

2022 State Policy Scorecard for Water Efficiency and Sustainability

EXECUTIVE SUMMARY



Executive Summary

About the 2022 U.S. State Policy Scorecard for Water Efficiency and Sustainability

With climate change reducing and interrupting water supplies across much of the United States, there is an urgent need to increase investments in water efficiency and conservation, which are typically the fastest and least expensive ways to save water while also lowering water bills, reducing energy use and greenhouse gas emissions, and protecting rivers and lakes. Water efficiency also helps build resilience to extreme weather events that are increasing in frequency and duration because of climate change.

The 2022 U.S. State Policy Scorecard for Water Efficiency and Sustainability (Scorecard) ranked each U.S. state based on its adoption and implementation of state-level laws and policies that advance water efficiency, conservation, sustainability, and affordability, with a focus on measures that relate to the residential, commercial, industrial, and institutional sectors. The Scorecard is intended to encourage state action by identifying exemplary laws and policies as well as opportunities for improvement.

The Scorecard is not, however, a quantification of how efficiently water is used within a state's borders. This is in part because state water use varies considerably between and within states based on climate, demographics, and other factors, and because there are tens of thousands of water providers across the U.S., it would be challenging to bring this data together in a consistent way. Similarly, the Scorecard is not an assessment of how available water is within a state's borders.

Why Look at State Laws?

Apart from federal standards for plumbing fixtures and appliances, water efficiency policies and investments are made primarily at the local and state levels. States can advance water efficiency by providing financial assistance and adopting policies and requirements that help ensure best practices are implemented. State policy and funding influence water use through water agencies, land use authorities, energy companies, developers and builders, businesses, and the general public. As a result, state policy is an important tool to shape our water future.

State-level policies are even more important now that the U.S. Congress has authorized billions of dollars in loans and grants for water services as part of the *Infrastructure Investment and Jobs Act* and the *Inflation Reduction Act*. Most of these funds will be administered by states and can only be maximized with good state policies in place.

Given that water services are generally both delivered and funded by local water utilities and cities, local and regional policies and programs play an important role in advancing water efficiency. However, it should be noted that the Scorecard is exclusively a state-level policy analysis.

Scoring the States

THE 2022 SCORECARD BUILDS ON AWE'S 2012 AND 2017 SCORECARDS and includes new and refined survey questions intended to reflect the evolution of water efficiency since 2017. These new questions highlight important emerging issues such as financial assistance for low-income households, water and land use planning coordination, and leveraging the energy-water nexus.

Each state completed a 23-question survey which assessed whether certain water efficiency and sustainability laws and policies have been adopted, and they earned points based on their answers. The survey and scoring rubric were reviewed and guided by a Project Advisory Committee consisting of state water agency officials. The Alliance for Water Efficiency and the Environmental Law Institute verified state survey responses by identifying corresponding requirements in statutes or regulations and, as needed, clarifying with state staff and reviewing publicly available information.

While accounting for the extent of policy implementation was beyond the scope of this analysis, additional weight was given to laws and policies that facilitate action or require implementation. New for 2022 is a 1st through 50th ranking for each state based on how many points were earned out of 89 possible points, with 99 points possible including extra credit (See **Table ES-1**). Regional rankings were also included for the first time to provide comparisons across state groups that may face similar climate, water supply, and political conditions. Unlike previous Scorecards, states were not assigned letter grades in the 2022 iteration. This revision was made because, with water efficiency evolving quickly, the Scorecard's questions and weighting of scores evolved and will continue to change into the future. This makes it difficult to compare grades over time. Moreover, because nearly every state received less than half of the possible points, a grading scale would either lead to most states doing poorly or, using a grading curve, resulting in grades that overstate progress. A focus on points earned and state rankings provides a more objective assessment.

Executive Summary **Figure ES-1** shows the primary scoring categories and **Figure ES-2** highlights new scoring categories for 2022.

Figure ES-1

Primary Scoring Categories from 2017



Figure ES-2

New Scoring Categories for 2022

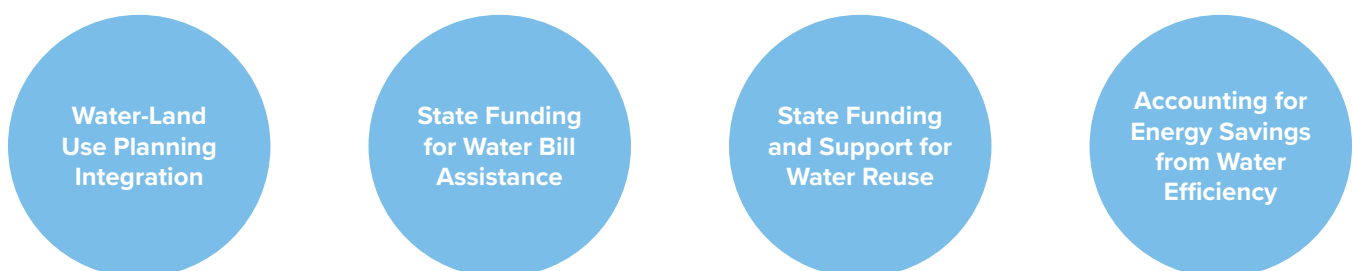


Table ES-1

2022 State Rankings and 2017 Comparisons

State	Change	2022 Ranking	2022 Points	2017 Ranking	2017 Points	Ranking Change From 2017
California	—	1	72.5	1	52.5	0
Texas	—	2	54.5	2	51.5	0
Arizona	—	3	50	3	41.5	0
Washington	↑	4	49	8	35	4
Georgia	↓	5	46.5	4	40.5	-1
New York	↑	6	46	21	23.5	15
Nevada	—	T7	43.5	7	35.5	0
New Hampshire	↑	T7	43.5	11	32.5	4
Colorado	↓	9	42.5	T5	37.5	-4
Minnesota	↓	10	42	9	34	-1
Rhode Island	↑	11	40.5	13	29.5	2
Oregon	↓	12	40	T5	37.5	-7
Massachusetts	↑	13	38	15	28.5	2
Virginia	↓	14	36.5	10	33.5	-4
New Jersey	↓	15	35	14	29	-1
Connecticut	↑	16	33	T17	26	1
Maryland	↑	17	32	26	14	9
Florida	↑	18	31.5	20	24.5	2
Kentucky	↓	19	28.5	12	30	-7
Utah	↓	20	28	T17	26	-3
North Carolina	↓	21	26	T17	26	-4
Wisconsin	↓	22	23	16	27	-6
Delaware	—	23	22.5	23	16.5	0
Hawaii	—	T24	20	T24	16	0
New Mexico	—	T24	20	T24	16	0
Illinois	↓	26	19	22	18	-4
Tennessee	—	27	15	T27	13	0
South Carolina	↑	T28	13.5	T29	12.5	1
Vermont	↑	T28	13.5	T36	8.5	8
Montana	↑	30	13	38	8	8
Maine	↑	31	12	T45	4	14
Arkansas	↓	T32	11.5	T29	12.5	-3
Kansas	—	T32	11.5	T32	10.5	0
West Virginia	↓	34	11	31	12	-3
Alabama	↓	T35	10.5	T32	10.5	-3
Indiana	↓	T35	10.5	T27	13	-8
Louisiana	↓	37	10	T34	9	-3
Iowa	↓	38	8.5	T36	8.5	-2
Idaho	—	T39	8	T39	7	0
Ohio	↓	T39	8	T34	9	-5
Nebraska	↓	T41	6	T39	7	-2
Oklahoma	↓	T41	6	T39	7	-2
Michigan	↑	43	5.5	T47	3	4
Pennsylvania	↓	T44	5	42	6	-2
Wyoming	↑	T44	5	50	1	6
Missouri	↑	T46	4	T47	3	1
North Dakota	↓	T46	4	T43	5	-3
South Dakota	↓	48	3	T43	5	-5
Alaska	—	T49	2	49	2	0
Mississippi	↓	T49	2	T45	4	-4

Note: Data as of 11/15/22 • T = tied score

Regional Rankings

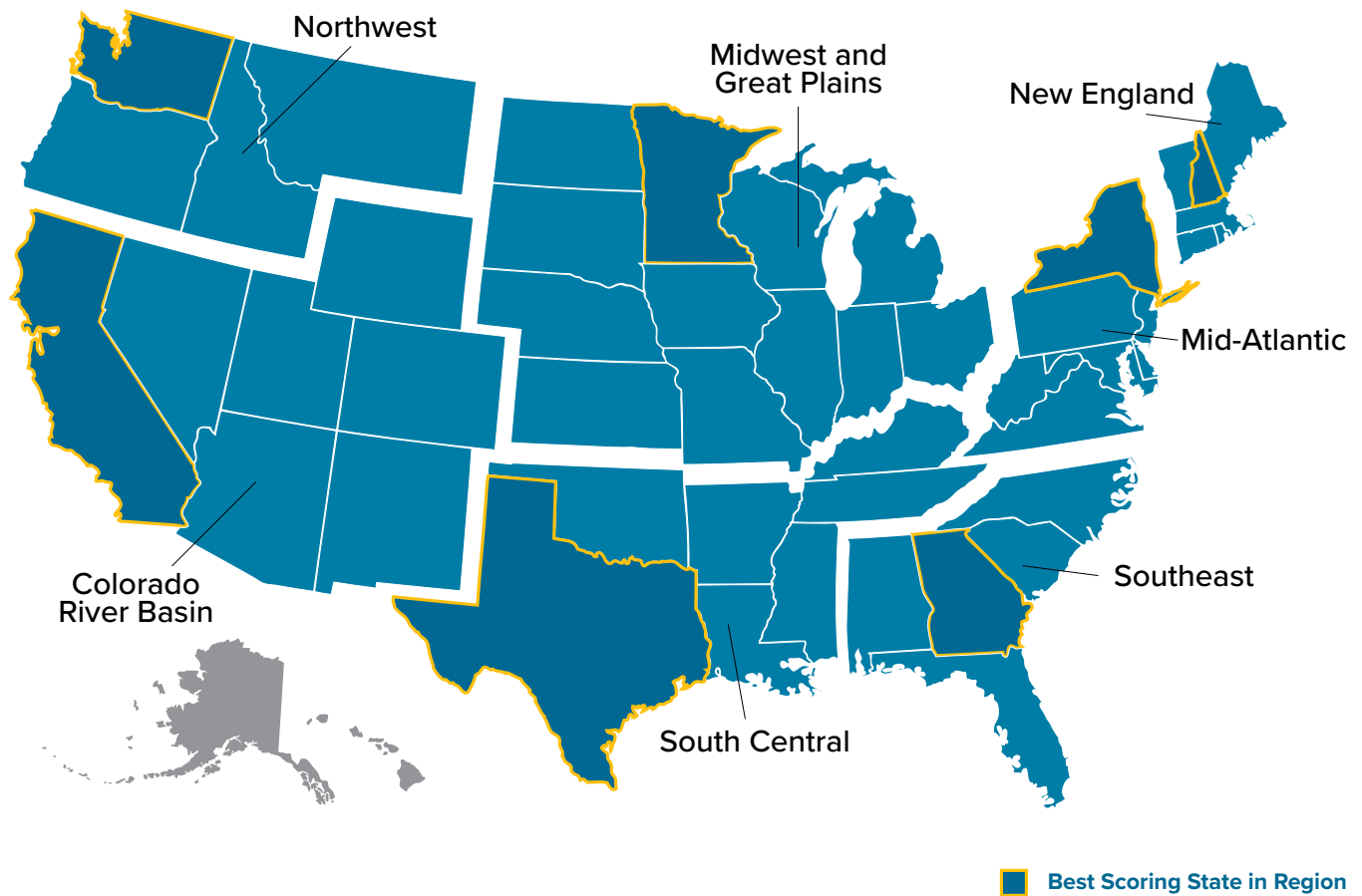
For the first time, the Scorecard ranked states by region to emphasize the importance of water efficiency and sustainability across the nation and to allow for comparisons between states with similar climates and demographics, among other factors. **Table ES-2** lists the regions, which states are in each region, and which state ranked 1st per region.

Table ES-2

Top States by Region

Region	States	1 st Place State
Northwest	ID, MT, OR, WA	Washington
Colorado River Basin	AZ, CA, CO, NV, NM, UT, WY	California
Midwest and Great Plains	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH SD, WI	Minnesota
South Central	AR, KY, LA, MS, OK, TN, TX	Texas
New England	CT, ME, MA, NH, RI, VT	New Hampshire
Mid-Atlantic	DE, MD, NJ, NY, PA, VA, WV	New York
Southeast	AL, GA, FL, NC, SC	Georgia

**Hawaii and Alaska were not assigned a region. Scorecard regions were loosely based on the U.S. Drought Monitor Map regions.*



Changes from 2017 to 2022

Table ES-3 compares changes to the number of states with policies that were surveyed in both the 2017 and 2022 Scorecards. The most significant progress was with adoption of point-of-sale plumbing efficiency standards. A red box indicates fewer states had this policy in place compared to the 2017 Scorecard, while a green box indicates more states had this policy in place in the 2022 Scorecard.

Table ES-3

Number of States with Select Policies in 2017 vs. 2022

Policies	Number of States		Change
	2017	2022	
Plumbing Fixture Standard and Codes			
Toilets	5	12	7
Showerheads	3	13	10
Urinals	5	13	8
Building & Plumbing Codes	4	6	2
Water Loss Control	23	24	1
Drought Preparedness Planning	19	21	2
Water Conservation Planning			
Required Condition of Water Permits or Water Use Rights	22	22	0
General Requirement of Water Suppliers	15	18	3
State Funding for Water Efficiency Programs	18	19	1
State-provided Technical Assistance for Water Efficiency	30	29	-1
Rate Structures that Encourage Conservation			
Require Volumetric Billing	11	12	1
Require Conservation-oriented Rate Structures	8	8	0

THE FOLLOWING MAPS show where states stand in 2022 on a select set of the Scorecard’s questions. See the Appendix for the complete list of survey questions and the scoring rubric.

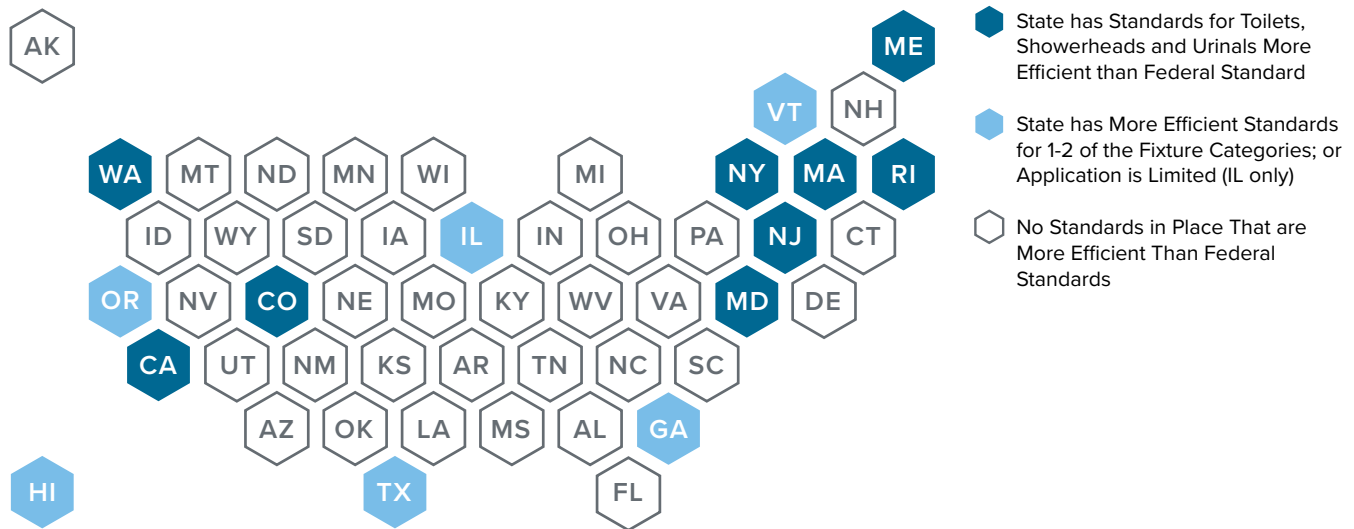
Plumbing Fixture Standards and Codes

Figure ES-4 reflects which states require toilets, showerheads, and/or urinals sold within the state to be more efficient than what is required by Energy Policy Act of 1992 (EPACT92). This was the area of greatest progress since the 2017 Scorecard, with ten states adopting point-of-sale efficiency requirements since 2017 for a total of 15 states plus the District of Columbia. See Table ES-4 for a complete list. Most laws require the specific sale of WaterSense labeled products, which are about 20 percent more efficient than the federal standards. Four states (Hawaii, Maine, Oregon, and Washington) require fixtures to meet standards set out in the California Energy Commission’s Title 20 Appliance Efficiency Regulations, known as the “California Standards”. Further, California is the only state that earned extra credit points for regulations that require fixtures in a property to be upgraded upon the sale of a home or building. AWE tracks these regulations in a State Fixture Standards Matrix.¹



Figure ES-4

Point-of-Sale Fixtures Standards



1. <https://www.allianceforwaterefficiency.org/resources/topic/state-fixture-standards-matrix>

Table ES-4

List of States with Point-of-Sale High Efficiency Plumbing Standards

States that adopted Point-of-Sale High Efficiency Plumbing Requirements since 2017	
Toilets	ME, MA, MD, NJ, NY, RI, WA
Showerheads	HI, ME, MA, MD, NJ, NY, OR, RI, VT, WA
Urinals	MA, MD, ME, NJ, NY, RI, VT, WA
States that Adopted Point-of-Sale High Efficiency Requirements in 2017 or earlier	
Toilets	CA, CO, GA, IL, TX
Showerheads	CA, CO, IL
Urinals	CA, CO, GA, IL, TX

Only five states (California, Georgia, Massachusetts, Nevada, and New York) received full credit for question 5, which asked if state law requires building or plumbing codes specifying the use of water efficient products in the course of construction. Texas received partial credit as their regulation only applies to a specific subset of buildings or conditions. In most states, local governments have historically been responsible for adopting building and plumbing codes. However, few local governments require water efficient fixtures, which is why state requirements are important.

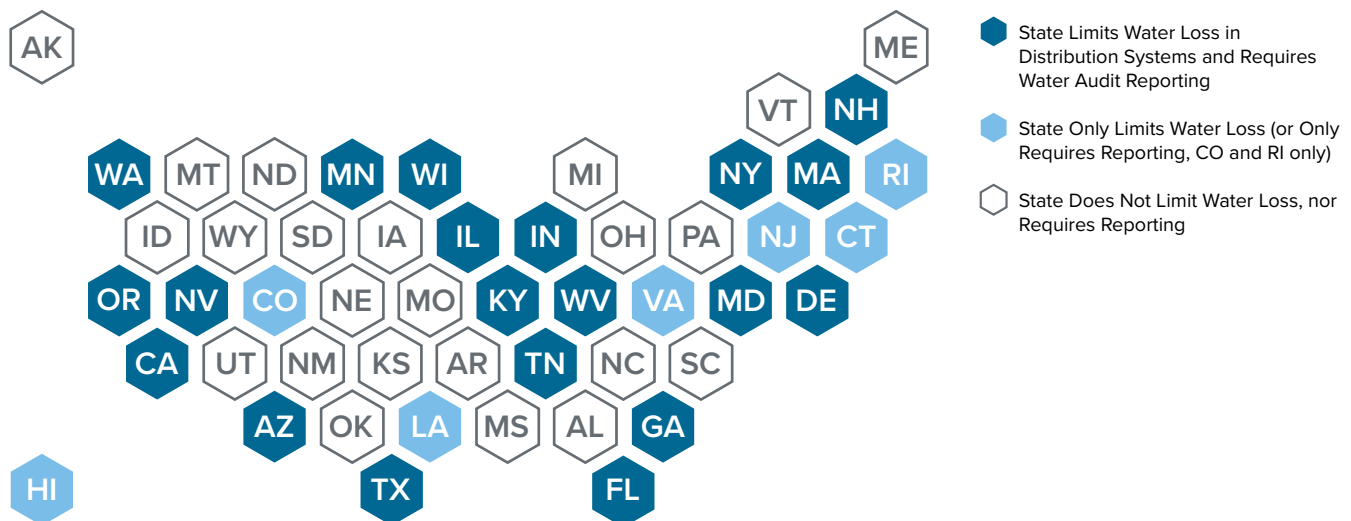
Water Loss Control

Figure ES-5 indicates which states have policies that put limits on water loss in utility distribution systems and policies to require water utilities to perform an audit on their systems. Only one state, California, adopted a policy that limits water loss in distribution systems since 2017. This was the first Scorecard respondents were asked if water audits must be submitted to the state, and 23 of the 24 states confirmed that they have a policy requiring water loss audits.



Figure ES-5

Water Loss Policies



Planning

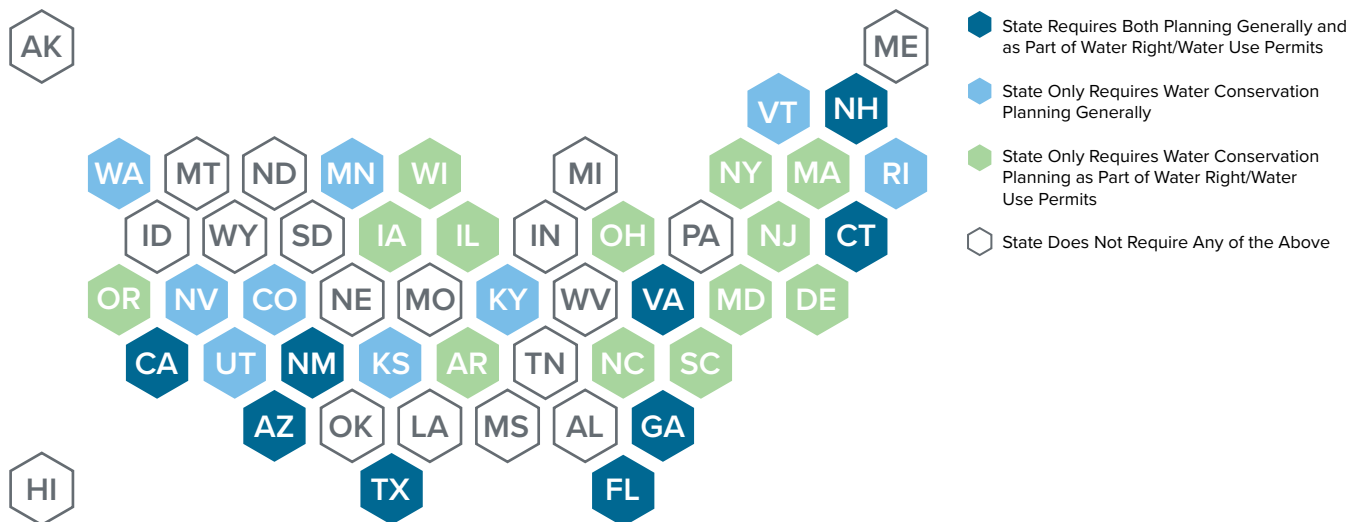
THERE ARE A VARIETY OF WAYS states can help water stakeholders and entities plan and prepare. The Scorecard asked states about four different types of planning, including water conservation planning, drought preparedness planning, climate change planning, and water-land use planning integration.

WATER CONSERVATION PLANNING

Figure ES-6 illustrates the 13 states that require water suppliers to plan and/or implement water conservation measures as either a condition of a water right or water use permit and the 18 states that require water suppliers to develop plans for water conservation and efficiency independent of a permit. Nine states require both. This information was collected through questions 7 and 9. Only three states (Georgia, Florida, and New Hampshire) have adopted water conservation planning requirements, independent of any water permitting (Q9) since 2017. No additional states adopted water conservation planning requirements as a condition of a water right or water use permit since 2017 (Q7).



Figure ES-6:
Water Conservation Planning Policies Map



DROUGHT PREPAREDNESS PLANNING

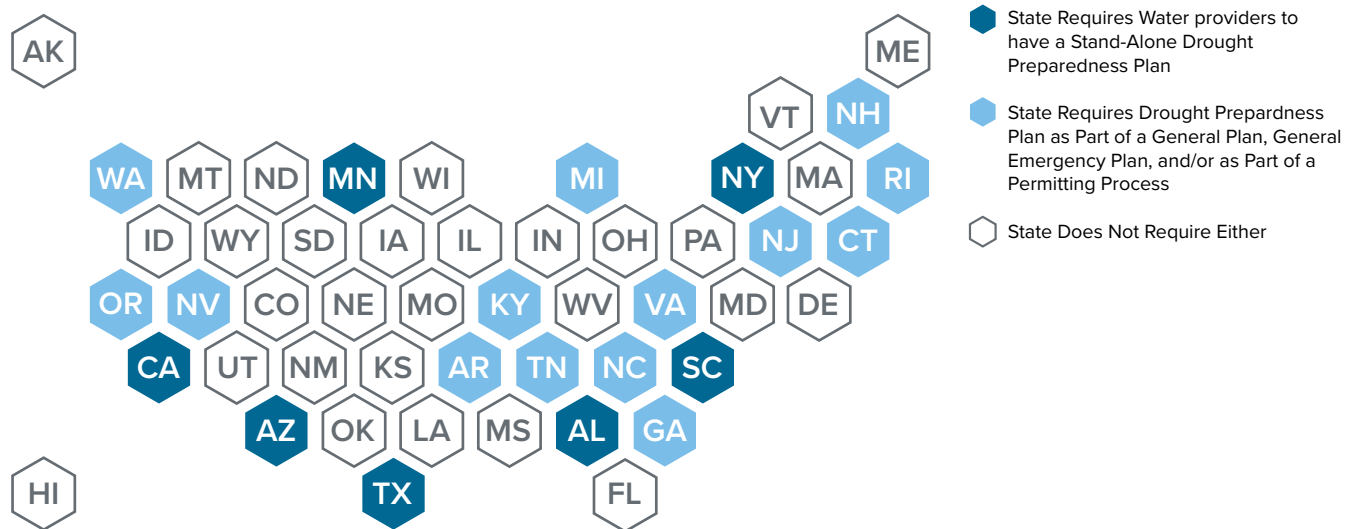
Climate change is fueling more frequent and more severe droughts across the U.S. and the world. The prolonged drought in the Western U.S. has been described as the worst in 1,200 years, and drought extends beyond the West with nearly every state experiencing drought in 2022. Drought plans are comprised of short-term actions performed in response to an immediate drought-induced supply challenge, whereas conservation plans are focused on reducing long-term water demand regardless of drought conditions. Both types of plans are instrumental for states to ensure reliable, affordable water supplies.



Figure ES-7 shows which states require water suppliers to develop a drought/water shortage preparedness plan, collected through survey question 8. Despite severe and widespread drought across the United States, only Michigan and New York added this critical planning process since 2017.

Figure ES-7

Drought Preparedness Planning Policies Map





CLIMATE ACTION PLANNING

Based on the results from the separate Climate Resiliency Scorecard in 2017, AWE chose to incorporate climate action planning into the overall scores and rankings for this Scorecard. Climate change is fueling warmer, drier weather across much of the U.S. as well as more extreme weather events. **Figure ES-8** indicates which states help address these challenges by requiring water and wastewater providers to develop plans that prepare for a changing climate and by offering support through funding and technical assistance (Q14, Q15). Only California received full credit for these two questions.

WATER-LAND USE PLANNING INTEGRATION

Coordination is needed, but often lacking, between water planning and land use planning to ensure that water services can affordably and sustainably keep pace with growth. **Figure ES-9** shows which states help ensure there is a connection between these planning processes (Q16, Q17). Question 18 determined which states provide funding or other assistance in support of this coordination. Hawaii and New Hampshire lack a coordination requirement but do provide support.

Figure ES-8

Climate Action Planning Policies

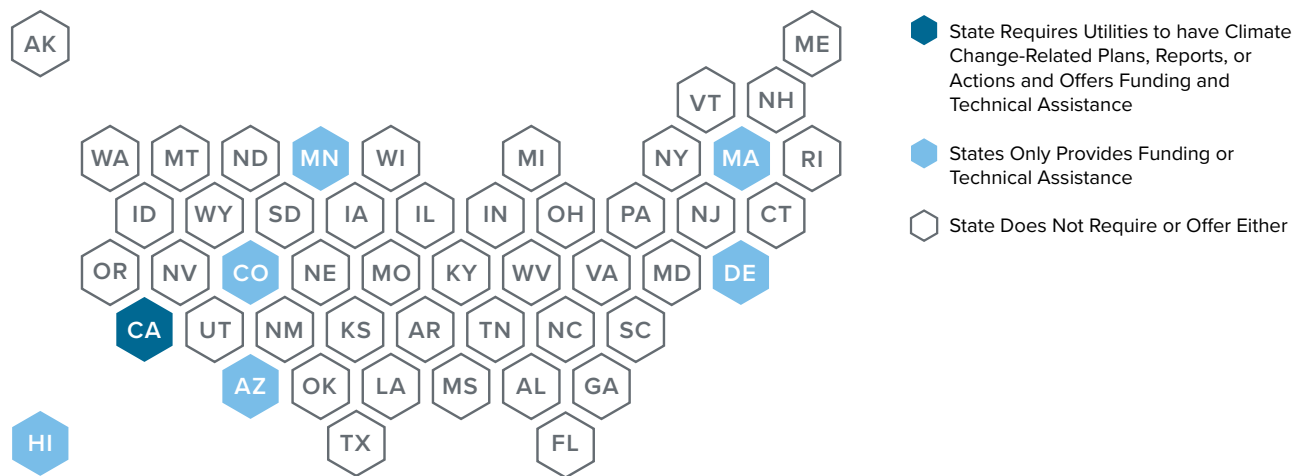
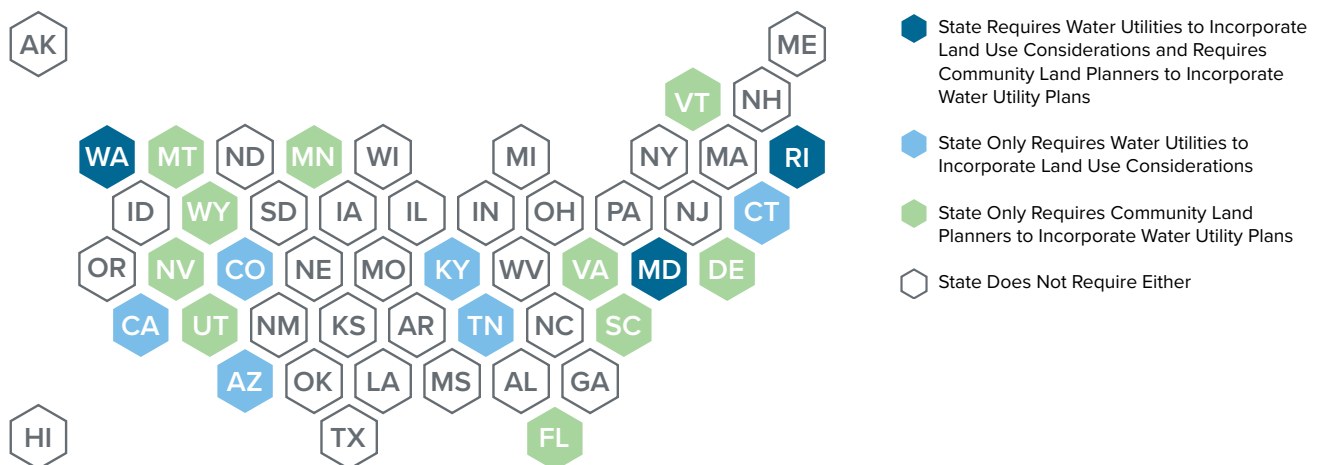


Figure ES-9

Water and Land Use Integration Planning Policies



State Funding for Water Efficiency Programs and State-Provided Technical Assistance for Water Efficiency

Water efficiency and conservation are typically the fastest and least expensive ways to save water while also lowering water bills, reducing energy use and greenhouse gas emissions, and protecting rivers and lakes. However, with many water agencies increasingly financially challenged (see the Water Affordability section below for details), water efficiency and conservation programs are often underfunded. States can help water suppliers afford to pilot, start, and scale up such programs.



Thirty-three states listed their federally-appropriated State Revolving Loan Funds (SRFs) as sources of funding for water conservation and efficiency. While AWE supports this use of SRFs, it is important that states also dedicate state funds, independent of SRFs, for water conservation and efficiency. This is especially true for low-income communities that often have greater financial challenges providing water services. **Figure ES-10** shows which states provide separate funding for water conservation and efficiency (Q10) and those that provide technical assistance like online resources and direct support (Q11). Only one state (New York) added dedicated funding for water conservation since 2017.

Figure ES-10
State-provided Funding and Technical Assistance

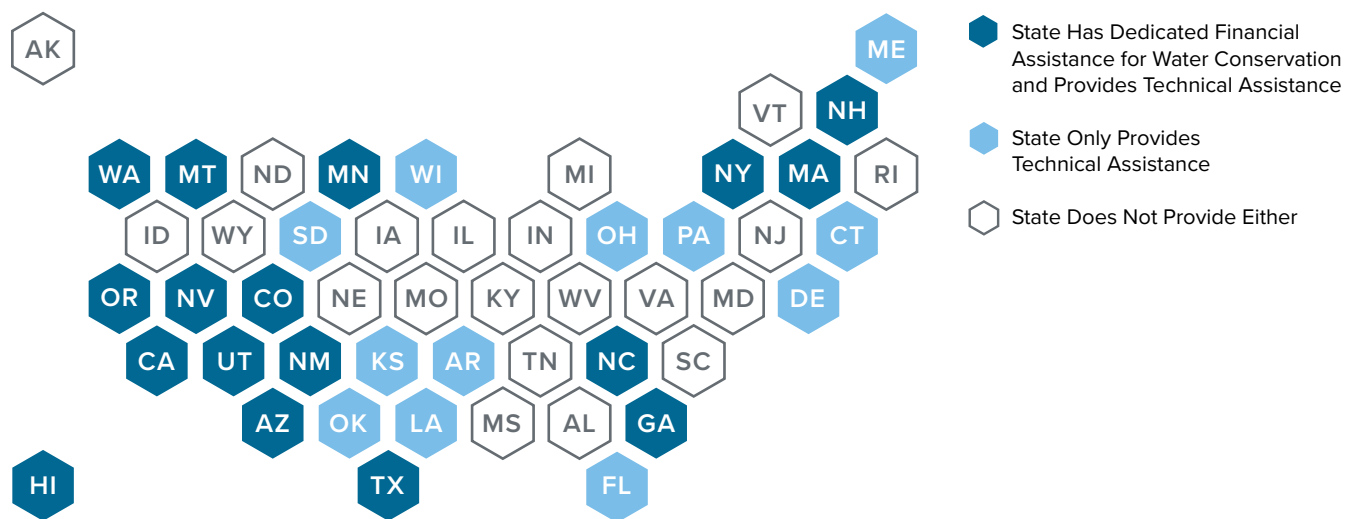
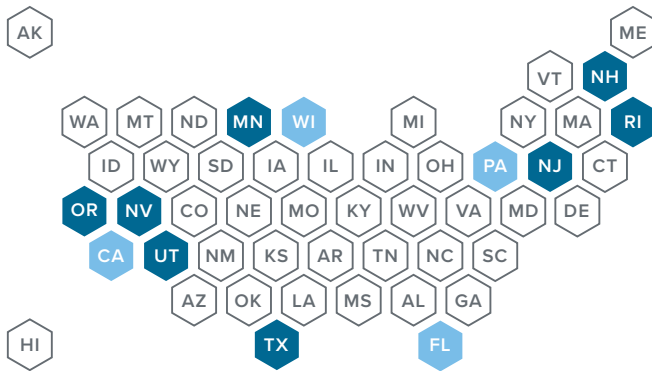





Figure ES-11

Rates that Encourage Conservation Policies



-  State Requires Water Suppliers to Implement Volumetric Billing and Requires Rate Structures Designed to Encourage Water Conservation
-  State Only Requires Water Suppliers to Implement Volumetric Billing
-  State Does Not Require Either

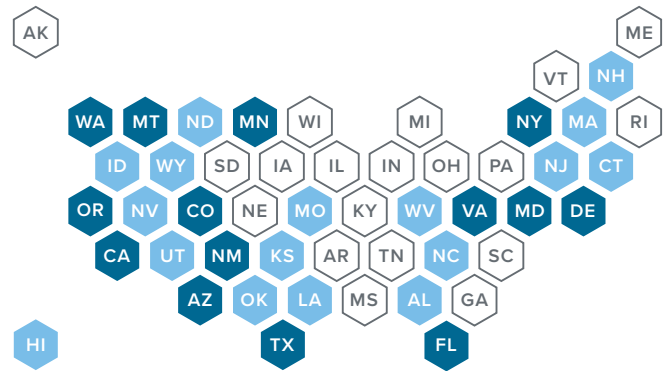
Rate Structures that Encourage Conservation






It has long been demonstrated that if a customer’s bill is a function of how much water they use, they are more likely to pay attention to their water use, invest in efficiency measures, and reduce their water use. Volumetric billing allows customers to have some level of control over their bills. Beyond volumetric billing, water suppliers can use rate structures that are explicitly designed to encourage water conservation. The most common version of this is an increasing or inclining block rate structure where the price per unit increases as the amount of water used increases. Pennsylvania was the only state to make progress in this space since 2017, adding a requirement that water utilities must use volumetric billing. **Figure ES-11** shows the results along these lines (Q12, Q13).

Figure ES-12

Water Reuse Policies



-  State Provides Funding for Water Reuse and has Promulgated Regulations Governing Water Reuse
-  State Promulgated Regulations Governing Water Reuse
-  State Has Neither

State Funding and Support for Water Reuse



Water reuse, also known as water recycling, is the process of intentionally capturing wastewater, stormwater, saltwater, or graywater (e.g., water from showers and washing machines) and treating it as needed for a designated beneficial purpose such as drinking, irrigation, industrial processes, surface or groundwater replenishment, and watershed restoration. This can be more efficient and environmentally friendly than discharging wastewater and stormwater to rivers, lakes, and oceans and can work well in coordination with traditional water conservation and efficiency measures.

This was a new category for the Scorecard, which sought to identify which states provide funding for reuse projects and if there are state-level regulations governing water reuse (Q21, Q22). **Figure ES-14** shows that 14 states reported both water use regulations and offering funding for reuse projects. Fifteen other states reported having reuse regulations but cited no funding for water reuse projects. This data omits a number of states that failed to report their water reuse regulations. AWE learned of these omissions too late in the process to update the maps and scoring. See EPA’s [regulation tracker](#) for more information.

Water-Energy Nexus

Saving water also saves energy by reducing the energy needed to pump, treat, heat, and deliver water. States can help encourage investments in water efficiency by accounting for these energy savings and, in particular, allowing energy utilities to receive energy efficiency credit when they fund water-saving projects. Nearly every state already does this to some extent for “hot water/end user” energy savings. For example, water-efficient clothes washers and showerheads use less hot water and, thus, save “end user” energy. The Scorecard awarded points to the three states allowing energy utilities to get credit for system-wide energy savings (the reduction in energy used to collect, treat, and deliver water and collect and treat wastewater): California, Illinois, and Wisconsin.

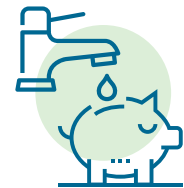


Water Affordability

Water agencies offer a variety of programs to help low-income households afford water bills. However, with more customers struggling to pay their bills and the costs of managing water and wastewater services increasing relatively quickly, many water agencies cannot afford to meet the needs of every customer. This can lead to water shutoffs or liens on properties, especially in low-income communities, which often have high demand for financial assistance but fewer resources.

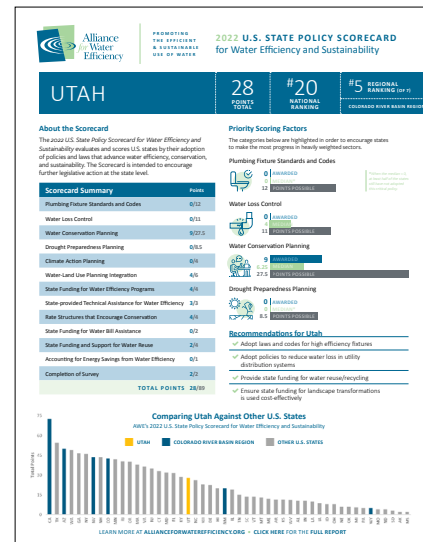
With this in mind, the survey asked whether states provide water bill financial assistance for low-income households (Q19). While most states passed along temporary federal assistance available during the pandemic from the Low-Income Household Water Assistance Program (LIHWAP), only Connecticut reported using its own revenues for water bill financial assistance. AWE supports making the federal LIHWAP program permanent, just as the federal Low-Income Home Energy Assistance Program (LIHEAP) is permanent.

Question 20 addressed another challenge to affordability: states that limit the ability of water utilities to fund financial assistance programs by prohibiting the use of revenues generated by their customers (“rate-funded”). A small number of states have this prohibition, while a few others clearly authorize the use of rate revenues for customer financial assistance. Unfortunately, in most states, the laws and regulations are very unclear. As a result, we chose not to score this question. However, AWE’s next Scorecard will explore this important issue. Without clarity, some utilities are hesitant to create rate-funded assistance programs.



Individual State Scorecards

THE 2022 STATE POLICY SCORECARD FOR WATER EFFICIENCY AND SUSTAINABILITY INCLUDES INDIVIDUAL ONE-PAGE SCORECARDS FOR EACH STATE, which include their score, ranking, regional ranking, summary of scoring by question categories, a visual comparison of the state to all other states, with their region’s states also highlighted (See page iiiii). These individual scorecards also include three tailored recommendations. Detailed information about each state’s scores can be found online.²



Recommendations for States

STATES HAVE MULTIPLE MEANS TO ENABLE AND FACILITATE MORE EFFICIENT USE OF WATER. These efforts help reduce utility costs and customer bills, improve resiliency, mitigate and adapt to climate change, and protect the environment and our waterways.

These are the **top recommendations** states should consider:

- Adopt laws and codes requiring high efficiency plumbing fixtures
- Allocate state funding for water efficiency and conservation
- Require water rate structures that encourage conservation
- Limit the amount of water lost from utility distribution systems
- Require water utilities to develop and implement conservation plans
- Require water utilities to develop and implement drought preparedness plans
- Require water utilities to develop and implement climate change plans
- Require coordination between land use and water planning
- Allocate state funding for water reuse/recycling
- Provide water bill financial assistance for low-income customers and adopt policies that clearly authorize the use of rate revenues for customer financial assistance

² <https://www.allianceforwaterefficiency.org/2022Scorecard>