new commitments to energy efficiency and equitable practices, and provide recommendations for states that want to increase their energy efficiency.

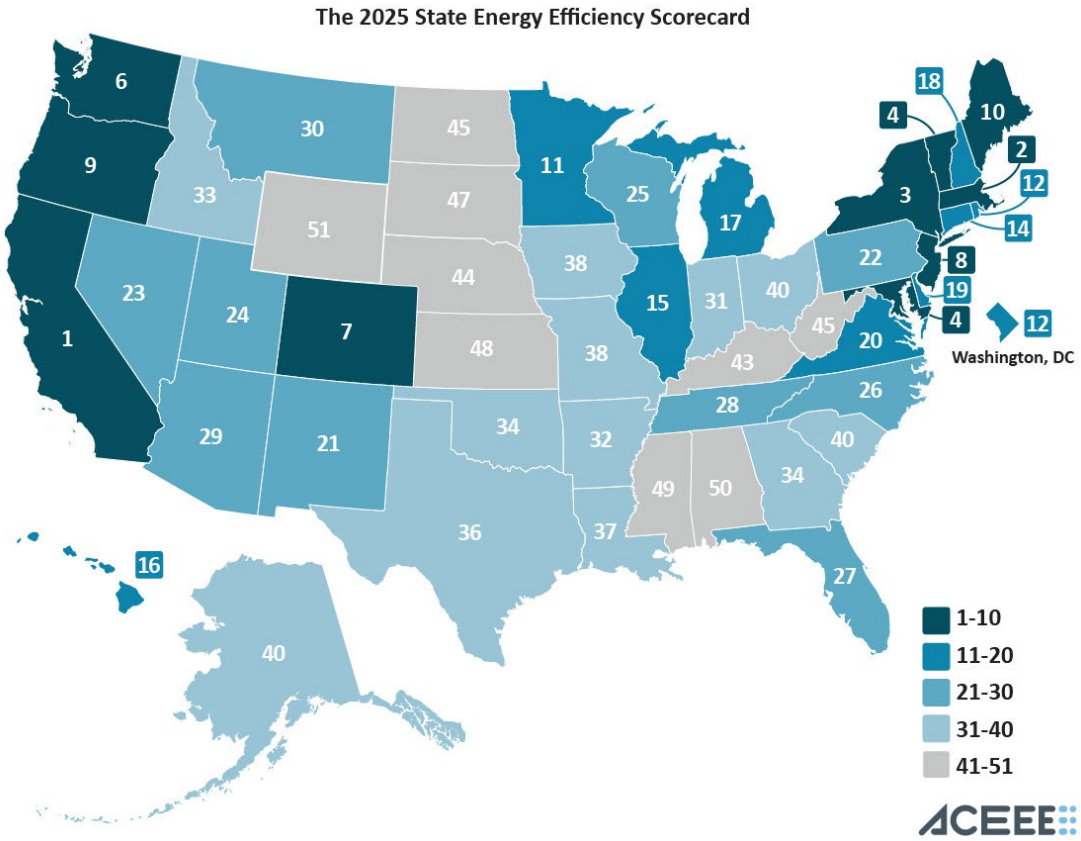

Figure 1. 2025 State Scorecard rankings

Table 2. Summary of state scores in the 2025 Scorecard

Rank	State	Utility and public benefits (29 pts.)	Transportation policies (26 pts.)	Building energy efficiency policies (24 pts.)	State government initiatives (9 pts.)	Industrial policies (6 pts.)	Appliance efficiency standards (6 pts.)	Total score (100 pts.)	Change in rank from 2022
1	California	28.5	25	21	9	6	6	95.5	0
2	Massachusetts	22.5	22.5	20	9	6	3	83	0
3	New York	23.5	23.5	16.5	9	6	3	81.5	0
4	Maryland	18.5	22.5	21	9	5	1	77	3
4	Vermont	23.5	20	17.5	8	3	5	77	0
6	Washington	17.5	19.5	19	9	6	4	75	5
7	Colorado	17.5	21	19	5.5	4	6	73	6
8	New Jersey	23.5	19	16	9	2	3	72.5	6
9	Oregon	16	20	17.5	9	4	5	71.5	2
10	Maine	19.5	16.5	15.5	9	6	4	70.5	–5
11	Minnesota	23	18	14.5	6.5	6	2	70	-1
12	District of Columbia	16	20	18.5	7.5	3	3	68.5	–6
12	Rhode Island	24	17.5	10	9	4	4	68.5	–5
14	Connecticut	19.5	16.5	15.5	9	6	0	66.5	–5
15	Illinois	23	12.5	16	5.5	1	2	60	1
16	Hawaii	16	15.5	9	7	4	5	56.5	1
17	Michigan	26.5	8	8.5	5	6	0	54	–2
18	New Hampshire	20	13	9	7	3	0	52	1
19	Delaware	8	20	9	7.5	4	0	48.5	–1
20	Virginia	7	16	11	8.5	3	0	45.5	0
21	New Mexico	10	12	11	6	2	0	41	2
22	Pennsylvania	7.5	12.5	9.5	6.5	4	0	40	–1
23	Nevada	14	7	7.5	2.5	5	1	37.5	–2
24	Utah	8.5	10.5	10	4	2	0	35	–1
25	Wisconsin	12.5	7.5	5.5	5.5	3	0	34	1
26	North Carolina	8	7	8	4	3	0	30	–1
27	Florida	1.5	9	10.5	6.5	1	0	28.5	2
28	Tennessee	2.5	7.5	6	4.5	6	0	30	0

Rank	State	Utility and public benefits (29 pts.)	Transportation policies (26 pts.)	Building energy efficiency policies (24 pts.)	State government initiatives (9 pts.)	Industrial policies (6 pts.)	Appliance efficiency standards (6 pts.)	Total score (100 pts.)	Change in rank from 2022
29	Arizona	12	9	3	3.5	–1	0	26.5	–3
30	Montana	4.5	5.5	7	2.5	2	0	21.5	–1
31	Indiana	6	4.5	6.5	3	1	0	21	3
32	Arkansas	11.5	1	1	3.5	3	0	20	5
33	Idaho	8.5	2.5	4.5	2	2	0	19.5	0
34	Georgia	2	4	7.5	2.5	2	0	18	5
34	Oklahoma	8.5	6	1	1.5	1	0	18	7
36	Texas	5	3.5	7	3	–1	0	17.5	–7
37	Louisiana	2	0	8.5	4	2	0	16.5	9
38	Iowa	2.5	6.5	5	1.5	0.5	0	16	–3
38	Missouri	4	5	2	3	2	0	16	–9
40	Ohio	1	3	9	2	–1	0	14	4
40	South Carolina	5.5	2	4.5	3	–1	0	14	9
40	Alaska	1.5	3.5	4	4	1	0	14	–1
43	Kentucky	4	2	4.5	3.5	–1	0	13	–5
44	Nebraska	0	2.5	5	2	3	0	12.5	–9
45	North Dakota	0	5.5	4	2	0	0	11.5	–2
45	West Virginia	1.5	5	3	3	–1	0	11.5	–1
47	South Dakota	2	2.5	5.5	0	0	0	10	–1
48	Kansas	2.5	4	1	0.5	0	0	8	1
49	Mississippi	2	0	1	2.5	1	0	6.5	–3
50	Alabama	0	–0.5	4	2.5	0	0	6	–9
51	Wyoming	2	1.5	0	2	0	0	5.5	0

How to Interpret Results

Although we provide individual state scores and rankings, the differences among the states are most instructive when considered in terms of four groups within ranges of approximately 20 points (i.e., roughly 0–20, 21–40, 41–60, 61+). The top states are consistently advancing efficiency across every category, typically receiving at least half of the available points in each sector. The second tier is making considerable progress, but more inconsistently across sectors: One category might be exemplary—such as Michigan for utilities, Delaware in transportation, and Hawaii on appliance standards—but other

sectors are lagging or failing to earn any points entirely. One easy way to anticipate whether a state is in the top tiers or bottom tiers is whether they are leading by example: Every state above 40 points received more than half the points in the state government initiatives sector, while only three below 40 points did. That is an area of potentially rapid improvement for states in those bottom tiers; states can sometimes move up many spots within the bottom tiers through individual policy improvements: for example, Louisiana and building codes in this edition.

2025 Leading States

California continued to lead the nation—its seventh time in the top spot since the *Scorecard*'s 2006 inception—receiving the highest score in all six categories. Four of the top five states overall were unchanged from 2022, with Massachusetts, New York, Maryland, and Vermont, respectively, joining California at the top. Maryland jumped to fourth place on the strength of the state's transportation and buildings policies, tying with California for the highest score in that latter category.

California continues to set the pace for improving efficiency and reducing pollution from the transportation and utilities sectors, and tied for the highest score across appliance standards, industrial policies, buildings, and state-led initiatives. The Golden State approved the Advanced Clean Cars II (ACC II) rule to reach 100% zero-emission vehicles (ZEVs) by 2035, which a dozen other states have now adopted, and the Advanced Clean Trucks (ACT) rule. The rules, along with other state programs, aim to make ZEVs accessible to the state's low-income consumers and disadvantaged communities. The state has implemented policies to center equity and electrification in utility energy efficiency programs. The California Environmental Protection Agency's CalEnviroScreen 4.0 mapping tool identifies communities that have disproportionate pollution levels and is used to prioritize funding for these communities. The state is also prioritizing equitable decarbonization of buildings by setting goals for heat pump deployment and climate-resilient homes, by ensuring that half of the deployment occurs in low-income and disadvantaged communities, and by exploring a building performance standard.

Massachusetts continues to deliver comprehensive, equity-focused programs and policies to strengthen efficiency in all sectors included in this report, most recently through the passage of "An Act Promoting a Clean Energy Grid, Advancing Equity, and Protecting Ratepayers" in November 2024, which includes a fund to support community intervention in utility regulatory proceedings. The state has also prioritized investment in measures that encourage electrification, including through adoption of both the ACC II and ACT clean vehicle rules, though the latter has been delayed. The Department of Public Utilities approved the 2025–2027 Three-Year Energy Efficiency Plan for the state's utilities in February 2025, which significantly expands low-income programs. Massachusetts is also one of the states working to implement a clean heat standard.

Maryland's rise to fourth this year was driven by a number of actions to advance energy efficiency across nearly every sector, including adoption of a building performance standard for existing buildings, and both ACC II and ACT for clean vehicles. Maryland is exploring both a clean heat standard and a zero-emission appliance standard. Maryland's utility energy efficiency programs, EmPOWER MD, were significantly improved over the last few years through both an increased focus on reducing pollution contributing to climate change and the passage of House Bill 864 to set increased savings targets for low-income households. EmPOWER MD has begun the next three-year program cycle for 2024–2026, and the Public Service Commission is currently exploring new policies to support energy affordability in 2025.

States rounding out the top 10 are Washington, Colorado, New Jersey, Oregon, and Minnesota. Each has established strong policy structures, incentives, and standards to drive savings through utility programs,

efficient new construction, and improved sustainability in the transportation sector. Notably every state in the top 10 has adopted appliance energy efficiency standards.

Table 3 shows the number of times that states have ranked in the top 5 and top 10 spots since the *State Scorecard's* 2006 inception.

Table 3. Leading *State Scorecard* rankings, by times at the top

State	Times in top 5	Times in top 10
California	16	16
Massachusetts	15	16
Vermont	14	16
New York	11	16
Oregon	10	15
Connecticut	6	15
Minnesota	0	14
Rhode Island	8	14
Washington	1	14
Maryland	1	12
Maine	1	4
New Jersey	0	3
District of Columbia	0	2
Illinois	0	2
Colorado	0	1
Wisconsin	0	1

Since the first edition of the *State Scorecard,* 10 states have now occupied the top 5 spots, and 15 states and the District of Columbia have appeared somewhere in the top 10. California is the only state to have earned a spot among the top 5 in all 16 editions, followed by Massachusetts (15 times) and Vermont (14 times). Minnesota, New Jersey, Wisconsin, Illinois, Colorado, and the District of Columbia have all placed in the top 10, but none have yet scored high enough to rank in the top 5.

Most-Improved States

Relative to last edition, some of the most-improved states were **Colorado,** which shot up six spots respectively and into the top 10 for the first time, **New Jersey,** which returned to the top 10 for the first time since 2008, and **Louisiana**, which had the most improvement in buildings policies, leapfrogging the state's residential and commercial building energy codes from IECC 2009 to IECC 2021.

Colorado's remarkable progress was most noticeable in the transportation sector, with adoption of both ACC II and ACT for clean vehicles, as well as a target for reducing the number of miles traveled by vehicles in the state. Colorado has also passed every appliance energy efficiency standard recommended

by the Appliance Standards Awareness Project, tying with California for the maximum number of points in that sector. Colorado also tied for the maximum numbers of points for existing building policies (with the District of Columbia), in part by adopting a building performance standard, and is the only state in the country that has implemented a clean heat standard. Colorado's utility energy efficiency programs have also significantly improved, evolving to prioritize equity and reducing harmful pollution contributing to climate change.

New Jersey jumped backed into the top 10 with a renewed focus on next generation utility energy efficiency programs, adoption of the latest building codes, and both ACC II and ACT for clean vehicles. The state had the biggest gain in utility energy efficiency savings in the country, jumping nearly 90% since the last edition of the *Scorecard*, including increased investment in low-income programs. That leadership will continue in future years, as the Board of Public Utilities set new targets for savings to reach 2% annually in the 2026 and 2027 program years.

Louisiana moved up nine spots in the state rankings since the last *Scorecard*, almost entirely a result of updating building codes. Louisiana made that decision primarily due to facing significantly increased insurance costs as a result of extreme weather exacerbated by climate change. Improving construction not only lowers energy costs, it also helps buildings and occupants withstand extreme weather and other climate risks. The Louisiana Public Service Commission also established more ambitious utility energy savings goals, becoming the first Southern state to shift the efficiency delivery approach to an independent program administrator.

Other Trends and Conclusions

One of the most noticeable trends across states was a significant increase in utility spending on energy efficiency programs. For three decades utility spending had moved steadily up, before decreasing and plateauing starting in 2020. However, in 2023 spending jumped dramatically—by 16% from that 2020 low—to a new record high. Savings have not yet correspondingly increased and may not: The separation between spending and savings is primarily driven by a shift in leading states toward prioritizing low-income households and reducing the harmful pollution contributing to climate change, most notably in Massachusetts and California. ACEEE expects to revise the scoring methodology in the next edition to account for that change in emphasis.

Transportation scoring changed to reflect state adoption of the most recent clean vehicle standards. Twelve states and the District of Columbia have now adopted the Advanced Clean Cars II rule to reach 100% zero-emission vehicles by 2035, and 10 states have adopted the Advanced Clean Trucks rule. More states also set goals for reducing greenhouse gas emissions from transportation or the miles traveled by vehicles, with 16 states and the District of Columbia now using that approach.

In previous editions, states have primarily focused on building energy efficiency policies for new construction. While that continues to be important, states are increasingly recognizing the need to prioritize improvements for existing buildings, which will comprise more than half of the building footprint in 2050, the date many states have set for goals to reduce or eliminate harmful pollution contributing to climate change. As a result, four states (Colorado, Maryland, Oregon, and Washington) and the District of Columbia have set building performance standards for some of those existing buildings, with several other states including California considering such policies.

The passage of the Inflation Reduction Act in 2022 has also affected states' policies. The impacts of federal incentive programs like tax credits for electric vehicles and appliances, and funding for building code compliance and home energy rebates, are just starting to show up in the *Scorecard* data. However, one program, the Climate Pollution Reduction Grants (CPRG) of the Environmental Protection Agency

(EPA), required each of the participating states to develop plans for reducing climate pollution. As a result, 19 states and the District of Columbia set industrial decarbonization targets, many for the first time. At least four of those states—Colorado, Maryland, Massachusetts, and Vermont—are also in the process of implementing or developing clean heat standards to reduce the percentage of fossil fuels delivered for generating electricity and producing heat for industries and buildings. With new opportunities—and urgency for improvements—increasing for the industrial sector, future ACEEE *State Scorecards* will almost certainly dedicate more points to that area.

The last two years also showcased an exciting trend for appliance and clean lighting standards, as eight states updated or adopted energy efficiency standards for the first time in 2023 and 2024. The seven other states and the District of Columbia that have implemented such standards have all done so or updated their standards within the last five years. Existing national appliance standards saved the average U.S. household about $500 a year on utility bills in 2015, or about 16% of average annual utility bill spending (deLaski and Mauer 2017). As of August 2024, standards updated during the Biden administration will save a typical U.S. household more than $100 each year on average over the next two decades (Dunklin and Mauer 2024).

Chapter 2. Utility and Public Benefits Programs and Policies

Authors: Forest Bradley-Wright, Mike Specian, and Paul Mooney

Introduction

Utility-sector energy efficiency programs have been a critical driver of statewide energy savings over the past two decades and are now serving an evolving and more closely coordinated role with state climate and clean energy plans. These efficiency programs have helped households, businesses, and industry fund and adopt efficient technologies and behaviors to reduce energy waste and utility bills and to improve comfort, health, and safety. These benefits have been most pronounced where states and utilities have invested in energy efficiency as a resource by factoring efficiency as an integral part of utility energy resource planning and decision making in much the same way as resources such as power plants, wind turbines, and solar panels. In particular, states that have adopted an energy efficiency resource standard (EERS), establishing tangible multiyear utility savings goals, have been most successful in delivering the vast majority of utility-sector savings nationwide (Mah, Nadel, and Subramanian 2025).

As state climate and clean energy goals expand and evolve, so too do the expectations for energy efficiency programs, as policymakers seek to deploy efficiency in a way that more directly supports statewide goals and grid decarbonization efforts by reducing costs, improving grid performance, and lowering GHG emissions. In doing so, utility reforms in some states are redefining efficiency to account for and pursue its full range of benefits, including time and locational value, multi-fuel savings, and GHG abatement. These reforms are enabling expanded deployment with improved sophistication, including transitioning buildings from fossil fuel heating to energy-efficient electric heat pumps, and pairing efficiency with flexible grid resources, such as smart controls, renewables paired with storage, and advanced demand response. These add to the portfolio of other traditional efficiency programs that utilities continue to offer through financial incentives, such as rebates and loans; technical services, such as audits, retrofits, and training; and behavioral and education measures.

Just as critically, these investments must be deployed in a way that facilitates a just and equitable clean energy future by addressing historical patterns of injustice in energy planning that have left people of color and rural and low-income customers bearing a disproportionate burden of the negative impacts of fossil fuel investment and climate change. While some states have initiated processes to better understand baseline conditions of energy inequity and to advance plans to improve energy representation, participation, and investment among these communities, these efforts are largely in their infancy and still emerging. Without deliberate efforts to make clean energy plans and programs inclusive of marginalized communities, these investments risk exacerbating past imbalances while leaving these customers behind to shoulder the costs of stranded fossil fuel assets.

As priorities for utility energy efficiency resources shift toward carbon reduction and energy equity, how we track and measure impact performance in the *Scorecard* also continues to evolve. Beneficial electrification can increase electricity sales, while traditional energy efficiency reduces sales. Load shifting can reduce carbon intensity of power generation and improve grid reliability without reducing total electricity consumption. Investments in income qualified efficiency programs deliver bill savings to customers with the greatest need and enable a just energy transition, but may cost more per kWh saved than market rate programs. Multiple policy priorities are more complex to balance and at times require trade-offs that could lead to higher performance in one category but lower performance in another. The economic value of energy efficiency for each of the priorities considered here is strong, though

developing metrics to track and compare performance across these additional categories is now more complicated. For now, utility programs are scored primarily based on policy actions that establish new requirements.

Methodology

This edition of the *State Scorecard* evaluates the utility energy efficiency performance of states across 10 categories. Each category is assigned a maximum point total, with higher point totals indicating greater importance within the utility energy efficiency ecosystem. In this edition, states can earn up to 29 points for the performance of their utilities.

Early in the *State Scorecard* research process, ACEEE issued data requests to all state energy offices and public utility commissions. The data requests contained questions related to all 10 utility scoring categories. They provided states with an opportunity to directly report data such as efficiency savings, efficiency program spending, and the status of their energy efficiency resource standards. States were requested to provide documentation to support any answers submitted as part of the data request. The data requests were primarily concerned with energy efficiency policies and performance in 2022 and 2023.

Thirty-five states plus the District of Columbia and Bonneville Power Administration completed our utility data request. The answers provided by these states and DC usually received top priority in our data analysis. If a state failed to complete a data request or opted to not answer a specific question, we relied on the secondary data source listed in the table. Table 4 below indicates our primary and secondary sources of data for several key metrics.

Table 4. Primary and secondary data sources for quantities used to score states within this utilities chapter of the *State Scorecard*.

Data	Primary data source	Secondary data source(s)
Retail electricity sales	EIA 861: Sales_Ult_Cust	
Utility revenue	EIA 861: Sales_Ult_Cust	
Incremental annual electricity savings	Data request	Utility demand-side management reports; EIA 861: Sales_Ult_Cust
Incremental annual gas savings	Data request	
Electric efficiency spending	Data request	EIA 861: Energy_Efficiency_2023
Gas efficiency spending	Data request	
Nonregulated fuels efficiency spending	Data request	
Natural gas sales (deliveries)	EIA 176	
Energy efficiency resource standards	Next Generation Energy Efficiency Resource Standards Update (Mah, Nadel, and Subramanian 2025)	Data request
Low-income program spending	Data request	Utility demand-side management reports

Data	Primary data source	Secondary data source(s)
Cost-effectiveness provisions for low-income programs	Data request	ACEEE Policy Database
Inclusion of non-energy benefits within cost-effectiveness tests	Data request	ACEEE Policy Database
Distribution of program participation, benefits, and impacts	Data request	ACEEE Policy Database
Intervenor compensation	Data request	ACEEE Policy Database

States were asked for both net and gross savings.[3] Unless otherwise stated, all savings values considered in this report are *net at the meter*. For states that only reported gross savings, we estimated net savings by multiplying gross savings by a net-to-gross (NTG) ratio equal to the median NTG ratio of states that provided both net and gross savings values.[4]

Scoring and Results

This chapter catalogs and scores statewide utility performance and regulatory practices across multiple policy categories to provide a relative assessment of state commitments to energy efficiency, equitable distribution of energy benefits, and efforts to align efficiency programs with state climate goals. The utility scoring metrics are as follows:

- Incremental annual electricity program savings as a percentage of retail sales (9 points)[5]
- Incremental natural gas and unregulated fuels program savings as a percentage of residential and commercial sales (4 points)
- EERS for utilities and statewide program administrators (4 points, potential bonus point for substantial investment shift toward GHG reduction and energy equity)
- Utility business models that encourage energy efficiency, including performance incentives and revenue decoupling (3 points)

As in previous editions of the *Scorecard*, we are continuing to score states based on their equity-driven utility practices. The metrics below consider low-income program spending and utility planning and programs as they relate to inclusion of marginalized communities:

- Investment in low-income energy efficiency programs (4 points)

[3] Gross savings are total savings of program participants without attempting to exclude savings that would have happened anyway. Net savings exclude savings that would have happened even if there were no programs.

[4] 0.82 for electric savings and 0.89 for gas savings.

[5] ACEEE defines *incremental annual savings* as new savings from programs implemented in a given year. Incremental annual savings are distinct from cumulative annual savings, which are the savings in a given program year from all the measures implemented under the programs in that year and in prior years that are still saving energy.

- Policies advancing equitable utility-sector efficiency (1 point for each of the following policies)[6]
    - Requirements for minimum level of state or utility support of low-income programs
    - Special cost-effectiveness screening provisions or exceptions for low-income programs
    - Inclusion of health/safety non-energy benefits within cost-effectiveness tests
    - Geographic tracking of program participation distribution and health/pollution impacts
    - Intervenor compensation

In this chapter, a state could earn up to 29% of the 100 total points possible in the *State Scorecard*. Historically, the utility sector has represented the largest share of achievable points among sectors in the *Scorecard*, informed by studies showing the savings potential of such programs is approximately 40% of the total energy savings potential of all policy areas scored. However, given the increasing urgency of meeting the climate challenge, our current methodology considers point distributions of policy categories according to their potential to specifically deliver both energy savings *and* GHG savings to support state climate pledges. Our current approach also reflects an understanding of the evolving role of utility-sector efficiency as the share of electric generation that renewables provide continues to grow. Many states are now prioritizing beneficial electrification and an energy optimization approach that achieves GHG reductions by replacing fossil fuel–powered end uses with energy-efficient electric technologies. These future low-carbon grid scenarios necessitate a recalibration of the role of utility-sector efficiency programs, which will also evolve in response to state policies driven by climate change. Energy efficiency will remain critical to help manage costs and reduce anticipated new electric loads, though the per unit avoided carbon benefits of efficiency may decline.

ACEEE has found that energy efficiency has the potential to cut both U.S. energy use and GHG emissions in half by 2050 by significantly ramping up investment in technologies that are either cost effective now or likely to become cost effective (Nadel and Ungar 2019). Under this scenario, the ACEEE study found that electrification would account for about 35% of the total 2050 emissions reductions estimate, with 72% of these savings anticipated in the transportation sector, 14% in the industrial sector, and 14% in the buildings sector. Because transportation accounts for the greatest potential for GHG savings among policy sectors, we have scaled back the achievable points in the utilities sector to allow more points for transportation policies—though utility-sector efficiency will remain critical for supporting grid integration of renewables, reducing peak demand and system costs, aiding electrification efforts, reducing combustion emissions, and other economic, health, and equity benefits. Nonetheless, the utility sector still accounts for the largest share of achievable *Scorecard* points (29%), followed closely by transportation (26%).

Further, the *State Scorecard* aims to provide an *annual* snapshot of states' actions related to energy efficiency, benchmarking the progress achieved in the most recent program year. As such, our scoring of program savings focuses on annual incremental energy savings (savings from measures installed in a given year) rather than their total annual cumulative energy savings (those achieved from measures installed that year and in prior years). In so doing, we acknowledge that this approach excludes

[6] As described later in this chapter, this expansion of equity-focused metrics represents an important step in capturing best-practice policies that extend program benefits to historically disadvantaged and underserved communities and households. We will continue to seek opportunities to align *Scorecard* metrics with emerging strategies to move toward an equitable energy system. For example, income-based rate designs that lower the energy burden of low-income ratepayers, though not included in our scoring methodology, may be considered along with other policies for future *Scorecards*.

important historical context by omitting annual savings that continue to accrue from efficiency measures installed in prior years. However, a full comparative historical assessment of statewide cumulative savings would involve levels of complexity that are beyond the scope of the *State Scorecard;* such complexity includes identifying the start year for the cumulative series and accurately accounting for the life of energy efficiency measures and the persistence of savings.

Note also that scores apply to the whole state, which typically has numerous utilities, each with varying levels of energy efficiency commitment and performance. Thus, scores should not be interpreted as representative of specific efforts of any particular utility, but rather as an aggregate statewide assessment. The *State Scorecard*'s focus on state policy's role also means that scores generally do not include voluntary goals that utilities have announced. For more information on the energy savings performance of individual utilities, see ACEEE's *2023 Utility Energy Efficiency Scorecard* (Specian et al. 2023). Table 5 lists states' overall utility scores. Explanations of each metric follow.

Table 5. Summary of state scores for utility and public benefits programs and policies

	2025 total score	2023 electricity savings	2022 natural gas and fuel savings	Energy efficiency resource standard	Performance incentives and fixed-cost recovery	2023 low-income energy efficiency programs[7]	Policies for equitable utility-sector efficiency
California	28.5	9	3.5	4	3	4	5
Michigan	26.5	9	3.5	3	3	4	4
Rhode Island	24	8	2.5	2.5	3	4	4
New Jersey	23.5	9	2	3.5	2	3	4
Vermont	23.5	9	1	2.5	3	4	4
New York	23.5	7	1.5	4	3	4	4
Illinois	23	9	1	3.5	2.5	3	4
Minnesota	23	9	3	3	3	1	4
Massachusetts	22.5	4	3	3.5	3	4	5
New Hampshire	20	5	1	2	3	4	5
Maine	19.5	5	0.5	3	2	4	5
Connecticut	19.5	4	1.5	2	3	4	5
Maryland	18.5	9	0	3.5	2	3	1
Colorado	17.5	6	0	3.5	2.5	0.5	5
Washington	17.5	5	0.5	3.5	2.5	1	5
Hawaii	16	4	0	3	3	2	4
Oregon	16	4	1.5	2.5	1	2	5

[7] In some cases 2023 data were not yet available and 2022 data were used.

	2025 total score	2023 electricity savings	2022 natural gas and fuel savings	Energy efficiency resource standard	Performance incentives and fixed-cost recovery	2023 low-income energy efficiency programs[7]	Policies for equitable utility-sector efficiency
District of Columbia	16	4	1	2	2	3	4
Nevada	14	6	0	2	1.5	0.5	4
Wisconsin	12.5	3	1	1.5	1	1	5
Arizona	12	7	1	1.5	2	0	0.5
Arkansas	11.5	4	2	2	2	0.5	1
New Mexico	10	4	0.5	2	1	0.5	2
Idaho	8.5	3	0	0	2	0.5	3
Oklahoma	8.5	2	1	0	2.5	0	3
Utah	8.5	4	2	0	1.5	0	1
Delaware	8	1	1	0	2	1	3
North Carolina	8	3	0	1.5	3	0.5	0
Pennsylvania	7.5	3	0	1.5	0	2	1
Virginia	7	0	0	2	1	1	3
Indiana	6	3	0	0	2	0	1
South Carolina	5.5	2	0	0	2	0.5	1
Texas	5	1	0	1.5	0.5	0	2
Montana	4.5	2	0	0	0	0.5	2
Kentucky	4	0	0	0	2	0	2
Missouri	4	1	0	0	1.5	0.5	1
Iowa	2.5	1	0	0	0	0.5	1
Kansas	2.5	0	0	0	0.5	0	2
Tennessee	2.5	0	0	0	0	0.5	2
Georgia	2	1	0	0	0.5	0.5	0
Louisiana	2	1	0	0.5	0.5	0	0
Mississippi	2	1	0	0	1	0	0
South Dakota	2	0	0	0	2	0	0
Wyoming	2	1	0	0	1	0	0
Florida	1.5	0	0	0	0	0.5	1
West Virginia	1.5	0	0	0	0.5	0.5	0.5

	2025 total score	2023 electricity savings	2022 natural gas and fuel savings	Energy efficiency resource standard	Performance incentives and fixed-cost recovery	2023 low-income energy efficiency programs[7]	Policies for equitable utility-sector efficiency
Alaska	1.5	0	0	0	0	0.5	1
Ohio	1	0	0	0	0	0	1
Alabama	0	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0	0

Discussion

From their low point in 1998, annual investments in electricity efficiency programs increased more than sevenfold by 2018, from approximately $900 million to $6.6 billion. Electricity efficiency investments slowed from 2019 through 2022, but in 2023 reached a new high of $6.9 billion. As figure 2 shows, when we add natural gas program spending of $1.9 billion, we estimate total utility efficiency program spending of roughly $8.8 billion in 2023—an increase of approximately 16% compared with the recent low of 2020 and 6% more than the previous high in 2019. Because of the inherent overlap between spending and savings, and the fact that efficiency savings have historically better demonstrated utility efficiency program performance, spending data are provided for historical context, but are not scored.

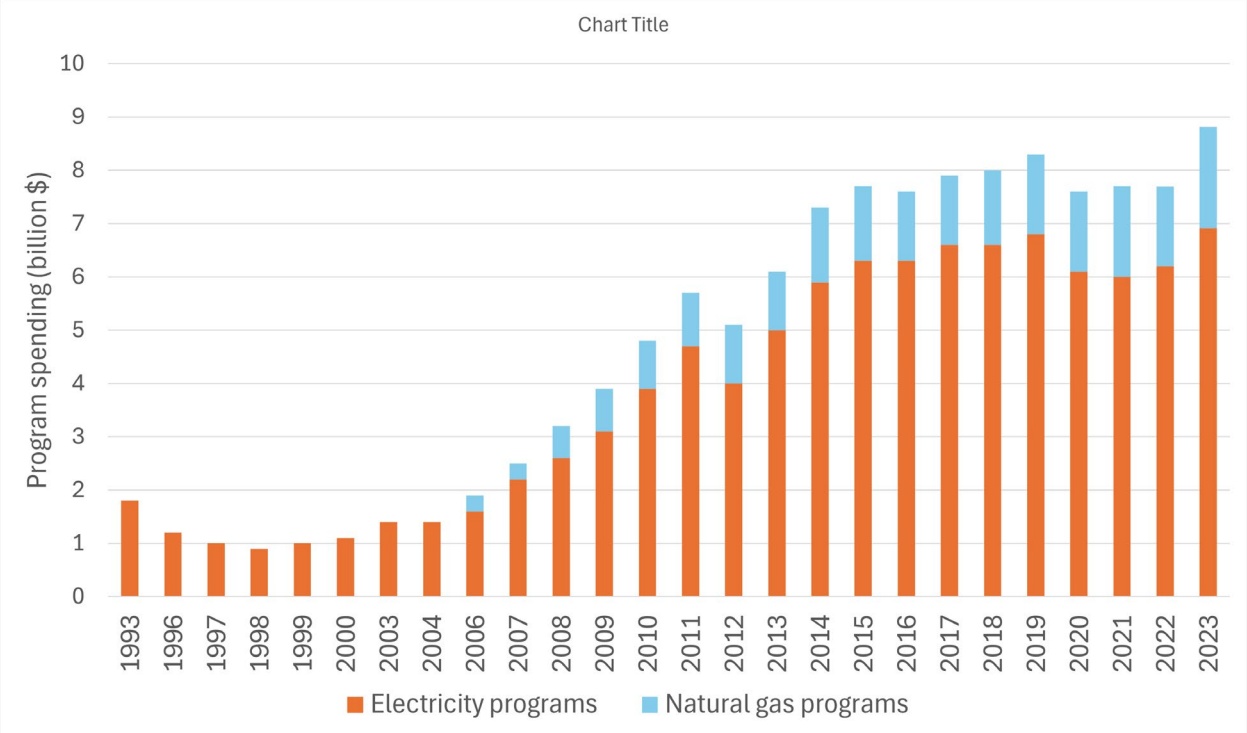

Figure 2. Annual electric and natural gas energy efficiency program spending. Natural gas spending is not available for the years 1993–2004. Sources: Nadel, Kubo, and Geller 2000; York and Kushler 2002, 2005; Eldridge et al. 2007, 2008, 2009; CEE 2012, 2013, 2014, 2015, 2016, 2017, 2018; Gilleo et al. 2015b; Berg et al. 2016, 2017, 2018, 2019, 2020; Berg, Cooper, and DiMascio 2022.

Nationwide reported net savings from utility and public benefits electricity programs in 2023 totaled 0.60% of sales, or 23.2 million MWh. Since the *2022 State Scorecard*, we have modified our methodology to allow more consistent comparisons among states. Using the same methodology for both years, total annual incremental electricity efficiency savings in the United States declined by 11% from 2021 to 2023. However, as noted above, annual electric efficiency spending increased over the same period. Several factors are driving this divergence between spending and savings, including a shift away from lighting measures in utility efficiency programs (due to changing federal baselines and growing market shares for LED lamps), increasing electricity sales driven by load growth, and changes in policy priorities in many states that favor GHG reduction and energy equity rather than just acquiring the cheapest kWh savings. Figure 3 shows the incremental annual electricity savings from 2014 to 2023.

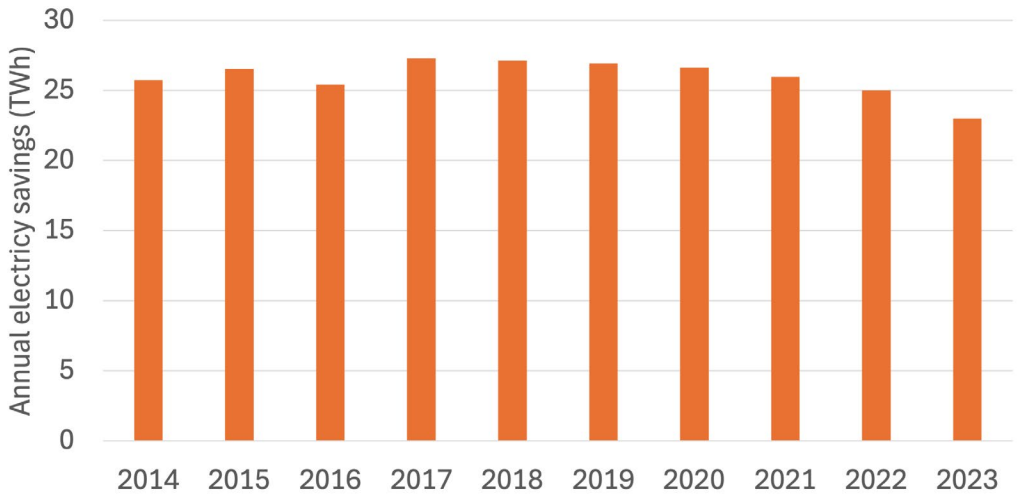

Figure 3. Electric savings from utility-sector energy efficiency programs, by year

Savings from Electricity and Natural Gas Efficiency Programs

We assess the overall performance of electricity and natural gas energy efficiency programs by the amount of energy saved. Utilities and nonutility program administrators pursue numerous strategies to achieve energy efficiency savings. Program portfolios may initially concentrate on the most cost-effective and easily accessible measure types, such as energy-efficient lighting and appliances. As utilities gain experience, as technologies mature, and as customers become aware of the benefits of energy efficiency, the number of approaches increases.

In states ramping up funding in response to aggressive EERS policies, programs typically shift focus from widget-based approaches (e.g., installing new, more efficient water heaters) to comprehensive deep-savings strategies that seek to generate greater energy efficiency savings per program participant by conducting whole-building or system retrofits. Some deep-savings approaches also draw on complementary efficiency efforts, such as utility support for full implementation of building energy codes (Garfunkel and Waite 2024; MN Department of Commerce 2021). Deep-savings approaches may also promote grid-interactive efficient buildings (GEBs) and comprehensive changes in systems and operations by including behavioral elements that empower customers.

We should note that while we continue to consider electric and natural gas savings separately in this report, our research has found that a handful of states—particularly those with aggressive clean energy and GHG reduction goals—are now measuring savings on a combined fuel-neutral basis. Such an

approach allows states the flexibility to better account for savings from resources with competing profiles. For instance, switching homes from fossil fuel heating to electric air-source heat pumps may increase electric demand, but it will also reduce overall energy use on a total Btu basis and lower GHG emissions, particularly in regions with a relatively high penetration of renewable energy resources. This approach to accounting continues to evolve, but as more states prioritize beneficial electrification as a decarbonization strategy, we expect to see this practice become more commonplace and will adjust our *Scorecard* methodology as appropriate.[8]

Scores for Incremental Savings in 2023 from Electric Efficiency Programs

We report 2023 statewide net energy efficiency savings as a percentage of 2023 retail electricity sales, scoring the states on a scale of 0 to 9. We relied primarily on states to provide these data; 27 states and the District of Columbia completed some or all of our data request form. Where states provided partial or no data, we used 2023 adjusted gross savings reported by EIA (2024a), which we further adjusted to approximate net savings.

We awarded full points to states that achieved savings of at least 1.35% of electricity sales. We continue to see examples of states exceeding that mark. Table 6 lists the scoring for each savings level.

Table 6. Scoring of electric efficiency programs

2023 savings as a percentage of sales is at least	Score
0.00%	0
0.15%	1
0.30%	2
0.45%	3
0.60%	4
0.75%	5
0.90%	6
1.05%	7
1.20%	8
1.35%	9

Table 7 shows state results and scores. Nationwide reported savings from utility and public benefits electricity programs in 2023 totaled 23.2 million MWh, equivalent to 0.60% of 2023 sales. As noted above, this percentage of sales is lower than reported in the *2022 State Scorecard*, reflecting a change in methodology that allows comparison between states on a more consistent basis. This methodology change caused the savings percentage to decline by approximately 11%. Given the increase in utility efficiency program spending over the same period, it is likely that this decrease is primarily the result reductions in inexpensive lighting efficiency, increased electricity sales driven by load growth, and

[8] Among the states currently measuring savings on a total MMBtu basis are Massachusetts, New York, and Connecticut, along with the District of Columbia.

shifting priorities that favor GHG reduction and equity, which can be more expensive on a per kWh savings basis. Efforts to decarbonize the electric grid with clean energy investments have triggered a growing emphasis on reducing GHG emissions and maximizing system benefits (rather than simply saving kilowatt-hours). This has meant more investment in beneficial electrification measures such as energy-efficient heat pumps and efforts to shift customers away from fossil fuel heating, which can increase electric demand but help states meet climate goals by reducing GHG. As state efforts to advance building decarbonization through electrification continue to gain traction, we expect to see similar evolutions in other utility program portfolios, with a growing emphasis on total fuel savings, avoided GHG, and overall net benefits to society.

Annual incremental electric efficiency savings declined at a nationwide level in 2023 relative to 2021, driven in large part by notable reductions in annual electricity savings for some of the states with the biggest efficiency portfolios, including California (down 32%) and Massachusetts (down 71%). Both have made significant shifts toward investing in beneficial electrification, which reduces use of natural gas and delivered fuels but redirects resources that would otherwise drive reductions in electricity consumption. So while total kWh savings declined, California and Massachusetts actually increased efficiency spending from 2022 to 2023 as their focus shifted toward GHG reduction. New Jersey saw the biggest gains with total kWh savings that increased by almost 90% while savings in Maryland increased by 35%.

Table 7. 2023 net incremental electricity savings by state

State	Net incremental energy savings (MWh)	Retail electricity sales (MWh)	Savings as a percentage of retail sales	Score (9 pts.)
MD	1,457,580	57,033,085	2.56%	9
NJ	1,428,288	71,096,939	2.01%	9
MI	1,694,937	97,588,690	1.74%	9
IL	2,032,125	130,578,217	1.56%	9
CA	3,717,161	239,480,452	1.55%	9
VT	76,574	5,364,023	1.43%	9
MN	896,197	66,215,800	1.35%	9
RI	93,400	7,300,788	1.28%	8
NY	1,672,456	139,421,936	1.20%	8
AZ	938,112	85,918,798	1.09%	7
CO	557,221	55,565,819	1.00%	6
NV	378,980	38,249,355	0.99%	6
ME	97,338	11,336,030	0.86%	5
WA	737,471	89,552,630	0.82%	5
NH	87,082	10,631,313	0.82%	5
AR	352,395	48,649,300	0.72%	4

State	Net incremental energy savings (MWh)	Retail electricity sales (MWh)	Savings as a percentage of retail sales	Score (9 pts.)
DC	71,040	9,879,714	0.72%	4
OR	414,875	57,984,962	0.72%	4
UT	233,496	33,343,537	0.70%	4
MA	345,235	50,011,964	0.69%	4
CT	177,384	26,685,176	0.67%	4
HI	57,936	8,927,252	0.65%	4
NM	174,339	28,347,490	0.62%	4
NC	771,294	133,091,108	0.58%	3
ID	147,312	25,673,977	0.57%	3
IN	543,178	95,995,350	0.57%	3
PA	673,046	138,710,993	0.49%	3
WI	309,998	68,563,904	0.45%	3
OK	309,598	68,978,840	0.45%	2
MT	69,341	15,504,699	0.45%	2
SC	311,904	81,202,185	0.38%	2
IA	155,934	54,400,259	0.29%	1
DE	31,611	11,081,671	0.29%	1
MO	205,441	76,975,799	0.27%	1
WY	39,895	16,790,115	0.24%	1
GA	252,062	142,028,831	0.18%	1
MS	85,492	48,421,762	0.18%	1
LA	158,749	95,374,457	0.17%	1
TX	793,565	492,820,385	0.16%	1
VA	187,346	132,318,505	0.14%	0
SD	15,895	13,505,999	0.12%	0
NE	38,557	33,571,199	0.12%	0
KY	69,102	71,223,021	0.10%	0
FL	222,515	250,940,214	0.09%	0
TN	77,020	99,046,005	0.08%	0
AL	18,853	84,880,359	0.02%	0
OH	28,914	146,640,983	0.02%	0

State	Net incremental energy savings (MWh)	Retail electricity sales (MWh)	Savings as a percentage of retail sales	Score (9 pts.)
WV	2,001	32,070,687	0.01%	0
AK	12	6,024,598	0.00%	0
KS	163	41,052,008	0.00%	0
ND	16	28,202,179	0.00%	0
Total	23,210,436	3,874,253,362	0.60%	

Savings data are from public service commission staff unless otherwise noted. For states where we were unable to obtain savings data from commission staff, we relied on adjusted gross savings data from EIA-861 (EIA 2024). Many state data include both state-reported investor-owned utility data and some portion of EIA-reported savings for municipal utilities and co-ops.† At least a portion of savings were reported as gross. We adjusted the gross portion by a net-to-gross (NTG) factor of 0.82 to make it comparable with net savings figures reported by other states. Sales data are from EIA Form 861 (EIA 2024).

Scores for Incremental Savings in 2022 from Natural Gas and Unregulated Fuels Efficiency Programs

In 2023 utilities continued to increase the number and size of natural gas efficiency programs in their portfolios. Total incremental savings in the United States increased by 18.8% from 2021 to 2023. However, data on gas sales were limited to 2022 when the analysis was completed. As a result, we are only scoring data from 2022. In this category, we awarded points to states that tracked savings from their natural gas and unregulated fuels efficiency programs and realized savings of at least 0.125% of sales in the residential and commercial sectors for 2022. We relied on data from state utility commissions. Table 8 lists scoring criteria for natural gas and unregulated fuels program savings. We awarded a maximum of 4 points to states reporting savings of at least 1.00% of sales.

Table 8. Scoring of natural gas and unregulated fuel program savings

Natural gas and unregulated fuel savings as a percentage of sales is at least	Score
0.000%	0.0
0.125%	0.5
0.250%	1.0
0.375%	1.5
0.500%	2.0
0.625%	2.5
0.750%	3.0
0.875%	3.5
1.000%	4.0

Table 9 shows states' scores for natural gas and unregulated fuel program savings in 2022.[9]

Table 9. State scores for 2022 gas and delivered fuel efficiency program savings

State	Net incremental natural gas and unregulated fuel savings 2022 (MMBtu)	Net incremental gas and unregulated fuel savings as percentage of sales (2022)	Score (2022) (4 pts.)
MI	6,336,558	0.95%	3.5
CA	9,643,457	0.90%	3.5
MA	3,193,723	0.81%	3
MN	3,117,632	0.79%	3
RI	384,000	0.71%	2.5
NJ	2,940,000	0.59%	2
UT	840,000	0.56%	2
AR	572,796	0.51%	2
NY	5,376,823	0.49%	1.5
OR	528,913	0.41%	1.5
CT	828,671	0.40%	1.5
DC	113,941	0.37%	1
IL	2,752,927	0.35%	1
OK	519,316	0.35%	1
WI	1,290,000	0.33%	1
VT	181,946	0.30%	1
AZ	311,571	0.27%	1
NH	245,242	0.26%	1
DE	95,794	0.26%	1
ME	217,250	0.21%	0.5
WA	635,000	0.20%	0.5
NM	161,874	0.17%	0.5
NC	215,000	0.09%	0
ID	86,981	0.09%	0

[9] As we did with electric savings, we applied a net-to-gross (NTG) factor to all states reporting only gross natural gas savings. In this case, the NTG factor was 0.89 based on states that reported figures for both net and gross natural gas savings in this year's data request. These states were California, Connecticut, Delaware, District of Columbia, Maine, Massachusetts, Montana, New Jersey, New Mexico, New York, and Wisconsin.

State	Net incremental natural gas and unregulated fuel savings 2022 (MMBtu)	Net incremental gas and unregulated fuel savings as percentage of sales (2022)	Score (2022) (4 pts.)
MD	184,206	0.08%	0
IA	175,801	0.08%	0
FL	91,399	0.04%	0
MT	33,000	0.04%	0
SD	8,900	0.02%	0
MO	37,747	0.01%	0
PA	28,251	0.01%	0
SC	86	0.00%	0
Total	39,515,394	0.43%	

Savings data were reported by contacts at public utility commissions; sales data are from EIA (EIA 2023) and EIA's State Energy Data System (SEDS) (EIA 2023a). At least a portion of natural gas savings were reported as gross; we adjusted the gross portion by a net-to-gross (NTG) factor of 0.89 to make it comparable with net savings figures reported by other states.

Electricity and Natural Gas Efficiency Program Funding

In response to reader comments regarding our past *Scorecard* methodology, in 2022 ACEEE retired our scoring categories related to utility spending on energy efficiency programs. Readers noted that total spending is not an actual assessment of program effectiveness, which is already better captured in our savings-based program metric. But for purposes of tracking and continuity, we continue to maintain this data collection for researchers and advocates (see the figures below).

Program expenditures tracked in the table below primarily derive from charges included on utility customers' bills, though in some cases revenues from the Regional Greenhouse Gas Initiative (RGGI) are included when utilities administered them.[10] Tables 10 and 11 report electricity and natural gas efficiency program spending, respectively.

Table 10. 2023 electric efficiency program spending by state

State	Electric efficiency spending 2023 (million $)	Electric spending as a percentage of revenue
RI	$96	6.10%
MA	$692	6.00%
VT	$51	5.40%
NJ	$473	4.40%

[10] Some of these programs target unregulated fuels or are fuel-blind to household heating sources. Spending for this type of program is typically captured in our electric efficiency spending metric.

State	Electric efficiency spending 2023 (million $)	Electric spending as a percentage of revenue
MD	$313	3.80%
DE	$50	3.50%
CT	$211	3.30%
IL	$497	3.20%
OR	$192	3.20%
NY	$746	2.90%
MI	$380	2.80%
WA	$222	2.60%
MO	$197	2.40%
MN	$177	2.20%
UT	$64	2.10%
NH	$52	2.10%
ME	$49	2.10%
CO	$129	2.00%
ID	$44	1.90%
AR	$77	1.60%
NM	$44	1.60%
HI	$50	1.50%
PA	$220	1.30%
CA	$705	1.20%
OK	$72	1.10%
DC	$18	1.10%
IN	$110	1.00%
NC	$134	0.90%
AZ	$90	0.90%
NV	$43	0.90%
SC	$64	0.80%
VA	$95	0.70%
WI	$63	0.70%
IA	$38	0.70%
WY	$9	0.70%

State	Electric efficiency spending 2023 (million $)	Electric spending as a percentage of revenue
MT	$10	0.60%
GA	$76	0.50%
LA	$39	0.50%
MS	$27	0.50%
TX	$136	0.30%
FL	$91	0.30%
TN	$29	0.30%
NE	$7	0.20%
SD	$3	0.20%
OH	$14	0.10%
AL	$7	0.10%
KY	$7	0.10%
WV	$4	0.10%
AK	$0	0.00%
KS	$0	0.00%
ND	$0	0.00%

Statewide revenues are from EIA Form 861 (EIA 2024). Where spending was not directly available from states, we used spending as reported by EIA-861 (EIA 2024). This may include both state-reported investor-owned utility data and some portion of EIA-reported spending for municipal utilities and co-ops, as well as some spending on unregulated efficiency programs.

After a significant uptick in 2014, natural gas efficiency program spending levels have remained relatively flat for many years. In 2023, spending totaled $1.9 billion, up from $1.7 billion in 2021 and $1.5 billion in 2020. Natural gas efficiency spending remains significantly lower than spending for electricity energy efficiency programs, although in part this is due to the fact that in most states electric utility revenues are substantially higher than gas utility revenues.

Table 11. 2023 natural gas efficiency program spending by state

State	Gas efficiency spending 2023 (million $)	Gas efficiency spending per resident
MA	$439.80	$62.82
DE	$47.30	$45.84
NJ	$307.00	$33.04
NY	$330.60	$16.89
MI	$165.43	$16.48

State	Gas efficiency spending 2023 (million $)	Gas efficiency spending per resident
CT	$50.60	$13.99
MN	$75.60	$13.18
OR	$46.90	$11.08
VT	$6.00	$9.27
UT	$26.60	$7.78
NH	$9.30	$6.63
IL	$69.70	$5.55
AR	$15.00	$4.89
OK	$18.20	$4.49
CA	$163.16	$4.19
NM	$8.10	$3.83
WI	$21.00	$3.55
DC	$2.30	$3.39
IA	$9.70	$3.02
ID	$5.33	$2.71
FL	$42.00	$1.86
MO	$9.20	$1.48
PA	$15.80	$1.22
MT	$1.23	$1.09
ME	$1.20	$0.86
AZ	$5.52	$0.74
NC	$4.04	$0.37
SD	$0.10	$0.11

Spending data provided by public service commission staff. Natural gas residential customer data from EIA 2022a.

Energy Efficiency Resource Standards

Energy efficiency targets for utilities, often called energy efficiency resource standards (EERSs), are critical to encouraging savings over the near and long terms. States with an EERS policy in place have shown average energy efficiency spending and savings levels approximately three times as high as those in states without such a policy. Savings from states with EERS policies in place accounted for approximately 82% of all utility savings reported across the United States in 2023 (Mah, Nadel, and Subramanian 2025). Twenty-six states and the District of Columbia have EERS policies establishing specific energy savings targets that utilities and program administrators must meet through customer energy efficiency programs. In recent years, the list of EERS states has added Virginia, which established an EERS in the 2020 Virginia Clean Economy Act, and New Jersey, which adopted an EERS under A-3723

(signed in 2018). Despite these additions, however, the net number of EERS states has remained consistent due to policy decisions in Ohio and Iowa that have weakened or eliminated energy efficiency programs in those states.

EERS policies set multiyear targets for electricity or natural gas savings, such as 1% or 2% incremental savings per year or 5% cumulative savings by 2025, which Virginia adopted for Dominion Energy.[11] Although the savings target differs from state to state, each is intended to establish a sustainable, long-term role for energy efficiency in the state's overall energy portfolio. ACEEE considers a state to have an EERS if it has a policy in place that meets three criteria:

- Sets clear, long-term (3+ years) targets for utility-sector energy savings
- Makes targets mandatory
- Includes sufficient funding for full implementation of programs necessary to meet targets

Several states mandate all cost-effective efficiency, requiring utilities and program administrators to determine and invest in the maximum amount of cost-effective efficiency feasible.[12] ACEEE considers states with such requirements to have EERS policies in place once the policies have met the three criteria listed above.

EERS policies aim explicitly for quantifiable energy savings, reinforcing the idea that energy efficiency is a utility system resource on par with supply-side resources. These standards help utility system planners more clearly anticipate and project the impact of energy efficiency programs on utility system loads and resource needs. Energy savings targets are generally set at levels that push efficiency program administrators to achieve higher savings than they otherwise would, with goals typically based on analysis of the energy efficiency savings potential in the state to ensure that the targets are realistic and achievable. EERS policies maintain strict requirements for cost effectiveness so that efficiency programs are guaranteed to provide overall benefits to customers. These standards help to ensure a long-term commitment to energy efficiency as a resource, building both essential customer engagement and the workforce and market infrastructure needed to sustain the high savings levels.[13]

States are increasingly seeking strategies to meet GHG reduction goals, such as through grid decarbonization and the electrification of buildings and vehicles. These efforts create opportunities to adapt EERS policies to encourage resource-specific savings, while also promoting technologies that may increase grid demand but that also result in net reductions in emissions and net societal benefits. Redesigning goals and establishing new targets—such as establishing fuel-neutral goals and peak demand targets—can help meet multiple policy objectives in these cases. Such efforts remove prohibitions on fuel switching to provide more flexibility and enable energy efficiency from beneficial electrification. In addition, more innovative and GHG-oriented energy efficiency measures could become available for EERS if states adopt more holistic cost-effectiveness screens that align with the climate goals of respective utility regulatory jurisdictions, as recommended in the National Standard Practice Manual (NSPM) for Distributed Energy Resources.

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[11] *Multiyear* is defined as spanning three or more years. EERS policies may set specific targets as a percentage of sales, as specific gigawatt-hour energy savings targets without reference to sales in previous years, or as a percentage of load growth.
[12] The seven states that require all cost-effective efficiency are California, Connecticut, Maine, Massachusetts, Rhode Island, Vermont, and Washington. Connecticut sets budgets first, then achieves all cost-effective efficiency within that limit, which is a lower savings target.
[13] The ACEEE report *Next-Generation Energy Efficiency Standards* analyzed current trends in EERS implementation and found that utilities in 20 out of the 25 states examined met or exceeded their savings targets in 2017 (Gold, Gilleo, and Berg 2019).

Some states are also taking steps to increase spending and savings for income qualified customers to ensure they receive an equitable share of program benefits and do not get left behind in the clean energy transition. Because income qualified programs tend to be more expensive to deliver, there is often a trade-off on total energy savings for comparable levels of investment. As with GHG reduction goals, new approaches are needed to capture the intent and impact of EERS and PIMs policies that prioritize equitable delivery of program benefits rather than only pursuing the cheapest kWh reductions.

Scores for Energy Efficiency Resource Standards

A state could earn up to 3 points for its EERS policy based on the level of their electricity savings targets as shown in table 12. States could earn up to an additional 1 point based on inclusion of decarbonization targets, electrification, income-qualified savings targets, energy burden, and/or inclusion of natural gas savings goals. A state could receive 0.5 points for having a decarbonization or electrification policy, another 0.5 points for having income-qualified savings targets or a maximum energy burden policy, and/or 0.5 for having natural gas savings targets—though 1 point total was the maximum score for all of these elements. States were also eligible for a bonus point in this category.

This year we also added an alternative pathway to earn an additional 0.5 points if a state reoriented its EERS policy framework around a fuel-neutral GHG goal. This is intended to recognize states that have taken steps to redesign their utility energy efficiency programs in order to prioritize investments that optimize climate benefits. States that have moved to this framework show a notable shift toward prioritizing efficiency investments in measures that reduce fossil fuel home heating, such as transitions to electric heat pumps and home energy retrofits. It is important to note that this increasing dependence on electrification as a decarbonization strategy has also coincided with a leveling off or lowering of electric savings targets in certain states, particularly those with grids comprising higher levels of low-carbon renewables, historically strong energy efficiency programs, and more mature energy efficiency markets. In terms of comparing state EERS targets in the future, this electrification trend poses a challenge for the *Scorecard* and its scoring methodology for two key reasons: (1) It points to what is likely a growing bifurcation between states transitioning to a combined fuel-neutral MMBtu/GHG EERS and those maintaining a fuel-siloed EERS structure with separate electricity and natural gas targets. (2) Comparing electric savings target levels alone tells an incomplete story of a state's efforts to reduce GHG-emitting fossil fuels, especially in states where policymakers are aligning efficiency and climate policies in ways that seek to optimize electric use of a low-carbon grid. The same challenges apply to states that prioritize increasing efficiency program delivery to income qualified households, which can be more expensive than standard program offerings. So, while we retain a comparison of electric savings targets in this *Scorecard*, as more states elevate energy equity and move to total fuels metrics measured in MMBtu and/or avoided GHGs, we may redesign this scoring category.

Some EERS policies contain cost caps that limit spending, thereby reducing the policy's effectiveness. Most of the states with a cost cap have found themselves constrained. As a result, regulators have approved lower energy savings targets. In these cases, we score states on the lower savings targets approved by regulators that account for the cost cap, rather than on the higher legislative targets.

Table 12. Scoring of energy savings targets

An electricity savings target of at least:	Score (3 pts.)
0.000%	0.0
0.333%	0.5
0.667%	1.0

An electricity savings target of at least:	Score (3 pts.)
1.000%	1.5
1.333%	2.0
1.667%	2.5
2.000%	3.0

To aid in comparing states, we estimated an average annual savings target over the period specified in the policy. For example, in an October 2023 order, New Jersey's Board of Public Utilities established electric savings targets of 1.66% for 2025 and ramping up to 2% in both 2026 and 2027, translating to an average incremental savings target of 1.89% over that period.

States with pending targets had to be on a clear path to establishing a binding mechanism to earn points in this category. Examples of a clear path include draft decisions by commissions awaiting approval within six months and agreements on targets among major stakeholders.

Leadership, sustainable funding sources, and institutional support are required for states to achieve their long-term energy savings targets. Several states currently have (or previously have had) EERS-like structures in place, but they lacked one or more of these enabling elements and thus undercut the achievement of their savings goals. Most states with EERS policies or other energy savings targets have met their goals and are on track to meet future goals (Mah, Nadel, and Subramanian 2025).

Some states fall short of their EERS targets in a given year. In this and previous *Scorecards*, we have scored these states on the basis of their policies, not on current performance, because they are losing points in other metrics (such as annual incremental savings). However, we may change our scoring methodology in the future to reduce points allocated to states that miss their savings targets.

EERS policies can vary widely in the portion of statewide sales that they regulate. In several states, including Colorado and New Mexico, an EERS may apply only to investor-owned utilities, meaning that smaller municipal utilities and electric cooperatives are exempt from meeting savings targets. While our scoring does not account for this variation in EERS coverage, we may revise our methodology to do so in the future. Table 13 lists scores.

Table 13. State energy efficiency resource standards

State	EERS	Gas EERS?	Fuel-neutral/GHG goal	Affordability/low-income goal?	EERS Score	Next-gen EERS score	Total EERS score
California	N/A	yes	yes	no	3	1	4
New York	2.00%	yes	yes	yes	3	1	4
Washington	N/A	yes	no	no	3	0.5	3.5
New Jersey	1.90%	yes	yes	yes	2.5	1	3.5
Illinois	1.80%	yes	yes	yes	2.5	1	3.5
Colorado	1.70%	yes	yes	yes	2.5	1	3.5
Maryland	1.70%	no	yes	yes	2.5	1	3.5
Massachusetts**	1.10%	yes	yes	yes	1.5	1	3.5

State	EERS	Gas EERS?	Fuel-neutral/GHG goal	Affordability/low-income goal?	EERS Score	Next-gen EERS score	Total EERS score
Maine	1.50%	yes	yes	no	2	1	3
Michigan	1.50%	yes	no	yes	2	1	3
Hawaii	1.40%	no	yes	yes	2	1	3
Minnesota	1.40%	yes	yes	yes	2	1	3
Rhode Island	1.30%	yes	no	yes	1.5	1	2.5
Vermont	1.20%	yes	yes	yes	1.5	1	2.5
Oregon	1.10%	yes	no	yes	1.5	1	2.5
Arkansas	1.20%	yes	no	no	1.5	0.5	2
Virginia	1.20%	no	no	yes	1.5	0.5	2
Nevada	1.10%	no	no	yes	1.5	0.5	2
New Hampshire	1.00%	yes	no	yes	1	1	2
New Mexico	1.00%	no	no	yes	1.5	0.5	2
Connecticut	0.70%	yes	yes	yes	1	1	2
District of Columbia	0.70%	no	yes	yes	1	1	2
North Carolina	N/A	no	no	no	1.5	0	1.5
Arizona	1.10%	no	no	no	1.5	0	1.5
Pennsylvania	0.60%	no	no	yes	1	0.5	1.5
Wisconsin	0.50%	yes	no	no	1	0.5	1.5
Texas	0.20%	no	no	yes	1	0.5	1.5
Louisiana	0.00%	no	no	yes	0	0.5	0.5
Alabama	0.00%	no	no	no	0	0	0
Alaska	0.00%	no	no	no	0	0	0
Delaware	0.00%	no	no	no	0	0	0
Florida	0.00%	no	no	no	0	0	0
Georgia	0.00%	no	no	no	0	0	0
Idaho	0.00%	no	no	no	0	0	0
Indiana	0.00%	no	no	no	0	0	0
Iowa	0.00%	no	no	no	0	0	0
Kansas	0.00%	no	no	no	0	0	0
Kentucky	0.00%	no	no	no	0	0	0
Mississippi	0.00%	no	no	no	0	0	0

State	EERS	Gas EERS?	Fuel-neutral/GHG goal	Affordability/low-income goal?	EERS Score	Next-gen EERS score	Total EERS score
Missouri	0.00%	no	no	no	0	0	0
Montana	0.00%	no	no	no	0	0	0
Nebraska	0.00%	no	no	no	0	0	0
North Dakota	0.00%	no	no	no	0	0	0
Ohio	0.00%	no	no	no	0	0	0
Oklahoma	0.00%	no	no	no	0	0	0
South Carolina	0.00%	no	no	no	0	0	0
South Dakota	0.00%	no	no	no	0	0	0
Tennessee	0.00%	no	no	no	0	0	0
Utah	0.00%	no	no	no	0	0	0
West Virginia	0.00%	no	no	no	0	0	0
Wyoming	0.00%	no	no	no	0	0	0

**For states reporting electric savings on a gross basis, a net-to-gross adjustment was applied to make them comparable with states reporting net savings. States with voluntary targets are not listed in this table. Targets in states with cost caps reflect the most recent approved savings levels under budget constraints. ** Massachusetts received the bonus point for an energy efficiency resource standard that has evolved significantly toward prioritizing energy equity and decarbonization.*

Utility Business Model and Energy Efficiency: Earning a Return and Fixed-Cost Recovery

Under traditional regulatory structures, utilities lack an economic incentive to promote energy efficiency. Indeed, they typically have a disincentive because falling energy sales from energy efficiency programs reduce utilities' revenues and profits—an effect referred to as *lost revenues* or *lost sales*. Because utilities' earnings are usually based on the total capital invested in certain asset categories, such as transmission and distribution infrastructure and power plants, and the amount of electricity sold, the financial incentives are very much tilted in favor of increased electricity sales and expanding supply-side systems.

This dynamic has led industry experts to devise ways of addressing the possible loss of earnings and profit from customer energy efficiency programs. Three key policy approaches properly align utility incentives and remove barriers to energy efficiency. The first is to ensure that utilities can recover the direct costs associated with implementing energy efficiency programs. This is a minimum threshold requirement for utilities and related organizations to fund and offer efficiency programs; every state meets it in some form. Given the wide acceptance of program cost recovery, we do not address it in the *State Scorecard*.

The two other mechanisms are fixed-cost recovery (which comes in two general forms: full revenue decoupling and lost revenue adjustment mechanisms) and performance incentives. Revenue decoupling—the dissociation of a utility's revenues from its sales—aims to make the utility indifferent to decreases or increases in sales, removing the *throughput incentive*. Although decoupling does not

necessarily make the utility more likely to promote efficiency programs, it removes or reduces the disincentive to do so.[14] Additional mechanisms for addressing lost revenues include modifications to customers' rates that permit utilities to collect these revenues, through either a lost-revenue adjustment mechanism (LRAM) or another ratemaking approach. LRAM allows the utility to recover lost revenues from savings resulting from energy efficiency programs while simultaneously increasing sales overall. LRAM does not eliminate the throughput incentive. ACEEE prefers the decoupling approach for addressing the throughput incentive and considers LRAM appropriate only as a short-term solution. The trend toward beneficial electrification may cause a shift away from decoupling in some states. In Massachusetts, the DPU has ordered electric utilities to recouple electricity sales and revenue, and although the utilities have not implemented this yet, it may require a change in future *Scorecard* methodologies.

Performance incentives are financial incentives that reward utilities (and in some cases, nonutility program administrators) for reaching or exceeding specified program goals. These may be based on achievement of energy savings targets or on spending goals. Of the two, ACEEE recommends incentives based on achievement of energy savings targets. As table 15 shows, a number of states have enacted mechanisms that align utility incentives with energy efficiency.[15] While not captured in the table, in a handful of states regulators have approved performance incentive mechanisms (PIMs) in recent years that now encourage a greater variety of "climate-forward" efficiency resources, such as demand response and flexibility, electrification, and deep retrofits that explicitly or implicitly reward GHG reductions. While Minnesota and New York have implemented explicit GHG reduction PIMs (in the form of share of net benefits and return on equity, respectively), performance incentive mechanisms are more likely to incorporate GHG reductions implicitly. For example, Colorado offers utilities a share of net benefits PIM, where GHG savings are incorporated into the net benefits. PIMs can also reward activities closely correlated with GHG reductions such as fuel-neutral or demand savings, or create carve-outs for specific low-GHG technologies like electric vehicles (Specian 2023).

Utility regulators have also begun approving PIMs that address emerging topics such as equity-focused outcomes, demand flexibility, and renewable energy deployment, among others. RMI's PIMs Database compiles information on emergent PIMs across the country, including data on the design, targets, and financial incentive that utilities can receive (RMI 2024).

Scores for Utility Business Model and Energy Efficiency Performance Incentives

States earn a full point for instituting a decoupling policy for electricity, and an additional point for decoupling gas. A long-run adjustment mechanism (LRAM) is worth a half a point for both gas and electricity. Performance incentives also earn states half a point for both electric and gas. Table 14 summarizes the scoring rubric.

[14] Straight fixed variable (SFV) rate design is sometimes considered a simple form of decoupling that collects all costs regarded as fixed in a fixed monthly charge and collects all variable costs in volumetric rates. However, SFV collects the same monthly charge (and fixed costs) for all customers within a class, regardless of customer size. ACEEE discourages the use of SFV as it is not cost based and sends poor price signals to customers to conserve electricity; that is, any consumer actions taken to reduce energy consumption will provide fewer dollar savings. For this reason, the *Scorecard* does not recognize SFV in its scoring methodology in this section.

[15] For a detailed analysis of performance incentives, see Nowak et al. (2015). For a detailed analysis of LRAM, see Gilleo et al. (2015a).

Table 14. Scoring of utility business model and energy efficiency performance incentives

Criterion	Score
Decoupling gas	1
Decoupling electricity	1
LRAM for gas	0.5
LRAM for electricity	0.5
Performance incentive for gas	0.5
Performance incentive for electricity	0.5

As of 2024, 31 states offer a performance incentive for at least one major electric utility, and 23 states have incentives for natural gas energy efficiency programs. Some states with third-party program administrators have performance incentives for the administrator rather than for the utilities. Thirty-two states have addressed disincentives for investment in energy efficiency for electric utilities. Of these, 13 have a lost revenue adjustment mechanism and 19 have implemented decoupling, with the most recent addition to the latter being North Carolina. For natural gas utilities, 5 states have implemented an LRAM and 20 have a decoupling mechanism. Table 15 outlines these policies.

To recognize state efforts to align investments and customer offerings with decarbonization goals, we introduced a new climate-forward PIMs category identifying states that have established an explicit GHG reduction PIM and/or implicit GHG PIM measured on a fuel-neutral basis. Although this category is unscored for now, we may adjust this metric in the future to reward states adopting climate-forward PIMs.

Table 15. Utility efforts to address lost revenues and financial incentives

State	Decoupling electricity	Decoupling gas	Performance incentive electricity	Performance incentive gas	Score
AK	-	-	-	-	0
AL	-	-	-	-	0
AR	LRAM	LRAM	Yes	Yes	2
AZ	LRAM	Decoupling	Yes	-	2
CA	Decoupling	Decoupling	Yes	Yes	3
CO	Decoupling	LRAM	Yes	Yes	2.5
CT	Decoupling	Decoupling	Yes	Yes	3
DC	Decoupling	-	Yes	Yes	2
DE	Decoupling	Decoupling	-	-	2
FL	-	-	-	-	0
GA	-	-	Yes	-	0.5

State	Decoupling electricity	Decoupling gas	Performance incentive electricity	Performance incentive gas	Score
HI	Decoupling	Decoupling	Yes	Yes	3
IA	-	-	-	-	0
ID	Decoupling	Decoupling	-	-	2
IL	Decoupling	Decoupling	Yes	-	2.5
IN	LRAM	Decoupling	Yes	-	2
KS	LRAM	-	-	-	0.5
KY	LRAM	LRAM	Yes	Yes	2
LA	LRAM	-	-	-	0.5
MA	Decoupling	Decoupling	Yes	Yes	3
MD	Decoupling	Decoupling	-	-	2
ME	Decoupling	-	Yes	Yes	2
MI	Decoupling	Decoupling	Yes	Yes	3
MN	Decoupling	Decoupling	Yes	Yes	3
MO	LRAM	-	Yes	Yes	1.5
MS	LRAM	LRAM	-	-	1
MT	-	-	-	-	0
NC	Decoupling	Decoupling	Yes	Yes	3
ND	-	-	-	-	0
NE	-	-	-	-	0
NH	Decoupling	Decoupling	Yes	Yes	3
NJ	LRAM	LRAM	Yes	Yes	2
NM	-	-	Yes	Yes	1
NV	LRAM	Decoupling	-	-	1.5
NY	Decoupling	Decoupling	Yes	Yes	3
OH	-	-	-	-	0
OK	LRAM	Decoupling	Yes	Yes	2.5
OR	-	Decoupling	-	-	1
PA	-	-	-	-	0
RI	Decoupling	Decoupling	Yes	Yes	3
SC	LRAM	LRAM	Yes	Yes	2
SD	LRAM	LRAM	Yes	Yes	2
TN	-	-	-	-	0

State	Decoupling electricity	Decoupling gas	Performance incentive electricity	Performance incentive gas	Score
TX	-	-	Yes	-	0.5
UT	-	Decoupling	Yes	-	1.5
VA	-	Decoupling	-	-	1
VT	Decoupling	Decoupling	Yes	Yes	3
WA	Decoupling	Decoupling	Yes	-	2.5
WI	-	-	Yes	Yes	1
WV	-	-	Yes	-	0.5
WY	-	Decoupling	-	-	1

Centering Equity in Utility Energy Efficiency Programs

Designing clean energy policies and programs so that investment and resulting benefits are inclusive of all customers is critical for bringing about a clean energy transition that is also equitable and just. While policies setting minimum program spending requirements for low-income customer segments have been in place for years, there is growing recognition that these provisions are woefully inadequate to address the legacy of structural imbalances that continue to leave low-income communities and communities of color with statistically higher energy burdens, living in older, energy-inefficient homes, and suffering from health issues exacerbated by these economic challenges and unsafe living conditions.

This section tracks and highlights several state policies and actions to strengthen program participation among historically underserved communities and to ensure accountability in equitable distribution of benefits. As we describe below, we selected several equity metrics to highlight utility regulatory actions that improve program inclusion across three dimensions of equity: procedural, distributional, and structural.[16] These metrics include (1) maintaining investment targets for low-income energy efficiency programs (distributional equity); (2) inclusion of low-income, health, and safety benefits within program cost-effectiveness testing (distributional equity); (3) transparent tracking and reporting of equity-focused program data (structural equity); and (4) offering intervenor compensation for communities that want to participate in utility planning proceedings (procedural equity). This methodology expansion is an important step in centering equity; however, we acknowledge that there is more to be done to align the *State Scorecard* with leading state efforts to reach and strengthen program participation among historically under-resourced communities.

Utility investment in low-income energy efficiency programs. States can use various policy mechanisms to ensure that levels of investment in or savings from income-qualified energy efficiency programs meet

[16] As defined by the United States Sustainability Directors Network, Park, Angela "Equity in Sustainability" 2014:

"Procedural — inclusive, accessible, and authentic engagement and representation in processes to develop or implement sustainability programs and policies.

Distributional — sustainability programs and policies result in fair distribution of benefits and burdens across all segments of a community, prioritizing those with highest need.

Structural — sustainability decision-makers institutionalize accountability; decisions are made with a recognition of the historical, cultural, and institutional dynamics and structures that have routinely advantaged privileged groups in society and resulted in chronic, cumulative disadvantage for subordinated groups."

a minimum threshold. In Pennsylvania, the PUC incorporated a savings target specific to low-income programs within the state's EERS. It requires each utility to obtain a minimum of 5.5% of its total consumption reduction target from the low-income sector. In most other cases, however, low-income program requirements take the form of a legislative spending set-aside, either by creating a separate fund that receives a minimum annual contribution from ratepayers or by requiring that utilities spend a minimum amount or percentage of their revenues on low-income programs. In recent years, several states have moved to increase these low-income set-asides. Examples include the following:

- **Minnesota**: The Energy Conservation and Optimization Act (2021) triples the amount from electric investor-owned utilities that must be dedicated to low-income customers, from 0.2% of residential gross operating revenues to 0.6% in 2024. The legislation also increases low-income spending for gas investor–owned utilities and allows 15% of a utility's low-income spending requirement to be met through pre-weatherization measures.
- **Illinois**: The Clean and Equitable Jobs Act (2021) strengthens low-income energy efficiency requirements, raising minimum spending levels for both Ameren (from $8.34 million to $13 million) and ComEd (from $25 million to $40 million). The legislation further requires minimum investment in pre-weatherization measures (at least 15% of total low-income weatherization budget) and proportional spending for single-family and multifamily customers relative to the magnitude of energy savings potential.

Inclusion of low-income, health, and safety benefits within program cost-effectiveness testing. Although efficiency delivers multiple benefits beyond just energy savings to utilities, program participants, and society, these benefits are often excluded or undervalued in utility program cost–benefit tests. And given that low-income households often use less energy than other customers, a narrowly designed test that fails to look beyond avoided energy costs to the full range of health, safety, and environmental benefits risks excluding programs serving low-income customers from utility portfolios. These benefits are especially critical for low-income households overburdened by high energy costs and other health and economic challenges. Comprehensive and balanced cost-effectiveness screening is thus essential for directing investment toward meeting the needs of these historically underserved customers.

As the *Scorecard* has tracked in the past, approaches for accounting for these unique low-income benefits typically take several forms:

- An explicit (or in some cases, implied) exemption from achieving cost effectiveness (e.g., Arizona, Iowa, Michigan, Minnesota, Oregon)
- Application of a generic percentage "adder" to approximate the additional health and safety benefits they provide (e.g., Colorado, New Mexico, Vermont)
- Efforts to more specifically calculate and quantify associated non-energy benefits into the cost-effectiveness calculation (e.g., Massachusetts, California)

Tracking of equitable distribution of program participation, benefits, and impacts. Community-based organizations (CBOs) have often emphasized the need for tracking mechanisms and transparency to hold decision makers accountable to equity-related commitments; this was highlighted in discussions with CBOs through the ACEEE-convened Leading with Equity Initiative. While utilities often track basic data related to household energy usage and participation in income-qualified programs, few track metrics related to household race, spoken language, energy-related health impacts, or representation of disinvested groups in decision-making processes. Fewer still track customer demographic data in

combination with geographic data to monitor service distribution and identify high-need areas (Dewey and Runge 2023).

Responding to growing calls for a more comprehensive and transparent tracking of equity-focused data, several states and utilities have undertaken efforts to update reporting practices in coordination with community stakeholders and informed by findings from equity-focused utility proceedings. Recent examples include the following:

- **Massachusetts'** 2022–2024 statewide energy efficiency plan approved in early 2022 has introduced a new equity targets framework with a focus on groups that have historically participated at lower rates, including renters/landlords, moderate-income customers, English-isolated families, and microbusinesses (Massachusetts EEAC 2021). These targets increase substantially in the 2025–2027 plan.
- **Energy Trust of Oregon**'s 2018 Diversity, Equity, and Inclusion Operations Plan lays out 10 key goals and outcomes to advance DEI, including goals to increase customer participation in energy efficiency programs, with strategies and subgoals for residential, commercial, and industrial sectors (Public Utility Commission of Oregon 2020).
- The **California Energy Commission** (CEC) tracks projects located in disadvantaged communities using CalEnviroScreen 4.0, a mapping tool that helps identify California communities that are most affected by many pollution sources, and where people are often especially vulnerable to pollution's effects (State of California 2023). CalEnviroScreen ranks communities based on state and federal government data to determine areas experiencing higher pollution burdens. The CEC also conducts an annual Diversity Report that contains information about programs located in and benefitting disadvantaged communities.

Intervenor compensation. Utility regulatory decisions have the potential to profoundly impact the lives of all customers and society more broadly through their influence on customer energy bills, siting of energy infrastructure, and resulting pollution and air quality effects. However, regulatory proceedings can be prohibitively technical, expensive, and time-consuming, thus posing a significant barrier for non-utility stakeholders or individuals wishing to participate. While utilities can hire attorneys and expert consultants to represent their positions in proceedings, typically at ratepayers' expense, smaller customers without such resources are often unable to make their voices heard.

Many states have taken steps to address this inequity by providing intervenor compensation for certain individuals or groups, reimbursing them for the costs of their involvement. According to a 2021 report by the National Association of Regulatory Utility Commissioners (NARUC), 16 U.S. states have authorized intervenor compensation.[17] Intervenors are actively making use of this policy in at least seven of these states: California, Idaho, Maine, Michigan, Minnesota, Oregon, and Wisconsin.

Recent examples include the Oregon Energy Affordability Act (2021), which has an array of new provisions intended to support marginalized energy customers, including enabling utilities to consider equity-related factors in determining customer energy rates, and calling for a process to provide financial assistance for organizations representing energy-burdened people in regulatory processes. By enabling historically excluded or overlooked individuals to participate, intervenor compensation improves energy planning by facilitating more informed decision making that considers the impacts to all customers.

[17] Alaska, California, Colorado, Hawaii, Idaho, Illinois, Kansas, Maine, Michigan, Minnesota, New Hampshire, Oregon, Tennessee, Washington, West Virginia, and Wisconsin.

Scores for Support of Low-Income Energy Efficiency Programs

In ACEEE's data request to states and utility commissions, we asked for information about the policy instruments discussed above. We also asked for specific levels of spending on low-income energy efficiency programs by states and utilities. This is distinct from funding provided by federal sources, such as DOE grant allocations for the Weatherization Assistance Program (WAP).

A state could earn up to 4 points in this category based on levels of reported spending for low-income households (see table 16).

Table 16. Scoring for support of low-income energy efficiency programs

2022–2023 average spending on low-income programs per income-qualified resident is at least	Score
$0	0
$0.01	0.5
$10	1
$20	2
$30	3
$40	4

Table 17 shows the results of ACEEE's analysis, including levels of ratepayer-funded spending on low-income energy efficiency programs for states that provided this information through our *Scorecard* data request. These amounts are distinct from bill assistance programs and refer specifically to programs designed to improve energy efficiency through weatherization and/or energy-efficient retrofit programs that include measures such as home energy assessments, insulation, and air sealing. These amounts are also separate from federal funding, such as federal WAP grant allocations. If utility or state funds have been deployed to support or supplement WAP programs or projects, we include them in table 17.

It is important to note that states rely on a variety of funding sources to support energy efficiency measures in low-income households; these include both ratepayer dollars and government funds. For example, although Alaska reports little utility funding for low-income programs, state investment in weatherization on a per-capita basis is among the highest in the nation, thanks to appropriations by the state legislature administered through the Alaska Housing Finance Corporation. To credit these efforts in the *State Scorecard* and avoid penalizing states that draw from diverse funding streams, any state-subsidized low-income funds reported by state energy offices in their answers to our data request have been combined with ratepayer funding for low-income programs and annotated accordingly in table 17.

Table 17. State support of low-income energy efficiency programs

State	2023 Utility spending on low-income EE programs*	2023 Additional spending on low-income EE programs	Total	Low-income program spending per eligible resident	Score
VT	$24,868,861	$0	$24,868,861	$152	4
MA	$193,864,821	$6,753,303	$200,618,124	$124	4
RI	$25,597,000	$2,225,000	$27,822,000	$102	4

State	2023 Utility spending on low-income EE programs*	2023 Additional spending on low-income EE programs	Total	Low-income program spending per eligible resident	Score
ME	$14,672,855	$10,394,193	$25,067,048	$61	4
CA	$758,912,790	$45,818,460	$804,731,250	$54	4
NH	$15,714,276	$17,963	$15,732,239	$54	4
CT	$39,600,311	$0	$39,600,311	$52	4
MI	$146,526,264	$0	$146,526,264	$42	4
NY	$189,873,409	$61,000,000	$250,873,409	$42	4
IL	$125,600,000	$0	$125,600,000	$39	3
NJ	$77,981,000	$0	$77,838,000	$38	3
DC	$5,031,094	$0	$5,031,094	$36	3
MD	$24,200,000	$19,300,000	$43,500,000	$34	3
HI	$8,313,148	$0	$8,313,148	$23	2
OR	$28,900,000	$204,618	$29,104,618	$23	2
PA	$79,605,559	$0	$79,605,559	$21	2
MN	$26,345,452	$0	$20,827,082	$19	1
WI	$19,353,487	$0	$19,353,487	$19	1
DE	$4,249,013	$0	$4,249,013	$17	1
VA	$10,776,948	$21,100,000	$31,876,948	$15	1
WA	$12,047,574	$10,810,930	$22,858,504	$12	1
MO	$17,058,611	$0	$17,058,611	$9	0.5
AK	$0	$1,630,260	$1,630,260	$9	0.5
CO	$10,153,047	$0	$10,153,047	$8	0.5
IA	$6,028,045	$0	$6,028,045	$6	0.5
NM	$4,573,193	$0	$4,573,193	$6	0.5
AR	$4,652,750	$0	$4,652,750	$4	0.5
ID	$2,073,310	$0	$2,073,310	$4	0.5
GA	$11,658,994	$0	$11,658,994	$3	0.5
WV	$2,352,132	$0	$2,352,132	$3	0.5
FL	$12,385,521	$0	$12,385,521	$2	0.5
TN	$426,000	$3,000,000	$3,426,000	$2	0.5
MT	$262,000	$0	$262,000	$1	0.5
NV	$0	$744,147	$744,147	$1	0.5

State	2023 Utility spending on low-income EE programs*	2023 Additional spending on low-income EE programs	Total	Low-income program spending per eligible resident	Score
SC	$2,306,698	$0	$2,306,698	$1	0.5
NC	$200,000	$0	$200,000	$0	0.5
AL	$0	$0	$0	$0	0
AZ	$0	$0	$0	$0	0
IN	$0	$0	$0	$0	0
KS	$0	$0	$0	$0	0
KY	$0	$0	$0	$0	0
LA	$0	$0	$0	$0	0
MS	$0	$0	$0	$0	0
ND	$0	$0	$0	$0	0
NE	$0	$0	$0	$0	0
OH	$0	$0	$0	$0	0
OK	$0	$0	$0	$0	0
SD	$0	$0	$0	$0	0
TX	$0	$0	$0	$0	0
UT	$0	$0	$0	$0	0
WY	$0	$0	$0	$0	0

*Spending data provided by public service commission staff. In some states 2023 data were not yet available; for those states, 2022 data were used for scoring and included in this table.

Scores for Policies Advancing Equitable Utility-Sector Efficiency

This category recognizes state-adopted utility policies to advance equitable energy planning and strengthen investment in low-income programs: minimum spending targets, cost-effectiveness test design principles, and policies enabling intervenor compensation for underrepresented groups.

A state could earn one point for each of the following policies:

- A legislative or regulatory requirement establishing minimum spending and/or savings levels for efficiency programs aimed specifically at low-income households
- Cost-effectiveness screening practices that include special provisions recognizing additional equity benefits from low-income energy efficiency programs
- Inclusion of health and safety, societal, and/or participant benefits within cost-effectiveness screening practices
- Tracking and reporting of equity-related data, including participation by and investments in historically underserved customers and high-need areas, ideally including geographic distribution of impacts and benefits.

- An *active* intervenor compensation program for groups that would like to participate in PUC proceedings but lacking funding or resources to do so. Table 18 shows the states with legislative or statutory language authorizing such programs; however, unless such a program is active, states do not receive points in this category.
- A half point was occasionally awarded to state measures that did not match the scoring criteria but offered some form of an equity measure.

Table 18. Scores for policies advancing equitable utility-sector efficiency

State	Requirements for minimum level of state or utility support of low-income programs	Tracking distribution of program participation, benefits, and impacts	Intervenor compensation	Special C/E screening provisions for low-income programs	Inclusion of health/safety non-energy benefits within C/E tests	Total score (5 pts.)
AK			Yes			1
AL						0
AR				Yes		1
AZ				Partial Credit		0.5
CA	Yes	Yes	Yes	Yes	Yes	5
CO	Yes	Yes	Yes	Yes	Yes	5
CT	Yes	Yes	Yes	Yes	Yes	5
DC	Yes	Yes		Yes	Yes	4
DE	Yes			Yes	Yes	3
FL				Yes		1
GA						0
HI	Yes	Yes	Yes	Yes		4
IA				Yes		1
ID			Yes	Yes	Yes	3
IL	Yes	Yes	Yes	Yes		4
IN				Yes		1
KS			Yes	Yes		2
KY		Yes		Yes		2
LA						0
MA	Yes	Yes	Yes	Yes	Yes	5
MD				Yes		1
ME	Yes	Yes	Yes	Yes	Yes	5
MI	Yes	Yes	Yes	Yes		4
MN	Yes	Yes	Yes	Yes		4

State	Requirements for minimum level of state or utility support of low-income programs	Tracking distribution of program participation, benefits, and impacts	Intervenor compensation	Special C/E screening provisions for low-income programs	Inclusion of health/safety non-energy benefits within C/E tests	Total score (5 pts.)
MO				Yes		1
MS						0
MT	Yes			Yes		2
NC						0
ND						0
NE						0
NH	Yes	Yes	Yes	Yes	Yes	5
NJ	Yes	Yes		Yes	Yes	4
NM	Yes			Yes		2
NV	Yes	Yes		Yes	Yes	4
NY	Yes	Yes		Yes	Yes	4
OH				Yes		1
OK	Yes			Yes	Yes	3
OR	Yes	Yes	Yes	Yes	Yes	5
PA	Yes					1
RI	Yes	Yes		Yes	Yes	4
SC				Yes		1
SD						0
TN		Yes		Yes		2
TX	Yes			Yes		2
UT				Yes		1
VA	Yes	Yes		Yes		3
VT	Yes	Yes		Yes	Yes	4
WA	Yes	Yes	Yes	Yes	Yes	5
WI	Yes	Yes	Yes	Yes	Yes	5
WV				Partial Credit		0.5
WY						0

Chapter 3. Transportation Policies

Author: Daivie Ghosh

Introduction

The transportation sector is the largest source of GHG emissions in the United States and accounts for approximately 28% of economy-wide GHG emissions (EPA 2022a). At the federal, state, and local levels, a comprehensive approach to transportation GHG emissions includes addressing the energy efficiency of both individual vehicles and the transportation system as a whole, particularly its interrelationship with land-use policies that impact vehicle miles traveled (VMT) (such as transit-oriented development or promoting mixed-uses). While the federal government helps to reduce transportation GHG by setting national standards for both light- and heavy-duty vehicles, states and local governments continue to lead the way in creating policies for other aspects of transportation efficiency and GHG reduction.

Scores for the transportation category reflect state actions that go beyond federal policies to achieve a more energy-efficient, low-carbon transportation sector. These may be measures to improve the efficiency of vehicles purchased or operated in the state, policies to support equitable electric vehicle (EV) deployment and charging infrastructure buildout, policies to promote more efficient modes of transportation, or steps to integrate land-use and transportation planning in order to reduce the need to drive (for example, policies that prevent urban sprawl and make communities more walkable, and dedicated funding for transit services). To emphasize the adoption of the Advanced Clean Cars II and Advanced Clean Trucks policies developed by California in other states, we have adjusted the metrics this year.

Scoring and Results

We awarded points to states based on their efforts to support efficient transportation through policy and funding. We also considered the current adoption rates for high-efficiency vehicles and EV charging infrastructure. Points were distributed as follows:

- Adoption of clean vehicle standards and policies (*6 points total*)
    - Light-duty low-emission vehicles (LEV) and/or zero-emission vehicle (ZEV) program (2 points)
    - Medium- and heavy-duty (MD/HD) ZEV program (2 points)
    - High-efficiency vehicle/EV tax credits and rebates (1 point)
    - EV fee parity (1 point)
- High-efficiency and electric vehicle outcomes (*4 points total*)
    - Light-duty EV registrations (1 point)
    - MD/HD EV registrations (1 point)
    - Electric vehicle supply equipment (EVSE) infrastructure (2 points)
- Low-income and transportation equity (*4 points*)
    - Low-income transit-oriented development policy (2 points)
    - Funding for low-income and equitable electrification programs (2 points)

- VMT and transportation GHG reduction (*4 points total*)
    - VMT or transportation-specific GHG targets (2 points)
    - Percentage change in VMT (2 points)
- Integration of transportation and land-use planning (*2 points*)
- Transit funding and legislation (*4 points*)
    - State transit funding (3 points)
    - State legislation for dedicated transit revenue (1 point)
- Freight planning (*1 point*)

In 2024, the federal government finalized the latest round of light- and heavy-duty vehicle GHG standards. Both rules anticipate an increase in high-efficiency vehicles such as battery and fuel cell electric vehicles. At the same time, states have been pursuing the adoption of California's clean vehicle standards that push for vehicle electrification and efficiency improvements beyond what the latest federal standards would achieve. Given the efficiency gains achievable through vehicle electrification, we awarded states that adopted the clean vehicle standards developed by California 2 points each for the light- and MD/HD ZEV program.

States can also lead in improving the efficiency of transportation systems more broadly, which will be critical to meeting GHG reduction targets and complementing efforts to advance efficient vehicles and EVs. This includes promoting the use of less energy-intensive transportation modes as well as active transportation. States that have a dedicated revenue stream for public transit earned 1 point in this year's *State Scorecard*. Thirty-five states have statutes that provide sustainable funding sources for transit-related capital and/or operating expenses. States also received points based on the magnitude of their transit spending.

Policies that promote compact development and ensure the accessibility of major destinations are essential to reducing long-term transportation energy use and GHG emissions. States with smart growth statutes and/or policies earned 2 points; 30 states earned points in this category. Their statutes include the creation of zoning overlay districts, such as the New Hampshire RSA 9-B program, as well as requirements for state agencies to consider smart growth principles in funds distribution, planning, new construction, and capital improvement projects (New Hampshire Department of Business and Economic Affairs).

States that adopted statewide VMT reduction targets or transportation-specific GHG reduction goals were also eligible for 2 points. Nineteen states earned points in this category, an increase from the last round. States could also earn points for reducing VMT per capita.

Regarding freight system efficiency, states could earn 1 point if the policies and strategies in their freight plan specifically included or mentioned GHG emissions reduction targets or alternative energy consumption. They earned an additional 1 point if their freight plans specified reducing freight VMT or shifting to lower emitting, more efficient freight modes. States mostly got a score in this category for the latter 1 point; many states included strategies and policies to promote electric trucks, shift to rail, or improve intermodal connections. Only seven states earned the full 2 points for this metric.

We also awarded state policies that encourage equitable transportation through equitable access to transportation and equitable transportation electrification options. For equitable access to transportation, states earned 1 point if they have policies in place to encourage inclusion of low-income

housing in transit-oriented neighborhoods. These policies include grant and loan programs geared toward funding affordable housing in transit-oriented-development (TOD) areas, first- and last-mile connectivity initiatives, and public transit grant programs focused on easing access for low-income residents. States could also earn 1 point if they use distance from transit facilities as a criterion for awarding federal low-income tax credits to qualifying property owners. For equitable transportation electrification, states earned 2 points if they have a dedicated funding stream for EV and EV charging deployment (EVSE) in low-income, environmental justice, and underserved communities.

Most-Improved States

Given the doubling of points in this round and update to scoring in certain categories as a result, score improvements from last round's *Scorecard* is a little difficult to compare on a 1:1 basis. Nevertheless, Colorado, New Mexico, and Hawaii were the three most-improved states for the transportation metrics this year. Colorado's score improvement pushed it from the middle in 2022 to the top 10 in 2025. Although New Mexico scored in the middle among all states, the initiative to adopt ACCII and ACT, a new carbon intensity goal for transportation fuels, increase in EVSE ports, and make-ready EVSE tax credits for income eligible people gave it an overall higher score boost among states. Hawaii ranked as the third most-improved state in transportation due to zero-emissions transportation law, medium- and heavy-duty vehicle rebates, policies for affordable housing close to transit stations, and e-bike rebates for participants in low-income assistance programs.

ACEEE recognizes that, due to variations in geography and urban/rural composition, some states cannot feasibly implement some of the policies mentioned in this chapter. Nevertheless, every state can make additional efforts to reduce its transportation energy use, and this chapter illustrates several approaches. Details on EV fees, public charging stations, incentives for purchasing high-efficiency vehicles, state transit funding, and transportation legislation are included in the sections below. Table 19 includes the state scores for the transportation chapter.

Table 19. Transportation policies by state

State	Total	Clean vehicle standards and policies	Transportation electrification outcomes	Equitable transportation policies[1]	VMT reductions and policies[2]	Transportation and land-use planning[3]	Transit funding and policies	Freight plans and EE goals[4]
California	25	6	4	4	4	2	3	2
New York	23.5	6	2.5	4	4	2	4	1
Maryland	22.5	6	3.5	3	3	2	3	2
Massachusetts	22.5	6	2.5	4	2	2	4	2
Colorado	21	6	4	4	2	2	1	2
Delaware	20	4	3	2	4	2	3	2
District of Columbia	20	4	3	2	4	2	4	1
Oregon	20	6	4	2	3	2	2	1
Vermont	20	6	4	3	4	2	0	1

State	Total	Clean vehicle standards and policies	Transportation electrification outcomes	Equitable transportation policies[1]	VMT reductions and policies[2]	Transportation and land-use planning[3]	Transit funding and policies	Freight plans and EE goals[4]
Washington	19.5	5	3.5	3	4	2	1	1
New Jersey	19	6	3	4	1	2	1	2
Minnesota	18	3	2	4	3	2	3	1
Rhode Island	17.5	6	1.5	4	2	2	1	1
Connecticut	16.5	3	2.5	4	2	2	2	1
Maine	16.5	3	1.5	3	3	2	2	2
Virginia	16	3	3	3	2	2	2	1
Hawaii	15.5	2	3.5	4	2	2	1	1
New Hampshire	13	1	3	2	3	2	1	1
Illinois	12.5	2	1.5	3	0	2	3	1
Pennsylvania	12.5	3	0.5	4	1	0	3	1
New Mexico	12	5	1	3	2	0	0	1
Utah	10.5	0	3.5	2	0	2	3	0
Arizona	9	2	2	1	0	2	1	1
Florida	9	1	2	2	0	2	1	1
Michigan	8	1	1	1	0	2	2	1
Tennessee	7.5	0	0.5	3	0	2	1	1
Wisconsin	7.5	0	1.5	0	2	2	1	1
Nevada	7	2	2	2	0	0	0	1
North Carolina	7	0	2	1	0	2	1	1
Iowa	6.5	1	0.5	1	0	2	1	1
Oklahoma	6	0	2	0	2	0	1	1
Montana	5.5	0	1.5	2	0	2	0	0
North Dakota	5.5	0	0.5	0	2	2	1	0
Missouri	5	1	1	1	0	0	1	1
West Virginia	5	0	0	1	2	0	1	1
Indiana	4.5	–1	1.5	1	0	2	1	0
Georgia	4	0	2	1	0	0	1	0
Kansas	4	0	1	1	0	0	1	1

State	Total	Clean vehicle standards and policies	Transportation electrification outcomes	Equitable transportation policies[1]	VMT reductions and policies[2]	Transportation and land-use planning[3]	Transit funding and policies	Freight plans and EE goals[4]
Alaska	3.5	1	0.5	0	0	0	1	1
Texas	3.5	0	1.5	1	0	0	0	1
Ohio	3	0	1	0	1	0	0	1
Idaho	2.5	1	0.5	0	0	0	1	0
Nebraska	2.5	1	0.5	0	0	0	0	1
South Dakota	2.5	1	0.5	0	0	0	0	1
Kentucky	2	1	0	0	0	0	0	1
South Carolina	2	1	0	0	0	0	1	0
Wyoming	1.5	–1	0.5	0	0	0	1	1
Arkansas	1	–1	0	0	0	0	1	1
Louisiana	0	0	0	0	0	0	0	0
Mississippi	0	–1	1	0	0	0	0	0
Alabama	–0.5	–1	0.5	0	0	0	0	0

[1] State data requests; state legislation; state websites; [2] State legislation and websites; FHWA 2024; Caltrans 2025; [3] State legislation; [4] State freight plans

Discussion

Clean Vehicle Standards and Policies

The U.S. Department of Transportation (DOT) has regulated automobile fuel economy since the Corporate Average Fuel Economy (CAFE) standards were adopted in 1975. CAFE standards were preceded by the Air Quality Act of 1967, later amended to the Clean Air Act, which established the EPA in 1970. From the origin of the Clean Air Act, section 209 gives California the authority to set its own vehicle emissions standards, provided the state first seeks a preemption waiver from the EPA. Other states may choose to adopt California's emissions standards, as allowed by Congress under certain conditions. In 2002, California passed the Pavley Bill (AB 1493), the first U.S. law to address GHG emissions from vehicles in addition to air pollutant emissions. Given auto manufacturers' preference for regulatory regimes that allow them to offer identical vehicles in every state, California's program has been instrumental in prodding the federal government to continue increasing the stringency of vehicle standards, drawing new efficiency technologies into the market.

Pursuant to the *Massachusetts v. Environmental Protection Agency* court decision in 2007, the EPA began regulating vehicle GHG emissions as well. Starting with model year 2012, the EPA, DOT, and California Air Resources Board (CARB) have harmonized their standards for fuel economy and GHG emissions. In 2010, these agencies set new GHG and fuel economy standards for model years 2012–2016. In 2012, the agencies extended the standards to model years 2017–2025, projecting a fleetwide

GHG emissions average of 54.5 miles per gallon by 2025. The DOT standards for model years 2022–2025 were provisional, and all three agencies were to participate in a midterm review of the appropriateness of the final four years of the standards. In early 2017, EPA and CARB determined that these standards remained appropriate.

The Trump administration reopened EPA's midterm review shortly after the inauguration in 2017; in April 2018, the EPA released a new determination that these future standards were no longer appropriate. A joint DOT and EPA rule rolling back the standards for model years 2021–2026 was finalized in April 2020. The administration also revoked California's authority to set GHG standards in the fall of 2019, although this power has since been restored by the Biden administration (The White House 2021a). In December 2021 and March 2022, the EPA and DOT, respectively, finalized their replacements to the standards set under the Trump administration for model years 2023–2026.

The adoption of the Advanced Clean Cars II (ACC II) and Advanced Clean Trucks (ACT) regulations developed by California have been the focus of many state-led clean vehicle efforts in recent years. California's light-duty ZEV requirements for ACC II requires manufacturers to sell an increasing number of light-duty zero-emissions vehicles as a percentage of their total sales, culminating at 100% ZEVs in 2035. EPA recently granted the waiver for ACCII which was approved by CARB in 2022 (EPA 2024).[18] ACC II has been formally adopted by the District of Columbia and 12 states: Colorado, Delaware, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Virginia, and Washington. (Arizona and Florida also adopted an earlier version of California's standards but repealed them in 2012.) A few states (Connecticut, Maine, Minnesota, Nevada, Pennsylvania) still have the older GHG (low-emission vehicle and zero-emission vehicle) regulations.

While the heavy-duty EV market is in its early stages, the potential for emission reductions is substantial. States are also starting to implement policies for ramping up heavy-duty EV deployment. In 2021, CARB approved the ACT rule, the first zero-emission commercial truck requirement in the United States. In April 2023, the EPA also granted a waiver for CARB's ACT rule (EPA 2023). Starting in 2024, it will require manufacturers of medium- and heavy-duty vehicles to sell ZEVs as an increasingly large percentage of their total sales until 2035. Other states are considering action in this area as well, pledging to make sales of all new medium- and heavy-duty vehicles in their jurisdictions zero emission by no later than 2050. Governors of 15 states and the mayor of the District of Columbia have signed a memorandum of understanding (MOU) to develop a Zero-Emission Medium- and Heavy-Duty Vehicle Action Plan to inform heavy-duty EV actions in their jurisdictions (CARB 2020). Efforts to block the adoption of ZEV standards at the state level include a 2023 budget provision by the North Carolina legislature prohibiting the state's Department of Environmental Quality from adopting emissions standards for new vehicles that would necessitate ZEV sales (North Carolina Department of Environmental Quality 2023). Such efforts have prevented the state from adopting the ACT, to which it is a MOU signatory.

California's heavy-duty ZEV requirements for ACT have been adopted by 10 states (in addition to California): Colorado, Maryland, Massachusetts, New Jersey, New Mexico, New York, Oregon, Vermont, and Washington. MOU signatories that have not yet adopted the ACT include Connecticut, Washington DC, Hawaii, Maine, North Carolina, and Pennsylvania.

The latest round of federal rulings for EPA's vehicle emissions standards (finalized in 2024 for light- and heavy-duty vehicles) included ACC II and ACT adoption in setting the final standards. As a result, the

[18] Under the Clean Air Act, California can set its own vehicle emissions standards. However, the state needs to seek waivers from the EPA for the preemption that prevents states from setting their own emissions standards https://www.epa.gov/state-and-local-transportation/vehicle-emissions-california-waivers-and-authorizations.

federal standards include in their baseline the emissions reductions expected from ACC II/ACT-driven ZEV adoption in states that have formally adopted ACC II and ACT. By setting a common threshold for all, the EPA emissions standards are crucial to further reduce pollution in states that have been lagging. States wishing to go beyond federal emissions standards to pursue even cleaner transportation can adopt the ACC II and ACT rules. Full adoption of these programs would also help the United States meet the previous administration's goal, announced in late 2021, to make the federal government carbon neutral by 2050 (The White House 2021b).

High-Efficiency and Electric Vehicles Incentives

When fuel-efficient vehicles contain new, advanced technologies, high purchase cost is a barrier to their entry into the marketplace. To encourage consumers to purchase fuel-efficient vehicles, states may offer a number of financial incentives, including tax credits, rebates, and sales tax exemptions. We awarded 1 point to states with consumer incentives for the purchase of high-efficiency light- or heavy-duty vehicles. We credit incentives for all-electric vehicles as well as plug-in hybrid electric vehicles, which generally have high fuel efficiency. We also credit financial incentives programs that encourage customers to replace older, polluting vehicles. One such example is Vermont's Used High Fuel Efficiency Vehicle Incentive Program, which provides up to $5,000 for pre-owned vehicles with a fuel economy of at least 40 miles per gallon. We did not credit policies that promote the purchase of nonelectric alternative fuel vehicles.

This year, several states received a point in this category due to the Volkswagen (VW) Settlement Fund. While this fund is distributed to most states, states can *choose* to dedicate a portion of this money to incentivize light- and/or heavy-duty electric vehicles. We found that many states opt to provide rebate programs to replace diesel buses and heavy-duty vehicles with cleaner options such as electric buses through the VW Fund. Table 20 includes detailed information about states that have incentives for high-efficiency and/or electric vehicles.

Table 20. Incentives for high-efficiency vehicles

State	Tax incentive
Alabama	According to the DOE website, the state has Electric Vehicle (EV) Charging Station and Medium- and Heavy-Duty Diesel Vehicle **Replacement Rebates**. The Alabama Department of Economic and Community Affairs (ADECA) offers grants for the replacement of qualified medium- and heavy-duty diesel vehicles with new diesel or alternative fuel vehicles
Arizona	Electric vehicle (EV) owners in Arizona pay a significantly reduced vehicle license tax—$4 for every $100 in assessed value—as part of the state's Reduced Alternative Fuel Vehicle License Tax program.
California	AB 118 targets medium- and heavy-duty trucks in a voucher program that aims to reduce the up-front incremental cost of purchasing a hybrid vehicle. Vouchers for up to $120,000 are available, depending on vehicle specifications, and are issued directly to fleets that purchase qualifying trucks for use within the state. California also offers rebates of up to $5,000 for light-duty zero-emission EVs and plug-in hybrid EVs on a first-come, first-served basis. Clean Cars 4 All provides financial incentives to retire older, more polluting vehicles and replace them with newer, cleaner hybrid and zero-emission vehicles or alternative mobility options. Vehicles purchased using the Clean Cars 4 All Program grant are also exempt from sales tax.
Colorado	As of July 1, 2023, Colorado offers a flat $5,000 credit for the purchase or lease of a light-duty electric vehicle and starting January 1, 2024, now makes the credits assignable to a car dealer in addition to a finance company effectively turning the credit into a point of sale incentive. In addition, starting July 1, 2023, any vehicle with an

State	Tax incentive
	Manufacturer's Suggested Retail Price (MSRP) under $35,000 is eligible for an additional $2,500 tax credit, also available at point of sale. The $5,000 tax credit begins to ratchet down beginning in 2025 and phases out entirely in 2029. Credits are also available for medium- and heavy-duty trucks, which phases down beginning in 2026 and phases out in 2032. Starting in April 2024, Colorado introduced a $450 tax credit for purchase of an electric bike, which is only available at point of sale.
Connecticut	The Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) offers incentives to Connecticut residents who purchase or lease an eligible vehicle from a licensed Connecticut automobile dealership. Incentive amounts currently range from $2,250 for an eligible new battery electric (BEV), $750 for a plug-in hybrid electric (PHEV), and up to $9,500 for a fuel cell electric vehicle (FCEV). There are currently more than 30 eligible vehicles available, and the list continues to grow as manufacturers release new models. Additional rebates are available for qualified individuals for new and used vehicles.
Delaware	As part of the Delaware Clean Transportation Incentive Program, the following rebates are available: • $2,500 for new and used battery EVs under $40,000 MSRP • $1,000 for new and used plug-in hybrid EVs and EVs with gasoline range extenders under $40,000 MSRP • $1,500 for battery and $1,000 for plug-in hybrid EVs with retail price $40,000–50,000
District of Columbia	The District of Columbia offers a reduced registration fee and a vehicle excise tax exemption for owners of all vehicles with an EPA-estimated city fuel economy of at least 40 miles per gallon.
Georgia	An income tax credit is available for 10% of the cost to convert a vehicle to natural gas, electricity, propane, and hydrogen, up to $2,500 per vehicle
Hawaii	The Hawaii State Energy Office (HSEO) and Hawaii Department of Heath offers rebates of up to 45% of the replacement of qualified medium- and heavy-duty diesel vehicles with zero-emission vehicles. Eligible vehicles include medium- and heavy-duty trucks; school, shuttle, tour, and transit buses; airport and port cargo handling equipment. Rebates may also cover up to 45% of the cost of an electric vehicle charging station. Rebates are available on a first-come, first-served basis. The program is funded by Hawaii's portion of the Volkswagen (VW) Environmental Mitigation Trust and the Diesel Emissions Reduction Act
Idaho	The Idaho Department of Environmental Quality (IDEQ) offers rebates for the replacement of qualified medium- and heavy-duty diesel vehicles with new diesel or alternative fuel vehicles. Rebates are available for medium- and heavy-duty trucks, school, shuttle, and transit buses, freight switchers, airport ground support equipment, forklifts, and port cargo handling equipment.
Illinois	The Illinois Environmental Protection Agency will offer a $4,000 rebate toward the purchase of a new or used EV from July 1, 2022, through June 30, 2026. Rebates decline after that period. A rebate of $2,000 is available for the same from July 1, 2026, to June 30, 2027, and $1,500 starting July 1, 2028. EV fleet owners are also exempt from the $20 per vehicle fee that applies to fleets with more than 10 vehicles.
Maine	Maine offers a $2,000 rebate for qualified electric vehicles, a $1,000 rebate for plug-in hybrids, and an enhanced rebate for low-income individuals ($7,500 for EVs and $3,000 for PHEVs), using monies from the Volkswagen Settlement Fund. Income qualified individuals can also get rebates for the purchase of used EVs.
Maryland	Maryland offers an excise tax credit for EVs and fuel cell vehicles of up to $3,000 dollars per vehicle. The rebate is limited to one vehicle per individual, and 10 vehicles per business entity. In fiscal year 2022, the Maryland Energy Administration has offered a Clean Fuels Incentive Program (CFIP); under CFIP, funds are available for the incremental costs of alternative fuel fleet vehicles, including battery electric fleet vehicles (BEV). Class 3–7 BEVs were eligible for an award of up to $80,000 per vehicle while Class 8 BEVs were eligible for awards of up to $150,000 per vehicle, up to 100% of incremental costs.

State	Tax incentive
	Chapter 234 of 2022 also reestablishes an excise tax credit program for zero-emission plug-in electric drive vehicles or fuel cell vehicles, and authorizes up to $8.25 million in funding from the Strategic Energy Investment Fund to be transferred to the Transportation Trust Fund to offset the reduction in revenues from the excise tax credits. The credits are set at $3,000 for each zero-emission plug-in electric drive or fuel cell vehicle, and newly establishes a $1,000 credit for each two-wheeled zero-emission electric motorcycle, and $2,000 credit for each three-wheeled zero-emission electric motorcycle or autocycle.
Massachusetts	The Massachusetts Offers Rebates for EVs (MOR-EV) program offers rebates of up to $3,500 to customers purchasing plug-in EVs. Additional rebates are available for income-qualified drivers and for trading in qualified vehicles. Class 2b pickup trucks and vehicles are eligible for a rebate of $7,500. Vehicle Classes 3–8 are eligible for higher incentive amounts under MOR-EV's truck program.
Minnesota	The Minnesota Department of Commerce offers rebates to residents for the purchase or lease of new or pre-owned all-electric or plug-in hybrid electric vehicles (PHEVs). Rebates of up to $2,500 are available for new EVs and $600 for pre-owned vehicles. Toll credits of $125 for a PHV and $250 for BEVs is available for vehicles purchased between November 1, 2019 and October 31, 2025. Electric School Bus Pilot: The Minnesota Pollution Control Agency (MPCA) provides matching funds for eligible entities that receive grants from the U.S. Environmental Protection Agency's Clean School Bus program for the replacement of diesel-powered school buses with electric school buses. MPCA provides grants up to $375,000 per eligible project. This program is funded by Minnesota's portion of the Volkswagen Environmental Mitigation Trust.
New Jersey	All zero-emission vehicles in New Jersey are exempt from state sales and use taxes. In addition, vehicles that have an EPA fuel economy rating of less than 19 mpg or cost $45,000 or more in sales or lease price are subject to a fuel-inefficient vehicle fee. Through June 30, 2024, all zero-emission vehicles (ZEV) in the state of New Jersey are exempt from state sales and use taxes. Beginning in FY25 sales tax will begin to be phased in for EVs; it is anticipated to at or around 2% in FY25. Several incentives for purchasing electric vehicles are in place: Consumers will receive up to $4,000 when they buy or lease an all-electric or plug-in hybrid vehicle with an MSRP below $55,000 in New Jersey; eligible vehicles with an MSRP above $45,001 received up to $2,000 in FY23 and FY24. In FY25 The Charge Up Program is proposed to have a base $2,000 incentive for eligible vehicles (MSRP below $55,000), which can be stacked with an additional $2,000 low-and-moderate income incentive. The Charge Up Program is a 10-year program; FY25 will be the fifth year. The Post-Purchase Incentive was opened on May 27, 2020; the Point of Sale (POS) was launched on July 6, 2021, and remains open while funding is available and reopens in the new fiscal year. NJEDA provides vouchers with base values ranging between $20,000 and $175,000 for medium- and heavy-duty vehicles.
New York	Pursuant to legislation passed in April 2016, NYSERDA developed the Drive Clean Rebate, a rebate program for zero-emission vehicles that launched in March 2017. Rebates of up to $2,000 per vehicle are available for battery electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles. New York also started the New York Truck Voucher Incentive Program in 2013. Vouchers of up to $385,000 are available for the purchase of all-electric, and fuel cell Class 4–8 trucks and buses (incentive levels vary by vehicle size, fuel type, and incremental cost). In November 2023, New York launched the NY School Bus Incentive Program, which provides incentives for zero-emission school buses and associated charging infrastructure. NYSBIP incentives can cover up to 100% of the incremental cost of the buses and up to 100% of the cost of charging infrastructure.
Oregon	The Oregon Clean Vehicle Rebate Program offers rebates of $1,500–2,500 toward the purchase of a new hybrid or battery electric vehicle, depending on battery capacity. Rebates of $5,000 are available to income-qualified residents for the purchase of new and used EVs. All eligible vehicles must have a base MSRP of less than $50,000. There is also a K–12 ZEV funding program that draws from Public Purpose Charge funds.

State	Tax incentive
Pennsylvania	The Alternative Fuels Incentive Grant Program offers rebates to assist eligible residents in purchasing new alternative fuel vehicles. Qualified electric vehicles earn a rebate of $2,000 for EVs vehicles, $1,500 for PHEVs, and $500 for electric motorcycles. Income-qualified individuals can get an additional $1,000 rebate. The Pennsylvania Department of Environmental Protection (DEP) offers rebates for the replacement or repower of Class 4–8 medium- and heavy-duty vehicles with new diesel, electric, or alternative fuel vehicles.
Rhode Island	The Driving Rhode Island to Vehicle Electrification (DRIVE EV) rebate program offers rebates for the purchase or lease of qualified EVs ($1,000–1,500) and PHEVs ($750–1000). Income-qualified individuals can get an additional $1,500 rebate. Fleet rebates of up to $1,500 for the purchase or lease of a new EV and $1,000 for the purchase or lease of a pre-owned ZEV is also available. Fleet applicants in high asthma communities qualify for an extra $500 in rebates. Rhode Island also launched an electric bicycle (e-bike) rebate program in October 2022, called the Erika Niedwoski Memorial Electric Bicycle rebate program. This rebate helps increase access to zero-emission e-bikes, making them more affordable and accessible to Rhode Islanders. The standard rebate provides up to $350, or 30% (whichever is less) of the final purchase of an e-bike or e-cargo bike. Limit of two rebates per household. The Income-Qualified Rebate provides up to $750, or 75% (whichever is less) on the total purchase of an e-bike, or e-cargo bike. Limit of two rebates per household.
Texas	Electric vehicles weighing 8,500 pounds or less and purchased after September 1, 2013, are eligible for a $2,500 rebate.
Utah	Taxpayers may be eligible for a tax credit for the purchase of a qualified heavy-duty AFVs (including electric, natural gas, and hydrogen fuels). Credit amounts start at $12,000 in 2023 and decrease to $1,500 in 2030. Utah has two Vehicle Repair and Replacement Programs (VRRAP), one for the Cache Valley area (Cache County, Utah, and Franklin, Idaho) and the other for the Northern Wasatch Front area (Box Elder, Davis, Tooele, Salt Lake, and Weber Counties). Through the VRRAP, low-income individuals that live, work, or go to school in an eligible county that have a vehicle that would fail an emissions inspection will be offered financial assistance to either repair the vehicle or replace it with a newer, cleaner one. The Cache Valley and Northern Wasatch Front programs offer up to $5,000 and $6,875, respectively, for vehicle replacements and both offer up to $1,000 for repair costs. Both are funded by the Utah Division of Air Quality through a federal Targeted Airshed Grant and are administered by their respective county health departments.
Vermont	The Vermont Agency of Transportation provides purchase incentives for EVs with a retail price of $40,000 or less that vary based upon household income and marital status. Incentives range from $1,500 to $4,000. MileageSmart state incentive program reduces the cost for low-income Vermonters purchasing either pre-owned all-electric or plug-in hybrid electric vehicles. (High-efficiency gasoline vehicles were once allowed, but the program now requires EVs.) The Replace Your Ride encourages owners of older, high-polluting vehicles to switch to cleaner transportation options, including electric vehicles, electric bikes, and transit. These state and utility incentives can be stacked and result in a total incentive of up to $13,200. Utility incentives are also available for the purchase of an electric bike. Finally, Vermont provides matching state funds for the FTA “Low and No Emissions Bus and Bus Facilities” grant program, and electric utilities have contributed financial and technical assistance for EV transit buses as well.
Virginia	The Virginia Department of Mines, Minerals and Energy, in collaboration with the Virginia Department of Transportation, offers up to $10,000 to state agencies and local governments for the incremental cost of new or converted alternative fuel vehicles.
Washington	The sale or lease of new or used passenger vehicles, light-duty trucks, and medium-duty passenger AFVs is exempt from the state retail sales and use tax at decreasing amounts from August 1, 2021, through July 31, 2025.

State	Tax incentive
	Buses, including transit and school, that are zero emission have their sales and use tax waived. The state has put $120 million into an EV Incentive Account for the Department of Commerce to administer an electric vehicle rebate program. The program will start in August 2024 with $45 million available in the first program window through May 2025. Certain passenger, light-duty vehicles, and trucks qualify for a reduction in sales and use tax if they use electricity or hydrogen and are under a certain price cap. Buses, including transit and school, that are zero emission have their sales and use tax waived as well as for the associated charging and refueling infrastructure. The tax incentives are in effect through June 2025. Rebates, vouchers, and grants (current budget cycle): The state has put $120 million into an EV Incentive Account for the Department of Commerce to administer an electric vehicle rebate program. The program will start in August 2024 with $45 million available in the first program window through May 2025. There is $110 million appropriated to the state's Department of Transportation to start a new medium- and heavy-duty commercial truck zero-emission vehicle voucher program. This is on top of $55 million for electric school buses, $67 million for zero-emission transit buses, $6 million for electric car share projects, and roughly $10 million for drayage truck and utility truck demonstration projects.

Sources: DOE 2022b; data requests

EV Fee Parity

Projections forecast a steep increase in the rate of light-duty EV penetration across the country. As EV sales begin to ramp up, some states have applied additional registration fees to these vehicles. To date, 36 states have done so, including Arkansas, Oregon, and North Dakota. Bills on the table across the country propose annual fees ranging from $125 starting 2025 ramping up to $225 by 2029 (Pennsylvania). Vermont recently passed a bill increasing its EV fee to $89 starting 2025. Judging from a review of a small sample of state bills, the primary motivation for these fees is to replace lost future gasoline tax revenues that fund road maintenance. Washington and Alabama intend to use the funds for a different purpose: using EV fees to fund EV charging infrastructure. Oregon provides EV drivers the option to switch to mileage-based fees whereas Hawaii will eliminate EV fees starting 2028 and switch to mileage-based fees for EVs. EV drivers in Hawaii can also switch to mileage-based fees earlier, starting in 2025.

While it makes sense for all vehicle owners to contribute to maintaining the roads they drive on, these surcharges have the potential to create problems. First, EV fees can be at odds with state targets for EV deployment. Numerous states have tax credits in place to encourage EV sales (see table 21), yet they also have high additional registration costs for EV drivers. These policies work against each other (Tomich 2019).

For 20 of the 36 states requiring EV fees, these fees exceed what the driver of an average gasoline-fueled car pays in gas taxes. Some states' EV fees are based on inaccurate tax calculations that use high annual VMT figures and low average vehicle fuel economy. As an example, North Carolina's first EV fee was set by assuming that the average vehicle in the state is driven 15,000 miles a year—which is much more than the average gasoline vehicle in the United States—and that the average state vehicle gets a mere 20 miles per gallon, resulting in more than $270 annually in gasoline taxes (Stradling 2019). Finally, EV fees in many states do not account for the fact that EV owners pay other taxes that owners of gasoline-powered vehicles do not. According to Atlas Public Policy, these can include additional taxes on EV charging at a station such as a sales tax and taxes on the electricity used.

In any case, there is little justification for high surcharges on advanced-technology vehicles that will disincentivize the development of technologies that reduce emissions. In fact, some EV fee proposals

appear to be designed for that purpose. The American Legislative Exchange Council, which receives funding from fossil fuel interests, pushed for steep EV fees in states and campaigned against the federal EV tax credit in 2018 and 2019 (Lunetta 2018). The aim of our scoring approach for this metric is to balance the need for states to promote EV sales in what is still a relatively new market with the need for users to pay their fair share of road costs. We have scored states by comparing their EV fees with the amount of gasoline tax revenue collected for the average car in that state. For state EV fees, we awarded 1 point to states that have no EV fee or a fee that is less than or equal to 100% of the annual average gasoline tax revenue paid by the average driver of an internal combustion engine (ICE) vehicle. States in which the EV fee is 101–125% of gasoline tax revenues earned no points, and those with an EV fee greater than 125% of gasoline revenues lost 1 point. We recognize that this is not a full accounting of the fees that an EV driver might pay compared with those of a driver of a conventional vehicle; for instance, we know EV drivers pay state taxes on the electricity they use to charge their vehicles (albeit a very small charge compared with gasoline tax spending). Still, we think this is a simple and reasonable methodology. Table 21 includes the state scores for clean vehicle standards and related policies.

Table 21. State scores for clean vehicle standards and policies

State	Clean vehicle standards (4 pts.)	High-efficiency vehicle and EV tax credits/rebates (1 pt.)	EV fee	Average gasoline tax collected	Ratio of EV fee to gas tax revenues	EV fee parity (1 pt.)	Total score (6 pts.)
California	4	1	$100	$220.62	0.45	1	6
Colorado	4	1	$50	$96.16	0.52	1	6
Maryland	4	1	–	$164.31		1	6
Massachusetts	4	1	–	$105.05		1	6
New Jersey	4	1	–	$167.23		1	6
New York	4	1	–	$109.32		1	6
Oregon	4	1	$115	$138.71	0.83	1	6
Rhode Island	4	1	–	$161.61		1	6
Vermont	4	1	$89	$132.63	0.67	1	6
New Mexico	4	0	–	$71.77		1	5
Washington	4	1	$225	$190.66	1.18	0	5
Delaware	2	1	–	$113.50		1	4
District of Columbia	2	1	–	$99.86		1	4
Connecticut	1	1	–	$103.95		1	3
Maine	1	1	–	$136.76		1	3
Minnesota	1	1	$75	$137.04	0.55	1	3
Pennsylvania	1	1	–	$247.86		1	3
Virginia	2	1	$116	$115.85	1	0	3

State	Clean vehicle standards (4 pts.)	High-efficiency vehicle and EV tax credits/rebates (1 pt.)	EV fee	Average gasoline tax collected	Ratio of EV fee to gas tax revenues	EV fee parity (1 pt.)	Total score (6 pts.)
Arizona	0	1	–	$75.09		1	2
Hawaii	0	1	$50	$72.70	0.69	1	2
Illinois	0	1	$100	$172.33	0.58	1	2
Nevada	1	0	–	$102.99	–	1	2
Alaska	0	0	–	$27.81		1	1
Florida	0	0	–	$177.01		1	1
Idaho	0	1	$140	$132.31	1.06	0	1
Iowa	0	0	$130	$131.08	0.99	1	1
Kentucky	0	0	$120	$120.81	0.99	1	1
Michigan	0	0	$100	$124.17	0.81	1	1
Missouri	0	0	$75	$85.46	0.88	1	1
Nebraska	0	0	$75	$141.37	0.53	1	1
New Hampshire	0	0	$100	$109.37	0.91	1	1
South Carolina	0	0	$60	$117.87	0.51	1	1
South Dakota	0	0	$50	$125.11	0.4	1	1
Georgia	0	1	$211	$137.07	1.54	-1	0
Kansas	0	0	$100	$99.29	1.01	0	0
Louisiana	0	0	$110	$92.08	1.19	0	0
Montana	0	0	$130	$117.41	1.11	0	0
North Carolina	0	0	$180	$164.47	1.09	0	0
North Dakota	0	0	$120	$96.54	1.24	0	0
Ohio	0	0	$200	$170.54	1.17	0	0
Oklahoma	0	0	$110	$100.52	1.09	0	0
Tennessee	0	0	$200	$164.13	1.22	0	0
Texas	0	1	$200	$96.13	2.08	–1	0
Utah	0	1	$139	$1.23	112.6	–1	0
West Virginia	0	0	$200	$169.78	1.18	0	0
Wisconsin	0	0	$175	$142.37	1.23	0	0
Alabama	0	0	$203	$115.60	1.76	–1	–1

State	Clean vehicle standards (4 pts.)	High-efficiency vehicle and EV tax credits/rebates (1 pt.)	EV fee	Average gasoline tax collected	Ratio of EV fee to gas tax revenues	EV fee parity (1 pt.)	Total score (6 pts.)
Arkansas	0	0	$200	$100.54	1.99	–1	–1
Indiana	0	0	$221	$139.94	1.58	–1	–1
Mississippi	0	0	$150	$85.42	1.76	–1	–1
Wyoming	0	0	$200	$101.06	1.98	–1	–1

Sources: State legislation and website; DOE 2022b; University of Tennessee Knoxville 2023; Atlas Public Policy 2024

Electric Vehicle and Charging Infrastructure Deployment

As more EVs are available to drivers and EVs become a critical part of state strategy to address transportation GHG emissions, states can help remove the barriers to widespread EV adoption. In addition to reducing the higher up-front costs of these vehicles, states can provide incentives for the construction of the required fueling infrastructure. The Bipartisan Infrastructure Law also makes billions of dollars available through formula funds for states as an opportunity to invest in and increase their charging infrastructure. Several states saw an increase in both L2 and Direct Current Fast Charging (DCFC) EVSE ports per 100,000 people in this round.

Additionally, states can offer nonfinancial benefits—such as emissions testing exemptions—that make owning an EV more convenient. Support provided through increased charging network accessibility and incentives can provide benefits to purchasers of both light-duty and medium-/heavy-duty vehicles alike. The number of EV registrations and publicly available charging ports per capita in a given state are indicative of the success of a state's policies to increase EV uptake.

The last few years have seen tremendous increases in EV sales. Based on Kelley Blue Book year-to-date sales data, EV sales in the United States increased by more than 100% between 2021 and 2023 (Kelley Blue Book 2023, 2024). The EPA also finalized California's ACT waiver in April 2023. Several states also formally adopted ACCII and ACT since the last *Scorecard* round, increasing the number of states requiring cleaner cars. Therefore, for the *2025 Scorecard* we increased the metric threshold for EV registration data to recognize the upward EV sales trend to 600 light-duty EVs (passenger cars and light trucks) registered per 100,000 people.

States with 600 or more light-duty EVs per 100,000 people earned 1 point, and states with at least 2 medium- and heavy-duty EVs per 100,000 people earned an additional 1 point. Similarly, states with more than 50 L2 public charging ports and 10 DCFC charging ports per 100,000 people earned 2 points (1 point for L2 and 1 point for DCFC ports), and those with at least 25 L2 public charging ports and 4 DCFC charging ports per 100,000 people earned 1 point (0.5 point for L2 and 0.5 point for DCFC ports). The only chargers we counted were non-brand-specific Level 2 (L2) and direct-current fast chargers (DCFC) with CHAdeMO, Combined Charging System (CCS) or J1772 compatibility that were installed as of

January 14, 2025 (DOE 2022a).[19] Table 22 includes the state scores and details for deployment of electric vehicles and charging infrastructure.

Table 22. State scores for transportation electrification outcomes

State	2024 LD EV registrations per 100,000 people	2024 MD/HD registrations per 100,000 people	EV registrations per 100,000 people (2 pts.)	Number of public L2 ports	L2 ports per 100,000 people	Number of public DCFC charging ports	DCFC ports per 100,000 people	EVSE (2 pts.)	Total score (4 pts.)
California	3,162	9.01	2	37,269	95.65	5282	13.56	2	4
Oregon	1,508	2.39	2	2432	57.45	497	11.74	2	4
Colorado	1,485	2.38	2	4,501	76.58	780	13.27	2	4
Vermont	1,169	3.55	2	779	120.32	145	22.4	2	4
Washington	1,905	6.11	2	5,270	67.45	764	9.78	1.5	3.5
Hawaii	1,807	3.00	2	751	52.33	101	7.04	1.5	3.5
Maryland	1,142	3.98	2	3864	62.52	485	7.85	1.5	3.5
Utah	1,137	2.60	2	2032	59.45	210	6.14	1.5	3.5
New Jersey	1,408	4.15	2	3,116	33.54	725	7.8	1	3
District of Columbia	1,190	2.50	2	1,055	155.38	26	3.83	1	3
Virginia	918	3.50	2	3,411	39.14	567	6.51	1	3
Delaware	827	2.71	2	386	37.41	74	7.17	1	3
New Hampshire	673	9.13	2	408	29.1	91	6.49	1	3
Massachusetts	1,023	1.99	1	7,668	109.52	533	7.61	1.5	2.5
Connecticut	843	0.44	1	2,904	80.28	245	6.77	1.5	2.5
New York	650	1.56	1	13647	69.73	1245	6.36	1.5	2.5
Nevada	1,527	1.38	1	1342	42.01	191	5.98	1	2
Arizona	1,307	1.29	1	2,678	36.04	321	4.32	1	2
Florida	1,097	1.28	1	7,822	34.59	1115	4.93	1	2
Georgia	790	1.25	1	4,143	37.56	662	6	1	2
North Carolina	655	1.15	1	3,445	31.79	475	4.38	1	2

[19] L2 and DCFC chargers are different types of EVSE chargers with different charging speeds. L2 chargers have a minimum voltage of 240 volts and DCFC chargers have a minimum voltage of 480 volts. L2 chargers can provide a range of ~25 miles per hour, whereas a DCFC charger can charge at 100–200 miles per half hour. CHAdeMO, CCS, and J1772 fittings were the only style of charger fitting that we scored for in this year's *Scorecard*. About 80% of public chargers in the United States are L2. (https://afdc.energy.gov/fuels/electricity-stations).

State	2024 LD EV registrations per 100,000 people	2024 MD/HD registrations per 100,000 people	EV registrations per 100,000 people (2 pts.)	Number of public L2 ports	L2 ports per 100,000 people	Number of public DCFC charging ports	DCFC ports per 100,000 people	EVSE (2 pts.)	Total score (4 pts.)
Minnesota	626	0.77	1	1587	27.66	417	7.27	1	2
Oklahoma	591	3.65	1	515	12.7	876	21.61	1	2
Illinois	777	1.32	1	2,628	20.94	632	5.04	0.5	1.5
Texas	729	0.99	1	7,116	23.33	1244	4.08	0.5	1.5
Montana	584	3.18	1	161	14.21	81	7.15	0.5	1.5
Wisconsin	404	5.36	1	1032	17.46	322	5.45	0.5	1.5
Indiana	370	2.73	1	971	14.15	357	5.2	0.5	1.5
Rhode Island	567	1.82	0	689	62.87	77	7.03	1.5	1.5
Maine	525	1.72	0	778	55.74	125	8.96	1.5	1.5
Mississippi	122	2.08	1	224	7.62	89	3.03	0	1
Michigan	529	0.84	0	2768	27.58	668	6.66	1	1
New Mexico	481	1.47	0	454	21.47	224	10.59	1	1
Ohio	433	0.94	0	3,060	25.96	641	5.44	1	1
Missouri	424	1.48	0	2390	38.57	347	5.6	1	1
Kansas	386	1.53	0	975	33.16	118	4.01	1	1
Pennsylvania	547	1.29	0	3,649	28.15	473	3.65	0.5	0.5
Tennessee	477	0.76	0	1,584	22.23	319	4.48	0.5	0.5
Idaho	436	1.43	0	297	15.12	115	5.85	0.5	0.5
Alaska	361	1.09	0	86	11.73	37	5.04	0.5	0.5
Nebraska	347	0.66	0	415	20.98	119	6.02	0.5	0.5
Iowa	272	1.59	0	597	18.62	269	8.39	0.5	0.5
Alabama	242	0.67	0	617	12.08	327	6.4	0.5	0.5
Wyoming	187	1.37	0	111	19	52	8.9	0.5	0.5
South Dakota	182	0.87	0	130	14.14	79	8.59	0.5	0.5
North Dakota	122	0.77	0	114	14.54	65	8.29	0.5	0.5
South Carolina	371	1.97	0	1068	19.88	173	3.22	0	0
Kentucky	232	1.44	0	536	11.84	143	3.16	0	0
Arkansas	205	0.88	0	626	20.41	97	3.16	0	0
Louisiana	181	1.31	0	437	9.55	122	2.67	0	0

State	2024 LD EV registrations per 100,000 people	2024 MD/HD registrations per 100,000 people	EV registrations per 100,000 people (2 pts.)	Number of public L2 ports	L2 ports per 100,000 people	Number of public DCFC charging ports	DCFC ports per 100,000 people	EVSE (2 pts.)	Total score (4 pts.)
West Virginia	148	0.45	0	244	13.78	33	1.86	0	0

Sources: Data purchased from S&P Global Mobility 2024; DOE 2022a

Equitable Access to Transportation

As U.S. cities have sprawled and jobs have moved away from urban cores, many low-income communities have become geographically isolated and inadequately served by affordable, efficient transportation. In such cases, personal vehicles become the only option for travel—and expenditures for vehicles, including fuel, insurance, and maintenance, can be large and unpredictable. The average American household was found to have a gasoline burden of 7% of their income. This value was found to be even higher (13.8–14.1%) for low-income households earning less than 200% of the federal poverty line (Vaidyanathan, Huether, and Jennings 2021).

To earn points for this metric, states can use policy levers in various ways to ensure fair and equitable access to public transportation and newer shared-use services for low-income residents. Providing incentives to developers who set aside a fixed percentage of low-income housing in transit-served areas helps align housing and transportation choices. Other policy levers include grants, loans, community funds for transit-oriented development, affordable housing, and density bonuses. Similarly, proximity to transit services is a key measure that many states use in disbursing federal low-income tax credits to qualifying property owners, ensuring that low-income communities are served by a variety of transportation alternatives.

Equitable Transportation Electrification

The current up-front investment required for EVs and their charging equipment can be cost prohibitive for low-income, environmental justice, and economically distressed communities. This metric evaluated how states were making EVs accessible to all. To score states, state programs, goals, and funding streams designed specifically to increase EV adoption within underserved communities were considered. Establishing dedicated or increased funding streams for EV purchase or charging equipment installation in low-income, environmental justice, and underserved communities is an important step in reducing the effects of geography, household income, and charging access on EV ownership. Placing EVSE in communities can also enhance the EV ownership experience of those who live in types of housing, such as multifamily, where they cannot install at-home charging (Huether 2021).

Several states had increased rebates and/or first priorities available for low-income communities for purchasing EVs and installing EV chargers. For example, the Washington State Department of Commerce implemented an electric vehicle instant rebate program for low-income households earning less than 300% of the federal poverty limit (Washington State Department of Commerce 2024). Eligible households can receive up to $9,000 off for leasing, or $5,000 for purchasing a fully electric vehicle. Other innovative strategies included ZEV carshare program grants and e-bike rebates for low-income applicants.

Vehicle Miles Traveled (VMT) Growth and VMT/GHG Reduction Targets

Improved vehicle efficiency will not adequately address energy use and GHG emissions in the transportation sector in the long term if total VMT grows unchecked. EIA predicts a 12–33% increase in light-duty VMT between 2022 and 2050 due to rising incomes and population growth (EIA 2023b). While improvements to vehicle fuel economy are expected to reduce energy consumption, increasing VMT will increase energy consumption from the sector. Reducing VMT growth is key to managing transportation energy use, and several states have taken on this challenge by setting VMT reduction targets. While we gave states a point for either a VMT or GHG emissions target, most states scored full points in this metric by virtue of their transportation GHG targets.

Of the 19 states that received points in this category, 10 states had a VMT reduction target. These states were Colorado, Connecticut, Delaware, Maine, Maryland, Massachusetts, Minnesota, New York, Oregon, and Washington. Minnesota updated their target in 2023. States take a variety of approaches in how they set up their VMT targets. These included setting VMT reduction targets by a certain year on a per-capita basis or for the entire passenger vehicle fleet. States also have the option to incorporate VMT reduction strategies under their overarching GHG reduction goal. For example, California requires VMT analysis as part of the California Environmental Quality Act process. In the last few years, some states such as Colorado have also taken the initiative to set up a statewide GHG reduction program that directs the metropolitan planning organizations to reduce their transportation emissions collectively.

We also calculated the percentage change in VMT per capita over a 10-year period for three time frames—2012–2021, 2013–2022, and 2014–2023—and averaged them to evaluate a given state's trend in VMT growth. We awarded 2 points to states whose average 10-year VMT per-capita figure fell by 5% or more between 2021 and 2023. A reduction of 1% or more (below 5%) earned 1 point. Nine states earned the full point for this metric. Table 23 includes the scores for VMT polices and the average change in VMT per-capita.

Table 23. State scores for VMT policies and reductions

State	VMT or Transportation-specific targets	2012–2021 Percentage change	2013–2022 Percentage change	2014–2023 Percentage change	Average (VMT/capita)	Average VMT score	Total VMT score
New York	2	–12.5%	–12.6%	–11.7%	–12.3%	2	4
District of Columbia	2	–7.3%	–9.3%	–10.6%	–9.1%	2	4
California	2	–8.3%	–6.4%	–6.2%	–7.0%	2	4
Delaware	2	–8.5%	–7.8%	–3.5%	–6.6%	2	4
Vermont	2	–10.2%	–5.5%	–3.8%	–6.5%	2	4
Washington	2	–5.3%	–5.2%	–7.6%	–6.0%	2	4
Minnesota	2	–5.7%	–4.6%	–3.1%	–4.5%	1	3
Maryland	2	–5.1%	–3.6%	–0.7%	–3.1%	1	3

State	VMT or Transportation-specific targets	2012–2021 Percentage change	2013–2022 Percentage change	2014–2023 Percentage change	Average (VMT/capita)	Average VMT score	Total VMT score
New Hampshire	2	–4.1%	–0.8%	–0.2%	–1.7%	1	3
Oregon	2	–2.6%	–2.3%	0.0%	–1.6%	1	3
Maine	2	–3.4%	–0.2%	–0.1%	–1.3%	1	3
North Dakota	0	–16.1%	–15.0%	–15.4%	–15.5%	2	2
Oklahoma	0	–10.9%	–9.6%	–9.5%	–10.0%	2	2
West Virginia	0	–6.9%	–7.0%	–11.6%	–8.5%	2	2
Rhode Island	1	–9.2%	–0.2%	1.4%	–2.7%	1	2
Virginia	1	–5.7%	0.5%	–2.5%	–2.6%	1	2
Hawaii	2	–4.9%	2.8%	1.2%	–0.3%	0	2
Connecticut	2	–4.4%	8.6%	–4.8%	–0.2%	0	2
Colorado	2	1.5%	3.4%	2.1%	2.3%	0	2
Massachusetts	2	0.2%	5.8%	3.7%	3.2%	0	2
Wisconsin	2	5.2%	4.9%	8.2%	6.1%	0	2
New Mexico	2	6.7%	6.3%	8.0%	7.0%	0	2
New Jersey	0	–9.0%	–0.6%	1.5%	–2.7%	1	1
Ohio	0	–5.0%	–1.6%	–0.5%	–2.4%	1	1
Pennsylvania	0	–5.1%	–2.1%	3.9%	–1.1%	1	1
Idaho	0	–2.7%	0.4%	1.3%	–0.4%	0	0
Illinois	0	–1.9%	2.0%	–1.1%	–0.3%	0	0
Kansas	0	–1.3%	–1.9%	2.8%	–0.1%	0	0
Nevada	0	1.9%	1.8%	–3.3%	0.1%	0	0
Michigan	0	–1.6%	1.6%	1.0%	0.3%	0	0
Indiana	0	–0.9%	3.7%	–1.3%	0.5%	0	0
Iowa	0	2.1%	–0.3%	2.9%	1.6%	0	0
Montana	0	3.5%	0.3%	1.6%	1.8%	0	0

State	VMT or Transportation-specific targets	2012–2021 Percentage change	2013–2022 Percentage change	2014–2023 Percentage change	Average (VMT/capita)	Average VMT score	Total VMT score
North Carolina	0	3.7%	1.7%	2.0%	2.5%	0	0
Kentucky	0	–0.1%	6.7%	1.4%	2.7%	0	0
Nebraska	0	3.4%	2.2%	3.1%	2.9%	0	0
South Dakota	0	7.5%	7.8%	–1.8%	4.5%	0	0
Florida	0	4.9%	11.9%	1.8%	6.2%	0	0
Texas	0	4.5%	6.9%	9.7%	7.0%	0	0
Mississippi	0	7.8%	10.0%	3.7%	7.2%	0	0
Georgia	0	10.3%	8.8%	2.5%	7.2%	0	0
Alabama	0	2.7%	6.0%	13.3%	7.3%	0	0
Tennessee	0	8.1%	8.0%	8.4%	8.2%	0	0
Arkansas	0	9.2%	5.6%	9.9%	8.2%	0	0
Utah	0	8.8%	8.9%	8.4%	8.7%	0	0
South Carolina	0	6.6%	11.9%	8.4%	9.0%	0	0
Missouri	0	11.6%	12.8%	11.0%	11.8%	0	0
Arizona	0	10.0%	13.4%	12.1%	11.8%	0	0
Wyoming	0	10.5%	12.2%	13.7%	12.1%	0	0
Louisiana	0	7.1%	13.9%	17.6%	12.9%	0	0
Alaska	0	16.6%	18.6%	19.7%	18.3%	0	0

Sources: Calculated from data available on FHWA 2024; Caltrans 2025

Integration of Land-Use and Transportation Planning

Success in achieving VMT reduction targets requires the coordination of transportation and land-use planning. Successful strategies vary among states due to differences in their infrastructure, geography, and political environment. However, all states benefit from adopting core principles of smart growth and integrating transportation and land-use planning in order to increase transportation system efficiency. Benefits of incorporating smart land growth policies include cost and emissions savings due to reduced driving, improved air quality, better health, and higher overall quality of life (EPA 2011). Integrated approaches include measures that encourage the following:

- Transit-oriented development, including mixed land use and walkable neighborhoods (combining jobs, stores, and housing) and good street connectivity to make neighborhoods friendly to all modes of transportation

- Areas of compact development
- Convenient modes of transportation that provide alternatives to driving
- Centers of activity where popular destinations are close together and accessible by multiple transportation modes

States can consider a variety of options to incorporate smart growth considerations into their planning and implementation strategies. States can require the consideration of smart growth principles or adopt a complete streets approach when awarding grants and approving projects. States can also pass legislation allowing municipalities to revise zoning to create mixed-use areas.

State Transit Funding

While states receive some federal funds for public transit, a significant proportion of transit funding comes from state budgets. A state's investment in public transit is a key indicator of its interest in promoting energy-efficient modes of transportation. Average per-capita spending in 2022 of $200 or more received 3 points, spending of $100 or more received 2 points, and expenditures of $20 or more received 1 point. 2025 scores for this metric reveals that the majority of states do not fund public transit at sufficient per-capita levels. Only three states received the full points for this metric.

State Legislation for Dedicated Transit Revenue Streams

As states face increasingly uncertain federal funding streams and federal transportation policies that remain highway focused, many have taken the lead in finding dedicated funding sources for long-term public transit expenditures. A number of states have adopted a legislative approach to generating a sustainable stream of capital and operating funds through a public transportation fund. These funds seem to be the most common type of dedicated transit funding streams awarded scores in this category. For instance, Alabama established a trust fund under the Alabama Public Transportation Act in 2018 to increase the state's public transportation options. On the other hand, although Missouri does not have a dedicated, recurring pool of transit funding to draw from, it is worth mentioning the state's efforts to increase transit revenue through annual appropriations. A 2023 state session saw a more than 580% increase in funds earmarked for public transit (MPTA 2024).

Table 24 includes the FY 2022 transit funding and the scores for transit policies. Table 25 includes detailed information about the states' transit policies.

Table 24. State scores for transit funding and policies

State	FY 2022 funding	2022 population	Per-capita transit expenditure	State transit funding (3 pts.)	Transit policies (1 pt.)	Total score (4 pts.)
District of Columbia	895,450,000.00	670,949	$1,334.60	3	1	4
Massachusetts	3,970,440,000	6,982,740	$568.61	3	1	4
New York	6,037,410,000	19,673,200	$306.89	3	1	4
California	4,676,370,000.00	39,040,616	$119.78	2	1	3
Delaware	144,480,000.00	1,019,459	$141.72	2	1	3

State	FY 2022 funding	2022 population	Per-capita transit expenditure	State transit funding (3 pts.)	Transit policies (1 pt.)	Total score (4 pts.)
Illinois	2,140,360,000	12,582,515	$170.11	2	1	3
Maryland	1,078,710,000	6,163,981	$175.00	2	1	3
Minnesota	590,940,000	5,714,300	$103.41	2	1	3
Pennsylvania	1,772,020,000	12,972,091	$136.60	2	1	3
Utah	427,380,000	3,381,236	$126.40	2	1	3
Connecticut	684,000,000.00	3,608,706	$189.54	2	0	2
Maine	28,130,000	1,389,338	$20.25	1	1	2
Michigan	314,490,000	10,033,281	$31.34	1	1	2
Oregon	153,550,000	4,239,379	$36.22	1	1	2
Virginia	659,460,000	8,679,099	$75.98	1	1	2
Alaska	64,190,000	733,276	$87.54	1	0	1
Arizona	11,280,000	7,365,684	$1.53	0	1	1
Arkansas	3,370,000	3,046,404	$1.11	0	1	1
Colorado	77,000,000.00	5,841,039	$13.18	0	1	1
Florida	253,870,000.00	22,245,521	$11.41	0	1	1
Georgia	29,620,000	10,913,150	$2.71	0	1	1
Hawaii	-	1,439,399	$0.00	0	1	1
Idaho	310,000	1,938,996	$0.16	0	1	1
Indiana	71,630,000	6,832,274	$10.48	0	1	1
Iowa	20,020,000	3,199,693	$6.26	0	1	1
Kansas	11,000,000	2,936,716	$3.75	0	1	1
Missouri	1,710,000	6,177,168	$0.28	0	1	1
New Hampshire	330,000	1,399,003	$0.24	0	1	1
New Jersey	889,110,000	9,260,817	$96.01	1	0	1
North Carolina	68,200,000	10,695,965	$6.38	0	1	1
North Dakota	4,150,000	778,912	$5.33	0	1	1
Oklahoma	5,750,000	4,019,271	$1.43	0	1	1
Rhode Island	54,550,000	1,093,842	$49.87	1	0	1
South Carolina	6,000,000	5,282,955	$1.14	0	1	1
Tennessee	63,980,000	7,048,976	$9.08	0	1	1

State	FY 2022 funding	2022 population	Per-capita transit expenditure	State transit funding (3 pts.)	Transit policies (1 pt.)	Total score (4 pts.)
Washington	150,930,000	7,784,477	$19.39	0	1	1
West Virginia	$2,260,000	1,774,035	$1.27	0	1	1
Wisconsin	74,710,000	5,890,543	$12.68	0	1	1
Wyoming	1,520,000	581,629	$2.61	0	1	1
Alabama	$0	5,073,903	$0.00	0	0	0
Kentucky	11,040,000	4,511,563	$2.45	0	0	0
Louisiana	4,960,000	4,588,023	$1.08	0	0	0
Mississippi	1,660,000	2,938,928	$0.56	0	0	0
Montana	1,280,000	1,122,878	$1.14	0	0	0
Nebraska	6,300,000	1,968,060	$3.20	0	0	0
Nevada	-	3,177,421	$0.00	0	0	0
New Mexico	6,600,000	2,113,476	$3.12	0	0	0
Ohio	37,000,000	11,759,697	$3.15	0	0	0
South Dakota	$1,050,000	909,869	$1.15	0	0	0
Texas	37,210,000	30,029,848	$1.24	0	0	0
Vermont	4,110,000	647,110	$6.35	0	0	0

Sources: AASHTO 2024; state legislation and data requests

Table 25. State transit legislation

State	Description	Source
Arizona	AZ Rev Stat § 48-5103 (2022), Public Transportation Fund, establishes a public transportation fund consisting of monies appropriated by each municipality that is a member of the authority or the county, if it elected to enter into the authority. Each member municipality and member county shall appropriate monies to the public transportation fund in an amount determined by the board. Monies in the fund may be spent pursuant to or to implement the public transportation element of the plan as defined in section 28-6351 developed and approved by the regional planning agency.	www.azleg.gov/viewdocument/?docName=https://www.azleg.gov/ars/48/05103.htm
Arkansas	Passed in 2001, Arkansas Act 949 established the Arkansas Public Transit Fund, which directs monies from rental vehicle taxes toward public transit expenditures.	www.arkleg.state.ar.us/Bills/Detail?id=SB581&ddBienniumSession=2001%2FR
California	California's Transportation Development Act provides two sources of funding for public transit: the Location Transportation Fund (LTF) and the State Transit Assistance (STA) Fund. The general sales tax collected in each county is used to fund each county's LTF. STA funds	https://dot.ca.gov/programs/rail/transportation-development-act

State	Description	Source
	are appropriated by the legislature to the state controller's office. The statute requires that 50% of STA funds be allocated according to population and 50% be allocated according to operator revenues from the prior fiscal year.	Data request
Colorado	Colorado adopted the FASTER legislation in 2009, which created a State Transit and Rail fund that accumulates $5 million annually. The legislation also allocated $10 million a year from the Highway Users Tax Fund to the maintenance and creation of transit facilities. The Public Transportation Modernization, Improvement, and Service Enhancement Account Program (PTMISEA) was created by Proposition 1B. Of the $19.925 billion available to Transportation, $3.6 billion dollars was allocated to PTMISEA to be available to transit operators over a 10-year period. PTMISEA funds may be used for transit rehabilitation, safety or modernization improvements, capital service enhancements or expansions, new capital projects, bus rapid transit improvements, or rolling stock (buses and rail cars) procurement, rehabilitation, or replacement. Funds in this account are appropriated annually by the legislature to the State Controller's Office (SCO) for allocation in accordance with Public Utilities Code formula distributions: 50% allocated to local operators based on fare-box revenue and 50% to regional entities based on population. The state has many more funding streams that are detailed on our website. The state subsequently passed SB 48 in 2013, which allowed for the entire local share of the Highway Users Trust Fund (derived from state gas tax and registration fees) to be used for public transit and bicycle or pedestrian investments. In 2018, Colorado adopted SB1, which significantly expands state funding for transit. SB1 creates a new multimodal options fund dedicated to public transit and bicycle and pedestrian infrastructure and operations. SB24-184 creates a dedicated funding source for rail and transit through the Colorado Transportation Investment Office (CTIO) estimated to provide approximately $60 million in annual revenue. The law also encourages regional coordination between Regional Transit District (RTD) Front Range Passenger Rail, and Colorado Department of Transportation to explore opportunities to establish train service from Denver to Fort Collins. In addition, it directs CTIO to develop a multimodal plan that aligns with the 10-year transportation plan and statewide greenhouse gas pollution reduction goals. The bill also expands CTIO's capacity to execute mandated responsibilities and more explicitly prioritize mitigation of traffic congestion and traffic-related pollution through the completion of multimodal surface transportation infrastructure projects. It also authorizes RTD to extend operations of the Northwest Rail Fixed Guideway Corridor, including an extension of the corridor to Fort Collins.	leg.colorado.gov/bills/sb18-001; Data request
Delaware	Senate Bill No. 20: Appropriates the proceeds derived from a motor vehicle registration fee, a motor vehicle document fee, a motor fuel	/legis.delaware.gov/BillDetail/25419

State	Description	Source
	tax, a motor carrier road use tax and registration fee, and the operation of the Delaware Turnpike to a special fund known as the Transportation Trust Fund for (1) capital expenditures on the public transportation system, including the road system, grants and allocations for investments in transportation, the transit system, and the support systems for public transportation; (2) payment of the interest and principal on all bonds issued before or after the effective date of this Act and secured by moneys in the Transportation Trust Fund; and (3) other transportation-related purposes.	
District of Columbia	D.C. Law 24-335 Metro for D.C. Amendment Act of 2022: establishes the District Resident Transit Subsidy Program, the Fare-Free Bus Service Fund, the Bus Service Enhancement Fund, and directs certain revenues to the Fare-Free Bus Service Fund and the Bus Service Enhancement Fund	code.dccouncil.gov/us/dc/council/laws/24-335
Florida	House Bill 1271 allows municipalities in Florida with a regional transportation system to levy a tax, subject to voter approval, that can be used as a funding stream for transit development and maintenance. Florida Department of Transportation also administers several state-specific transit funding programs. These programs include the Public Transit Block Grant Program (§ 341.052 F.S.); the Transit Corridor Program (§ 341, F.S.); Commuter Assistance Program (§ 187 and 341, F.S.); and the Florida Transportation Disadvantaged Trust Fund (§ 427.0159, F.S.).	https://www.flsenate.gov/Session/Bill/2010/1271/ByVersion Data request
Georgia	The Transportation Investment Act, enacted in 2010, allows municipalities to pass a sales tax for the express purpose of financing transit development and expansion.	gsfic.georgia.gov/transportation-investment-act
Hawaii	Section HRS 46-16.8 of the Hawaii Revised Statutes allows municipalities to add a county surcharge to state tax; the surcharge is then funneled toward mass transit projects.	www.capitol.hawaii.gov/hrscurrent/Vol02_Ch0046-0115/HRS0046/HRS_0046-0016_0008.htm
Idaho	Idaho Transportation Department oversees the States Vehicle Investment Program (VIP), which provides $312,000 of state funds administered as a competitive program; agencies can apply the funds to replacing public transit vehicles.	Data request
Illinois	House Bill 289 allocates $2.5 billion for the creation and maintenance of mass transit facilities from the issuance of state bonds.	legiscan.com/gaits/text/70761
Indiana	House Bill 1011 specifies that a county or city council may elect to provide revenue to a public transportation corporation from the distributive share of county adjusted gross income taxes, county option income taxes, or county economic development income taxes. An additional county economic development income tax no higher than 0.3% may also be imposed to pay the county's contribution to the funding of the metropolitan transit district. Only six counties within the state may take advantage of this legislation.	legiscan.com/IN/text/HB1011/id/673339

State	Description	Source
	Public Mass Transportation Fund (I.C. 8-23-3-8): The Indiana State Legislature also established the Public Mass Transportation Fund to promote and develop transportation in Indiana. The funds are allocated to public transit systems on a performance-based formula.	www.in.gov/indot/multimodal/transit/public-mass-transportation-fund/
Iowa	The Iowa State Transit Assistance Program devotes 4% of the fees for new registration collected on sales of motor vehicle and accessory equipment to support public transportation. Additional funding sources approved by Iowa Code: Municipal Transit Levy: This tax is for the operation and maintenance of a municipal transit system or for operation and maintenance of a regional transit district, and for the creation of a reserve fund for the system or district, in an amount not to exceed $0.95 per $1,000 of assessed value each year, when the revenues from the transit system or district are insufficient for such purposes. Legislative Reference: Iowa Code 384.12 Regional Transit District: Iowa counties with populations exceeding 175,000 are able to form regional transit districts for support of area-wide public transit services. The district can levy up to the $0.95 per $1,000 of the assessed value of all taxable property in a district. Unlike the provisions in the municipal levy, a regional transit district can set differing levy rates across their territory. Legislative Reference: Iowa Code Chapter 28M Capital Match Revolving Loan Fund: The general assembly appropriated money from the petroleum overcharge fund to the department to be used as a revolving loan fund for transit capital purchases by public transit systems. Legislative Reference: Iowa Code 324A Public Transit Infrastructure Program: This program provides funding for improvement of the vertical infrastructure of Iowa's designated public transit system. Projects can involve new construction, reconstruction, or remodeling, but must include a vertical component to qualify. Projects are evaluated based on the anticipated benefits to transit, as well as the ability to have projects completed quickly. Legislative Reference: Iowa Code 324A	iowadot.gov/transit/funding-programs-and-applications/funding-programs Data request
Kansas	Transportation Works for Kansas legislation, adopted in 2010, provides financing for a multimodal development program in communities with immediate transportation needs. Kansas Department of Transportation (KDOT) administers state funding that has been legislatively allocated to support transit and paratransit services under the T-Works and Eisenhower Legacy Transportation Programs. KDOT receives $11 million annually from the State Highway Fund.	votesmart.org/bill/11412/30514/transportation-works-for-kansas-program%20%28T-Works%20for%20Kansas%20Program%29 kslegislature.org/li/b2023_24/committees/ctte_h_trnsprt_1/documents/testimony/20230309_02.pdf
Maine	The Maine Legislature created a dedicated revenue stream for multimodal transportation in 2012. The Multimodal Transportation Fund uses sales tax revenues derived from vehicle rentals. Funds must be used for purchasing, operating, maintaining, improving,	www.mainelegislature.org/legis/statutes/23/title23sec4210-B.html

State	Description	Source
	repairing, constructing, and managing the assets of non-road forms of transportation.	
Maryland	In 2018, Maryland passed the Maryland Metro/Transit Funding Act. Maryland's Transportation Trust Fund must provide at least $167 million in revenues to the Washington Suburban Transit District through an annual grant that will be used to pay capital costs of the Washington Metropolitan Area Transit Authority.	mgaleg.maryland.gov/mgawebsite/Legislation/Details/hb0372?ys=2018RS; see Transportation Article §3–216.and §7–205
Massachusetts	Section 35T of Massachusetts general law establishes the Massachusetts Bay Transportation Authority State and Local Contribution Fund. This account is funded by revenues from a 1% sales tax. In January 2024, Governor Healey signed an executive order to create a Transportation Funding Task Force charged with "developing recommendations for a long-term, sustainable transportation finance plan that can support safely and reliably support road, rail and transit systems throughout our state." Massachusetts has also passed legislation to create a dedicated funding stream for the Massachusetts Bay Transportation Authority (MBTA). The MBTA State and Local Contribution Fund is financed by a 1% sales tax implemented in the state.	malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter10/Section35t Data request Data request; mass.gov/executive-orders/no-626-creating-the-governors-transportation-funding-task-force malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter10/Section35t
Michigan	The Michigan Comprehensive Transportation Fund funnels both vehicle registration revenues and auto-related sales tax revenues toward public transportation and targeted transit demand management programs.	www.legislature.mi.gov/(S(hlkm5k45i240utf2mb0odtzt))/mileg.aspx?page=getObject&objectName=mcl-247-660b
Minnesota	In the 2023 session, the Minnesota Legislature passed a new sustainable revenue source for the region's transportation system. This $0.0075 regional transportation sales tax goes into effect in October 2023. These funds will be split between the region's counties (17%) and the Met Council (83%). The Met Council share will primarily go toward transit operations, maintenance, and capital projects, with 5% focused on active transportation like walking and biking. Additionally, a percentage of funding from the Motor Vehicle Sales Tax is constitutionally dedicated to public transit. Minnesota Statutes 174.21 and 172.24 establish public transit programs that include providing financial assistance from the state, including the greater Minnesota transit account. In 2023 Minnesota signed into law HF2887, a bill aimed to expand and improve transit services statewide with critical investments and policy changes including (1) long-term, dedicated transit funding to dramatically improve transit across the Twin Cities metro, and (2) cutting-edge policy to curb climate pollution from new transportation projects.	metrocouncil.org/Transportation/Planning-2/Transportation-Funding/Regional-Transportation-Sales-and-Use-Tax.aspx www.lrl.mn.gov/docs/2024/mandated/240355.pdf Data request
Missouri	Missouri statutes (Section 226.225) provide dedicated funding for non-highway modes of transportation. A portion of motor vehicle sales taxes are deposited into the State Transportation Fund for non-highway purposes.	Data request; revisor.mo.gov/main/OneSection.aspx?section=226.225

State	Description	Source
	The fund may be used for purposes such as locating, relocating, establishing, acquiring, constructing, planning, developing, maintaining, or operating public transportation facilities or projects as part of any state or local transportation program, including but not limited to aviation, mass transportation, railroads, ports, waterways, waterborne commerce, and transportation of the elderly and handicapped.	
New Hampshire	Under RSA 261.135 VI - "... the legislative body of a municipality may vote to collect an additional fee for the purpose of supporting a municipal and transportation improvement fund, which shall be a capital reserve fund established for this purpose and governed by the provisions of RSA 34 and RSA 35 for cities and towns, respectively."	Data request
New York	New York State provides more than $7 billion annually from a variety of sources to support transit systems statewide. In 2010 New York adopted Assembly Bill 8180, which increases certain registration and renewal fees to fund public transit. It also created the Metropolitan Transportation Authority (MTA) Financial Assistance fund to support New York City area subway, bus, and rail.	www.nysenate.gov/sites/default/files/MTA%20Bill%20S.5451_0.pdf Data request
North Carolina	In 2009, North Carolina passed House Bill 148, which called for the establishment of a congestion relief and intermodal transportation fund. Article 43 provides the Local Government Sales and Use Taxes for Public Transportation, which allows counties and transportation authorities to obtain additional revenue through levy sales and use taxes to meet their needs for financing local public transportation systems.	www.ncleg.net/sessions/2009/bills/house/pdf/h148v2.pdf https://www.ncleg.net/EnactedLegislation/Statutes/HTML/ByArticle/Chapter_105/Article_43.html
North Dakota	House Bill No. 1012 (2023) requires that 1.5% of the legacy earnings highway distribution fund be deposited in the public transportation fund. State funding is provided to North Dakota Department of Transportation for administration of the Public Transportation Fund 39- 04.2-02. The funds must be used by transportation providers to establish and maintain public transportation, especially for the elderly and handicapped, and may be used to contract to provide public transportation, as matching funds to procure money from other sources for public transportation and for other expenditures authorized by the director.	ndlegis.gov/sites/default/files/fiscal/2023-25/docs/SBA%20Supplement%202023.pdf
Oklahoma	Public Transit Revolving Fund (Section 4031 of Title 69): The document states that “All monies accruing to the credit of this Fund will be expended by ODOT for the purpose of establishing, expanding, improving and maintaining rural and urban public transportation.”	https://oklahoma.gov/content/dam/ok/en/odot/documents/contract-complaince/title-69.pdf
Oregon	Oregon has a Lieu of State Payroll Tax Program that provides a direct, ongoing revenue stream for transit districts that can demonstrate equal local matching revenues from state agency employers in their service areas.	www.oregonlegislature.gov/citizen_engagement/Reports/2008PublicTransit.pdf

State	Description	Source
Pennsylvania	Act 44 of House Bill 1590, passed in 2007, allows counties to impose a sales tax on liquor or an excise tax on rental vehicles to fund the development of county transit systems. The state also has a Public Transportation Trust Fund funded by turnpike payments, sales tax, and lottery fund payments	www.legis.state.pa.us/WU01/LI/LI/US/HTM/2007/0/0044..HTM https://www.penndot.pa.gov/about-us/funding/Documents/PATransportationFundingNeeds.pdf
Tennessee	Senate Bill 1471, passed in 2009, calls for the creation of a regional transportation authority in major municipalities. It allows these authorities to set up dedicated funding streams for mass transit either by law or through voter referendum. The 2017 IMPROVE ACT gives local governments the option to generate new revenue for public transit programs after a local referendum. Steps must be taken to get a Transit Improvement Program (TIP) on the ballot.	wapp.capitol.tn.gov/apps/BillInfo/default.aspx?BillNumber=SB1471&GA=106 www.tn.gov/nexttennessee/improve-act.html
Utah	Utah's comprehensive transportation funding bill, passed in 2015, allows counties to implement a 0.25% local sales tax to fund locally identified transportation needs. Of all revenues collected using this mechanism, 40% must be awarded to the county transit agency. In 2020, legislation was passed that enhances the coordination of transportation, housing, and land use at transit-oriented development sites and modifies transportation funding, Utah Department of Transportation's Road Usage Charge program, local option transportation sales taxes; Class B and Class C road funds, transportation network companies, and tollways. It also allows counties to implement a 0.25% local sales tax to fund locally identified transportation needs. Eighty percent of all revenues collected using this mechanism must be expended to fund a system for public transit.	le.utah.gov/~2015/bills/static/HB0362.html Data request
Virginia	House Bill 2313, adopted in 2013, created the Commonwealth Mass Transit Fund, which receives approximately 15% of revenues collected from the implementation of a 1.5% sales and use tax for transportation expenditures.	lis.virginia.gov/cgi-bin/legp604.exe?131+ful+CHAP0766
Washington	In 2015, SB 5987, the Connecting Washington Package, was passed, allocating $16 billion toward transportation connectivity, maintenance, and development projects. Move Ahead Washington, a new state transportation funding provides $3 billion for public transportation over the next 16 years The legislature created the Climate Transit Programs Account, in addition to other funds. After the current biennium, this account will receive 56% of the revenues accruing to the carbon emissions reduction account. For the 2023–2025 biennium, the Washington State Department of Transportation Public Transportation Division awarded around $660 million in state funds for public transportation for 14 different grant programs. Recipients of the grants include transit agencies, nonprofits, tribes, counties, cities, and transportation demand management implementers across Washington.	apps.leg.wa.gov/documents/billdocs/2011-12/Pdf/Bills/Session%20Laws/House/2660.SL.pdf wsdot.wa.gov/business-wsdot/grants/public-transportation-grants/grant-programs-and-awards/move-ahead-washington-public-transportation-grant-programs Data request

State	Description	Source
West Virginia	In 2013, the West Virginia Commuter Rail Access Act (Senate Bill 03) established a special fund in the state treasury to pay track access fees accrued by commuter rail services operating within the state's borders. The funds can be rolled over from year to year and are administered by the West Virginia State Rail Authority.	www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=SB103%20SUB1%20ENR.htm&yr=2013&sesstype=RS&i=103
Wisconsin	Wisconsin has several state funding sources that support transit programs. These programs are authorized through Wisconsin state statute chapters 85.20, 85.205, 85.21, 85.215, 85.22, 85.24, 85.26, and 85.066.	Data request
Wyoming	WY Stat § 24-15-102 (2022) created a public transit fund within the highway fund to be funded with $1.5 million annually.	law.justia.com/codes/wyoming/2022/title-24/chapter-15/section-24-15-102/

Freight

Freight transportation accounted for 32% of U.S. transportation-sector GHG emissions in 2021, up from 24% in 1990 (BTS 2023; Kennedy 2023). While transporting goods is largely a private sector activity, state and federal policies and investment decisions help to shape the freight system in important ways, including modal diversity and efficiency. A growing amount of federal funding is available for freight projects, in recognition of the importance of freight movement to the economy as well as the congestion and emissions it produces. The Infrastructure Investment and Jobs Act (117th Congress 2021), enacted in 2021, provided an enormous infusion of funds to states for transportation projects, including freight projects. In particular, it provides $8 billion in grant funding for Nationally Significant Freight and Highway Projects and $7.15 billion in formula funding for the National Highway Freight Program for FY 2022–2026 (AASHTO 2021), while lifting the cap on multimodal freight project funding in both programs from 10% to 30%.

The federal Fixing America's Surface Transportation Act, adopted in 2015, requires states to have multimodal freight plans in place in order to receive federal funds for freight projects. These plans can be strengthened by supporting greater use of fuel-efficient freight modes and adopting concrete targets or performance measures that establish energy efficiency as a priority for goods movement. Such measures involve tracking and reporting the fuel used for freight movement in the state as a whole and encourage the use of energy efficiency as a criterion for selecting or evaluating freight projects. States can formulate these performance targets in terms of gallons of fuel per ton-mile of freight moved, for example, or grams of GHG emitted per ton-mile of freight, and targets should reflect performance across all freight modes. The 2021 Infrastructure Investment and Jobs Act (IIJA) updated past guidance for the development of state freight plans and set new priorities for states (DOT 2023). In 2023, a new Office of Multimodal Freight Infrastructure and Policy was authorized under IIJA. The office, in charge of national multimodal freight policy, will also oversee the development of and updates to state freight plans (USC 2021).

While several states updated their state freight plans since 2022, many lack a freight-specific GHG reduction target. Several state freight plans mention incorporating alternative fuel vehicles such as electric trucks and setting up policies and strategies to do so, reflecting funding opportunities from the IIJA. Another common policy found in several of the freight plans is improving intermodal freight efficiency. Some plans also mention switching to more efficient forms of freight, such as rail.

Chapter 4. Building Energy Efficiency Policies

Author: Paul Mooney

Introduction

In 2023, buildings used 73% of the electricity sold and 37% of the total energy in the United States, accounting for 33% of all U.S. carbon dioxide emissions (EIA 2024a).[20] This makes buildings an essential target for energy savings and measures to mitigate climate change, with a particular imperative to reduce on-site combustion of fossil fuels and utilize an increasingly low-carbon electricity supply. Buildings have long life spans and retrofits are often complex or costly, so encouraging building efficiency measures during design and construction is the most effective way to reduce building energy consumption. Further, energy efficiency measures can be more cost effective than renewable supply (Cohn 2021). However, because buildings built prior to 2022 are projected to represent 44% of the commercial building floor area and 67% of the housing inventory in 2050 (EIA 2022), policies directed toward existing buildings' energy usage are essential to meeting GHG emissions reduction targets. Policies to accelerate existing building retrofits cannot arrive soon enough: To retrofit 80% of the existing U.S. building stock by 2050, we must increase the annual retrofit rate about 11-fold for residential and nearly twofold for commercial buildings. (Nadel and Hinge 2023).

Building energy codes primarily focus on minimum acceptable levels of energy efficiency for new residential and commercial building construction, as well as for major alterations and additions. The most recent International Energy Conservation Code (IECC) was published in August 2024, though it has yet to be adopted by any states. ASHRAE's (originally the American Society of Heating, Refrigerating, and Air-Conditioning Engineers) Standing Standard Project Committee (SSPC) 90.1 released a 2022 version of that standard that has not yet been adopted by any states. The 2021 IECC, developed in 2019, represents a significant advance and is estimated by DOE to yield efficiency gains of 9.4% relative to the previous code version (ICC 2021; DOE 2021a). The 2021 IECC has thus far been adopted without weakening amendments (and in some cases strengthening amendments) by Connecticut, Florida, Illinois, New Jersey, Vermont, and Washington.[21] The code also offers two new optional appendices ("Zero Energy Home Appendix" and "Zero Code Renewable Energy Appendix") to provide states and cities with pathways to incorporate zero-energy performance requirements into their codes. States themselves have also developed "stretch codes" and other approaches to allow jurisdictions to push beyond minimum code requirements.

Beyond adoption, energy codes and standards are impactful only if they are implemented and complied with. Adoption by states generally lags far behind the most recent code cycles, and a DOE study across 25 states found significant savings were possible from improved compliance in homes (Williams 2019). Funds made available by the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA) are currently flowing to states, localities, and partners to support code implementation. From the BIL, Resilient and Efficient Codes Implementation (RECI) funding provides $225 million to strategic partnerships that include a relevant state or tribal government agency, $180 million of which has been announced as of September 2024 (DOE 2024b). Through the IRA, $1 billion is available through grants to state and local governments, administered by the Office of State and Community Energy Programs

[20] From an analysis of 2023 totals from residential, commercial, industrial, and transportation end uses.

[21] The code has been adopted with weakening amendments by Louisiana, Maryland, Montana, New Mexico, North Dakota, Oregon, and Virginia.

(SCEP) (DOE 2024c). Of this, $330 million is dedicated to adopting the latest energy codes (defined as the 2021 IECC for residential buildings and ASHRAE 90.1 for commercial buildings), with $670 million for adopting building energy codes that surpass these codes.

Targeted energy efficiency funding and energy technology subsidies have been available in many states for decades, but broad existing building energy policies with accountability measures have largely been adopted only in cities and applicable only to large buildings (Samarripas et al. 2024). An increasingly significant measure of this is a building performance standard (BPS), which sets a specific energy or GHG emissions ceiling and includes a penalty for exceeding those limits. Four states (Colorado, Maryland, Oregon, and Washington) and the District of Columbia have implemented a BPS in recent years, though enforcement of these standards does not begin until 2026–2030 (varying by state). Still, such a policy is key to reducing emissions from existing buildings, which, as noted, are projected to make up roughly half of the nation's building stock in 2050. Expected to yield significant energy savings and emissions reductions, these standards receive added emphasis in this year's *Scorecard*. California is in the process of conducting a study for a potential BPS, though a full plan has not been announced.

Building energy transparency policies (e.g., benchmarking, energy rating, and labeling) are intended to promote efficiency by informing building owners and potential buyers. Such policies have been adopted by leading cities, but only in a handful of states. Energy audit, retrofit, and retrocommissioning requirements can push owners toward assessing their buildings, identifying energy conservation measures, and making targeted system changes and operational improvements.

Coupling increased renewable electricity supply with electrification of space heating and water heating is the most likely approach to achieve emissions reductions from building end uses that currently rely on fossil fuels; this is also likely to be the most cost-effective decarbonization approach nearly everywhere in the United States (Nadel and Fadali 2022). We have broadened our credit to state policies that support and encourage fuel switching to include heat pump penetration.

As with the *2022 State Scorecard*, we include a credit for stretch codes that allow local jurisdictions to go beyond a state's base energy code. We can expect stretch codes to grow significantly in the coming years with Inflation Reduction Act funding dedicated to zero-energy stretch code adoption and implementation.

Many state climate policies that have been enacted over recent years include specific equity provisions to address existing energy and environmental inequalities and to ensure that vulnerable and underrepresented communities benefit from reducing energy usage and emissions. We include a section on equity-focused metrics below.

Methodology

Our primary methodological approach is a review and comparison of data requested from state energy offices and PUCs. We have verified and contextualized these data with publicly available data where possible.

Our evaluation of state building energy code stringency is based predominantly on publicly available information and analyses. DOE's Building Energy Codes Program tracks the status of code adoption for residential and commercial buildings (DOE 2022). While model codes are determined at the national level, states often amend these codes during the adoption process, thereby affecting the energy efficiency of buildings constructed to that code. We incorporate a climate adjustment to a DOE analysis that estimates a state code's overall energy usage intensity (EUI) and how it corresponds to an equivalent version of the IECC (residential) and 90.1 (commercial) (DOE 2022).

Scoring and Results

States earned credit for new construction of residential and commercial buildings based on energy code stringency, stretch code adoption, energy code compliance studies, and the construction of zero-energy buildings. We also awarded points for efforts focused on existing buildings: energy usage transparency or performance standards, policies that promote zero-energy buildings, building performance standards (BPS), policies enabling fuel switching of fossil fuels to electricity, and the rates of heat pumps in buildings by state. Lastly, we include equity-focused credits for state policies that specifically target energy performance of low-income housing for healthy, affordable, and efficient buildings. We awarded points as follows:

- New construction and building energy codes *(12 points total)*
    - Residential energy code stringency (4 points)
    - Commercial energy code (4 points)
    - Energy code compliance study (2 points)
    - Stretch code adoption (1 point)
    - Zero-energy buildings (1 point)
- Existing building energy usage *(7 points total)*
    - Residential and/or commercial benchmarking/transparency policies (1 point)
    - Existing BPS (4 points)
    - Fuel-switching enabling policies (2 points)
- Healthy, affordable, and efficient buildings *(5 points total)*
    - Minimum energy performance standards for state housing agency–funded projects (2 points)
    - State efforts to remediate health/safety deficiency barriers to weatherization in low-income households (2 points)
    - Zero-energy buildings and electrification in affordable housing/construction (1 point)

A state's performance in our scoring can vary across the three categories of credits: new construction, existing buildings, and equity metrics. In this *Scorecard*, we have shifted the weighting of the criteria to emphasize existing buildings and doubled the total scores. While the *2022 State Scorecard* weighted new construction 6.5 points and existing buildings 2.5 points, the *2025 State Scorecard* weighs new construction 12 points and existing buildings 7 points. Table 26 shows the scoring for states across those three categories.

Table 26. State scores for building energy efficiency policies

State	New construction	Existing buildings	Equity metrics	Total score (24 pts.)
Maryland	10.5	6	4.5	21
California	12	4	5	21

State	New construction	Existing buildings	Equity metrics	Total score (24 pts.)
Massachusetts	12	3	5	20
Colorado	8.5	7	3.5	19
Washington	10.5	4	4.5	19
District of Columbia	6.5	7	5	18.5
Oregon	9	5	3.5	17.5
Vermont	11	2	4.5	17.5
New York	9	3	4.5	16.5
Illinois	10	2	4	16
New Jersey	8	3	5	16
Connecticut	10	1	4.5	15.5
Maine	7.5	3	5	15.5
Minnesota	7	3	4.5	14.5
New Mexico	8.5	0	2.5	11
Virginia	7	0	4	11
Florida	9	1	0.5	10.5
Rhode Island	5	0	5	10
Utah	8	0	2	10
Pennsylvania	6.5	-1	4	9.5
Delaware	5	1	3	9
Hawaii	7.5	1	0.5	9
New Hampshire	5	0	4	9
Ohio	5	0	4	9
Louisiana	7.5	0	1	8.5
Michigan	5.5	0	3	8.5
North Carolina	3	1	4	8
Georgia	5.5	1	1	7.5
Nevada	5.5	0	2	7.5
Montana	6	0	1	7
Texas	5	–1	3	7
Indiana	2.5	0	4	6.5
Tennessee	2	3	1	6
South Dakota	3	0	2.5	5.5

State	New construction	Existing buildings	Equity metrics	Total score (24 pts.)
Wisconsin	3.5	1	1	5.5
Iowa	2.5	0	2.5	5
Nebraska	5	0	0	5
Idaho	2.5	0	2	4.5
Kentucky	2.5	1	1	4.5
South Carolina	4.5	0	0	4.5
Alabama	3	1	0	4
Alaska	0	3	1	4
North Dakota	4	0	0	4
Arizona	2	0	1	3
West Virginia	3	0	0	3
Missouri	1	0	1	2
Arkansas	2	–1	0	1
Kansas	0	–1	2	1
Mississippi	0	1	0	1
Oklahoma	1	–1	1	1
Wyoming	0	0	0	0

Discussion

Energy Code Stringency

To offer an objective comparison of state-level building energy codes, we use an adjusted energy index (EI) based on a DOE analysis. This uses data from the Pacific Northwest National Laboratory (PNNL) to calculate expected annual EUI in kBtu per square foot by accounting for building type and distribution and regional climate zones for each state.[22] PNNL's analysis accounts both for adopted versions of the model codes and for state-specific amendments to certain sections of a code (e.g., adjusting the allowable air leakage rate or altering the amount of insulation required). Such amendments can have either a positive or negative impact, depending on whether they strengthen or weaken the affected provisions (though weakening amendments is far more common). In states that allow jurisdictions to

[22] PNNL conducts state-level technical analyses based on a methodology established by DOE. PNNL reviews state energy codes based on the IECC and ASHRAE Standard 90.1, including any significant amendments. This helps states understand how their codes compare with the national model codes and provides a portrait of national code adoption. A quantitative analysis is performed to assess the energy savings impacts within a given state. The calculated energy use intensity of buildings constructed to a particular state code is compared with the energy use of the model energy code. This comparison allows a categorization of each state, with categories based on recent editions of the model codes. For more information, see https://www.energycodes.gov/status.

adopt codes that are more stringent than the state minimum, many large jurisdictions opt for more recent versions of the model codes.

Residential and commercial building energy code stringency are scored separately. We assigned each state 0–4 points for residential and another 0–4 points for commercial. Each is scored using the following process. First, we assigned 2 points to the lowest Adjusted EI; a lower Adjusted EI means higher efficiency. Next, we assigned 0 points to the highest Adjusted EI. All other states were proportionally assigned points between 0 and 2 for each scoring scale. States were then awarded a maximum of 2 points for having an energy code equivalent to or stronger than the most recent benchmark model energy code (2021 IECC or equivalent for residential and ASHRAE 90.1 or equivalent for commercial), 0 for no statewide code or equivalent, and points proportionally distributed in between for other versions of the code.[23] For commercial buildings, where EUI was not available, states were scored solely on their code.

Compared to the residential code scoring, the commercial code scoring is more competitive, with more states earning 2 points for commercial energy codes, based on a combination of the highest-level model commercial code (90.1-2019) having been out longer, steadier incremental progress in efficiency across 90.1 versions, and fewer state amendments that reduced stringency compared to the residential code. In addition, while 30 of the 50 states had an adjusted EUI of their commercial buildings less than 0.7, only seven states achieved an adjusted EUI under 0.7 for their residential buildings.

Most home-rule states that have no mandatory state code and adopt building energy codes at the local level lack sufficient data for DOE's quantitative analysis. Currently, nine states lack mandatory statewide energy codes for new residential and/or commercial construction (Alaska, Arizona, Kansas, Mississippi, Missouri, Oklahoma, South Dakota, Tennessee, and Wyoming). We gave some consideration to local energy code adoption in our scoring, but our ability to do so is limited by data availability.[24] Colorado is unique for a home-rule state in that it requires local jurisdictions to adopt and enforce one of the three most recent IECC versions when adopting or updating any other building code. Colorado also provides detailed data on energy codes by jurisdiction that allowed us to estimate what PNNL's analysis would compute (Colorado Energy Office 2024). Other home-rule states are showing high rates of adoption at the jurisdictional level that we and PNNL can also glean from public sources. For example, the two most populous cities in Arizona, Phoenix and Tucson, have both adopted the 2018 IECC and the four most populous counties in Hawaii have adopted the 2015 IECC.[25] For detailed information on building code stringency in each state, visit ACEEE's State and Local Policy Database (ACEEE 2024).

Table 27 shows state-by-state scores for residential and commercial energy codes stringency. In the *2022 State Scorecard*, 23 states had adopted the 2018 IECC (13 of which included weakening amendments). Since then, several of these states have upgraded to the 2021 IECC, including Louisiana, which had previously only adopted 2009 IECC. Only six states (Connecticut, Florida, Illinois, New Jersey, Vermont, and Washington) have adopted 2021 IECC in full,[26] though many jurisdictions across the

[23] While the 2024 IECC code was published in August 2024, as of November 2024 it has not been adopted by any states.

[24] We have not developed a systematic quantitative method for comparing the interstate impact of jurisdictional code adoptions in home-rule states, in part because of a lack of consistent data across states.

[25] DOE's analysis includes estimates of code stringency in Arizona and Hawaii, based on its assessment that 82% and 86% of the population in each respective state is covered by jurisdictions that have adopted codes that can be analyzed using its methodology. However, it does not include the level of stretch code adoption in Massachusetts, so we have adjusted Massachusetts' score in the summary table above, though not below. See www.energycodes.gov/status for more information.

[26] Montana has done so with amendments that significantly weaken the code, with DOE assessing the amended code to achieve energy efficiency equivalent to the 2009 IECC.

United States have done so; local code adoption beyond the state-level codes are accounted for in DOE's code stringency analysis (see table 27). While in the *2022 State Scorecard* only 8 states had a commercial code with stringency equivalent to 90.1-2019, 18 states have reached the standard today.

Table 27. State scores for code stringency and building EUI

State	Residential code status	Adj EUI	Score	State	Commercial code status	Adj EUI	Score
California	2022 Building Efficiency Standards	N/A	4.0	California	2022 Building Energy Efficiency Standards	N/A	4.0
Vermont	IECC_2021 with amendments	0.572	4.0	Maryland	2021 IECC and 90.1-2019	0.557	4.0
Florida	IECC_2021 with amendments	0.658	4.0	Virginia	2021 IECC and 90.1-2019	0.567	4.0
Connecticut	IECC_2021 with amendments	0.676	4.0	Vermont	2021 IECC and 90.1-2019	0.577	4.0
Massachusetts	IECC_2021 with amendments	0.676	4.0	Illinois	2021 IECC and 90.1-2019	0.587	4.0
New Jersey	IECC_2021	0.676	4.0	Utah	2021-IECC and 90.1-2019	0.587	4.0
Illinois	IECC_2021 with amendments	0.679	4.0	Washington	Custom	0.593	4.0
Hawaii	IECC_2018 with amendments	0.687	4.0	Massachusetts	2018 IECC and 90.1-2016	0.606	4.0
Washington	Custom	N/A	4.0	Montana	2021 IECC and 90.1-2019	0.606	4.0
Maryland	IECC_2021 with amendments	0.689	3.5	Connecticut	2021 IECC and 90.1-2019	0.607	3.5
Colorado	Home rule	0.698	3.5	District of Columbia	90.1-2013	0.615	3.5
Oregon	IECC_2021 with amendments	0.725	3.0	New Mexico	2021 IECC and 90.1-2019	0.617	3.5
Nebraska	IECC_2018	0.735	3.0	Minnesota	90.1-2019	0.627	3.5
New Mexico	IECC_2021 with amendments	0.736	3.0	New Jersey	90.1-2019	0.627	3.5
New York	IECC_2018	0.738	3.0	Oregon	90.1-2019	0.627	3.5
Louisiana	IECC_2021 with amendments	0.739	3.0	Louisiana	2021-IECC and 90.1-2019	0.636	3.0
Pennsylvania	IECC_2018 with amendments	0.747	3.0	Ohio	2021 IECC and 90.1-2019	0.636	3.0

State	Residential code status	Adj EUI	Score
New Hampshire	IECC_2018	0.750	3.0
Maine	IECC_2015 with amendments	0.733	2.5
Delaware	IECC_2018	0.757	2.5
Virginia	IECC_2021 with amendments	0.764	2.5
District of Columbia	IECC_2015 with amendments	0.770	2.5
Minnesota	IECC_2012 with amendments	0.737	2.0
Montana	IECC_2021 with amendments	0.756	2.0
Texas	IECC_2015	0.782	2.0
Nevada	IECC_2018 with amendments	0.776	1.5
Iowa	IECC_2012 with amendments	0.781	1.5
Michigan	IECC_2015 with amendments	0.789	1.5
Alabama	IECC_2015 with amendments	0.806	1.5
Georgia	IECC_2015 with amendments	0.809	1.5
Ohio	IECC_2018 with amendments	0.817	1.5
West Virginia	IECC_2015 with amendments	0.829	1.5
Indiana	IECC_2018 with amendments	0.845	1.5
Rhode Island	IECC_2018 with amendments	0.857	1.5
North Carolina	IECC_2015 with amendments	0.858	1.0
Utah	IECC_2021 with amendments	0.891	1.0
Idaho	IECC_2018 with amendments	0.900	1.0

State	Commercial code status	Adj EUI	Score
Florida	2021 IECC and 90.1-2019	0.647	3.0
New York	2018 IECC and 90.1-2016	0.649	3.0
North Dakota	Home rule	N/A	3.0
Michigan	2015 IECC and 90.1.2013	0.657	2.5
Hawaii	Home rule	0.662	2.5
Pennsylvania	2018 IECC and 90.1-2016	0.665	2.0
Rhode Island	2018 IECC and 90.1-2016	0.666	2.0
Nebraska	2018 IECC and 90.1-2016	0.667	2.0
New Hampshire	2018 IECC and 90.1-2016	0.667	2.0
West Virginia	90.1-2013	0.674	2.0
Delaware	2018 IECC and 90.1-2016	0.675	2.0
Idaho	2018 IECC and 90.1-2016	0.679	2.0
Nevada	2018 IECC and 90.1-2016	0.682	2.0
Wisconsin	2015 IECC and 90.1-2013	0.689	2.0
Alabama	90.1-2013	0.696	2.0
Georgia	2015 IECC and 90.1-2013	0.696	2.0
Maine	2015 IECC and 90.1-2013	0.696	2.0
Texas	2015 IECC and 90.1-2013	0.696	2.0
North Carolina	2015 IECC and 90.1-2013	0.728	1.5
Colorado	Home rule	0.692	1.0

State	Residential code status	Adj EUI	Score	State	Commercial code status	Adj EUI	Score
Oklahoma	IECC_2018 with amendments	0.902	1.0	Kentucky	2012 IECC and 90.1-2010	0.818	1.0
Tennessee	IECC_2018 with amendments	0.924	1.0	Iowa	2012 IECC and 90.1-2010	0.823	1.0
Wisconsin	IECC_2009 with amendments	0.924	1.0	Tennessee	2012 IECC and 90.1-2010	0.839	1.0
South Carolina	IECC_2009	0.933	1.0	Indiana	90.1-2007	0.919	1.0
Kentucky	IECC_2009	0.942	1.0	South Carolina	2009 IECC and 90.1-2007	0.931	1.0
North Dakota	Home rule	N/A	1.0	Arkansas	2009 IECC and 90.1-2007	0.935	1.0
Arkansas	IECC_2009 with amendments	0.975	0.5	Missouri	Home rule	N/A	1.0
Alaska	None statewide	N/A	0.0	South Dakota	Home rule	N/A	1.0
Arizona	Home rule	N/A	0.0	Oklahoma	2006 IECC and 90.1-2004	1.059	0.5
Kansas	Home rule	N/A	0.0	Alaska	None statewide	N/A	0.0
Mississippi	None statewide	N/A	0.0	Arizona	Home rule	N/A	0.0
Missouri	Home rule	N/A	0.0	Kansas	Home rule	N/A	0.0
South Dakota	Home rule	N/A	0.0	Mississippi	None statewide	N/A	0.0
Wyoming	Home rule	N/A	0.0	Wyoming	Home rule	N/A	0.0

N/A: Indicates that building EUI is unavailable. Score is based solely on code instead.

**Arizona, Massachusetts, and Hawaii: A review of the codes in place in jurisdictions across the state indicates that over 80% of the population is covered by codes at this level.*

Energy Code Compliance Study

It is difficult to score states in this area because consistent data on actual compliance rates are lacking, and other compliance metrics are largely qualitative. Still, we continue to seek ways to score states in a manner that reflects meaningful efforts to increase energy savings through improved code compliance. Here, we award 2 points if a state has completed a code compliance study in the past five years (or currently has one underway) that followed standardized protocols and statistically significant sample sizes. A state can earn 1 point under this credit in two ways. The first is whether a state has performed a compliance study in the past five years (or has one currently underway) that does not follow standardized protocols or is not statistically significant. We alternatively award 1 point if a state has significant state- or utility-funded code compliance improvement programs; we use our discretion in evaluating what is "significant," so there is some subjectivity here. For more information on state

compliance efforts, visit ACEEE's State and Local Policy Database.[27] Table 28 shows our scoring methodology for assessing state compliance studies and the states' scoring under each category.

Table 28. Scoring of state efforts to assess compliance

Compliance study	Qualifying states	Score (2 pts.)
Compliance study has been completed in the past five years (or is currently underway), follows standardized protocols, and includes a statistically significant sample.	Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Nevada, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Washington	2
Compliance study has been completed in the past five years (or is currently underway) but does not follow standardized protocols or is not statistically significant. *OR* State- or utility-funded programs exist to improve energy code compliance	Maryland, New Jersey, Ohio, Texas, Vermont	1
No compliance study has been completed in the past five years.	*All other states*	0

Stretch Code Adoption

Statewide stretch codes allow local jurisdictions to easily adopt minimum energy efficiency requirements that go beyond the provisions of the base code. These have traditionally been state specific, but IECC 2021 includes appendices that states and jurisdictions can adopt to go beyond the normative provisions of the model code. Table 29 summarizes our scoring methodology for stretch codes, which includes both credit for stretch code availability and implementation and deductions where states prevent local jurisdictions from adopting stretch codes. As the table shows, few states have developed or adopted stretch codes to date; however, stretch codes have significant potential to drive down energy usage in new buildings and are included to benchmark states in their pursuit of this strategy.

Table 29. Scoring of state stretch code adoption

Assessment of stretch code policies	Qualifying states	Score
States with a stretch code and supporting local jurisdiction adoption	California, Colorado, Hawaii, Maine, Maryland, Massachusetts, New York, Vermont	1
States with significant local adoption of energy codes beyond state minimum requirements	Arkansas, Delaware, District of Columbia, Washington	0.5

[27] Available at https://database.aceee.org.

Assessment of stretch code policies	Qualifying states	Score
and/or support to do so (e.g., funding or available stretch/reach codes)		
States without a stretch code, but with no policy barriers to jurisdictions adopting their own	*All other states*	0
States that allow jurisdictions to adopt energy codes less stringent than the statewide energy code *OR* States with restrictions or policy barriers to jurisdictions adopting energy codes more stringent than the statewide energy code	Alabama, Connecticut, Idaho, Kentucky, Louisiana, Michigan, Minnesota, New Jersey, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Virginia, West Virginia, Wisconsin	–0.5
States meeting both criteria for a 0.5 point reduction	None	-1

***The District of Columbia's Appendix Z provides a Net-Zero-Energy code compliance path that operates as a reach code. Because of the District of Columbia's unique situation vis-à-vis the states and the strength of Appendix Z, we have awarded 0.5 points.**

Zero-Energy Buildings

The New Buildings Institute tracks verified and emerging (i.e., not yet proven but in operation) zero-energy commercial and multifamily building (ZEB) projects throughout the United States (NBI 2024).[28] For this metric, we considered only verified ZEBs and computed the total floor area of verified ZEBs for each state. We then normalized the total floor area by the 2017–2021 average gross domestic product (GDP) for the construction industry in each state to account for the different amount of construction activity in each state (scaling largely, but not solely, with population) (Bureau of Economic Analysis 2024). This ZEB rating is then compared across states.

Our scoring results in table 30 show South Carolina to have the highest ZEB rating—driven entirely by five zero-energy schools in Myrtle Beach.[29] California comes in second but is the faraway leader in total number of verified ZEBs and square footage (with its ZEB rating mitigated by its sheer size and construction activity). Most states have at least one ZEB, and there is no clear threshold at which credits should be awarded here. We awarded 1 point to states that achieved a ZEB rating of 5 or above, which includes about one-fourth of all states, as table 30 shows. Since the *2022 State Scorecard,* two states (Hawaii and Washington) have lost their half point due to a rising construction GDP without increased ZEB floor area.

[28] Emerging projects are those that have not yet achieved zero-energy status, or those for which NBI does not have data to verify zero-energy performance (NBI 2024).

[29] Massachusetts supplied independent data during external review showing significantly higher levels of ZEB square footage than is present in the NBI data. That is included in the scoring, but not the rating.

Table 30. Zero-energy buildings scoring

State	Verified ZEBs	Verified ZEB floor area (1,000 sf)	Construction industry GDP (billion $)	ZEB rating	Score
South Carolina	5	783,359	$16,154.66	48.5	1
California	55	4,564,771	$148,710.95	30.7	1
Kentucky	3	230,757	$10,588.76	21.8	1
Vermont	4	30,152	$1,464.66	20.6	1
Maryland	5	434,253	$30,413.32	14.3	1
Connecticut	4	120,369	$9,158.62	13.1	1
North Carolina	5	389,796	$33,963.33	11.5	1
Colorado	3	301,610	$29,909.28	10.1	1
Utah	2	169,570	$19,280.88	8.8	1
Wisconsin	2	138,480	$18,319.72	7.6	1
Virginia	5	224,906	$32,317.49	7.0	1
Oregon	8	94,318	$15,248.02	6.2	1
Massachusetts	N/A	19,400,000	N/A	N/A	1
Washington	7	151,246	$33,213.65	4.6	0
Hawaii	3	26,863	$6,346.14	4.2	0
Illinois	3	105,900	$37,362.49	2.8	0
Maine	1	8,200	$3,103.68	2.6	0
Iowa	2	26,800	$10,760.37	2.5	0
Idaho	1	14,800	$6,700.36	2.2	0
Arkansas	1	13,342	$6,694.63	2.0	0
Ohio	3	54,500	$33,190.29	1.6	0
Pennsylvania	5	58,152	$37,539.33	1.5	0
New York	6	96,297	$64,672.10	1.5	0
Delaware	1	3,121	$3,550.28	0.9	0
New Jersey	1	19,991	$26,903.88	0.7	0
Minnesota	2	15,095	$22,154.51	0.7	0
Georgia	2	25,314	$38,967.47	0.6	0
Florida	7	51,776	$80,816.30	0.6	0
Arizona	1	16,533	$27,148.80	0.6	0
Missouri	2	11,328	$18,646.73	0.6	0

State	Verified ZEBs	Verified ZEB floor area (1,000 sf)	Construction industry GDP (billion $)	ZEB rating	Score
Indiana	3	10,661	$22,464.51	0.5	0
Texas	3	47,456	$116,291.70	0.4	0
Nevada	2	6,620	$18,218.98	0.4	0
Michigan	1	8,750	$24,184.15	0.4	0

Benchmarking and Energy Transparency Requirements

Energy transparency policy requirements, building types covered, and minimum applicable square footage vary across states. This credit is assigned 1 point, and table 31 summarizes both the state policies and the scoring. All states with mandatory energy use benchmarking and transparency laws applying to privately owned buildings received 1 point; we have awarded points where benchmarking and transparency laws have passed, even if the first benchmarking period is later than the publication of this report. One increasingly common transparency measure is requiring home sellers to disclose energy usage to would-be buyers or at the time of sale.

Table 31. State benchmarking and energy transparency policies*

State	Disclosure type	Building energy use transparency requirements	Score (1 pt.)
Alaska	Residential	Alaska statute AS.34.70.101 requires the release of utility data for residential buildings at the time of sale.	1
California	Commercial, multifamily residential	AB 1103 required nonresidential building owners or operators to benchmark their buildings' energy use with ENERGY STAR Portfolio Manager and to disclose this information to buyers, lenders, and lessees. AB 802 replaces this legislation and expands the requirement to any building with five or more active utility accounts, including residential multifamily buildings.	1
Colorado	Commercial, multifamily residential	The Energy Performance for Buildings Statute (HB 21-1286) requires owners of large commercial, multifamily, and public buildings 50,000 square feet or greater to annually report their whole-building energy use to the Colorado Energy Office beginning	1

State	Disclosure type	Building energy use transparency requirements	Score (1 pt.)
		December 1, 2022, and annually by June 1 thereafter.	
District of Columbia	Commercial, multifamily residential	The Clean and Affordable Energy Act of 2008 requires privately owned commercial buildings to be benchmarked annually using ENERGY STAR Portfolio Manager. Results are publicly available in the BuildSmart DC database. The Clean Energy DC Omnibus Amendment Act of 2018 lowered the building floor area threshold and set new requirements for third-party verification every three years.	1
Hawaii	Residential	§508D-10.5 requires residential property owners to disclose energy-efficiency consumer information at the time of sale or lease.	1
Maine	Residential rental	H.P. 1468 requires the disclosure of an energy efficiency checklist to tenants or lessees and allows for the release of audit information of residential rental properties. In 2023, the Maine Legislature enacted LD 1101, requiring Efficiency Maine to establish a home energy scoring system for residential buildings, which is currently under development.	1
Maryland	Commercial, multifamily residential	Maryland's building performance standard law (Chapter 38 of the Acts of the Maryland General Assembly of 2022) requires that commercial, multifamily residential, and state-owned buildings greater than 35,000 square feet measure and report direct emissions to the Department of the Environment beginning in 2025.	1
Massachusetts	All large buildings	The Act Driving Clean Energy and Offshore Wind of 2022 requires disclosure of electricity and fuel use for buildings greater than 20,000 square feet starting in 2024. The floor area threshold may be reduced through future regulation by the Department of Energy Resources.	1

State	Disclosure type	Building energy use transparency requirements	Score (1 pt.)
Minnesota	Buildings over 50,000 square feet	Minnesota Statute requires benchmarking of annual energy usage starting in 2025 for properties larger than 50,000 square feet. These data must be reported to the Department of Commerce and the commissioner must rank the properties by energy usage and disclose data from covered properties to the public. Upon sale of a covered commercial property, the owner must disclose energy data for the previous 12-month period.	1
New Jersey	Commercial	The Clean Energy Act of 2018 requires benchmarking of energy and water data by owners and operators of commercial buildings over 25,000 sq. ft. using EPA Portfolio Manager, beginning with 2022 data.	1
New York	Residential and publicly owned	The Truth in Heating law requires the release of utility data of residential buildings at the time of sale or rental. State-owned facilities over 25,000 square feet must annually benchmark and disclose EPA Portfolio Manager scores.	1
Oregon	Commercial	In 2023, the Oregon Legislature passed House Bill 3409, establishing an Energy Performance Standard policy for commercial buildings that includes benchmarking requirements.	1
Washington	Commercial	SB 5854 (2009–10) requires owners of nonresidential buildings larger than 10,000 square feet and qualifying public agency buildings to benchmark their buildings' energy use with ENERGY STAR Portfolio Manager and to disclose this information to buyers, lenders, and lessees.	1

***Policy information is based on responses to data requests from state energy offices.**

Existing Building Performance Standards

The new building energy codes described above address efficiency in new construction. However, the climate imperative—and the fact that today's buildings will account for the majority of building energy usage for decades to come—have motivated cities and states to set their sights on existing buildings. A BPS sets a ceiling on a building's annual energy usage or associated GHG emissions and ratchets down this limit over time. Buildings that exceed the limit generally must pay a penalty, though the structure of that penalty varies. A BPS typically applies only to large commercial and multifamily buildings, but states and jurisdictions are exploring approaches for other buildings. These mandatory standards promote energy efficiency retrofits by requiring existing buildings to meet a performance benchmark.

Though more common among cities, interest in these standards is also growing among states. While no states yet have a fully operational BPS, three states and the District of Columbia have passed BPS legislation. As we now describe, each of these efforts is in various stages of implementation, earning up to 4 points under this credit.

Washington was the first state to pass legislation establishing a statewide BPS in 2019. The BPS applies to commercial buildings larger than 50,000 square feet and sets targets equivalent to 15% less than 2009–2018 average energy usage intensity (EUI). BPS rules were finalized at the end of 2020; mandatory compliance begins in 2026, and an early adopter incentive program started in July 2021. A bill signed on March 25, 2022, expands the BPS to buildings greater than 20,000 square feet and includes multifamily buildings; benchmarking is to begin in 2027 with mandatory rules taking effect in 2031 (Washington State Department of Commerce 2022).

Colorado passed a BPS bill in 2021 that put it on a path to be the second state to adopt such a standard. HB 1286 requires annual energy reporting for Colorado's large buildings (over 50,000 square feet) and development of a performance standard to reduce GHG emissions from these structures 20% by 2030 relative to 2021 levels (Colorado General Assembly 2021).[30]

Maryland became the third state to pass a statewide BPS in 2022. The law is unique in that it applies only to "direct GHG emissions"—that is, emissions produced on-site and not from electricity generation. It applies to buildings greater than 35,000 square feet and directs the Department of the Environment to develop performance standards to achieve a 20% reduction in direct GHG emissions between 2025 and 2030, with a net-zero direct GHG emissions target before 2040 (Maryland General Assembly 2022).

The **District of Columbia** created a BPS in 2018, with a task force recommending rules and establishing limits for Source EUI by building type. The first BPS compliance cycle ends December 31, 2026 (DC DoEE 2024). The District of Columbia's Affordable Housing Retrofit Accelerator is also offering technical and financial assistance for affordable multifamily buildings to meet BPS performance requirements (DCSEU 2024).

[30]Cities that have adopted such requirements include New York City; Boulder, Colorado; and St. Louis; along with the District of Columbia. Some jurisdictions are supplementing energy consumption metrics with carbon and GHG emissions metrics. For instance, New York City's Climate Mobilization Act requires buildings of more than 25,000 square feet to cut their carbon emissions by 40% from 2005 levels by 2030 and by more than 80% by 2050. This legislation includes sizable fines for failure to meet the requirements. Boston's Building Energy Reporting and Disclosure Ordinance, enacted in 2013 and amended in 2021, gives the city authority to set carbon limits for large existing buildings. These will decrease over time, with all buildings achieving net-zero emissions by 2050.

Oregon passed a BPS in 2023, targeting commercial and multifamily buildings with at least 20,000 square feet. The first data disclosures are not due until 2028, with stakeholder engagement beginning in 2025. The rule separates buildings into two separate tiers, based on use and size (ODOE 2024).

California is in the process of developing a BPS. Governor Gavin Newsom joined the White House-led National Building Performance Standards Coalition in 2022, with SB 48 that codified the process of developing the standards into law in 2023. The CEC is in the process of stakeholder engagement, and will present its report to the legislature in August 2026 (California Energy Codes & Standards 2024). As the development of the BPS is underway, California receives 1 point under this metric.

Electrification Enabling Policies

Efficient electric space heating, water heating, and cooking—all supplied by an increasingly low-carbon electric grid—is the most widely applicable approach to achieve the deep emissions reductions needed from building end uses that currently rely on fossil fuels. Given the opportunity that fuel switching creates to cost effectively reduce emissions, many states are increasingly motivated to update policies to enable beneficial electrification. However, other states have enacted legislation that explicitly prohibits state energy programs or local jurisdictions from encouraging fuel switching. This metric recognizes those states that have adopted specific legislation or utility regulations that enable use of energy efficiency funds to incentivize beneficial electrification measures by removing fuel-switching restrictions, realigning savings goals around fuel-neutral or carbon savings targets, and updating EM&V practices to account for the full set of benefits of these types of measures.

Table 32 summarizes and scores states on the status and types of fuel-switching rules currently in place. For additional state-specific policy details and references, please see ACEEE's policy brief, *State Policies and Rules to Enable Beneficial Electrification* (Berg 2022).

Table 32. Scoring of state fuel-switching policies

Fuel-switching policy status	Qualifying states	Score
Energy-efficient fuel switching or fuel substitution is incentivized or encouraged through clear utility regulations/guidelines or fuel-neutral goals for use of efficiency funding	Alaska, California, Colorado, District of Columbia, Illinois, Maine, Massachusetts, Minnesota, New York, Tennessee, Vermont, New Jersey	2
Supportive policies in place, with additional specific guidance/rules pending	Connecticut, Maryland, Wisconsin	1
No fuel-switching or substitution policy or programs, or both fuel-switching restrictions and supportive policies	All other states*	0
Use of efficiency funds for fuel switching or substitution prohibited or discouraged	Arizona,‡ Arkansas, Kansas, Louisiana,‡ Oklahoma,^ Pennsylvania, South Carolina,‡ Texas,† Virginia,‡ Washington, West Virginia‡	–1

***Utilities or program administrators have received approval in certain cases in Alabama, Delaware, Georgia, Michigan, New Hampshire, and Rhode Island. ^Oklahoma has an exception that allows for switching from electric to natural gas. †Texas has an exception for high-efficiency combined heating and air-conditioning systems. ‡States that also received a point for having high heat pump penetration, for a final score of 0.**

In this most recent *Scorecard*, we include a metric to reward the frequency of heat pumps in each state's housing stock. For this, we constructed an estimate of the percentage of homes in each state with a heat pump installed using the Residential Energy Consumption Survey (RECS) 2020 data (EIA 2020). States that had over 20% heat pump saturation were awarded a bonus point. Interestingly, of the 13 states that were awarded for their heat pump saturation, five had fuel-switching restrictions. Table 33 includes the heat pump frequency and fuel-switching restrictions for those 13 states.

Table 33. Heat pump frequency and fuel-switching restrictions

State	Heat pump frequency	Fuel-switching restrictions?
South Carolina	42%	Yes
Alabama	39%	No
North Carolina	39%	No
Tennessee	36%	No
Florida	32%	No
Mississippi	30%	No
Virginia	29%	Yes
Georgia	27%	No
Arizona	26%	Yes
Kentucky	23%	No
Delaware	22%	No
Louisiana	21%	Yes
West Virginia	20%	Yes

Minimum Energy Performance Standards for State Housing-Agency-Funded Projects

State housing finance agencies (HFAs) sometimes set energy efficiency goals for the projects they fund, which are generally residences of low-income households. In this metric, we award 1 point to states with significant minimum energy performance standards for HFA-funded new construction and rehabilitation projects, such as a minimum Home Energy Rating System (HERS) score threshold[31] or another performance-based certification (e.g., ENERGY STAR whole-building standards and green building rating systems with strong energy efficiency requirements). We also considered similar state-specific standards that we determined to meet or exceed the 2021 IECC, as well as states with residential energy codes at this level according to DOE's analysis (DOE 2022). A half point is given for states with affordable housing–specific standards that do not meet this criteria but that do exceed the state's residential energy code. Table 34 summarizes the relevant information and point allocation.

[31] The Home Energy Rating System (HERS) Index is an energy performance scoring framework developed by Residential Energy Services Network (RESNET). It has been in use since 2006 and is a common comparison measure for residential energy performance, including by the Department of Energy for certain certification purposes (RESNET 2022).

Table 34. Energy performance standards for state housing agency–funded projects

State	HERS score requirement	ENERGY STAR whole-building performance requirements	Threshold IECC code year	Other minimum requirement	Percentage improvement required for rehabilitation	Score
Alaska				AFHC Building Energy Efficiency Standard		1
Arizona	65 HERS score				15% HERS score reduction for rehab projects	1
California				CALGreen Codes (reference CEC 2019 standards)		2
Colorado				Either: National Green Buliding Standard (NGBS), Leadership in Energy and Environmental Design (LEED) or Enterprise Green Communities		2
Connecticut	70 HERS (rehab); 42–50 HERS, depending on tier (new constr.)			Connecticut Housing Finance Authority Standards and Guidelines, coordination with EnergizeCT	15–35% depending on tier	2
District of Columbia				Enterprise Green Communities		2
Georgia				Either: EarthCraft, Enterprise Green Communities, LEED for Homes, or NGBS (bronze)		2
Idaho				Either: LEED for Homes, NW Energy Star, ICC 700 NGBS, Enterprise Green Communities, Indoor Air Plus,		2

State	HERS score requirement	ENERGY STAR whole-building performance requirements	Threshold IECC code year	Other minimum requirement	Percentage improvement required for rehabilitation	Score
				or Passive House Institute		
Illinois			Statewide adoption of 2021 IECC			2
Indiana				Either: LEED for Homes, NGBS (bronze), Enterprise Green Communities, or an equivalent certification approved by American National Standards Institute (ANSI)		2
Iowa	70	Energy Star New Homes or Energy Star Multifamily New Construction				2
Kentucky			2012 IECC			1
Maine			2021 IECC			2
Maryland		Energy Star New Homes or Energy Star Multifamily New Construction			15% reduction for rehab projects	2
Massachusetts	55	Energy Star New Homes or Energy Star Multifamily New Construction		Passive House Institute		2
Minnesota				Enterprise Green Communities Certification, with MN overlay		2
New Hampshire		Energy Star New Homes or Energy Star Multifamily New Construction				2

State	HERS score requirement	ENERGY STAR whole-building performance requirements	Threshold IECC code year	Other minimum requirement	Percentage improvement required for rehabilitation	Score
New Jersey		Energy Star New Homes or Energy Star Multifamily New Construction			ASHRAE Level 2 Audit with targeted 15% savings	2
New Mexico	65 HERS (rehab), 55 HERS for new construction					2
New York		ENERGY STAR Certified Homes, Multifamily High Rise program, or Multifamily New Construction		Either: NYSERDA programs, EPA ENERGY STAR programs, Enterprise Green Communities Criteria, or other strategies for rehabilitation projects		2
North Carolina		ENERGY STAR Multifamily New Construction Program certification				2
Ohio		ENERGY STAR Multifamily New Construction Program certification		Either: Enterprise Green Communities, LEED*, or National Green Building Standard certification		2
Oregon				Oregon State Energy Code + solar-ready multifamily		1
Pennsylvania				Must pursue one of several certifications with EE requirements		2

State	HERS score requirement	ENERGY STAR whole-building performance requirements	Threshold IECC code year	Other minimum requirement	Percentage improvement required for rehabilitation	Score
Rhode Island				NGRID RNC* Tier I Standard	15–25% reduction for Tier I Standard	2
South Dakota				Minimum standards under South Dakota Housing		1
Tennessee				Minimum requirements under Tennessee Housing Development Agency's Low Income Housing Credit 2022 Qualified Allocation Plan		1
Texas			2018 IECC			2
Utah				Must pursue one of several certifications with EE requirements		2
Vermont				Efficiency Vermont's High-Performance Track standard		2
Virginia		Energy Star New Homes or Energy Star Multifamily New Construction				
Washington				Evergreen Sustainable Development Standard		2
All other states						0

*Sources: Data from survey of state energy offices, survey of state housing finance agencies, and ACEEE research of publicly available data. * LEED = Leadership in Energy and Environmental Design. NGRID RNC = National Grid Residential New Construction. LIHTC = Low Income Housing Tax Credits.*

State Efforts to Remediate Health/Safety Deficiency Barriers to Weatherization in Low-Income Households

DOE's WAP funds energy efficiency improvements in low-income households and is administered by the states. However, a home's health and safety issues can render it ineligible for WAP funding. Several states have programs to address these barriers, often referred to as "Pre-WAP" programs. Because inefficient homes of low-income families often have other, non-energy-related issues, such programs can help ensure that households that would benefit most from weatherization are eligible for such support. This new metric assesses states' efforts to remediate issues that could prevent low-income households from accessing funding through weatherization programs. Only state-sponsored programs are evaluated here; local government and utility programs may be available in some locations.

States operating a program specifically designed to remediate health, safety, and other barriers to WAP funding receive 2 points. Absent such a program, states that formally coordinate similar goals with other state programs providing healthy homes services receive 1 point. Table 35 describes targeted state programs and coordination with other programs, as well as the point allocation for each state under this metric. Twenty-two states have a designated program to address residential health and safety repairs. Vermont is developing such a program and is awarded 1 point for that effort. Nine other states have alternative programs that address some of the barriers addressed by Pre-WAP or coordinate with other programs to achieve similar goals.

Table 35. State programs and investments to remediate health and safety barriers to weatherization in low-income households

State	Brief description	Score
Connecticut	Residential Energy Preparation Services (ICAST)	2
Delaware	Lead-Free Healthy Homes Program (HFA, Division of Public Health); Pre-WAP program (Delaware Sustainable Energy Utility, state WAP office)	2
District of Columbia	Single Family Residential Rehabilitation Program (roof repairs and accessibility); Safe At Home program (trip-and-fall and preventative adaptations); other DHCD-funded CBOs	2
Indiana	Pre-WAP (State WAP office)	2
Illinois	Climate and Equitable Jobs Act requires utilities to invest in health and safety improvements for weatherization	2
Kansas	Residential Lead Hazard Prevention Program; Kansas Healthy Homes Program	2
Maine	Home Repair Program	2
Maryland	Maryland Housing Rehabilitation Program; Indoor Plumbing Program; Accessible Homes for Seniors Program; both health services initiative programs (HSI): Lead Hazard Reduction and Healthy Homes for Healthy Kids	2
Massachusetts	Mass Save low-income program barrier mitigation funding	2
Minnesota	Lead-related HSI Healthy Asbestos Insulation Removal (AIR) account and pre-weatherization funding set up by the Eco Act	2

State	Brief description	Score
	The Energy Conservation & Optimization Act of 2021 allows pre-weatherization measures for inclusion in energy efficiency low-income programs. Up to 15% of a utility's spending on energy efficiency low-income programs may be spent on pre-weatherization measures.	
Nevada	Nevada Healthy Homes Program	2
New Hampshire	Lead and Healthy Homes Program	2
New Jersey	Hospital Partnership Subsidy Program Whole House Pilot Program	2
New York	NYSERDA Value-Based Services Payment Healthy Homes Pilot; Resilient Retrofit program	2
North Carolina	Essential Single-Family Rehabilitation Program	2
Ohio	Pre-WAP funded by Low Income Home Energy Assistance Program (LIHEAP)	2
Oregon	Healthy Homes Program	2
Pennsylvania	Pre-WAP funded by LIHEAP	2
Rhode Island	RIHousing's Lead Safe Homes Program	2
Texas	Amy Young Barrier Removal Program (grant to remove hazardous conditions and increase accessibility)	2
Vermont	Weatherization + Health Initiative (WHI)	2
Virginia	Emergency Home and Accessibility Repair Program; Indoor Plumbing Rehabilitation	2
Washington	Home Rehabilitation Grant Program	2
California	Several programs related to improving health conditions in homes	2
Colorado	Colorado's WAP and Xcel Energy’s Demand-Side Management program have funds for use in minor health and safety repairs	1
Louisiana	HUD-funded Lead Hazard Control & Healthy Homes Program	1
Michigan	Lead-related HSI	1
Missouri	Lead-related HSI	1
Montana	LIHEAP funds used to implement conservation measures on a limited basis.	
Oklahoma	Childhood Lead Poisoning Prevention Program (state health dept.)	1
South Dakota	Developers can apply for grant funding from the South Dakota Housing for abatement of lead-based paint	1
Tennessee	Tennessee Valley Authority (TVA) Home Uplift	1
Washington	Weatherization + Health Initiative	1
All other states	None identified	0

Zero-Energy Buildings and Electrification in Affordable Housing/Construction

Universal programs targeting deep energy and emissions reductions from buildings could create new inequities given structural barriers that may prevent low-income households from accessing such programs and thereby steer investment toward well-resourced households. In this new metric, we evaluate state programs that specifically target affordable housing for zero-energy buildings and electrification.

Modular home programs are becoming more common, with Vermont now joined by Delaware and South Dakota. Rhode Island has a pilot program that, if made permanent, could represent the leading edge for such programs. District of Columbia's Low-Income Decarbonization Program includes a broad set of measures on a path toward zero-energy homes for low-income households, including electrification.

Here, we award 0.5 points each for the zero-energy affordable housing and low-income household electrification programs noted above. We are awarding Minnesota 0.5 points total because it has incentives for both new construction and existing buildings, but those incentives are only through the point allocation system in its qualified allocation plan. Policy and program developments around zero-energy homes and electrification in affordable housing are rapidly evolving. This area has seen significant growth since the *2022 Scorecard*, with more than twice as many states getting points under this category. Table 36 includes scores and information for zero-energy buildings and electrification programs in affordable housing.

Table 36. Zero-energy buildings and electrification in affordable housing

State	Zero-energy home program	Electrification program	Score
Delaware	Energize Delaware's ZEMod program	Energy Equity Fund	1
District of Columbia	DCSEU's Low-Income Decarbonization Program: fuel switching to electric end uses for heating, ventilation, and air-conditioning (HVAC), and cooking; solar photovoltaic installation		1
Maine	2022 Efficiency Maine Pilot Program	Low Income Initiative; Electric Vehicle Initiative	1
Massachusetts	Affordable Housing Development Grant Program	Mass Save	1
Rhode Island	Zero Energy for the Ocean State (RIHousing)		1
Wisconsin	Focus on Energy	Focus on Energy	1
California		Multifamily Finance Super Notice of Funding Availability (Super NOFA)	1

State	Zero-energy home program	Electrification program	Score
New Jersey	New Jersey Clean Energy Program's (NJCEP) New Construction Program	NJCEP's New Construction Program	1
Colorado		Transformational Affordable Housing Loan Fund	0.5
Florida		Florida Housing Finance Corporation requires efficient building features	0.5
Hawaii	Kaupuni Village		0.5
Iowa	Community Development Block Grant Disaster Recovery Housing Program		0.5
Maryland		SB528 provides grants for upgrades for low-income multifamily housing	0.5
Minnesota	Qualified Allocation Plan prioritizes Net Zero and Passive Houses, and allows for energy upgrades for existing homes		0.5
New Mexico		The 2021 Sustainable Building Tax Credit has carveouts for low-income residents	0.5
New York		Resilient Retrofit Program; NYSERDA pilot program	0.5
Oregon		Oregon Department of Energy's Energy Efficient Wildfire Rebuilding Incentive (EEWRI)	0.5
South Dakota		Community Home Improvement Program (CHIP)	0.5
Vermont		VerMod Program	0.5
Washington		High Efficiency Appliance Rebate (HEAR)	0.5

This increasing focus on ensuring that low-income households are included in leading edge building energy and emissions reduction programs is a hopeful sign that future *State Scorecards* will document new and more widely established programs under this credit.

Chapter 5. State-Government-Led Initiatives

Author: Stephanie Sosa-Kalter

Introduction

State legislatures and governors can advance energy efficiency policies and programs that affect the utilities, transportation, buildings, and industry sectors discussed in other chapters. They can also focus on cross-sector strategies that will establish clear and measurable statewide energy efficiency targets. In this chapter, we focus on energy efficiency initiatives that are designed, funded, and implemented by state entities, including energy offices, economic development agencies, and general services agencies.

In previous *Scorecards*, we have focused on three initiatives commonly undertaken by state governments: financial incentive programs for consumers, businesses, and industry; lead-by-example policies and programs to improve the energy efficiency of public facilities and fleets; carbon pricing policies, such as a carbon tax or cap and trade; and equity policies that advance energy efficiency programs in low-income or environmental justice communities. We continue these focus areas in this *Scorecard* and add a new metric on statewide emissions reduction goals.

Scoring and Results

States could earn up to 9 points in this policy area for the following:

- Financial incentives offered by state agencies (2 points)
- Lead-by-example policies (2 points)
- Carbon pricing policy (1 point)
- Dedication of carbon pricing revenues to energy efficiency equity initiatives (1 points)
- Statewide emissions reduction goal (1 point)
- Statewide energy burden reduction goal (1 point)
- Equity task force or dedicated staff for equity concerns (1 point)

Table 37 presents the overall results of scoring on state initiatives.

Table 37. Summary of scores for government-led initiatives

State	Financial incentives (2 pts.)	Lead by example (2 pts.)	Carbon and climate action (2 pts.)	State government and equity (3 pts.)	Total score (9 pts.)
California	2	2	2	3	9
Connecticut	2	2	2	3	9
Maine	2	2	2	3	9
Maryland	2	2	2	3	9
Massachusetts	2	2	2	3	9
New Jersey	2	2	2	3	9

State	Financial incentives (2 pts.)	Lead by example (2 pts.)	Carbon and climate action (2 pts.)	State government and equity (3 pts.)	Total score (9 pts.)
New York	2	2	2	3	9
Oregon	2	2	2	3	9
Rhode Island	2	2	2	3	9
Washington	2	2	2	3	9
Virginia	2	1.5	2	3	8.5
Vermont	2	2	2	2	8
Delaware	2	1.5	2	2	7.5
District of Columbia	2	2	1	3	8
Hawaii	1	2	1	3	7
New Hampshire	2	1	2	2	7
Florida	2	1.5	1	2	6.5
Minnesota	2	1.5	1	2	6.5
Pennsylvania	2	1.5	2	1	6.5
New Mexico	2	1	1	2	6
Colorado	2	1.5	1	1	5.5
Illinois	2	0.5	1	2	5.5
Wisconsin	2	0.5	1	2	5.5
Michigan	2	1	1	1	5
Tennessee	2	1	1	1	5
Alaska	2	0	0	2	4
Louisiana	2	1	1	0	4
North Carolina	2	1	1	0	4
Utah	2	2	0	0	4
Arizona	2	0.5	1	0	3.5
Arkansas	2	0.5	0	1	3.5
Kentucky	2	0.5	1	0	3.5
Indiana	2	1	0	0	3
Missouri	2	1	0	0	3
South Carolina	2	1	0	0	3
Texas	2	1	0	0	3

State	Financial incentives (2 pts.)	Lead by example (2 pts.)	Carbon and climate action (2 pts.)	State government and equity (3 pts.)	Total score (9 pts.)
West Virginia	2	1	0	0	3
Alabama	2	0.5	0	0	2.5
Georgia	2	0.5	0	0	2.5
Mississippi	2	0.5	0	0	2.5
Montana	2	0.5	0	0	2.5
Nevada	2	0	1	0	3
Idaho	2	0	0	0	2
Nebraska	2	0	0	0	2
North Dakota	2	0	0	0	2
Ohio	2	0	0	0	2
Wyoming	2	0	0	0	2
Iowa	1	0.5	0	0	1.5
Oklahoma	1	0.5	0	0	1.5
Kansas	0	0.5	0	0	0.5
South Dakota	0	0	0	0	0

Discussion

Financial Incentives

While utilities offer ratepayer-funded energy efficiency programs, many states also provide financial incentives to spur the adoption of technologies and practices in homes and businesses. These incentives can be administered by various state agencies but are most often coordinated by state energy offices. Incentives can take many forms: rebates, loans, grants, or bonds for energy efficiency improvements; income tax credits and deductions for individuals or businesses; and sales tax exemptions or reductions for eligible products. Financial incentives can lower the up-front cost and shorten the payback period for energy efficiency upgrades, shrinking two barriers for consumers and businesses seeking to make cost-effective efficiency investments. Incentives also raise consumer awareness of eligible products, encouraging manufacturers and retailers to market these products more actively and to continue to innovate. As economies of scale improve, prices of energy-efficient products fall, enabling the products to eventually compete in the marketplace without the incentives.

Scores for Financial Incentives

We gathered information about state incentives for energy efficiency improvements through our survey of state energy officials.

We did not give points in this category for utilities' customer-funded financial incentive programs, which are covered in Chapter 2. In this chapter, we included state appropriations or bonds, oil overcharge

revenues, auction proceeds from the RGGI or California's cap-and-trade program, other non-customer sources, and tax incentives. While state and customer funding sometimes overlap—for example, where state incentives are funded through a system benefits charge—we designed this category to capture energy efficiency initiatives not already captured in Chapter 2.

We also recognized growing state efforts to leverage private dollars for energy efficiency programs by awarding points for loans offered by green banks with active energy efficiency programs, and by giving credit for Property Assessed Clean Energy (PACE) financing programs enabled by state legislation. PACE is a mechanism for financing energy efficiency and clean energy investments through repayment on property tax assessments. From 2009 to 2023, energy efficiency projects accounted for 55% of commercial PACE funding (PACENation 2023a). State legislatures pass and amend legislation enabling residential or commercial PACE, and localities or private program administrators typically run the programs, depending on the jurisdiction.[32] Sometimes states play a more prominent role in PACE coordination by administering a statewide program or offering guidance to PACE providers (Fazeli 2016). Because programs are usually locally administered, we did not give extra credit for multiple active PACE programs. We indicate in table 38 whether state PACE activity is in the residential or commercial market or both.

Green Banks

States are increasingly leveraging private capital alongside public dollars to incentivize energy efficiency. One way of doing this is through green banks, which can overcome barriers faced by consumers and lenders in financing energy efficiency and renewable energy projects. While we do not currently give credit solely for the establishment of a green bank, we recognize the important contribution they make to incentivizing energy efficiency.[33] These financing institutions offer public dollars and leverage private funds to unleash new investment, reduce costs, and increase consumer demand in the clean energy sector. In addition, green banks often provide technical assistance to clean energy projects across sectors to help consumers understand available funding streams and to simplify the process of purchasing efficiency technologies (CGC 2015).

To more accurately assess the impacts of financing programs offered by green banks, policymakers and program administrators should collect data—and standardize data collection efforts—on the following metrics:

- *Energy savings:* Independently evaluated energy savings achieved as a result of green bank investments
- *Leverage:* The ratio of private loan capital deployed and public or ratepayer funds used
- *Market penetration:* In particular, whether financing is available to low-income, multifamily, and other underserved markets
- *Coordination with utility programs:* The extent to which green banks and utilities coordinate program offerings

[32] Currently, 38 states and the District of Columbia authorize PACE (PACENation 2023b). While most states' PACE activity is in the commercial market, residential PACE is currently offered in California, Florida, and Missouri.
[33] While we credit evaluated savings from financing programs (including on-bill financing programs) in the utilities chapter, in this chapter we recognize financing programs such as green banks that leverage additional, non-ratepayer state resources.

States earned up to 2 points for major financial incentive programs that encourage the purchase of energy-efficient products.[34] We judged these programs on their relative strength, customer reach, and impact. Incentive programs received 1 point each, and states that have at least one active PACE program also earned 1 point. Table 38 shows our scoring of state financial incentives.

It is important to note that the number of financial incentive programs a state implements may not fully reflect the robustness of its efforts. Accordingly, we continued to ask for additional information from state energy offices regarding state budgets for financial incentives, program participation rates, verified savings from incentives, and leveraging of private capital.

Table 38. State scores for major financial incentive programs

State	Major state financial incentives for energy efficiency	Score (2 pts.)
Alabama	Alabama SAVES revolving loan program; EE Retrofit program; one grant and one loan; commercial PACE financing	2
Alaska	Three loan program; three grant programs; Energy Efficiency Interest Rate Reduction Program	2
Arizona	Property tax exemption for energy-efficient building components and CHP	2
Arkansas	Three loans; commercial PACE financing	2
California	California Infrastructure and Economic Development Bank–led bond program for public buildings; several grants; two revolving loans for public buildings; one loan loss reserve for small businesses; one rebate program; one tax incentive for advanced transportation technologies; commercial and residential PACE financing	2
Colorado	Loan loss reserve program; school loan program; Residential Energy Upgrade (RENU) Loan program; commercial PACE financing; several grants and tax credits	2
Connecticut	Connecticut Green Bank, several loans, two financing options, five grants, commercial PACE financing	2
Delaware	Four loan programs; two grant programs; two rebate programs	2
District of Columbia	Green Light Grant Program; commercial PACE financing; DC Green Bank	2
Florida	Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA); RESTORE Act; commercial and residential PACE financing	2

[34] Energy-efficient products include any product or process that reduces energy consumption. While renewable energy technologies such as solar hot-water heating may reduce energy consumption, they are often rolled into larger programs that focus on renewable energy rather than energy efficiency. ACEEE would like to credit states for renewable energy technologies that reduce energy consumption, but they are often difficult to distinguish from broader renewable energy incentives that fall outside the scope of the *State Scorecard*. As a result, we do not credit them at this time.

State	Major state financial incentives for energy efficiency	Score (2 pts.)
Georgia	Commercial PACE financing; Clean Water State Revolving Fund; Energy Efficiency and Conservation Block Grant; Home Energy Rebates	2
Idaho	Income tax deduction for energy efficiency improvements; one major low-interest loan program; Government Leading by Example (GLBE) program for public buildings in rural cities and counties	2
Illinois	Renewable Energy and Energy Efficiency Project Financing; Green Energy Loan program; commercial PACE financing	2
Indiana	Green Project Reserve revolving loan fund; Guaranteed Energy Savings Contract	2
Kentucky	Grants, loans, and bonds for farms, schools, and local governments; Kentucky Green Bank–funded loan for state government; sales tax exemption for energy-efficient products; commercial PACE financing	2
Louisiana	Home Energy Loan Program (HELP); Energy Fund Loan Program	2
Maine	Residential rebate and incentive; consumer products incentive; commercial and industrial incentive; heat pump incentive; weatherization program	2
Maryland	Loans and grant programs for agricultural, residential, multifamily, commercial, and industrial sectors; Smart Energy Communities program; loans for state agencies; commercial PACE financing	2
Massachusetts	Alternative Energy and Energy Conservation Patent Exemption (personal and corporate); one bond; several other grants; commercial PACE financing	2
Michigan	Several grants; commercial PACE financing	2
Minnesota	Four loans; three revolving loans; IRA rebates; commercial PACE financing	2
Mississippi	One loan program; one public-sector lease program for energy-efficient equipment; one private-sector grant for industrial energy efficiency	2
Missouri	One loan loss reserve; one revolving loan; commercial and residential PACE financing	2
Montana	Energy conservation installation tax credit; tax deduction for energy-conserving investment; Alternative Energy Revolving Loan Program; commercial PACE financing	2
Nebraska	Major loan program (Dollar and Energy Saving Loans); commercial PACE financing	2
Nevada	Property tax abatement for green buildings; Home Energy Retrofit Opportunities for Seniors (HEROS); loans for state employees; commercial PACE financing	2

State	Major state financial incentives for energy efficiency	Score (2 pts.)
New Hampshire	One revolving loan fund; one grant; NH Community Development Finance Authority; commercial PACE financing	2
New Jersey	Clean Energy Program, commercial PACE finance	2
New Mexico	Sustainable Building Tax Credit (corporate and personal); bond program; grant program	2
New York	Green Jobs–Green NY Program; loan, grant, financing, rebate, and incentive programs; Energy Conservation Improvements Property Tax Exemption; NY Green Bank; commercial PACE financing	2
North Carolina	One loan program; one cost savings program; PACE financing	2
North Dakota	Energy Conservation Grant; State Energy Program grant	2
Ohio	Three loans and six grant programs; property tax exemption for energy-efficient projects; commercial PACE financing	2
Oregon	Four grant programs; two rebate programs; commercial PACE financing	2
Pennsylvania	Alternative and Clean Energy Program; Sustainable Energy Finance Program; several grant and loan programs; commercial PACE financing	2
Rhode Island	Rhode Island Infrastructure Bank–led programs, including one revolving loan program and commercial PACE financing; five grants; five rebates	2
South Carolina	Tax credits and sales tax cap for new energy-efficient manufactured homes; two loan programs; mini-grants	2
Tennessee	Energy Efficient Schools Initiative (loans and grants); six grant programs; one loan program, Commercial PACE financing	2
Texas	Major loan program (Texas LoanSTAR); commercial PACE financing	2
Utah	Two loan programs for state-owned buildings and schools; commercial PACE financing	2
Vermont	Three Sustainable Energy Loan Fund programs; Energy Loan Guarantee Program; Weatherization Trust Fund; Heat Saver Loan; several grants	2
Virginia	One loan program; personal tax incentive; commercial PACE financing	2
Washington	Major grant program for energy efficiency in public facilities and local communities; several loans and grants; commercial PACE financing	2
West Virginia	West Virginia Division of Energy and WVU College of Engineering partnership; EE West Virginia; one mini-grant fund	2
Wisconsin	Energy Innovation Grant Program; commercial PACE financing	2
Wyoming	Three grant programs; one loan program	2
Hawaii	Green Energy Market Securitization (GEMS) financing program	1

State	Major state financial incentives for energy efficiency	Score (2 pts.)
Iowa	Energy Bank Revolving Loan Program, several grants	1
Oklahoma	Commercial PACE financing	1
Kansas	None	0
South Dakota	None	0

Leading and Trending States: Financial Incentives

New York. EmPower+ is the first state-launched Home Energy Rebate program, launched in May 2024. Empower+ uses the U.S. Dept. of Energy's Home Energy Rebate funding from the Inflation Reduction Act (IRA) and will help low-income households save energy and money towards energy improvements made to their homes.

Wisconsin. On August 2, 2024, Wisconsin launched its first Home Efficiency (HOMES) program, which will enable households at all income levels to save on energy efficiency improvements such as insulation, air sealing, and heat pumps that reduce whole-home energy consumption.

Colorado. In 2023 Colorado introduced the Public Building Electrification Grant, which allocated $10 million to provide public buildings with funding to explore and implement building system electrification measures and infrastructure upgrades required to support these technologies.

Alaska. Alaska launched the Renewable Energy-Village Energy Efficiency Program (Re-VEEP), which is an expansion of Alaska's Energy Authority's (AEA) Village Energy Efficiency Program. This program was established to reduce per-capita consumption through energy efficiency. RE-VEEP will award grants to eligible local governments to finance building-scale renewable energy, energy efficiency, and conservation projects in public buildings and facilities located in rural Alaska.

Lead by Example

State governments can advance energy-efficient technologies and practices in the marketplace by adopting policies and programs to save energy in public-sector buildings and fleets, a practice commonly referred to as *lead by example*. In the current environment of fiscal austerity, lead-by-example policies and programs are a proven strategy for improving the operational efficiency and economic performance of states' assets. Lead-by-example initiatives also reduce the negative environmental and health impacts of high energy use and promote energy efficiency to the broader public.[35]

States can show leadership in energy efficiency policy through the development of state energy plans, which most states have.[36] Governors can issue executive orders or form planning committees to evaluate state energy needs, goals, and opportunities.[37] Sometimes legislatures initiate the process and these actions help establish a statewide vision for energy use. We do not award points solely for the existence of a state energy plan, but we do consider the formal executive orders and policies that execute energy efficiency initiatives included in such plans.

[35] Energy efficiency limits harmful pollutants by reducing the need to burn fossil fuels to generate electricity. ACEEE and Physicians for Social Responsibility explore this connection in a joint fact sheet at aceee.org/fact-sheet/ee-and-health.
[36] See naseo.org/stateenergyplans.
[37] See ACEEE's *Energy Efficiency Toolkit for Governors* (2019) for more information: aceee.org/topic-brief/governors-ee-toolkit.

Scores for Lead by Example

States could earn up to 2 points in this category: 1 point for energy savings targets in new and existing state buildings, and 1 point for fleet fuel efficiency mandates. We based our review of states' lead-by-example initiatives on our survey of state energy officials as well as independent research.

State building requirements. Many states have adopted policies and comprehensive programs to reduce energy use in state buildings. State governments operate numerous facilities—including office buildings, public schools, colleges, and universities—and the energy costs of these facilities can account for as much as 10% of a typical government's annual operating budget. In addition, the energy consumed by a state's facilities can account for as much as 90% of its GHG emissions (DOE 2008). Only a handful of states have yet to implement an energy efficiency policy for public facilities. Mandatory energy savings targets for new and existing state government facilities are the most widely adopted state measures. These requirements encourage states to invest in the construction of new, efficient buildings and retrofit projects, lowering energy bills and promoting economic development in the energy services and construction sectors. States also work toward these energy savings targets through activities such as ESPCs, benchmarking, and state energy office technical assistance to other agencies.

To earn credit, energy savings targets must commit state government facilities to a specific energy reduction goal over a distinct time period. We also gave 1 point to states that require state buildings to exceed the statewide energy code or meet a green building criterion such as Leadership in Energy and Environmental Design (LEED) certification.

Efficient fleets. In addition to lead-by-example initiatives in state government buildings, many states enact policies encouraging or requiring efficient vehicle fleets to reduce fuel costs and hedge against rising fuel prices. Collectively, state governments own approximately 500,000 vehicles, with a median fleet size of approximately 3,500. Operation and maintenance costs for these fleets each year exceed $2.5 billion nationwide, ranging from $7 million to $250 million per state (NCFSA 2007). In response to these costs, states may adopt an efficiency standard specifically for state vehicle fleets that reduces fuel consumption and GHG emissions.

For this category, states received credit if their plan or policy for increasing fleet efficiency included clear and specific requirements. States could earn 0.5 points if the policy contained energy efficiency requirements for the state vehicle fleet, such as fuel efficiency improvements or procurement requirements for hybrid-electric or all-electric vehicles. This refers to mandatory obligations in the policy that improve fleet efficiency, excluding alternative fuels like biodiesel or ethanol. States could earn an additional 0.5 points if the policy included specific electrification requirements for the fleet, such as targets or mandates for increasing the number of electric vehicles in the state fleet. For example, states could qualify for 1 point if fleet policies specify fuel economy improvements that exceed existing Corporate Average Fuel Economy (CAFE) standards and set a specific target to electrify their state fleet. While the adoption of these targets and requirements is important, it does not guarantee achievement, and we will continue to track state progress toward meeting these goals. We may revisit this metric in the future to evaluate the actual achievement of the targets. Table 39 presents states' overall scores for lead-by-example efforts.

Table 39. State scores for lead-by-example initiatives

State	New and existing state building requirements	Efficient fleets	Score (2 pts.)
Alabama		•	0.5
Alaska			0
Arizona	•		0.5
Arkansas	•		0.5
California	•	•	2
Colorado	•	•	1.5
Connecticut	•	•	2
Delaware	•	•	1.5
District of Columbia	•	•	2
Florida	•	•	1.5
Georgia	•		0.5
Hawaii	•	•	2
Idaho			0
Illinois	•		0.5
Indiana	•		1
Iowa	•		0.5
Kansas	•		0.5
Kentucky	•		0.5
Louisiana	•	•	1
Maine	•	•	2
Maryland	•	•	2
Massachusetts	•	•	2
Michigan		•	1
Minnesota	•	•	1.5
Mississippi		•	0.5
Missouri	•	•	1
Montana	•		0.5
Nebraska			0
Nevada			0
New Hampshire	•	•	1
New Jersey	•	•	2

State	New and existing state building requirements	Efficient fleets	Score (2 pts.)
New Mexico	•	•	1
New York	•	•	2
North Carolina	•	•	1
North Dakota			0
Ohio			0
Oklahoma	•		0.5
Oregon	•	•	2
Pennsylvania	•	•	1.5
Rhode Island	•	•	2
South Carolina	•	•	1
South Dakota			0
Tennessee	•	•	1
Texas	•	•	1
Utah	•	•	2
Vermont	•	•	2
Virginia	•	•	1.5
Washington	•	•	2
West Virginia	•		1
Wisconsin		•	0.5
Wyoming			0

Carbon and Climate Action

Recent years have seen a surge in actions to strengthen GHG and renewable generation goals, including an increase in the number of states with 100% clean energy targets as well as emissions reduction goals. Accordingly, this metric examines state carbon pricing policies that have helped support and advance efficiency programs. These policies aim to put a price on carbon, the idea being that if emitting GHGs increases costs, then the market will find a way to reduce emissions at the lowest possible expense (Nadel, Gaede, and Haley 2021). States generally use two main types of pricing: a carbon tax and a cap-and-trade system. A carbon tax is a fee charged for each unit of CO_2 (typically a tonne) that is emitted. A cap-and-trade system sets a limit on the total amount of CO_2 that can be emitted and divides this total into emissions allowances. It then distributes these allowances among GHG-emitting companies, creating a market in which the certificates can be bought and sold.

Energy efficiency plays an important role in the successful implementation of carbon pricing policies. When the funds collected from these policies are invested in efficiency, they reduce energy use, energy bills, and energy-related emissions. That can help achieve net economic benefits and cushion the effect of a carbon pricing program on energy costs (Nadel, Gaede, and Haley 2021). For example, Regional

Greenhouse Gas Initiative (RGGI) states have dedicated approximately 51% of the funds they have raised from cap-and-trade activity to energy efficiency (RGGI 2023). That has resulted in decreased emissions, lower customer bills, lower wholesale power prices, new jobs, and a stronger local economy (Hibbard et al. 2018).

Because fossil fuels still account for a significant portion of utility-scale generation in the United States, expanding energy efficiency efforts can provide immediate reductions in emissions (Berg, Cooper, and Molina 2021). In addition, as renewable generation increases, energy efficiency can help optimize and reduce the amount and cost of renewable energy in three ways: by lowering overall electricity consumption, reducing peak demand, and enabling load flexibility and load shaping (by allowing grid operators to control system load and optimize grid performance). Finally, energy efficiency can help facilitate electrification by decreasing the amount of new generation needed as sectors shift to electricity, thus enabling decarbonization efforts while lowering system costs and mitigating ratepayer risks (Berg, Cooper, and Molina 2021).

Scores for Carbon and Climate Action

States could earn up to 2 points in this category: 1 point for having either a carbon tax or a cap-and-trade policy in place, and 1 point for having a statewide emissions reduction goal in place. Table 40 highlights the total scores for these metrics.

Table 40. State scores for carbon and climate action metrics

State	Carbon pricing policy	Statewide emissions reduction goal	Score (2 pts.)
Alabama			0
Alaska			0
Arizona		•	1
Arkansas			0
California	•	•	2
Colorado		•	1
Connecticut	•	•	2
Delaware	•	•	2
District of Columbia		•	1
Florida		•	1
Georgia			0
Hawaii		•	1
Idaho			0
Illinois		•	1
Indiana			0
Iowa			0
Kansas			0

State	Carbon pricing policy	Statewide emissions reduction goal	Score (2 pts.)
Kentucky		•	1
Louisiana		•	1
Maine	•	•	2
Maryland	•	•	2
Massachusetts	•	•	2
Michigan		•	1
Minnesota		•	1
Mississippi			0
Missouri			0
Montana			0
Nebraska			0
Nevada		•	1
New Hampshire	•	•	2
New Jersey	•	•	2
New Mexico		•	1
New York	•	•	2
North Carolina		•	1
North Dakota			0
Ohio			0
Oklahoma			0
Oregon	•	•	2
Pennsylvania	•	•	2
Rhode Island	•	•	2
South Carolina			0
South Dakota			0
Tennessee		•	1
Texas			0
Utah			0
Vermont	•	•	2
Virginia	•	•	2
Washington	•	•	2
West Virginia			0

State	Carbon pricing policy	Statewide emissions reduction goal	Score (2 pts.)
Wisconsin		•	1
Wyoming			0

State Government and Equity

An integral ACEEE focus area is the advancement of social equity principles in clean energy and efficiency planning, policy, and program design. Historically, energy efficiency initiatives have typically failed to adequately serve and represent marginalized groups, particularly low-income, historically underserved, and environmental justice communities. These individuals often face disproportionately high energy burdens—that is, they spend a larger percentage of their income on energy bills than their counterparts do (Drehobl, Ross, and Ayala 2020). High energy burdens affect physical and mental health, education, nutrition, job performance, and community development, and the effects will only worsen as climate change continues, leading to more indoor heat–related illnesses and death. Furthermore, these communities' underrepresentation in clean energy policymaking and planning means that many of the benefits of these policies do not equitably reach all communities.

ACEEE emphasizes addressing energy burden by including metrics that can help states reduce low-income households' energy burdens. The first equity-focused metric is state dedication of revenues to energy efficiency equity initiatives. Energy efficiency programs for low-income households are often supported by a diverse array of funding streams that may include federal, state, or ratepayer dollars. The programs may be administered by utilities, state governments, community action agencies, or other organizations. In Chapter 2, we specifically highlighted utility- and ratepayer-funded income-qualified programs; in practice, these programs often use other resources as well, since nonutility weatherization funding can be used to leverage ratepayer funds and vice versa. States themselves can do more by dedicating a portion of their revenues to energy efficiency equity initiatives. These revenues can come from the carbon pricing policy or, if a state does not have such a policy in place, from areas such as general state revenues or specific targeted revenue sources such as energy taxes. By investing these revenues—especially those gathered from carbon pricing policies—in low-income households and other underserved communities, states can ensure that benefits are equitably distributed and avoid placing disproportionate cost burdens on already disadvantaged communities.

States can invest carbon pricing policy funds into these underserved communities in several ways (Subramanian and MacPherson 2022). States can invest in pre-weatherization measures to help make homes eligible for existing weatherization and energy efficiency programs. They can establish a green bank to attract and leverage private capital to help fill gaps in project funding, such as for rural efficiency or clean energy projects. They can dedicate funds to support energy efficiency workforce development programs and ensure that environmental justice communities and workers especially impacted by the energy transition are able to access these jobs and are paid fairly. These steps and more can help states ensure more equitable distribution of economic and environmental benefits.

To develop an equitable strategy, states must work with community leaders and local organizations who best know the needs of the localities that states are looking to support. Our second equity metric, therefore, measures whether the state has an equity task force or dedicated staff to address equity concerns. This metric will credit state planning processes that include a commitment to strengthening engagement with environmental justice communities. By having an advisory council, collaborative, working group, or state agency office that acts as a contact point with marginalized groups and consults

with environmental justice organizations, states can better understand the needs of these communities and create appropriate strategies to assist them.

To earn points for this metric, states had to show that they were taking active steps to increase engagement with marginalized groups. Simply having a task force or dedicated staff member, for example, was not enough to earn credit. We used three main criteria to grade states:

- The majority of the group or task force is made up of members from historically marginalized communities or community-based organizations.
- The group or task force is currently active and striving to achieve increased engagement with marginalized communities or other relevant goals set by the task force or group.
- The group or task force is affecting or influencing state policies, programs, or plans, or has the power to do so (e.g., their powers are spelled out in a law or ordinance).

The final equity metric focuses on statewide goals to reduce energy burden. Setting specific energy affordability or energy justice goals increases the likelihood that low-income households and other disadvantaged communities will get the energy assistance they need. It also provides states with a framework to track their progress in helping these households reduce their energy use. This metric awards points to states that have specific goals or strategies to lower statewide energy burdens for low-income households and that set a plan or track progress toward achieving those goals.

Scores for State Government and Equity

States could earn up to 3 points in this category: 1 point for advancing energy efficiency programs in low-income or environmental justice communities through revenues collected by carbon pricing policies or other funding streams; 1 point for having a specific statewide goal in place to reduce energy burden, with either a plan or actual tracking of progress toward the goal; and 1 point for taking a unique and enhanced approach to conducting community engagement with marginalized groups for the creation of the state's energy, sustainability, or climate action plan. These scores are presented in Table 41.

Table 41. State scores for state government and equity metrics

State	Dedication of state revenues (1 pt.)	Energy affordability or energy justice goal and progress (1 pt.)	Community engagement goals (1 pt.)	Score (3 pts.)
Alabama				0
Alaska		•	•	2
Arizona				0
Arkansas		•		1
California	•	•	•	3
Colorado		•		1
Connecticut	•	•	•	3
Delaware	•		•	2
District of Columbia	•	•	•	3
Florida		•	•	2
Georgia				0

State	Dedication of state revenues (1 pt.)	Energy affordability or energy justice goal and progress (1 pt.)	Community engagement goals (1 pt.)	Score (3 pts.)
Hawaii	•	•	•	3
Idaho				0
Illinois		•	•	2
Indiana				0
Iowa				0
Kansas				0
Kentucky				0
Louisiana				0
Maine	•	•	•	3
Maryland	•	•	•	3
Massachusetts	•	•	•	3
Michigan			•	1
Minnesota		•	•	2
Mississippi				0
Missouri				0
Montana				0
Nebraska				0
Nevada				0
New Hampshire	•	•		2
New Jersey	•	•	•	3
New Mexico		•	•	2
New York	•	•	•	3
North Carolina				0
North Dakota				0
Ohio				0
Oklahoma				0
Oregon	•	•	•	3
Pennsylvania			•	1
Rhode Island	•	•	•	3
South Carolina				0
South Dakota				0
Tennessee			•	1

State	Dedication of state revenues (1 pt.)	Energy affordability or energy justice goal and progress (1 pt.)	Community engagement goals (1 pt.)	Score (3 pts.)
Texas				0
Utah				0
Vermont	•		•	2
Virginia	•	•	•	3
Washington	•	•	•	3
West Virginia				0
Wisconsin		•	•	2
Wyoming				0

Leading and Trending States: State Government and Equity

Connecticut. In 2022 Connecticut directed $3.5 million in funds from the Regional Greenhouse Gas Initiative (RGGI) to be allocated to Connecticut's utility administered energy efficiency programs for low-income customers. This program was an addition to the state's existing low-income energy efficiency programs, bringing the total budget up to $37 million. The program will also be used to support the Home Energy Solutions-Income Eligible (HES-IE) program, allowing the program to reach 1,000 new homes.

Rhode Island. In late 2022 the Office of Energy Resources hired a new energy justice manager focused on improving energy equity and integrating the Biden administration's Justice 40 initiative into all Rhode Island Office of Energy Resources (OER) workstreams. The energy justice manager co-hosts a regular public workshop on climate justice across locations throughout the state to provide residents from underserved, environmental and energy justice communities with opportunities provide input and perspective on policy and programming, as well as to learn about important energy and environmental issues while fostering improved engagement with communities. Recommendations made by the energy justice program manager that have been implemented by OER include equity focused on public participation protocols and guidance, updated data demonstrating energy burden in communities across Rhode Island, and the beginning of an effort to map current deployment of clean energy assets and investments.

California. In February 2023 the Energy Commission adopted the Justice Access Equity Diversity Inclusion (JAEDI) Framework as part of the 2022 Integrated Energy Policy Report. The framework is a tool for staff and leadership to help guide agency-wide efforts by outlining CEC's commitment, values, principles, and best practices for embedding energy equity and environmental justice into its programs and policies.

Minnesota. In 2024 Minnesota passed funding for the Department of Commerce to provide technical, policy, and stakeholder engagement assistance to the Tribal Advocacy Council for Energy (TACE). TACE is made up of members from the 11 Tribal Nations whose borders are within Minnesota. This funding allows the department to work alongside the Tribal Nations in support of energy solutions and requires the hiring of a Tribal liaison.

Chapter 6. Industrial Energy Efficiency Policies

Author: Archibald Fraser

Introduction

Across the country, the industrial sector is experiencing a period of expansion and revitalization. Federal legislation, including the Bipartisan Infrastructure Law of 2021 (BIL), Inflation Reduction Act of 2022 (IRA), and the CHIPS and Sciences Act of 2022, is driving investment to domestic clean energy manufacturing and heavy industry at a rate not seen in decades. In 2023, companies announced almost $70 billion in new clean energy and transportation manufacturing investments across the country (Clean Investment Monitor 2024). Critically, many of these assembly lines, data centers, and other facilities are being built in areas that have not planned for large power users at the scale and pace of current investment (Wilson and Zimmerman 2023). Federal and state leaders, grid operators, and industrial customers will need to work together to ensure that this load growth can be met, in part with demand-side management strategies, like energy efficiency and demand response.

The rapid emergence of industrial loads also creates competition for electricity on the grid and risks extending demand for fossil fuel power plants. Solving the challenge of 24/7 clean, carbon-free electricity will be essential to meet both national climate and economic growth goals. In this section, we highlight some of the programs and strategies that states can implement to both reduce GHG emissions and meet the rising energy demands of the industrial sector.

The U.S. industrial sector accounts for a third of the nation's GHG emissions. Reducing emissions will require concerted efforts across this sector, which includes chemicals, petroleum refining, cement, glass, iron and steel, food and beverage, and manufacturing. In addition to being carbon intensive, these sectors are key components of the U.S. economy and account nationally for over 10% of GDP (NAM 2024).

Two strategies that will undergird much of this industry's transition will be electrification and energy efficiency. Electrification means switching industrial processes from running on fossil fuels to electricity—and ultimately clean, carbon-free electricity. An example of this transition today is the introduction of industrial heat pumps to replace fossil-fuel boilers and other forms of low-temperature heat in the food and beverage sector (Rightor et al. 2022). As industrial firms increase their use of electricity, it will be equally important to engage them on corresponding strategies like energy efficiency, strategic energy management, and flexible power use to shape grid loads and align operations with times of high renewable mix on the grid.

In the past, some parts of industry have been underserved by energy efficiency programs due to the difficulty of designing programs suited to the diversity of processes and energy inputs of different industries. Although states may not be able to match the federal government's ability to accelerate larger-scale capital intensive decarbonization measures, state policy has unique potential to foster advancements in energy efficiency in other critical arenas, including energy management,[38] decarbonization targets, and workforce development.

The industrial category of the *Scorecard* works to capture state industrial energy efficiency policies and their critical relationship to larger industrial GHG reduction goals. Electrification continues to be one of

[38] *Energy management* refers to controlling energy streams and reducing energy use through continuous improvements in efficiency practices. Energy management and strategic energy management (SEM) are defined later in greater detail.

the primary levers for industrial decarbonization, and without strategic planning for these new loads, there is a serious risk of inadequate electricity supply.

Scores for the industrial category reflect state actions that go beyond existing federal policies and can serve as examples for other states seeking to decarbonize their industrial sectors. Targeted workforce development programs that build the state's network of industrial energy management professionals, electricians, engineers, and other key skill sets creates an environment where industry can pursue both current and future emissions reduction. Statewide plans for industrial electrification and load growth can also be important tools to align efforts from a variety of different grid actors.

The metrics evaluated in the industry section of the *Scorecard* include whether states have established specific state targets aimed at GHG reductions in the industrial sector, whether a state has programs that offer technical assistance for energy management, and whether states offer industrial workforce training.

Scoring and Results

States could earn up to 6 points in this policy area for the following:

- A statewide strategic energy management (I-SEM) program or technical support for energy management and/or audits within industrial facilities (2 points, with 1 point for less comprehensive program)
- An industrial decarbonization target or clean heat standard, either through state legislation or a State Priority Climate Action Plan, which can result in energy use and emissions reductions beyond those in the industrial sector (2 points)
- State-supported job training for industrial energy efficiency (1 point)
- Utility or state energy programs that support electrification of the industrial sector; for example, technical assistance, plant surveys, or incentives (1 point**)**

States could also lose 1 point for allowing electric or natural gas customers, or both, to opt out of energy efficiency programs.

Table 42 presents the overall results of scoring on industrial policies. Explanations of each metric follow.

California, Connecticut, Maine, Massachusetts, Michigan, Minnesota, New York, Tennessee, and Washington all received the highest possible scores for their industrial energy efficiency policies. Across these highest-scoring states, state legislatures and agencies have taken the lead in reducing GHG emissions across economic sectors—including industry.

California continues to be a leader on industrial decarbonization with programs like the CPUC's SEM programs, the CEC's Industrial Decarbonization and Improvement of Grid Operations (INDIGO) program, and a variety of other targeted measures to support industrial emissions reductions.

Connecticut earned a top score with its commitment to certified energy manager training programs, on-demand technical assistance webinars, supportive industrial electrification programs, and commitment to building a clean energy workforce.

Maine's high score reflects the many crosscutting efforts to reduce emission across Maine's economy, including the state's climate action plan, Maine Won't Wait, the state energy office's Clean Energy Partnership, and the Climate Council's Industrial Innovation Task Force, which serves as a forum and educational space for industrial efficiency and decarbonization technologies.

Massachusetts continues to earn a top position for its industrial energy efficiency portfolio, which includes Mass Save, Massachusetts Energy Efficiency Partnership, and an Equity Workforce Program.

Michigan deserves recognition for the state's passage of a Clean Energy & Climate Action package in 2023, which has aligned state efforts to decarbonize the energy and industrial sectors.

Minnesota has continued to be a leader in state energy and climate legislation, including through this year's omnibus Energy and Environment bill, which will support electricity adequacy for industrial firms planning to electrify.

New York earned a top spot again through NYSERDA's programs on industrial energy efficiency and workforce development.

Tennessee's strong industrial sector programs include a number of technical assistance and workforce development efforts like the University of Tennessee's Center for Industrial Services and Tennessee Tech's Industrial Training & Assessment Center.

Washington should be recognized for its State University Energy Program, which offers technical assistance to industrial customers, and its grant program to decarbonize the industrial sector through the state's Climate Commitment Act.

Table 42. Summary of scores for industrial efficiency policies

State	Strategic energy management (2 pts.)	Industrial decarbonization target or clean heat standard (2 pts.)	State-supported IEE job training (1 pt.)	Industrial electrification programs (1 pt.)	Opt-out provisions for large customers (–1 pt.)	Total score (6 pts.)
California	2	2	1	1	0	6
Connecticut	2	2	1	1	0	6
Maine	2	2	1	1	0	6
Massachusetts	2	2	1	1	0	6
Michigan	2	2	1	1	0	6
Minnesota	2	2	1	1	0	6
New York	2	2	1	1	0	6
Tennessee	2	2	1	1	0	6
Washington	2	2	1	1	0	6
Maryland	1	2	1	1	0	5
Nevada	2	2	1	0	0	5
Colorado	1	2	0	1	0	4
Delaware	0	2	1	1	0	4
Hawaii	2	0	1	1	0	4
Oregon	1	2	0	1	0	4
Pennsylvania	0	2	1	1	0	4

State	Strategic energy management (2 pts.)	Industrial decarbonization target or clean heat standard (2 pts.)	State-supported IEE job training (1 pt.)	Industrial electrification programs (1 pt.)	Opt-out provisions for large customers (–1 pt.)	Total score (6 pts.)
Rhode Island	2	0	1	1	0	4
Arkansas	2	0	1	1	–1	3
District of Columbia	0	2	0	1	0	3
Nebraska	2	0	1	0	0	3
New Hampshire	1	0	1	1	0	3
North Carolina	1	2	1	0	–1	3
Vermont	0	2	0	1	0	3
Virginia	1	2	1	0	–1	3
Wisconsin	1	0	1	1	0	3
Georgia	1	0	1	0	0	2
Idaho	1	0	1	0	0	2
Louisiana	0	2	0	0	0	2
Missouri	2	0	1	0	–1	2
Montana	1	0	1	0	0	2
New Jersey	1	0	0	1	0	2
New Mexico	1	0	1	0	0	2
Utah	1	0	1	0	0	2
Alaska	0	0	0	1	0	1
Florida	1	0	0	0	0	1
Illinois	0	2	0	0	–1	1
Indiana	1	0	0	0	0	1
Mississippi	0	0	1	0	0	1
Oklahoma	1	0	1	0	–1	1
Iowa	0	0	0	1	–0.5	0.5
Alabama	0	0	0	0	0	0
Kansas	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0

State	Strategic energy management (2 pts.)	Industrial decarbonization target or clean heat standard (2 pts.)	State-supported IEE job training (1 pt.)	Industrial electrification programs (1 pt.)	Opt-out provisions for large customers (–1 pt.)	Total score (6 pts.)
Arizona	0	0	0	0	–1	–1
Kentucky	0	0	0	0	–1	–1
Ohio	0	0	0	0	–1	–1
South Carolina	0	0	0	0	–1	–1
Texas	0	0	0	0	–1	–1
West Virginia	0	0	0	0	–1	–1

Discussion

Statewide Strategic Energy Management Program and Demand Flexibility

As industrial loads grow for the first time in decades, energy management practices like strategic energy management (SEM) and other demand-side programs are urgently needed to support the grid. SEM is a data-driven process of systematic energy performance improvements within a facility that can include behavioral and operational changes, efficiency upgrades, advanced controls, and other strategies to reduce or change the shape of energy usage. Public programs that offer SEM typically provide technical support to agriculture and industrial participants through training, on-site energy audits, the development of energy savings plans, and assistance in implementing energy savings measures. SEM also enables peer-to-peer knowledge exchange about best energy management practices, with many modeled after the International Organization of Standardization (ISO) 50001 standard for energy management and ISO 50001 certification. ISO 50001 provides a framework of requirements for organizations to develop energy efficiency policies, establish targets, collect data, and continuously improve energy management (ISO 2022).

Other support for SEM measures includes DOE's 50001 Ready program, and technical guidance for navigating the 50001 Ready platform.[39] SEM programs run by public agencies and utilities can also offer a cohort model, in which clusters of similar industries can participate in energy management practices together and share learning. No two SEM programs are exactly alike. Some are standalone programs, while others offer SEM as a subcomponent of a larger program. Some aim at helping industry reach certain levels of certification for energy management practices, while others seek to simply enable educational workshops and energy coaching. State governments are positioned to evaluate the unique needs of industries in their state to determine the best SEM practices to offer in order to maximize energy savings and minimize costs and GHG emissions. The goal of this section of the *Scorecard* is to recognize existing efforts in promoting SEM and energy management.

[39] DOE's 50001 Ready program recognizes facilities that are implementing ISO 50001-based energy management systems in a self-serve format. The program is intended to serve as a means of developing an energy management structure that does not require external certifications or audits. For more on the 50001 Ready program, see https://www.energy.gov/eere/amo/50001-ready-program.

We awarded 2 points on a sliding scale to states that have established statewide strategic energy management (SEM) programs or provide technical assistance to industrial customers seeking to certify performance or energy management systems such as SEM, ISO 50001, 50001 Ready, or other functionally similar programs. States like Hawaii, Arkansas, New York, and Minnesota have developed such programs. Several states offer programs through state agencies that recognize and assist companies with energy management and energy audits beyond the level of existing regulatory requirements. State programs supporting energy management and energy audits, which often operate in tandem with DOE's Industrial Assessment Centers,[40] save participants on average over $140,000 per year. Statewide SEM programs have substantial potential for energy savings, as they often report savings as high as 10% of annual energy consumption for participants; nationwide recognition program participants are typically required to reach similar savings thresholds (Bernath and Buffum 2017).

Industrial Decarbonization Target or Clean Heat Standard

A statewide decarbonization target can be an important tool to track progress and align all stakeholders toward a common goal. The market signals and policy directions created by such sector-specific targets reduce uncertainty and can improve participation in voluntary GHG reduction programs. Supporting this effort are many of the funds in recent federal legislation that direct additional resources to states to reduce emissions.

In 2022, the IRA authorized $5 billion through the Environmental Protection Agency's (EPA) Climate Pollution Reduction Grants (CPRG) program for states, local governments, tribes, and territories to plan and implement GHG reduction strategies. To access these funds, states in 2024 released Priority Climate Action Plans (PCAPs),[41] which often include strategies to decarbonize their industrial sectors. Those states that included industrial plans alongside a GHG reduction target received credit for having an industrial decarbonization target. Implementation grants will be distributed over the next several years and will provide important opportunities for states to learn from one another about cost-effective and impactful strategies to meet state decarbonization goals.

Another strategy to reduce emissions is targeting process heat, which for many industrial companies means fossil fuels. Some states have begun implementing clean heat standard regulations that would gradually require less carbon intensive sources of heat. Industry could meet the standard through carbon offsets or by reducing the emissions intensities of the fuels they are using with electrification. As the need for rapid transformation in the industrial sector increases, it is likely that we will see more clean heat standards proposed, especially in states with heavy industry that rely on high process heat. Additionally, clean heat standards are not just specific to the industrial sector but can extend to other sectors; such standards are important for their ability to enable cross-cutting energy savings and emissions reductions across the economy.

We awarded 2 points to states that have created an industrial decarbonization target[42] or a clean heat standard. Some states, including Wisconsin and Colorado, are aiming to establish emissions targets for their industrial sectors, including manufacturing; other states, including California, have established targets for unique subsectors, such as cement. These targets will need to increasingly consider economic

[40] A full overview of the IAC's impact and scope of the program can be found here: https://iac.university/#awards.

[41] For a list of State Priority Climate Action Plans, see https://www.epa.gov/inflation-reduction-act/priority-climate-action-plans-states-msas-tribes-and-territories.

[42] Targets include both those with and without regulatory force. GHG reduction goals included in a state's PCAP for the industrial sector are counted as a target. Future versions of the *Scorecard* may focus on those targets supported by regulatory action.

guidance for cost-effective decarbonization at the intersection with approaches such as cap and trade. Table 43 shows scores for decarbonization targets or clean heat standards.

Table 43. State scores for decarbonization targets or clean heat standards

State	Industrial decarbonization target	Clean heat standard	Score (2 pts.)
California	•		2
Colorado	•	•	2
Connecticut	•		2
Delaware	•		2
District of Columbia	•		2
Illinois	•		2
Louisiana	•		2
Maine	•		2
Maryland	•	•	2
Massachusetts	•	•	2
Michigan	•		2
Minnesota	•		2
Nevada	•		2
New York	•		2
North Carolina	•		2
Oregon	•		2
Pennsylvania	•		2
Tennessee	•		2
Vermont	•	•	2
Virginia	•		2
Washington	•		2

State-Supported Job Training for Industrial Energy Efficiency

Increased investment in domestic industry is an opportunity to experiment and reevaluate our workforce development landscape. States have often been leaders in developing workforce training strategies, connecting industry and a prospective workforce, and investing in the education pipeline that is critical for long-term success. However, a consistent challenge is adapting training programs to meet the ever-evolving needs of new industrial technologies. For example, a technician accustomed to working on natural gas boilers will need training and know-how before servicing an industrial heat pump. Developing workforce programs that meet the needs of both new and existing workers will be critical for state decision makers.

Some leading states have already established initiatives to facilitate a just transition to low-carbon economies. Common elements of workforce transitions include developing roadmaps, proposing timelines, creating economic resilience funds for workers, supporting vocational/technical schools, creating stakeholder communication platforms, and establishing career training and reskilling programs. Support can take the form of programs that offer practical experience, training, and/or certification in relevant energy- or emissions-saving measures for industrial processes, including Certified Energy Management (CEM).

We awarded 1 point for states that support job training and just transition plans for energy efficiency capabilities in industry. A diverse, engaged, and knowledgeable workforce will be needed to overcome the many technical, economic, and behavioral barriers expected in decarbonizing industry while improving the competitiveness of U.S. industry. These efforts can operate along with technical assistance, especially to small- and medium-sized manufacturers who are traditionally underserved by efficiency efforts and have limited resources (SEE Action 2014). Examples of state workforce development efforts focused on energy efficiency capabilities in industry can be seen under executive authority in California and North Carolina, and under state agencies in Colorado and Connecticut. Table 44 shows states that support job training for industrial energy efficiency.

Table 44. States that support job training for industrial energy efficiency (IEE)

State	Support for IEE workforce	Score
California	•	1
Connecticut	•	1
District of Columbia	•	1
Delaware	•	1
Georgia	•	1
Hawaii	•	1
Idaho	•	1
Iowa	•	1
Illinois	•	1
Maine	•	1
Maryland	•	1
Massachusetts	•	1
Michigan	•	1
Minnesota	•	1
Mississippi	•	1
Missouri	•	1
Montana	•	1
Nebraska	•	1
Nevada	•	1

State	Support for IEE workforce	Score
New Hampshire	•	1
New Mexico	•	1
New York	•	1
North Carolina	•	1
Oklahoma	•	1
Pennsylvania	•	1
Rhode Island	•	1
Tennessee	•	1
Utah	•	1
Virginia	•	1
Washington	•	1

Industrial Electrification Programs

Rapid industrial electrification has meant that grid operators are reckoning with industrial load growth for the first time in years. State governments and utilities should consider how they can develop programs to shape these new grid loads in ways that encourage electrification (and the resulting air-quality and climate benefits) while minimizing any impacts to affordability, reliability, or adequacy. Market signals from utilities or regulators could encourage industry to embrace demand flexibility or other energy management strategies. For instance, industrial facilities can shift certain operations, like running pumps in a wastewater facility or charging fleet vehicles, to periods when demand on the grid is low or supply from renewables is high. Industrial sectors utilizing process heat, like food and beverage, can utilize thermal storage to make their electricity use responsive to rates.

We awarded 1 point for states that have programs to support their industrial sector's electrification. Examples of these programs include technical assistance to industrial customers on energy savings, cost effectiveness, and energy management to utilize certain rates. PUCs can also establish standards and create incentives for demand flexibility with improved rate structures for industry. Utility program managers should work to educate their industrial customers about potential savings and benefits of flexible operations, including providing technical assistance to customers interested in advanced information and communication technologies (ICT) to improve site efficiency and optimize facility and grid benefits. Table 45 includes the scores for states that support industrial electrification.

Table 45. States that support industrial electrification

State	Support for industrial electrification	Score
Alaska	•	1
Arkansas	•	1
California	•	1
Colorado	•	1

State	Support for industrial electrification	Score
Connecticut	•	1
Delaware	•	1
District of Columbia	•	1
Hawaii	•	1
Iowa	•	1
Maine	•	1
Massachusetts	•	1
Michigan	•	1
Minnesota	•	1
New Hampshire	•	1
New Jersey	•	1
New York	•	1
Oregon	•	1
Pennsylvania	•	1
Rhode Island	•	1
Tennessee	•	1
Vermont	•	1
Washington	•	1
Wisconsin	•	1

Opt-Out Provisions for Large Customers

We include opt-out as a category in which states may lose rather than gain points. We subtracted 1 point for states that allow electric or natural gas customers, or both, to opt out of energy efficiency programs. In many cases, large commercial and industrial customers seek to opt out of utility energy efficiency programs, asserting either that they have already captured all the energy efficiency that is cost effective, or that they can make better improvements in-house. However, this is seldom the case (Chittum 2011). We did not subtract points for self-direct programs as, when implemented properly, these programs can effectively meet the needs of large customers. Opt-out and exemption policies have several negative consequences, and typically reduce the effectiveness of industrial decarbonization measures. Failure to include large-customer programs in an energy efficiency portfolio increases the cost of energy savings for all customers and reduces the benefits (Baatz, Relf, and Kelly 2017). In effect, allowing large customers to opt out forces other consumers to indirectly subsidize them: Those who opt out share some of the system benefits, but only the smaller customers are paying to support energy efficiency programs. It also prevents utilities from capturing all highly cost-effective energy savings; this can contribute to higher overall system costs through the use of more expensive supply resources. Opt-out policies also make measurement and verification of savings more difficult because it is unclear how

much additional savings are being captured from opted-out customers. Table 46 shows states with opt-out programs.

Table 46. States allowing large customers to opt out of energy efficiency programs

State	Opt-out description	Score
Arizona	The Arizona Corporation Commission's Electric Energy Efficiency Standards has a provision in Arizona Administrative Code § R14-2-2408(E) that states: "All customer classes of an affected utility shall bear the costs of DSM programs by payment through a non-bypassable mechanism, unless a customer or customer class is specifically exempted by Commission order." At least one large customer has applied for and received such an exemption.	–1
Arkansas	Under Act 253, passed in 2013, customers with more than 1 MW or 70,000 MMBtu in monthly demand may opt out. Large manufacturers that file under Act 253 do not have to offer documentation of planned or achieved savings. However, large commercial and industrial (C&I) customers not meeting the definition of manufacturing, and customers that have filed under Section 11 of the state's Rules for Conservation and Energy Efficiency Programs, must file an application showing how savings have been or will be achieved. More than 50 large customers have opted out, constituting a significant share of overall sales (which varies by utility). In 2017, HB 1421 added state-supported higher-education institutions to the list of customers eligible to opt out.	–1
Illinois	Illinois' Climate and Equitable Jobs Act (CEJA) removes the exemption of large (over 10 MW) customers and replaced it with an opt-out provision. Eligible large customers who want to participate in electric efficiency programs have the opportunity to do so, but may choose to opt out.	–1
Indiana	Opt-out applies to the five investor-owned electric utilities. Eligible customers are those that operate a single site with at least one meter constituting more than 1 MW demand for any one billing period within the previous 12 months. Documentation is not required. No evaluation is conducted. Approximately 70–80% of eligible load has opted out.	–1
Iowa	Iowa Code § 476.6(15)(a)(1)(b) allows any customer of any rate-regulated utility to request an exemption from participation in the five-year energy efficiency plan if the cumulative cost effectiveness of the combined energy efficiency and demand response plan does not pass the Ratepayer Impact Measure (RIM) test.* This applies to all customers, not just large ones. Utilities must allow the exemption (opt out) beginning in the year following the year in which the request was made. Utilities may request modifications of their energy efficiency plans due to reductions in funding resulting from customer exemptions. Iowa is only losing half a point in this year's *Scorecard* because while the state does allow opt-outs, no customer has applied to do so.	–0.5
Kentucky	Opt-out is statewide for the industrial rate class. Documentation is not required. Approximately 80% of eligible load has opted out, with the remaining 20% made up primarily of TVA customers.	–1
Missouri	Opt-out is statewide only for investor-owned electric utilities. Eligibility requires one account greater than 5 MW, or aggregate accounts greater than 2.5 MW and demonstration of the customer's own demand-side savings. Also, interstate pipeline pumping stations of any size are eligible to opt out. To maintain opt-out status, documentation is required for customers whose aggregate accounts are greater than	–1

State	Opt-out description	Score
	2.5 MW. The staff of the Missouri Public Service Commission perform a desk audit of all claimed savings and may perform a field audit. No additional EM&V is required.	
North Carolina	All industrial-class electric customers are eligible to opt out. Also, by Commission Rule R8-68 (d), large commercial-class operations with 1 million kWh of annual energy consumption are eligible to opt out. Customers electing to opt out must notify utilities that they have implemented or plan to implement energy efficiency. Opted-out load represents approximately 40–45% of industrial and large commercial load.	–1
Ohio	Ohio Senate Bill 310 (2014) allowed certain large customers to opt out of energy efficiency programs entirely if they receive service above the primary voltage level (e.g., subtransmission and transmission rate schedules) or are a C&I with more than 45 million kWh usage per year. HB 6, signed in 2019, expanded the opt-out to include any C&I customer that uses more than 700 MWh annually or is part of a national account involving multiple facilities in one or more states. A written request is required to register as a self-assessing purchaser pursuant to section 5727.81 of the Revised Code.	–1
Oklahoma	All transportation-only gas customers are eligible to opt out. For electric utilities, all customers whose aggregate usage (which may include multiple accounts) is at least 15 million kWh annually may opt out. Some 90% of eligible customers opt out.	–1
South Carolina	Industrial, manufacturing, and retail commercial customers with at least 1 million kWh annual usage are eligible to opt out. Only self-certification is required. Approximately 50% of eligible companies opt out, representing roughly 50% of the eligible load.	–1
Texas	In Texas, for-profit customers that take electric service at the transmission level are not allowed to participate in utilities' energy efficiency programs and therefore do not contribute to them. Manufacturers that qualify for a tax exemption under Tax Code §151.317 may also apply to opt out for three years and opt-out status can be renewed.	–1
Virginia	The Virginia Clean Economy Act (VCEA) (2020) replaces a previous automatic opt-out for industrial customers above 500 kW with a process enabling industrial customers using more than 1 MW to opt out after demonstrating that they are achieving energy savings through their own energy efficiency measures. The VCEA directs the commission, no later than June 30, 2021, "to adopt rules or regulations (a) establishing the process for large general service customers to apply for such an exemption, (b) establishing the administrative procedures by which eligible customers will notify the utility, and (c) defining the standard criteria that shall be satisfied by an applicant in order to notify the utility, including means of evaluation measurement and verification and confidentiality requirements."	–1
West Virginia	Opt-out is developed individually by utilities. Customers with demand of 1 MW or greater may opt out. Participants must document that they have achieved similar or equivalent savings on their own to retain opt-out status. Claims of energy and/or demand reduction are certified to utilities, with future evaluation by the Public Service Commission to take place in a later proceeding. The method has not been specified. Twenty large customers have opted out.	–1

***The RIM test, as used in Iowa, treats reduced energy sales as a cost, which means that the more energy a measure saves, the less cost effective it is. It is likely that the plans will not meet this impact measure, raising the possibility that many customers will opt out and thereby reduce efficiency funding by the amount they otherwise would have paid, though none have done so.**

Chapter 7. Appliance and Equipment Efficiency Standards and Clean Lighting

Authors: Brian Fadie and Joanna Mauer

Introduction

Since December 2022, three states—Colorado, Hawaii, and Washington—have adopted energy- and water-saving appliance standards, continuing a series of victories for consumers, businesses, and the climate over the last six years. The new state laws will establish minimum energy and water efficiency levels for up to 14 types of products, including commercial kitchen equipment, residential ventilating fans, and showerheads. The standards will reduce utility bills and carbon dioxide emissions, bringing each state closer to meeting its climate goals while saving consumers money. This momentum builds on other recent victories, with 14 jurisdictions in total—those above plus California, Maine, Maryland, Massachusetts, Nevada, New Jersey, New York, Oregon, Rhode Island, Vermont, and Washington, DC—adopting standards since 2018. To build on this progress, more states can adopt standards that will cut their own energy and water waste and pave the way for new national standards that would deliver even larger reductions in climate-warming emissions.

The power of appliance standards is in the numbers. Every day we use appliances, equipment, and lighting in our homes, offices, and public buildings. Even when the energy consumption of a particular device seems small, the extra energy consumed by less efficient products collectively adds up to a substantial amount. For example, New Jersey is expected to avoid 4.5 million metric tons of carbon dioxide emissions by 2040 due to the appliance standards adopted in 2022. However, persistent market barriers inhibit sales of more efficient models to consumers. Appliance efficiency standards overcome these barriers by initiating change at the manufacturer level, requiring appliance makers to meet minimum efficiency criteria for all products sold in a state with standards, thereby removing the most inefficient products from the market.

States have historically led the way in establishing standards for appliances and other equipment. In 1976, California became the first state to introduce appliance standards. Many others, including New York and Massachusetts, soon followed. Congress established the first national standards—based on standards previously adopted by California and several other states—in 1987 when it passed the National Appliance Energy Conservation Act. Congress enacted additional national standards in 1988, 1992, 2005, and 2007, generally basing them on existing state standards. The federal laws have typically set initial standards for specific products and required DOE to periodically review and, if warranted, strengthen them. More than 60 products are now subject to national efficiency standards. Most directly relate to energy use, although several address water efficiency.

Existing national standards saved the average U.S. household about $500 a year on utility bills in 2015, or about 16% of average annual utility bill spending (deLaski and Mauer 2017). As of August 2024, standards updated by the Biden administration will save a typical U.S. household more than $100 each year on average over the next two decades (Dunklin and Mauer 2024).

While the U.S. DOE has worked to complete updates of existing federal standards, many states have maintained momentum by pursuing standards based on recommendations from the Appliance Standards Awareness Project (ASAP) and the ACEEE report *States Go First* (Mauer, deLaski, and DiMascio

2017).[43] In general, states are free to set standards for any products that are not subject to national standards. Efficiency levels for products in the ASAP model bill are based on California standards, industry standards, and ENERGY STAR® and WaterSense specifications.

During the period covered by this year's *Scorecard*, Colorado adopted new or updated water and energy efficiency standards for 14 products while Hawaii adopted standards for five products. Washington added to its already strong suite of standards by adopting two updated standards. In 2022, New York passed a new appliance standards law granting NYSERDA the authority to adopt standards through a rulemaking process. However, the rulemaking process for those standards was not finalized until after the previous *Scorecard* was finalized, so it did not receive energy savings credit for that law. Those savings are accounted for in this *Scorecard*.

In 2022, Vermont and California became the first states in the nation to adopt a clean lighting policy disallowing the sale of certain mercury-containing fluorescent light bulbs. Since then, eight other states have adopted a clean lighting policy: Oregon, Washington, Hawaii, Colorado, Maine, Rhode Island, Minnesota, and Illinois. Together, these states represent 21% of the general-purpose fluorescent lamp market in the United States, which will now be phasing out those sales in favor of LEDs. This will avoid the release of 13.6 million metric tons of carbon dioxide by 2050, the equivalent of removing 3.2 million gasoline powered vehicles from the road for a year, and save consumers and businesses more than $14 billion on utility bills.

Because the LED light bulbs that will replace the fluorescents are both mercury-free and twice as energy efficient, these states will see reductions in mercury waste as well as energy and utility bill savings and carbon dioxide emissions reductions. The 10 states that have adopted this policy are paving the way for other states to join in reaping its benefits.

Scoring and Results

States could earn up to 6 points for energy savings achieved by state-adopted appliance standards and clean lighting policies that are not currently preempted by federal standards.

We credited standards only if the compliance date (not the adoption date) for at least one state with an equivalent standard was within the past five calendar years or is slated for the future. This acknowledges the important role early adopters play in paving the way for other states. For example, California adopted efficiency standards for faucets in 2015, followed by Vermont in 2018 and Colorado, Hawaii, New York, and Washington in 2019 (with compliance required in 2020 and 2021). California and the above states will continue to get credit for faucet standards until at least 2026 (five years after the last compliance date)—or even longer should additional states adopt the faucet standards.

We calculated scores for the adoption of state standards on the basis of cumulative per-capita savings (measured in million Btu) through 2035. We used a floating start date that aligns with each state's product compliance date. For example, standards for commercial dishwashers took effect in Vermont in 2020. Our savings analysis for that product in Vermont covers the period from 2020 to 2035. Colorado and Washington adopted standards for commercial dishwashers that took effect in 2021, and so for those states, the analysis period begins in 2021.

For state appliance standards, our savings estimates were based on the approach used by ASAP and ACEEE in previous analyses of savings from appliance standards (Mauer, deLaski, and DiMascio 2017).

[43] The report, which has been updated annually, recommends a package of standards that states can adopt and analyzes potential energy, water, and utility bill savings and carbon emissions reductions.

We used estimates of annual shipments, per-unit energy savings, and average product lifetimes based on the best available data. To estimate state-by-state shipments, we allocated national shipments to individual states based on population. We also accounted for the portion of sales that had already met the standard level at the time the first state standard was established for a given product. For clean lighting, our savings estimates were based on a 2022 ASAP and ACEEE analysis (Amann et al. 2022).

We normalized the savings estimates using the population of each state to rank states according to per-capita energy savings. We scored in 1-point increments up to a maximum of 6 points.

Table 47 shows the scoring breakdown for state standards.

Table 47. Scoring of savings from state appliance standards and clean lighting policies

Energy savings from state standards and clean lighting through 2035 (MMBtu/capita)	Score
>30	6
24–29.99	5
18–23.99	4
12–17.99	3
6–11.99	2
0.1–5.99	1

Table 48 shows the scoring results.

Table 48. Scoring for appliance efficiency standards and clean lighting policies

State	Energy savings from state standards and clean lighting through 2035 (MMBtu/capita)	The year most recent state standards or clean lighting were adopted	Score (pts.)
California	33.6	2022	6
Colorado	31.9	2023	6
Vermont	27.9	2022	5
Oregon	27.5	2023	5
Hawaii	24.9	2023	5
Washington	22.7	2024	4
Maine	21.4	2023	4
Rhode Island	20.7	2023	4
New York	16.0	2022	3
Massachusetts	14.1	2021	3
District of Columbia	13.6	2020	3
New Jersey	12.5	2022	3

State	Energy savings from state standards and clean lighting through 2035 (MMBtu/capita)	The year most recent state standards or clean lighting were adopted	Score (pts.)
Minnesota	8.8	2024	2
Illinois	6.8	2024	2
Maryland	5.8	2022	1
Nevada	4.6	2021	1

Leading States during This *Scorecard* Period

Colorado. In 2019 Colorado adopted 17 appliance and product efficiency standards**,** becoming one of the first states to do so in the current wave. In 2023 the state adopted four new standards and updates to 10 products, meaning it has now adopted all state-level standards recommended by ASAP. In 2023 the state also adopted a clean lighting policy.

Washington. In 2019 Washington adopted all state-level appliance and product efficiency standards recommended by ASAP at that time. Since then, ASAP recommended new and updated standards for products. In 2022 Washington adopted standards for three new products and updated standards for three more. In 2024 the state adopted a clean lighting policy and also updated two existing standards via administrative rulemaking, strengthening its position as an appliance standards leader.

Hawaii. In 2019 Hawaii adopted six appliance and product efficiency standards, also becoming one of the first states to do so in the current wave. In 2023 the state adopted five additional standards as well as a clean lighting policy. Hawaii also continues to show interest in adopting additional standards via administrative rulemaking.

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