More Savings Ahead: How Updating National Efficiency Standards Would Reduce Costs in Every State

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Summary

In our June 2025 report, More Savings Ahead: The Potential of Future Appliance Standards*, we estimated potential savings from updates to national efficiency standards. In this supplemental policy analysis, we present updated national savings estimates and state-by-state savings. We estimate that the next round of efficiency standards could:*

- *Save U.S. households an average of about $160 annually on their utility bills over two decades (2030–2050); businesses could collectively save almost $15 billion annually*
- *Reduce summer peak demand by about 34 gigawatts (GW) in 2040 and 56 GW in 2050*
- *Save 4.2 trillion gallons of water cumulatively through 2050*
- *Cut cumulative carbon dioxide emissions by more than 800 million metric tons through 2050*

Any congressional or administrative actions that threaten the U.S. Department of Energy's ability to set future standards would mean higher utility bills for consumers and increased strain on the electric grid.

Introduction

The U.S. Department of Energy (DOE) sets and updates minimum efficiency standards for a range of residential and commercial appliances and equipment. For more than four decades, the appliance standards program has saved U.S. households and businesses money on energy and water bills. In a June 2025 report,[1] we estimated national savings from potential updates to efficiency standards. In this companion analysis, we present updated national savings estimates and potential state-by-state savings.

The next round of updated efficiency standards could add to the significant savings from existing standards,[2] continuing to cut costs for households and businesses in every state while reducing strain on the electric grid during a time of rapid load growth. However, congressional and administrative threats to the appliance standards program put these savings at risk.

[1] Margolis, Rachel, and Joanna Mauer. 2025. *More Savings Ahead: The Potential of Future Appliance Standards*. Boston: ASAP. appliance-standards.org/more-savings-ahead-potential-future-appliance-standards.

[2] Mauer, Joanna, and Rachel Margolis. 2026. *Appliance Efficiency Standards Lower Utility Bills and Cut Electricity Demand in Every State*. Boston: ASAP. appliance-standards.org/existing-efficiency-standards-lower-energy-bills.

Methodology

For our updated analysis, for some products we assumed later compliance dates to reflect the passage of time since the publication of our June 2025 report because no relevant rulemakings have been initiated. The updated compliance dates range from 2029 to 2035.

To estimate potential state-by-state savings, we allocated the national electricity, natural gas, and water savings to each state. To estimate peak electricity demand reductions, we derived state-by-state summer and winter peak load factors from the National Laboratory of the Rockies' ResStock and ComStock end-use load profiles. We calculated utility bill savings by multiplying the annual electricity, natural gas, and water savings by respective state-by-state average prices. Similarly, we calculated emissions reductions from electricity savings by multiplying annual electricity savings by respective state-by-state average emissions factors. Finally, we calculated state-by-state emissions reductions from natural gas savings by multiplying annual natural gas savings by emissions factors for natural gas.

Appendix A contains our assumed compliance dates. Appendix B contains additional details on our methodology for estimating state-by-state savings.

Utility bill savings

The next round of updated efficiency standards could save U.S. households an average of about $160 annually on their utility bills over two decades (2030–2050). Collectively, households could save more than $20 billion annually, while businesses could collectively save almost $15 billion annually. Table 1 shows the potential average annual utility bill savings from updated standards for a typical household in each state and the collective average annual bill savings for businesses. The variation in household bill savings across states is largely driven by differences in energy prices and space heating or cooling requirements. The variation in business utility bill savings is largely driven by the size of the commercial and industrial sectors in each state.

Table 1. Potential average annual utility bill savings for a typical household, annual collective household savings, and annual collective business savings over two decades (2030–2050) from updated standards (2025$)

	Average annual household utility bill savings ($)	Collective average annual household bill savings (million $)	Collective annual business utility bill savings (million $)
Alabama	$158	$316	$256
Alaska	$169	$46	$53
Arizona	$165	$470	$281
Arkansas	$139	$168	$121
California	$192	$2,600	$1,865
Colorado	$133	$316	$217
Connecticut	$213	$305	$218

	Average annual household utility bill savings ($)	Collective average annual household bill savings (million $)	Collective annual business utility bill savings (million $)
Delaware	$164	$66	$40
District of Columbia	$148	$48	$80
Florida	$163	$1,430	$778
Georgia	$151	$617	$420
Hawaii	$277	$136	$89
Idaho	$113	$80	$59
Illinois	$136	$684	$552
Indiana	$135	$366	$315
Iowa	$116	$152	$136
Kansas	$140	$165	$149
Kentucky	$129	$235	$191
Louisiana	$141	$255	$248
Maine	$187	$111	$102
Maryland	$180	$426	$268
Massachusetts	$223	$621	$436
Michigan	$134	$548	$423
Minnesota	$122	$281	$204
Mississippi	$145	$166	$140
Missouri	$130	$326	$229
Montana	$103	$47	$38
Nebraska	$125	$99	$115
Nevada	$138	$165	$114
New Hampshire	$184	$102	$74
New Jersey	$199	$698	$464
New Mexico	$121	$102	$79
New York	$205	$1,581	$1,135
North Carolina	$139	$593	$377
North Dakota	$118	$39	$97
Ohio	$137	$665	$507

	Average annual household utility bill savings ($)	Collective average annual household bill savings (million $)	Collective annual business utility bill savings (million $)
Oklahoma	$149	$232	$199
Oregon	$123	$212	$149
Pennsylvania	$179	$944	$505
Rhode Island	$229	$101	$82
South Carolina	$157	$333	$235
South Dakota	$128	$47	$49
Tennessee	$129	$366	$302
Texas	$166	$1,823	$1,305
Utah	$128	$144	$108
Vermont	$160	$44	$40
Virginia	$154	$520	$456
Washington	$110	$337	$202
West Virginia	$145	$106	$82
Wisconsin	$129	$319	$253
Wyoming	$119	$29	$54

Peak demand savings

Table 2 shows potential state-by-state summer peak and winter peak electricity demand reductions in 2040 and 2050 from updated standards. While most regions of the United States are summer peaking, some regions are already facing large winter peaks. Potential future standards could reduce total U.S. summer peak demand by about 34 GW in 2040 and 56 GW in 2050. Potential U.S. winter peak demand reductions are about 20 GW in 2040 and almost 33 GW in 2050. These peak demand savings could help improve overall affordability for ratepayers by lessening the need for costly investments in new power plants and transmission and distribution infrastructure.

Table 2. Potential summer and winter peak demand reductions in 2040 and 2050 from updated standards

	Summer peak demand reduction (MW)		Winter peak demand reduction (MW)	
	2040	**2050**	**2040**	**2050**
Alabama	553	937	396	660

Alaska	32	55	37	64
Arizona	680	1,095	476	759
Arkansas	337	571	215	361
California	1,982	3,257	1,141	1,808
Colorado	497	846	304	504
Connecticut	483	741	183	299
Delaware	105	181	64	107
District of Columbia	112	190	54	89
Florida	1,704	2,855	1,305	2,149
Georgia	1,072	1,834	728	1,205
Hawaii	90	144	78	129
Idaho	200	337	127	212
Illinois	1,356	2,232	727	1,165
Indiana	724	1,210	487	794
Iowa	358	598	251	415
Kansas	301	509	197	322
Kentucky	509	870	360	600
Louisiana	561	943	397	657
Maine	169	261	76	126
Maryland	584	1,010	358	600
Massachusetts	877	1,349	339	546
Michigan	968	1,609	584	939
Minnesota	588	979	333	548
Mississippi	318	539	216	360
Missouri	558	946	376	622
Montana	129	220	78	130
Nebraska	245	419	162	266
Nevada	306	490	187	296
New Hampshire	172	267	72	118
New Jersey	1,045	1,662	472	744
New Mexico	208	347	146	239
New York	2,415	3,744	899	1,439
North Carolina	999	1,750	597	989
North Dakota	199	338	143	235
Ohio	1,366	2,264	842	1,371

Oklahoma	544	916	313	515
Oregon	508	863	332	553
Pennsylvania	1,451	2,297	784	1,281
Rhode Island	152	230	51	82
South Carolina	572	985	405	676
South Dakota	97	166	68	113
Tennessee	730	1,256	493	812
Texas	3,350	5,600	2,139	3,520
Utah	278	468	188	311
Vermont	77	120	35	58
Virginia	1,285	2,238	658	1,070
Washington	710	1,211	486	821
West Virginia	239	399	153	254
Wisconsin	675	1,125	404	659
Wyoming	114	193	79	128

Emissions reductions

Table 3 shows potential nitrogen oxides (NO_X) and carbon dioxide (CO_2) emissions reductions in 2040 and 2050 from updated standards. The totals reflect savings from both electric-consuming and fossil-fuel–consuming equipment. The potential cumulative U.S. CO_2 emissions reductions through 2050 are 827 million metric tons.

Table 3. Potential NO_X and CO_2 emissions reductions in 2040 and 2050 from updated standards

	NO_X emissions reductions (tons)		CO_2 emissions reductions (million metric tons)	
	2040	**2050**	**2040**	**2050**
Alabama	267	485	0.7	1.7
Alaska	317	553	0.1	0.2
Arizona	487	881	0.8	1.6
Arkansas	178	318	0.4	0.9
California	1,907	3,762	2.5	5.1
Colorado	239	863	0.5	1.1
Connecticut	265	454	0.3	0.5

Delaware	57	106	0.1	0.3
District of Columbia	71	124	0.1	0.3
Florida	1,311	2,863	3.1	6.4
Georgia	572	1,078	1.6	3.5
Hawaii	364	579	0.1	0.3
Idaho	123	225	0.2	0.5
Illinois	702	1,479	1.2	2.6
Indiana	554	1,067	1.0	2.0
Iowa	227	440	0.4	0.7
Kansas	144	306	0.3	0.6
Kentucky	296	533	0.5	1.2
Louisiana	324	568	0.8	1.8
Maine	107	182	0.1	0.2
Maryland	360	672	0.8	1.6
Massachusetts	557	986	0.6	1.2
Michigan	1,016	1,887	1.2	2.3
Minnesota	401	790	0.6	1.2
Mississippi	170	312	0.4	1.0
Missouri	367	750	0.6	1.3
Montana	72	141	0.1	0.2
Nebraska	103	219	0.2	0.4
Nevada	267	489	0.4	1.0
New Hampshire	100	172	0.1	0.2
New Jersey	778	1,514	1.4	2.8
New Mexico	152	297	0.2	0.5
New York	828	1,748	2.2	4.5
North Carolina	520	952	1.0	2.6
North Dakota	62	129	0.1	0.3
Ohio	1,097	2,025	2.1	4.1
Oklahoma	305	550	0.5	1.0
Oregon	228	414	0.3	0.7
Pennsylvania	964	1,782	2.0	3.9

Rhode Island	95	168	0.1	0.2
South Carolina	286	518	0.6	1.4
South Dakota	43	104	0.1	0.2
Tennessee	423	769	0.7	1.7
Texas	2,068	3,701	3.7	7.5
Utah	227	425	0.4	0.9
Vermont	51	87	0.0	0.1
Virginia	840	1,479	1.7	3.7
Washington	364	675	0.5	1.2
West Virginia	156	275	0.3	0.6
Wisconsin	433	831	0.7	1.3
Wyoming	48	129	0.1	0.2

Water savings

Table 4 shows potential water savings in 2040 and 2050 from updated standards. The potential cumulative water savings across the United States from updated standards are 4.2 trillion gallons through 2050.

Table 4. Potential water savings in 2040 and 2050 from updated standards

	Water savings in 2040 (billion gallons)	Water savings in 2050 (billion gallons)
Alabama	3.5	5.4
Alaska	0.5	0.8
Arizona	5.2	7.9
Arkansas	2.1	3.2
California	27.2	41.0
Colorado	4.1	6.2
Connecticut	2.5	3.8
Delaware	0.7	1.1
District of Columbia	0.5	0.7
Florida	15.7	23.8
Georgia	7.7	11.6
Hawaii	1.0	1.5

	Water savings in 2040 (billion gallons)	Water savings in 2050 (billion gallons)
Idaho	1.4	2.1
Illinois	8.7	13.2
Indiana	4.8	7.2
Iowa	2.2	3.4
Kansas	2.0	3.1
Kentucky	3.2	4.8
Louisiana	3.2	4.8
Maine	1.0	1.4
Maryland	4.4	6.6
Massachusetts	4.8	7.2
Michigan	7.0	10.6
Minnesota	4.0	6.1
Mississippi	2.0	3.1
Missouri	4.3	6.5
Montana	0.8	1.2
Nebraska	1.4	2.1
Nevada	2.3	3.4
New Hampshire	1.0	1.5
New Jersey	6.5	9.8
New Mexico	1.5	2.2
New York	13.3	19.9
North Carolina	7.5	11.4
North Dakota	0.5	0.8
Ohio	8.2	12.3
Oklahoma	2.8	4.2
Oregon	3.0	4.5
Pennsylvania	9.0	13.6
Rhode Island	0.7	1.1
South Carolina	3.7	5.6
South Dakota	0.6	0.9
Tennessee	5.0	7.5

	Water savings in 2040 (billion gallons)	Water savings in 2050 (billion gallons)
Texas	21.2	32.0
Utah	2.4	3.7
Vermont	0.4	0.7
Virginia	6.1	9.2
Washington	5.5	8.3
West Virginia	1.2	1.8
Wisconsin	4.1	6.2
Wyoming	0.4	0.6

Conclusion

We estimate that updates to national efficiency standards could reduce U.S. household utility bills by an average of about $160 annually and collectively save businesses almost $15 billion in annual operating costs over two decades. Updated standards would also reduce strain on the electric grid by reducing peak demand while cutting air pollutant emissions and water waste. Any congressional or administrative actions that threaten DOE's ability to set future standards would mean higher utility bills for consumers and increased strain on the electric grid.

Appendix A. Updated compliance dates

Tables A1 and A2 show our updated assumed compliance dates for residential and for commercial and industrial product categories, respectively. For most products, we added one or two years to the compliance dates assumed in our June 2025 report to reflect the passage of time. For products for which DOE has not initiated a rulemaking, we assumed that DOE could issue a request for information (RFI) in 2027, a notice of proposed rulemaking (NOPR) in 2029, and a final rule in 2030. For portable electric spas, DOE has initiated a rulemaking, so we assumed it could issue a NOPR in 2027 and a final rule in 2028. For products for which DOE has issued a proposed rule (battery chargers, boilers, ceiling fans, dehumidifiers, external power supplies, automatic commercial ice makers, beverage vending machines, and fans and blowers), we previously assumed that the final rule could be published in the first half of 2025. Here, we assumed that DOE could issue the final rule in the first half of 2027. We then calculated the ultimate compliance dates using the lead times in table A1 of our June 2025 report.

For gas instantaneous water heaters, commercial refrigeration equipment, and walk-in coolers and freezers, Congress blocked the most recent standards through Congressional Review Act resolutions, and DOE subsequently withdrew the rules.[3] For these three products, we updated the baseline energy

[3] www.federalregister.gov/documents/2025/05/20/2025-09030/energy-conservation-program-energy-conservation-standards-for-consumer-gas-fired-instantaneous-water; www.federalregister.gov/documents/2025/05/20/2025-09031/energy-conservation-program-energy-conservation-standards-for-commercial-refrigerators-freezers-and; www.federalregister.gov/documents/2025/05/20/2025-09029/energy-conservation-program-energy-conservation-standards-for-walk-in-coolers-and-walk-in-freezers

use to reflect the current standard levels, and we assumed the same rulemaking timelines as for products for which DOE has not initiated a rulemaking.

Table A1. Assumed compliance dates for residential product categories

Product category	Assumed compliance date
Air cleaners	2035
Battery chargers	2029
Boilers	2032
Ceiling fans	2030
Central ACs and heat pumps	2035
Circulator pumps	2034
Clothes dryers	2034
Clothes washers	2034
Cooking products	2034
Dedicated-purpose pool pumps	2033
Dehumidifiers	2030
Direct heating equipment	2035
Dishwashers	2033
External power supplies	2029
Faucets	2033
Furnaces	2035
Furnace fans	2035
Microwave ovens	2033
Miscellaneous refrigeration equipment	2035
Pool heaters	2035
Portable ACs	2035
Portable electric spas	2033
Refrigerators and freezers	2036
Room ACs	2033
Showerheads	2033
Toilets	2033
Uninterruptible power supplies	2032
Water heaters	2035

Table A2. Assumed compliance dates for commercial and industrial product categories

Product category	Assumed compliance date
Air compressors	2035
Automatic commercial ice makers	2030
Beverage vending machines	2030
Commercial boilers	2031
Commercial clothes washers	2031
Commercial furnaces	2031
Commercial package ACs and heat pumps	2035
Commercial refrigeration equipment	2033
Commercial three-phase ACs and heat pumps	2033
Commercial water heaters	2033
Distribution transformers	2035
Electric motors	2033
Expanded scope electric motors	2035
Fans and blowers	2032
Packaged terminal ACs and heat pumps	2031
Pumps	2031
Single-package vertical ACs and heat pumps	2031
Small electric motors	2033
Urinals	2033
Walk-in coolers and freezers	2033
Water-source heat pumps	2031

Appendix B. Methodology for estimating state-by-state savings

Our methodology for estimating potential national electricity, natural gas, and water savings from updated standards is described in our June 2025 report.[4] In this analysis, we updated the compliance dates and, for three products, baseline energy use as described in Appendix A to recalculate national energy and water savings. We then calculated state-by-state peak demand reductions, utility bill savings, and emissions reductions as described below.

[4] Margolis, Rachel, and Joanna Mauer. 2025. *More Savings Ahead: The Potential of Future Appliance Standards.* Boston: ASAP. appliance-standards.org/more-savings-ahead-potential-future-appliance-standards.

Allocation of national savings to each state

For residential products, we calculated potential state-by-state electricity, natural gas, and water savings by allocating national product sales to each state and, where appropriate, making state-by-state adjustments to the per-unit savings. For products for which product saturation does not vary significantly by region (e.g., refrigerators, external power supplies, microwave ovens), we used the number of households in each state to allocate product sales. For residential products for which saturation does vary significantly by state/region (e.g., central air conditioners, electric and gas water heaters, pool heaters, dehumidifiers), we used data on equipment saturation from the 2020 Residential Energy Consumption Survey (RECS) to allocate sales.[5] For faucets and showerheads, we allocated the electricity and natural gas savings from reduced hot water consumption based on the prevalence of electric and gas water heaters in each state.

For certain products, we also adjusted the per-unit savings by state. Specifically, for furnaces and boilers, central air conditioners and heat pumps, and water heaters, we adjusted the per-unit savings for each state based on average electricity or fuel usage for each product based on RECS 2020. For faucets and showerheads, we adjusted the per-unit electricity and natural gas savings based on water heater usage. Finally, for products for which per-household consumption is correlated with household size (toilets, clothes washers, clothes dryers, dishwashers, and ranges), we adjusted the per-unit savings based on average household size.

For products used in the commercial sector for space heating, water heating, cooling, ventilation, refrigeration, lighting, and computing, we allocated commercial-sector savings to each state based on regional energy consumption by end use from the 2018 Commercial Buildings Energy Consumption Survey (CBECS) and state-by-state commercial electricity and natural gas use from the Energy Information Administration.[6] We first allocated savings to the nine U.S. Census divisions based on end-use consumption, and we then allocated regional savings to individual states based on commercial electricity use or commercial natural gas use. For products used in the commercial sector for which energy use is more closely correlated with population (e.g., commercial clothes washers), we allocated savings based on population. For the portion of motors, pumps, and compressors used in the commercial sector, we allocated savings based on commercial electricity use, and for distribution transformers we allocated savings based on total electricity use. Finally, for the portion of motors, fans, pumps, and compressors used in the industrial sector, we allocated savings based on industrial electricity use.

Peak demand reductions

We calculated peak demand reductions using the National Laboratory of the Rockies' (NLR) ResStock and ComStock end-use load profiles (for 2018) for the residential and commercial sectors, respectively, for each state.[7] Since ComStock does not represent all the floor area modeled in CBECS, we scaled the commercial electricity load using 2018 commercial electricity sales for each state. For consistency, we also scaled the ResStock data using 2018 residential electricity sales. For each state, we calculated the summer peak hour based on the highest 15-minute usage from June 1 to September 30 for the

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[5] www.eia.gov/consumption/residential/data/2020/.

[6] www.eia.gov/consumption/commercial/data/2018/; www.eia.gov/electricity/data.php#sales (October 7, 2025, release); www.eia.gov/dnav/ng/ng_cons_sum_a_EPG0_vgt_mmcf_a.htm (March 31, 2026, release).

[7] resstock.nlr.gov/datasets; comstock.nlr.gov/page/datasets. We used ResStock 2025 Release 1, AMY2018 (October 2025) and Comstock 2025 Release 2, AMY2018 (August 2025).

combined residential and commercial loads, and we calculated the winter peak hour based on the highest 15-minute usage from December 1 to February 28.

For each electric end use, we summed the four 15-minute data points in the peak hour. We also summed the 15-minute data for the full year for each end use and divided by 8,760 hours to calculate the average hourly electricity use. We then calculated the peak load factor (PLF) by dividing the electricity use during the peak hour by the average hourly electricity use.

The PLF represents electricity usage during the peak hour relative to average hourly usage over the year. A PLF greater than 1 means that during the peak hour, more electricity is used than in an average hour. Cooling products, for example, generally have a summer PLF significantly greater than 1 (i.e., significantly more electricity is used for cooling during the summer peak hour compared to the average hourly electricity used for cooling over the year). A PLF less than 1 means that during the peak hour, less electricity is used than in an average hour. For example, for most states, the residential dishwasher end use has a summer peak PLF of slightly less than 1 (i.e., less electricity is used for cleaning dishes during the summer peak hour compared to the average hourly electricity used for cleaning dishes over the year).

To calculate the summer and winter peak demand reductions associated with each standard, we first divided the annual electricity savings by 8,760 hours to calculate the average hourly electricity savings. We then multiplied the average hourly electricity savings by the summer and winter PLFs for the appropriate end use. For standards for certain products not represented by the NLR end-use load profiles (e.g., battery chargers, dehumidifiers, microwave ovens), we applied a flat load profile (i.e., a PLF of 1). For portable electric spas, we applied the PLF for the sum of pool heating and pumps. For electric motors, we applied the PLF for the sum of the fan and pump end uses in commercial buildings to the portion of motors used in the commercial sector; we applied a flat load profile to the portion of motors used in the residential and industrial sectors.

For certain products, we adjusted the PLF values before applying them to the electricity savings. Specifically, for air-conditioning product categories that have efficiency metrics based on seasonal efficiency—that is, central ACs and heat pumps, room ACs, and commercial package ACs and heat pumps—we took into account that an improvement in seasonal efficiency does not translate directly to an increase in peak efficiency because different equipment designs can result in a range of peak load efficiency for a given seasonal efficiency. These adjustments are described in our June 2025 report.[8]

Utility bill savings

We calculated utility bill savings by multiplying the annual electricity, natural gas, and water savings by respective state-by-state average prices. To project electricity prices through 2050, we used price projections from the Annual Energy Outlook 2026 (AEO2026) to calculate electricity prices for each of the Electricity Market Module (EMM) regions relative to 2025 prices. We then applied these projections for the EMM regions to 2025 state-by-state electricity prices.[9] For states that span more than one EMM region, we calculated weighted-average electricity prices based on population. For states entirely within an EMM region, we assigned the regional price to the state. Alaska and Hawaii are not included in the

[8] Margolis, Rachel, and Joanna Mauer. 2025. *More Savings Ahead: The Potential of Future Appliance Standards*. Boston: ASAP. appliance-standards.org/more-savings-ahead-potential-future-appliance-standards.
[9] www.eia.gov/electricity/data/browser/#/topic/7?agg=1,0&geo=00fvvvvvvvvo&endsec=8&freq=A&start=2024&end=2025&ctype=linechart&ltype=pin&rtype=s&pin=&rse=0&maptype=0 (Accessed March 4, 2026).

EMM data; for these states we assumed the rate of change in electricity prices would be equivalent to the U.S. average.

To project natural gas prices through 2050, we used price projections from AEO2026 to calculate prices for each of the nine U.S. Census divisions relative to 2025 prices. We then applied these regional price projections to 2025 state-by-state natural gas prices.[10]

We calculated regional water and wastewater prices based on the historical consumer price index for water and sewerage maintenance, and 2022 regional prices and DOE price projections from the 2024 clothes washers final rule.[11]

Emissions reductions

We calculated state-by-state NO_X and CO_2 emissions reductions from electricity savings by multiplying annual electricity savings by respective state-by-state average emissions factors. We calculated emissions factors for 2025–2050 for each of the EMM regions by dividing electric power sector emissions by electric power sector generation from AEO2026 and assuming transmission and distribution losses of 4.4%.[12] For states that span more than one EMM region, we calculated weighted-average emissions factors based on population. For Alaska and Hawaii, we used emissions factors from 2023 and assumed the rate of change of emissions factors would be equivalent to the U.S. average.

We calculated state-by-state NO_X and CO_2 emissions reductions from natural gas savings by multiplying annual natural gas savings by emissions factors of 94 lb./million cu. ft. for NO_X and 52.91 kg/million Btu for CO_2.[13]

[10] www.eia.gov/naturalgas/data.php#prices (March 31, 2026, release). For states for which 2025 prices were unavailable, we assumed the change in prices between 2024 and 2025 was equivalent to the change for the United States as a whole.
[11] www.regulations.gov/document/EERE-2017-BT-STD-0014-0513.
[12] We calculated transmission and distribution losses by dividing estimated losses by total disposition minus direct use from "Table 10: Supply and disposition of electricity": www.eia.gov/electricity/state/unitedstates/ (December 5, 2025, release).
[13] www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf; www.eia.gov/environment/emissions/co2_vol_mass.php.