50 STATES OF POWER DECARBONIZATION

Q1 2023 Quarterly Report

NC CLEAN ENERGY TECHNOLOGY CENTER | DSIRE insight

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The NC Clean Energy Technology Center is a UNC System-chartered Public Service Center administered by the College of Engineering at North Carolina State University. Its mission is to advance a sustainable energy economy by educating, demonstrating and providing support for clean energy technologies, practices, and policies. The Center provides service to the businesses and citizens of North Carolina and beyond relating to the development and adoption of clean energy technologies. Through its programs and activities, the Center envisions and seeks to promote the development and use of clean energy in ways that stimulate a sustainable economy while reducing dependence on foreign sources of energy and mitigating the environmental impacts of fossil fuel use.

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OTHER 50 STATES REPORTS

In addition to *The 50 States of Power Decarbonization*, the NC Clean Energy Technology Center publishes additional quarterly reports called *The 50 States of Solar*, *The 50 States of Grid Modernization*, and *The 50 States of Electric Vehicles*. These reports may be purchased here. Executive summaries and older editions of these reports are available for download here.

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GLOSSARY OF ABBREVIATIONS

ALJ	Administrative Law Judge
CCS	Carbon Capture and Sequestration
CCUS	Carbon Capture, Utilization, and Storage
CES	Clean Energy Standard
d/b/a	Doing Business As
DER	Distributed Energy Resource
DG	Distributed Generation
EERS	Energy Efficiency Resource Standard
FERC	Federal Energy Regulatory Commission
IRA	Inflation Reduction Act
IOU	Investor-Owned Utility
IRP	Integrated Resource Plan
GHG	Greenhouse Gas
GW	Gigawatt
ISO	Independent System Operator
kW	Kilowatt
MW	Megawatt
MWh	Megawatt-Hour
PPA	Power Purchase Agreement
PV	Photovoltaics
REC	Renewable Energy Credit (or Certificate)
RFP	Request for Proposals
RPS	Renewable Portfolio Standard
RTO	Regional Transmission Organization
SMR	Small Modular Reactor

OVERVIEW

WHAT IS POWER DECARBONIZATION?

Decarbonization is an expansive term generally referring to the reduction of carbon dioxide emissions. Decarbonization can be discussed in the context of any emitting sector – electric power, buildings, industrial processes, transportation, agriculture, or the economy as a whole. This report focuses specifically on decarbonization of the electric power sector, which may include economy-wide decarbonization actions that necessarily encompass the electric power sector.

PURPOSE

The purpose of this report is to provide timely, accurate, and unbiased updates to a broad audience of state lawmakers and regulators, state agencies, utilities, the clean energy industry, and other energy stakeholders, about how states are choosing to study, adopt, implement, amend, or discontinue policies associated with power decarbonization and how utilities are planning for and implementing future generation resource additions and retirements. This report catalogues proposed and approved executive, legislative, and regulatory changes affecting electric power decarbonization during the most recent quarter, as well as actions related to investor-owned utility resource plans and generation capacity changes.

The 50 States of Power Decarbonization report series provides regular quarterly updates and annual summaries of electric power decarbonization policy updates and utility resource planning, keeping stakeholders informed and up to date.

APPROACH

The authors identified relevant policy changes and resource planning updates through state utility commission docket searches, legislative bill searches, popular press, and direct communications with industry stakeholders and regulators.

Questions Addressed

This report addresses several questions about U.S. electric power sector decarbonization, including:

- What targets are states setting for clean/renewable electricity generation or the reduction of greenhouse gas emissions from the power sector?
- How are states reforming statutes and regulations governing utility generation resource planning, procurement, and retirement?

- What electric generation capacity additions and retirements are utilities planning over the near-term and long-term?
- What specific electric generation capacity additions are utilities seeking to implement in the near-term through direct development or procurement processes? What resources are utilities requesting approval to retire in the near-term?

Actions Included

This report focuses on cataloguing and describing important proposed and adopted policy changes related to electric power sector decarbonization.

In general, this report considers an "action" to be a relevant (1) legislative bill that has been introduced, (2) an open or recently decided regulatory docket or rulemaking proceeding, (3) an executive order or significant state agency initiative, (4) a recently published integrated resource plan, or (5) a competitive procurement under development or underway for electric generation capacity. Primarily, statewide actions and those related to investor-owned utilities are included in this report. Specifically, actions tracked in this issue include:

Studies and Investigations

State- or utility-led efforts to study issues related to electric power decarbonization, including decarbonization pathways, cost impacts, and other specific topics.

Clean Energy Targets

New state clean energy standards, renewable portfolio standards, or technology-specific capacity targets, or changes to existing targets. Changes to implementation rules, such as eligible technologies and facility sizes, covered entities, and alternative compliance payment rates are also included.

Emission Targets and Carbon Policies

New state greenhouse gas emission reduction targets or modifications to existing targets. Changes to implementation rules for emission reduction targets are also included, as well as state or regional carbon pricing policies, such as carbon taxes or cap-and-trade programs.

Planning and Procurement Rules

Changes to rules governing the utility integrated resource planning process, as well as rules governing utility procurement of electric generation resources or retirement of existing utility-owned generation facilities.

Utility Integrated Resource Plans

Integrated resource plans recently filed by investor-owned utilities and actively under review by regulators, as well as utility efforts to develop an integrated resource plan in advance of filing the plan with regulators.

Generation Capacity Changes

Utility-initiated requests to build, acquire, convert, or retire generation facilities, as well as utility green tariffs for large customers and state- or utility-led competitive procurements for electric generation resources (excluding utility requests for approval of individual power purchase agreements and competitive procurements for unbundled renewable energy certificates).

Actions Excluded

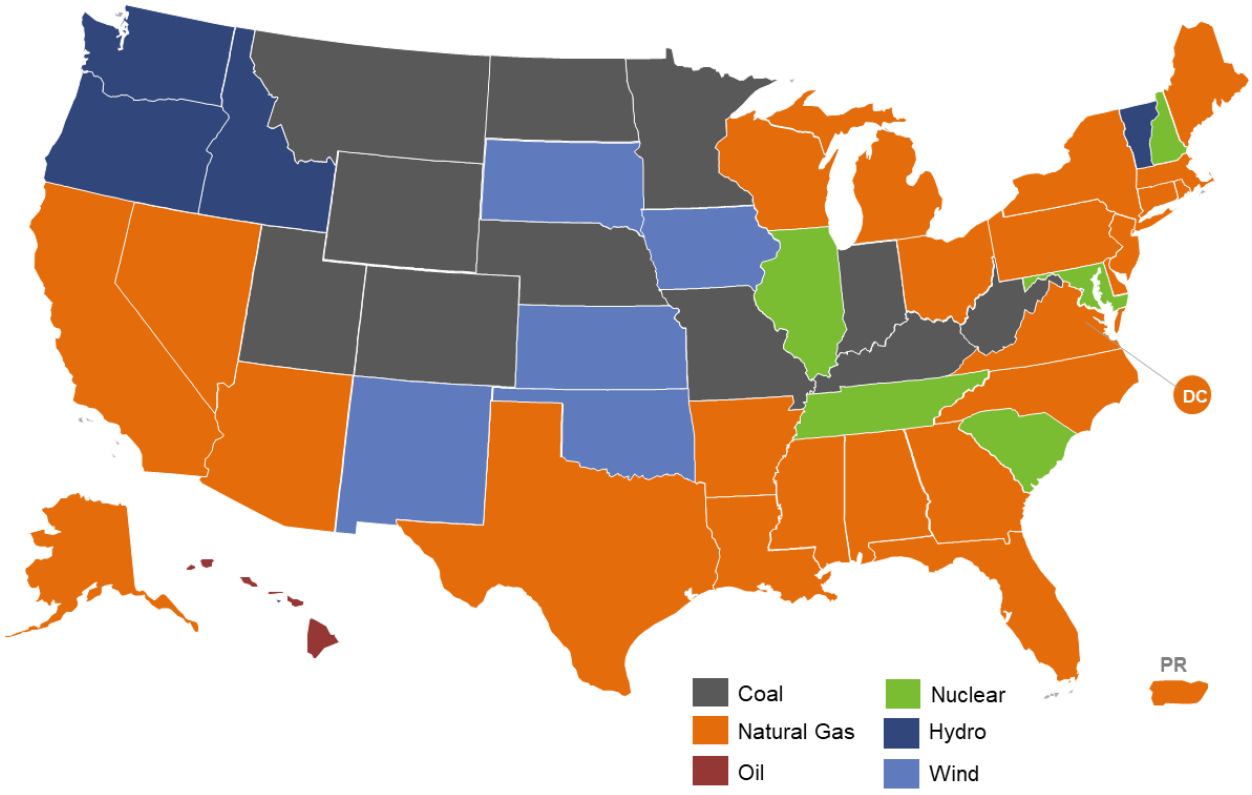
This report excludes actions that are specifically related to decarbonization of buildings, industrial processes, transportation, and agriculture. The report authors recognize that there are numerous important policy and regulatory issues related to clean energy project development that are highly relevant to overall electric power sector decarbonization. In order to maintain a well-defined scope of content, the report excludes actions specifically related to transmission and distribution planning, interconnection rules, and permitting and siting rules. Distribution system planning efforts are covered in the 50 States of Grid Modernization quarterly report, as well as a multitude of policies pertaining specifically to energy storage. Actions specific to distributed generation and community solar are covered in the 50 States of Solar quarterly report, and actions related to transportation electrification are covered in the 50 States of Electric Vehicles quarterly report. As noted above, utility requests for approval of individual power purchase agreements and competitive procurements for unbundled renewable energy certificates are excluded from this report.

DECARBONIZING THE U.S. ELECTRIC POWER SECTOR

The electric power sector in the U.S. is the second largest source of greenhouse gas emissions, behind the transportation sector, with a majority of its energy resources coming from fossil fuels. The industrial end-use sector is right behind it, followed by commercial and residential buildings. Together, these sectors account for approximately 90% of U.S. greenhouse emissions.[1] While the electric power sector itself accounts for 25% of emissions, efforts underway to electrify transportation, buildings, and industrial processes amplify the impact of decarbonizing the power sector.

Current federal government goals have the U.S. attaining a carbon pollution-free power sector by 2035 and a net-zero economy by 2050. As of now, 20 states have set clean or renewable energy standards or goals to reach net-zero emissions by 2050 at the latest. In addition, a plethora of electric utilities have announced net-zero or carbon neutrality goals for Scope 1, Scope 2 – and for some – Scope 3 emissions.[2]

Figure 1. Largest Contributing Resource to State Electric Generation Mix (2022)



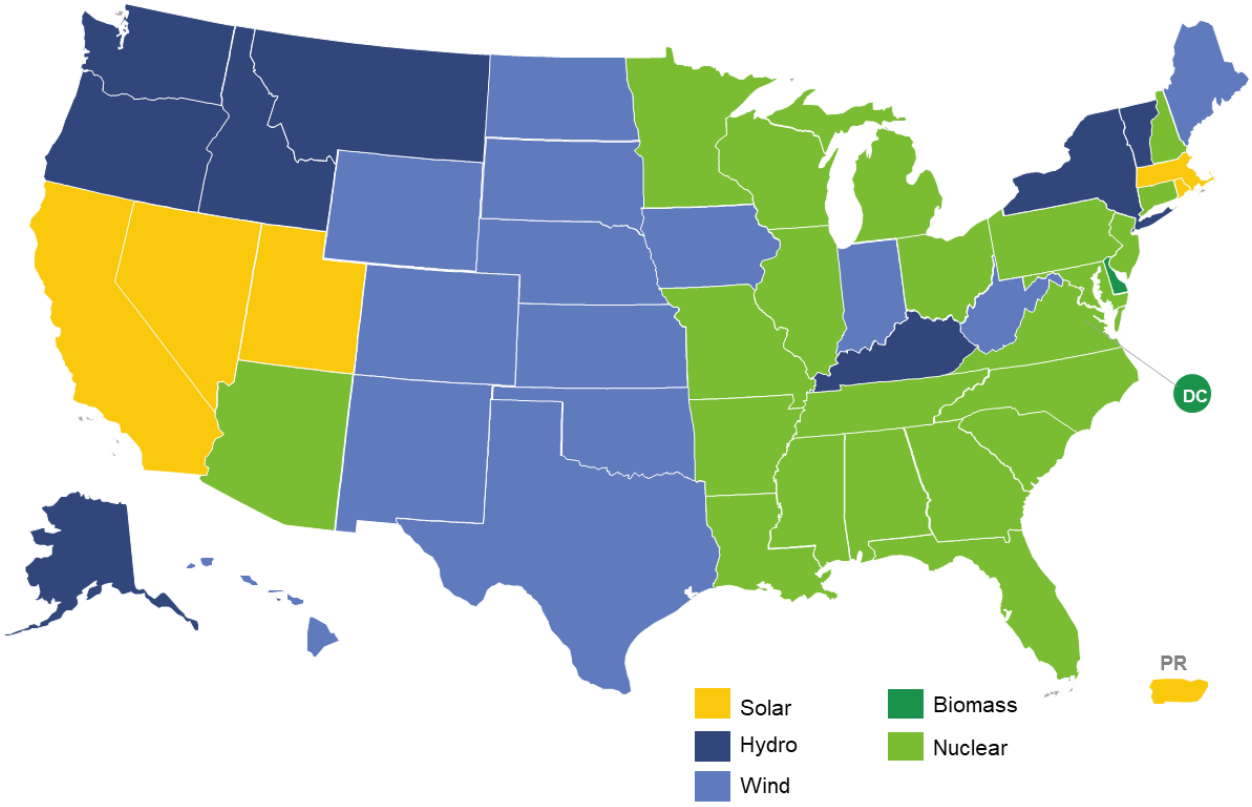
Data Source: U.S. Energy Information Administration – Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2022).

However, most U.S. states and the country as a whole still have a long way to go to achieve these goals. Natural gas (39.8%) and coal (19.5%) remain the nation's dominant electric

generation resources, and either natural gas, coal, or oil makes up the largest share of electricity generation in 36 states (See Figure 1).[3] Despite the current dominance of fossil fuels, clean energy is becoming a mainstay in the nation's energy mix, particularly as costs decline and states acquire cleaner resources to meet climate and other environmental objectives.

Nationwide, clean energy resources are currently led by nuclear (18.2%), followed by wind (10.2%), hydropower (6.2%), and solar (3.4%).[4] Across the country, these resource mixes vary greatly, with different resources leading each state's clean electricity generation; currently, most states' clean energy portfolios are led by either nuclear or wind energy (see Figure 2). The overall contribution of clean energy sources to states' electricity generation also varies widely, ranging from 3% to 99% in 2022 (see Figure 3).

Figure 2. Largest Contributing Clean Resource to State Electric Generation Mix (2022)



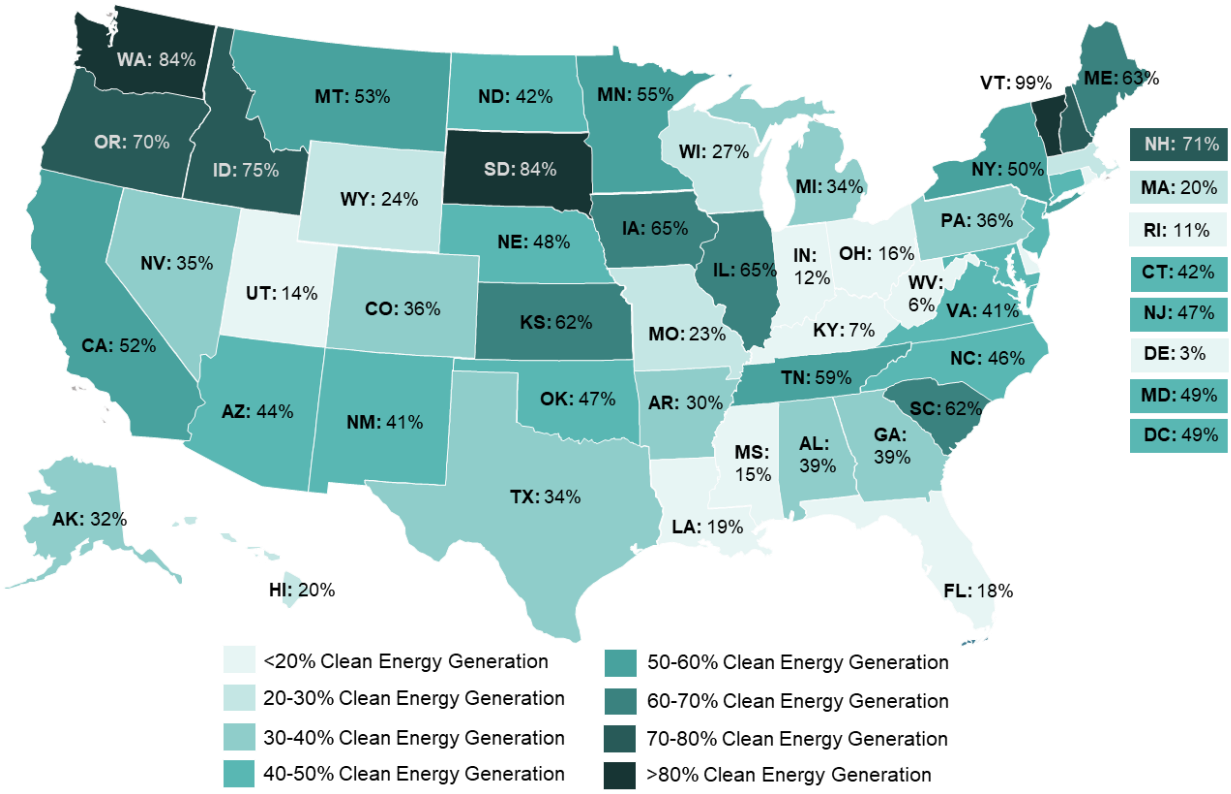
Data Source: U.S. Energy Information Administration – Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2022).

Power decarbonization involves a wide range of potential pathways and technological solutions, allowing decision-makers to pursue a variety of combinations that, in theory, lead to the same end goal. However, the cost of each pathway can vary dramatically, and challenges like global supply chains, transmission access, interconnection queues, and local permitting can impact the actual feasibility and timeline of each pathway. The timescale for implementation is a critical

consideration for meeting climate goals, while cost is also highly important to minimize adverse economic impacts on individuals and businesses, particularly low-income households.

Another major factor influencing U.S. power decarbonization is the federal Inflation Reduction Act, signed into law in 2022. The Act includes significant incentives, including an array of tax credits and grants, for clean energy development and greenhouse gas emission reduction projects, upending the assumptions used in most existing technology deployment projections, cost-benefit analyses, and utility resource plans.

Figure 3. Percentage of Clean Electricity Generated by State (2022)



Data Source: U.S. Energy Information Administration – Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2022). Map represents percent of total MWh generated in each state from clean energy sources (biomass, geothermal, hydroelectric, nuclear, solar, and wind).

Although there is much work to be done from where we currently stand to achieve state and utility power decarbonization goals, the future is looking bright. Power decarbonization is being actively considered by policymakers and regulators in nearly every state in the nation, and clean energy resources are dominating most states' planned electric generation capacity additions in both the near-term and long-term. Meanwhile, states are working to create regulatory structures that will support the achievement of power decarbonization goals in the most fair and efficient ways.

OVERVIEW OF Q1 2023 POWER DECARBONIZATION ACTION

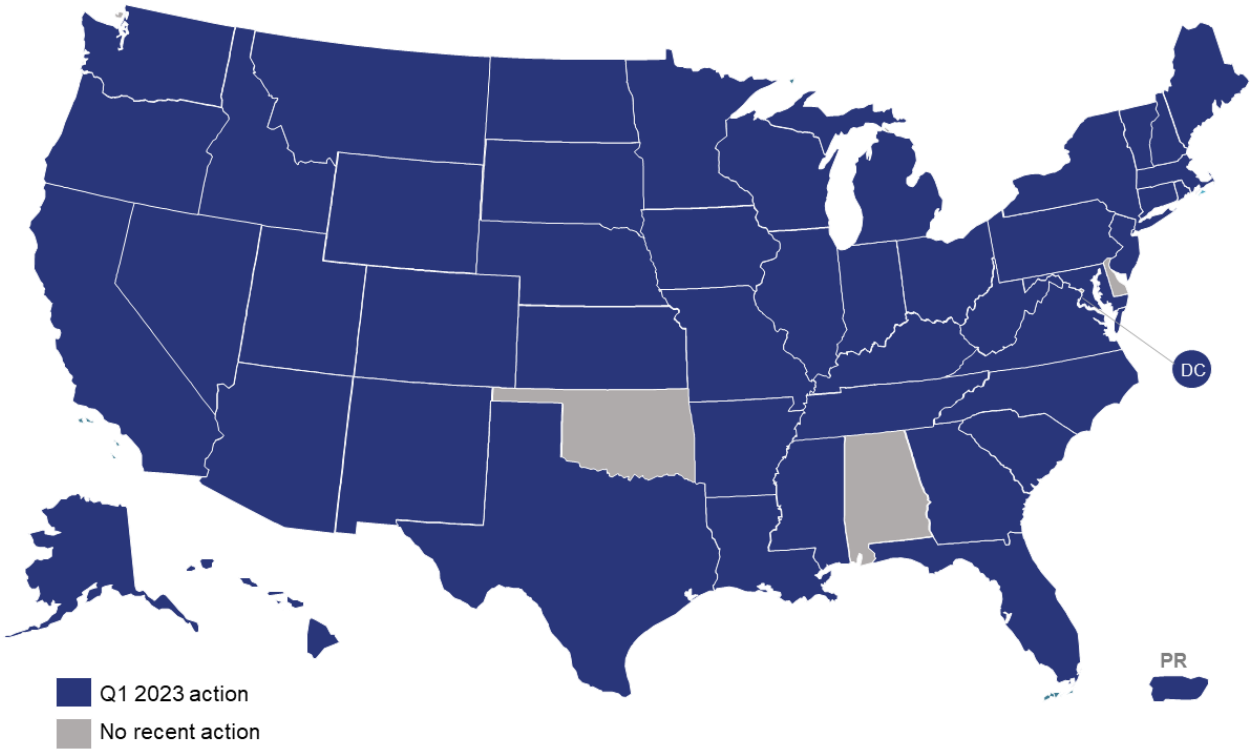
Table 1 provides a summary of state actions related to electric power decarbonization and resource planning occurring during Q1 2023. Of the 418 actions tracked, the most common were those related to clean energy targets (127), planning and procurement rules (88), and emission reduction targets and carbon policies (57). The actions occurred across 47 states plus DC and Puerto Rico in Q1 2023 (Figure 4). Box 1 highlights some of the key power decarbonization actions of Q1 2023, described in greater detail in the following sections.

Table 1. Q1 2023 Summary of Power Decarbonization Actions

Type of Action	# of Actions	% by Type	# of States
Clean Energy Targets	127	30%	32 + DC
Planning and Procurement Rules	88	21%	36
Emissions Targets & Carbon Policies	57	14%	22
Electric Generation Capacity Changes	53	13%	30 + PR
Utility Integrated Resource Plans	50	12%	25
Studies and Investigations	43	10%	26
Total	**418**	**100%**	**47 States + DC, PR**

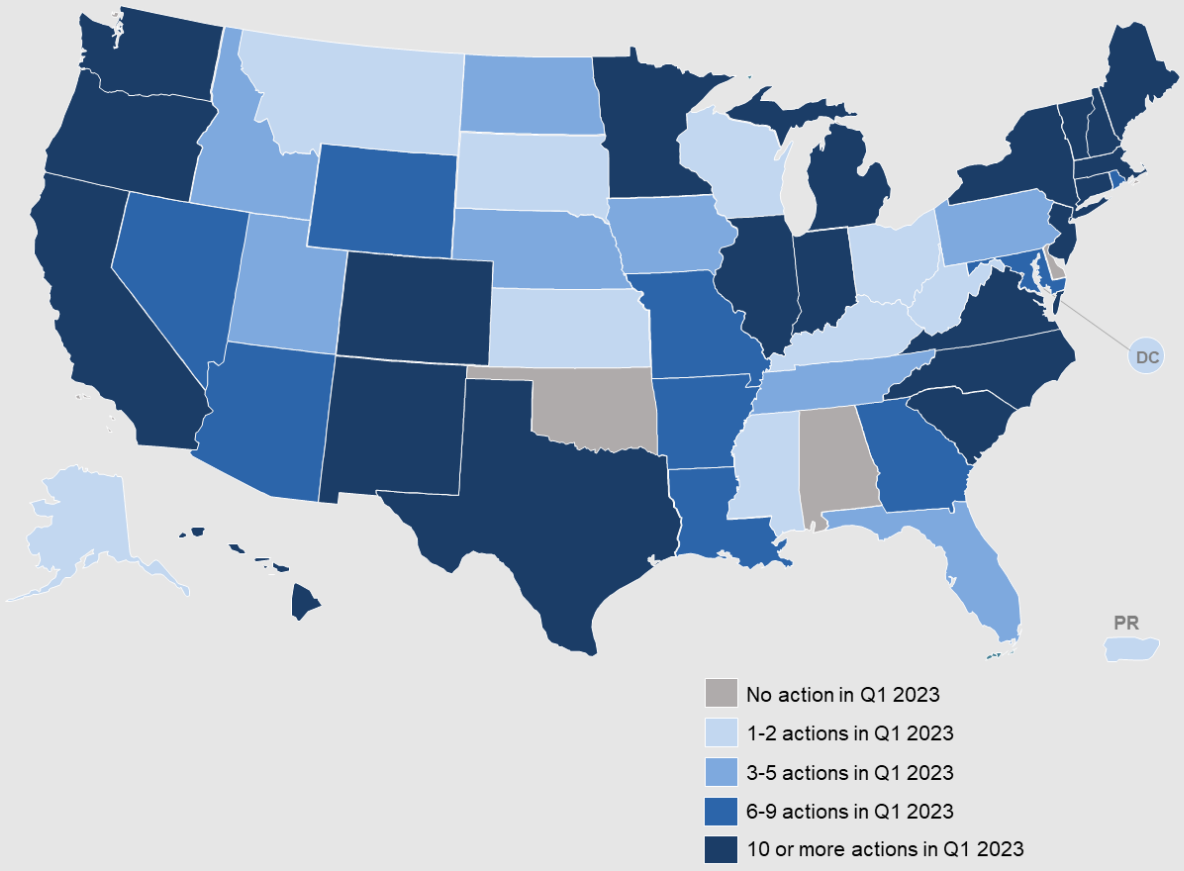
Note: The "# of States/ Districts" total is not the sum of the rows because some states have multiple actions. Percentages are rounded and may not add up to 100%.

Figure 4. Q1 2023 State and Utility Action on Power Decarbonization



Nearly every U.S. state took actions related to electric power sector decarbonization and resource planning during Q1 2023. The majority of activity came in the form of proposed legislation related to clean energy standards, renewable portfolio standards, and technology-specific capacity targets (such as energy storage or offshore wind targets). Most of these bills have been introduced, but have not yet passed a legislative chamber. Another significant area of focus during the quarter was planning and procurement rules, with the majority of states considering modifications to integrated resource planning processes or generation procurement and retirement rules.

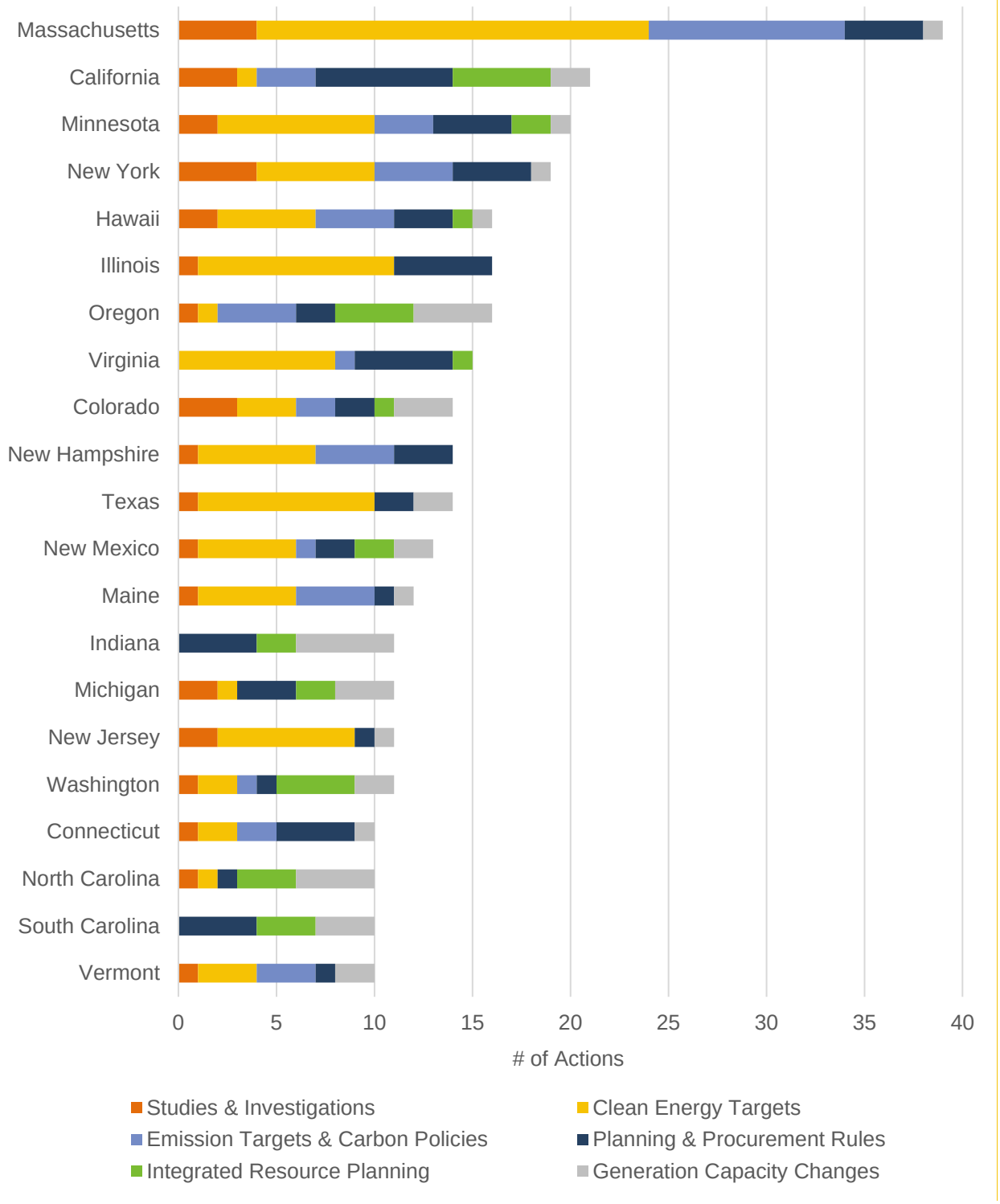
Figure 5. Q1 2023 Action on Power Decarbonization and Resource Planning, by Number of Actions



The states taking the greatest number of actions related to power decarbonization and resource planning in Q1 2023 are shown in Figure 6. Massachusetts, California, Minnesota, New York, Hawaii, and Illinois took the most action during the quarter, followed by Oregon, Virginia, Colorado, New Hampshire, and Texas. Overall, 47 states plus DC and Puerto Rico took action on power decarbonization and resource planning during Q1 2023. A total of 418 actions were taken during Q1 2023. Although many of the bills under consideration may not ultimately be enacted, these actions do indicate where policymakers are considering various aspects of

power decarbonization. Several bills related to power decarbonization and resource planning have already been enacted in 2023, including those in Arkansas, Colorado, DC, Indiana, Iowa, Maryland, Minnesota, Tennessee, Utah, Virginia, Washington, and Wyoming.

Figure 6. Most Active States of Q1 2023



Box 1. Top Five Power Decarbonization Actions of Q1 2023

Minnesota Lawmakers Adopt 100% Clean Energy Standard

Minnesota lawmakers enacted legislation in February 2023 adopting a requirement for utilities to generate or procure 100% of their electricity from carbon-free sources by 2040. The bill also directs the Public Utilities Commission to take all reasonable actions within its authority to ensure all citizens benefit from clean energy and have the opportunity to participate in the clean energy economy.

PacifiCorp files 2023 Integrated Resource Plan Covering Six Western States

PacifiCorp filed its 2023 integrated resource plan (IRP) in March 2023 that covers all of its service territories across six states – California, Idaho, Oregon, Utah, Washington, and Wyoming. The IRP includes plans to add a total of 9,111 MW of new wind resources, 8,095 MW of storage resources, 7,855 MW of new solar, and 500 MW of advanced nuclear in 2023, with an additional 1,000 MW of advanced nuclear in the long term. The IRP also includes the retirement or gas conversion of 22 coal-fired facilities.

New Jersey Governor Signs Executive Order Setting Clean Energy Goal

The Governor of New Jersey signed an executive order in January 2023, adopting a goal of 100% of electricity sold in the state being from clean sources by 2035. The order directs the Board of Public Utilities to update the state's roadmap to 100% clean energy in the 2024 Energy Master Plan with specific short-term and long-term proposals that can be implemented to achieve the goal.

North Carolina Governor's Office Releases Deep Decarbonization Study

The North Carolina Governor's Office released its final deep decarbonization pathways analysis in February 2023. The study finds that the reference scenario (current trends and policies) achieves a 37% reduction in greenhouse gas emissions by 2025, a 46% reduction by 2030, and a 60% reduction by 2050 relative to 2005 levels. The analysis also includes three net-zero scenarios (high electrification, high decarbonization fuels, and high carbon storage) that achieve net-zero emissions by 2050.

Utah and Wyoming Lawmakers Enact Legislation to Preserve Coal-Fired Generation

Legislators in both Utah and Wyoming enacted legislation during Q1 2023 intended to support the continued operation of coal-fired power plants in the states. In Utah, the enacted bill requires the legislature to be notified at least 180 days before the retirement of a coal plant, among other provisions. Meanwhile, the Wyoming legislation creates a litigation fund to be used in lawsuits against government entities establishing laws or regulations causing early retirement of facilities.

Box 2. Top Power Decarbonization Trends of Q1 2023

Solar, Wind, and Battery Storage Dominating Planned Capacity Additions

Although natural gas and coal currently account for the majority of U.S. electricity generation, utilities' planned capacity additions are being dominated by solar, wind, and battery storage in both the near-term and long-term. Of the 20 states with investor-owned utility integrated resource plans or plan updates under consideration by state regulators in Q1 2023, solar accounted for the largest planned capacity addition in ten states, wind accounted for the largest planned capacity addition in eight states, and battery storage in one state. Among integrated resource plans recently filed or under review by regulators during the quarter, planned capacity additions totaled 74,231 MW for solar, 47,662 MW for wind, and 33,273 MW for storage. These resources were followed by natural gas, which accounted for 14,951 MW of planned capacity additions.

Policymakers Increasing Existing Clean Energy Targets

Policymakers across the country considered increasing existing state targets for clean or renewable energy, or moving up timelines for achieving these targets. In Minnesota, lawmakers enacted legislation increasing the state's renewable portfolio standard and adopting a new 100% clean energy standard. In New Jersey, the Governor signed an executive order setting a goal for the state to reach 100% clean energy by 2035. Legislation introduced in Vermont sets a target to reach 100% renewable electricity by 2035, while proposed Missouri bills would target 100% renewable energy by 2059. Some states, including Maryland and Massachusetts, also considered the expansion of existing offshore wind targets, while legislation introduced in Illinois, Minnesota, and Rhode Island would establish new energy storage targets. Legislators in some states have introduced bills lowering clean energy targets or extending deadlines, although these have thus far been less successful than bills strengthening requirements.

Regulators Exploring the Coordination of Multiple Planning Processes

In several states, regulators are exploring how to coordinate or combine multiple utility planning processes. These processes include integrated resource planning and clean energy planning, as well as transmission and distribution system planning. In North Carolina, regulators opened a new proceeding in March 2023 to consider Duke Energy's proposed rules to consolidate its carbon plan and integrated resource plan requirements. In Oregon, the Public Utility Commission considered rules that would allow utility integrated resource plans and clean energy plans to be filed together. Meanwhile, legislation enacted in early May 2023 removes the requirement for utilities to file separate implementation plans for meeting the state's renewable portfolio standard, instead allowing utilities to describe their compliance plans as part of integrated resource plans.

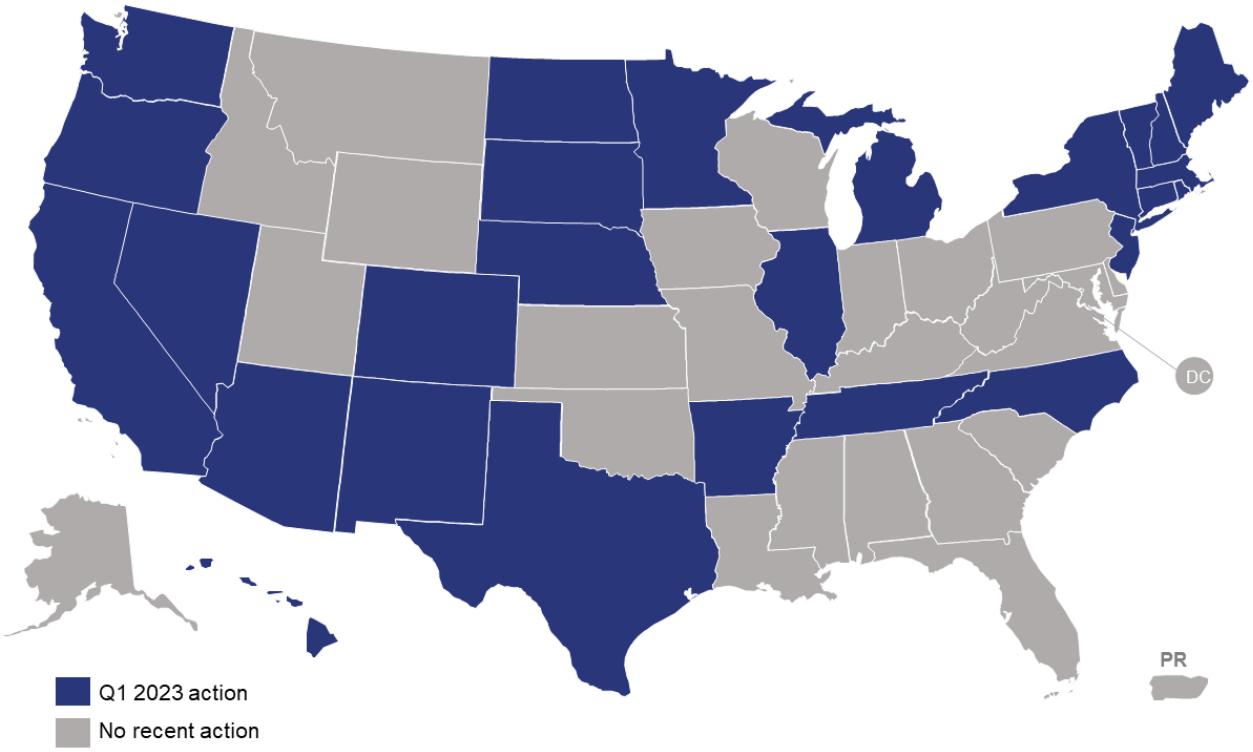
STUDIES AND INVESTIGATIONS

Key Takeaways:

- In Q1 2023, 26 states took action to study or investigate issues related to bulk power system and economy-wide decarbonization.
- In February 2023, the North Carolina Governor's Office released its Deep Decarbonization Pathways Analysis.
- Several states introduced bills to study the benefits of transitioning fossil fuel plants to nuclear.

While many states are moving beyond studies and investigations and toward policy and regulatory changes and clean energy deployment, several states are engaged in studies examining issues related to bulk electric power and economy-wide decarbonization, as well as pathways to achieving these goals. In Q1 2023, 26 states took action related to studies and investigations.

Figure 7. Action on Power Decarbonization Studies and Investigations (Q1 2023)



This quarter, at least two states – Hawaii and Tennessee – had studies actively underway. After enacting H.B. 1800 in 2022, the Hawaii Energy Office is currently conducting a study to analyze pathways and recommendations for economy-wide decarbonization. The study includes examining emissions limits and carbon sequestration goals to achieve net-zero emissions by 2045. A final report is set to be released in early 2024. Meanwhile, the Tennessee Valley

Authority announced in February 2023 that it will be partnering with the University of Tennessee's Baker Center to find ways to accelerate a clean energy economy. The study will look at expanding new nuclear, hydrogen, renewables, and other technologies.

Table 2. Power Decarbonization Studies and Investigations Underway (Q1 2023)

State	Responsible Entity	Topic	Deadline
Hawaii	Hawaii Energy Office	Economy-Wide Decarbonization	April 14, 2024
North Carolina	Policy Office in the North Carolina Governor's Office	Deep Decarbonization Pathways	Released in February 2023
Tennessee	Tennessee Valley Authority Board	Clean Energy Economy	Early 2024

As for studies that have been released, the North Carolina Governor's Office published its Deep Decarbonization Pathways Analysis in February 2023. The almost one hundred-page study details a number of near-term, no-regret actions that the state could take to achieve decarbonization, including scaling up renewables and storage, encouraging energy efficiency, and reducing fuel combustion, among others. From New York to Texas, a number of states this quarter are also looking at replacing or converting fossil fuel plants with cleaner alternatives through introduced bills or studies that are well underway. In New York, adjoined bills introduced in Q1 2023 would direct the NYSERDA to conduct a study of competitive options to convert high polluting fossil fuel facilities and sites by 2030 with renewables, among other things.

A significant portion of legislation introduced this quarter focuses on fossil fuel-to-nuclear conversion. Massachusetts lawmakers introduced a bill that directs the Department of Energy Resources to study repurposing inactive and decommissioned power plants with energy storage and fusion energy. In the Midwest, Minnesota filed a couple of bills to study the costs and benefits of advanced nuclear reactors, including replacing coal-fired plants; Nebraskan legislation would create a study committee to study the feasibility of retrofitting or converting existing fossil fuel power plants with small modular reactors, something that New Jersey is considering studying as well. Down South, legislators in the Lone Star State of Texas put forward a bill that would also establish a work group to study the benefits of coal-to-nuclear plant conversion.

Table 3. Updates on Power Decarbonization Studies & Investigations (Q1 2023)

State	Study Topic	Description	Source
AR	Electricity Decarbonization	H.B. 1395, introduced in February 2023, creates the Advanced Electricity Jobs Task Force. The Task Force, among other things, must provide the best pathways to achieving a "near zero" electricity system by 2050 or sooner at a reasonable cost to ratepayers. By December 31, 2024 the Task Force must file a final written report, and the Task Force will expire that day as well. The bill died due to the end of the legislative session.	H.B. 1395 (D)
	Fossil Fuel Continuation	S.B. 544, introduced in March 2023, directs the Department of Energy and Environment to conduct a study evaluating the continued operation of existing coal-powered electrical generation facilities. The bill was amended on March 30, 2023, none related to the matter above. The bill died due to the end of the legislative session.	S.B. 544 (D)
AZ	Emission Reduction Measures	S.B. 1509, introduced in January 2023, establishes a climate resiliency planning group. The group would, among other things, have to identify measures that can be taken to meet GHG emissions reductions targets: 50% reduction by 2031 and 90% reduction by 2051, compared to 2005 levels. The bill directs the group to submit a report on its findings and recommendations by August 31, 2024.	S.B. 1509 (I)
CA	Agrivoltaics Decarbonization Impacts	S.B. 688 directs the Public Utilities Commission to evaluate and quantify the maximum feasible capacity of agrivoltaic systems to achieve reliability, ratepayer, employment, and decarbonization benefits, and to establish megawatt agrivoltaic planning goals for 2030 and 2045.	S.B. 688 (I)
	Clean Energy Standard Barriers, Transmission Planning	Existing law requires the Public Utilities Commission, the California Energy Commission, and the State Air Resources Board to issue a joint report to the Legislature by January 1, 2021, and at least every 4 years thereafter, that includes a review of the state's clean energy standard, including the barriers to, and benefits of, achieving the policy. A.B. 1358 establishes that the report should also include a statewide transmission plan to help reach the clean energy goals.	A.B. 1358 (I)
	Energy Decarbonization	A.B. 585 directs the California Council on Science and Technology (CCST) to perform a literature review, including source materials, to assess the	A.B. 585 (I)

		infrastructure project types, scale, and pace necessary to achieve the quantities of renewable energy, and the distribution and transmission networks necessary, to achieve the state's energy, climate change, and air quality goals. The list of infrastructure projects should include, but not be limited to: renewable and carbon-free energy capacity, substations, transformers, miles of upgraded or hardened distribution and transmission lines, charging stations, renewable hydrogen production and distribution, hydrogen refueling stations, renewable natural gas projects, methane mitigation projects, refinery conversions, the Carbon Capture, Removal, Utilization, and Storage Program, the short-lived climate pollutant mitigation strategy, and acres of natural and work lands. The bill also directs the State Clearinghouse at the Office of Planning and Research to provide to the Joint Legislative Committee on Climate Change an annual progress report on the number of permit applications in each of the infrastructure categories in the CCST report, the number of permitted projects approved in each of the infrastructure categories identified in the CCST report and the number of projects commissioned in each of the infrastructure categories identified in the CCST report.	
CO	Advanced Nuclear	H.B. 1080, introduced in January 2023, requires the Colorado Energy Office to conduct a study on the feasibility of small modular nuclear reactors as a source of carbon-free energy, due by July 2025. The report must include recommendations regarding the potential for using SMRs to provide energy and the necessary administrative or legislative action to promote the use of SMRs. The bill was postponed indefinitely in committee in late March 2023.	H.B. 1080 (D)
	Firm Energy Technologies	H.B. 1247, introduced in March 2023, requires the Colorado Energy Office to conduct studies of electric transmission and advanced energy solution technologies in Montrose County and Southeast Colorado, and analyze how the solutions would address the need for firm energy generation and support the development of rural economies. The two studies must each evaluate: the economics of advanced firm energy resources in the region; methods to provide new employment opportunities for high skilled workers; the estimated property tax revenue that will result from firm energy generation in the region; the ways the transition can help utilities in the region	H.B. 1247 (P2)

		use existing capital investment in plant and transmission lines; the regulatory and legislative framework needed to support the transition in the region; the potential opportunities to leverage federal incentives; the steps to be taken in the region to advance geothermal, advanced nuclear, clean hydrogen, natural gas plants with carbon capture, long duration energy storage, and other firm energy sources; whether scalable or dispatchable electricity from advanced nuclear and other firm energy sources can ensure optimal use of intermittent resources; the cost implications for potential technology pathways and the impacts of said pathways on ratepayers; and any other information the director of the Office deems necessary. The studies are due to the legislature by July 1, 2025. The House passed the bill in April 2023, and the Senate passed it in early May 2023.	
	Geothermal, Hydrogen	S.B. 285, introduced in March 2023, requires the Public Utilities Commission to conduct multiple studies: a technical study on Colorado's geothermal resources; a study on the state regulatory structure for geothermal resources; and a study on the regulation and permitting of hydrogen. The technical geothermal study must include a resource evaluation, a description of potential applications for emerging technologies, an evaluation of potential impacts, an economic analysis, and a description of potential opportunities to use existing infrastructure; the study must be publicly released by July 1, 2024. The regulatory geothermal study must evaluate the state's regulatory structure and whether any changes are necessary; the study must be publicly released by December 31, 2024. The hydrogen study would focus on the underground storage on hydrogen, and must develop recommendations that: protect public health, safety, and welfare; protect the environment and wildlife resources; and avoid adverse impacts on disproportionately impacted communities. The study must be publicly released by July 1, 2024. The Senate passed the bill in April 2023, and the House passed the bill in early May 2023.	S.B. 285 (P2)
CT	Decarbonization Roadmap	H.B. 6397 directs the Commissioner of Energy and Environmental Protection to, within available appropriations, prepare a comprehensive Connecticut Decarbonization Roadmap to achieve the state’s emission reduction targets. The roadmap is to be completed by July 1, 2025.	H.B. 6397 (I)
HI	Economy-Wide Decarbonization	H.B. 1800, enacted in 2022, directed the Hawaii Energy Office to conduct a study to analyze	H.B. 1800 (2022)

		pathways and develop recommendations for achieving the State's economy-wide decarbonization goals, including the statewide greenhouse gas emissions limit and goal to sequester more atmospheric carbon and greenhouse gases than emitted by no later than 2045. The Energy Office is to submit a report of its analysis and recommendations to the legislature no later than 20 days prior to the convening of the regular session of 2024.	Hawaii Energy Office Website
	Renewable Portfolio Standard	S.B. 661 directs the Hawaii Energy Office to conduct a feasibility study on the State's ability to meets its RPS of 100% by December 31, 2045. If it determines that the current 100% requirement is not achievable, it should estimate the percentage that is realistically achievable by December 31, 2045. The Energy Office is to present its findings to the legislature no later than 20 days prior to the convening of the regular session of 2024. The bill also directs the Energy Office to develop a strategic plan that identifies clear benchmarks to: (1) attain the goal of 100% energy self-sufficiency by December 31, 2045, including the temporary use of alternative fuels that may be used as bridge fuels; (2) provide clarity for utilities, utility-scale developers, and energy distributors for achieving 100% energy self-sufficiency; and (3) provide guidance for utilities distributors for the acquisition, timing, size, and duration of firm renewable generation to back up disruptions of variable renewable sources. The Energy Office is also to present these findings to the legislature no later than 20 days prior to the convening of the regular session of 2024. The bill failed to advance before the crossover deadline.	S.B. 661 (D)
IL	Energy Storage	S.B. 1587 directs the Illinois Power Agency to conduct an analysis to determine whether the contracted quantity of energy storage in energy storage capacity and energy storage duration is sufficient to support the State's renewable energy standards and carbon emission standards. The analysis is due by December 31, 2026, and every two years thereafter. The bill failed to advance before the crossover deadline.	S.B. 1587 (D)
MA	Clean Energy Procurement	H.B. 3221, introduced in February 2023, directs the Department of Energy Resources to investigate policy and regulatory mechanisms to improve affordability and equity, including exploring topics such as: climate resilience and adaptation program funding; and clean energy procurement and incentive programs.	H.B. 3221 (I)

	Emissions Reduction	S.B. 2081, introduced in March 2023, establishes a Climate Policy Commission. The Commission must analyze and make recommendations for reduce/avoiding emissions, improving conditions for low-income communities, electric power and distribution system planning, among other things. The Commission must also have an advisory council to provide advice for operations and policy of the Commission. The Commission must report at least twice a year their analyses and recommendations.	S.B. 2081 (I)
	Energy Decarbonization	S.B. 2167, introduced in February 2023, stipulates that the Secretary of the Department of Energy Resources will establish an administrative council for the clean energy transition no later than 90 days after the bill's passage. The council will identify existing laws, regulations, and programs, and examine their potential to help or hurt the transition and their ability to maximize the environmental/economic benefits of said transition. The findings must be published within six months of forming the council, and will reviewed/updated every three years. Within one year the council must also determine a date by which state operations must meet 100% renewable generation, as long as the date is not after the beginning of 2035. Each executive department and quasi-public agency must present a plan to achieve the plan set by the council within 18 months of this bill, and the council must meet at least once per quarter to review progress when it comes to the modification of existing laws and programs.	S.B. 2167 (I)
	Energy Storage	S.B. 2157, introduced in February 2023, directs the Department of Public Utilities, in consultation with the Department of Energy Resources (DOER) to study the potential repurposing of decommissioned or inactive power plants in the state with energy storage as a battery plant and fusion energy.	S.B. 2157 (I)
ME	Nuclear	L.D. 689, introduced in February 2023, establishes a working group to study and report on state opportunities for nuclear power generation. This bill is a concept draft and the full text has not yet been released. The bill was placed in legislative files and died on April 5, 2023.	L.D. 689 (D)
MI	Energy Storage Targets	H.B. 4256, introduced in March 2023, would require the Public Service Commission to complete a study to determine procurement	H.B. 4256 (I)

		targets for long-duration (over 10 hours) and multi-day (over 24 hours) energy storage systems.	
	Nuclear	On March 24, 2023 the Public Service Commission opened a docket to conduct a study on the feasibility of nuclear power generation in Michigan, as required by Public Acts 166 and 218 of 2022. The study will be conducted by Enercon and will include: the advantages and disadvantages of nuclear generation, including the economic and environmental impacts; ways to maximize the use of local workers and products; socioeconomic analysis of workforce development, tax bases, supply chains, and job creation; the timeline for development; additional efficiencies and other benefits when paired with other energy technologies; literature reviews of similar studies; analysis of national and international case studies where nuclear development is supported; and an assessment of current and future policies. The study should also include evaluations and recommendations regarding: design characteristics; environmental and ecological impacts; land and siting criteria; safety criteria; engineering and cost-related criteria; and small cell nuclear reactor capability. A draft study is due by December 2023, and the final study by April 15, 2024. A meeting is scheduled for May 3, 2023.	Docket No. U-21358 P.A. 166 (2022) P.A. 218 (2022) Workgroup Website
MN	Advanced Nuclear	H.F. 2426 and S.F. 1171, introduced in March 2023, require a study on advanced nuclear by the Commissioner of Commerce on costs/benefits, and impacts of the technology on state power generation. At a minimum the study must address these factors in relation to the state's greenhouse gas emissions reduction goals, as well as for the replacement of coal-fired plants, and look at current statutes and rules for any critical modifications to enable advanced nuclear. The study must be submitted by January 31, 2024.	H.F. 2426 (I) S.F. 1171 (I)
	Advanced Nuclear	H.F. 2754 and S.F. 2847, introduced in March 2023, contain a number of appropriations for subjects related to energy, climate, utilities, and the environment. On April 4, 2023, the bills were amended to include a one-time $300K worth of funding for an advanced nuclear study. The study must address costs and benefits of the technology, the economic feasibility of replacing coal-fired boilers with advanced nuclear reactors, and which current rules and statutes must be modified to enable construction/operation of such reactors, among other criteria. The study must be completed by the end of January 2025.	H.F. 2754 (I) S.F. 2847 (I)

NC	Economy-Wide Decarbonization	Executive Order 246, signed in January 2022, directed the Policy Office in the North Carolina Governor's Office to conduct a North Carolina Deep Decarbonization Pathways Analysis that evaluates potential pathways for achieving net-zero GHG emissions across North Carolina's economy by 2050. The Governor's Office worked with an Interagency Steering Committee, as well as Energy and Environmental Economics (E3), a Technical Advisory Group, and numerous other stakeholders to develop an analytical model of all sources of GHG sources and sinks in North Carolina. The final report was released in February 2023. The report discusses the modeling approach the team used, which was conducted in the three core steps. First, they measured the current state of emissions based on the 2022 North Carolina GHG Inventory. Then they estimated future emissions based on current trends and existing policies through the modeling of the Reference Scenario. The Reference Scenario reflects current trends and policies in the state, including population growth and customer adoption of zero-emission vehicles and energy efficient appliances. It achieves 37% reductions in GHG emissions by 2025, 46% reductions by 2030, and 60% reductions by 2050 relative to 2005 levels. The team then evaluated the impact of new potential measures that would help the state meet its climate goals through the modeling of three Net-Zero Scenarios: a high electrification scenario, a high decarbonization fuels scenario, and a high carbon storage scenario. All three Net-Zero Scenarios achieve net-zero GHG emissions by 2050, though each scenario relies on a different mix of mitigation technologies and intensity of implementation. The results of the modeling show that, regardless of which decarbonization pathway the state chooses, there are seven key near-term no-regret actions the state could take: (1) accelerate a transition to zero-emission vehicles and heat pumps; (2) rapidly decarbonize electricity generation by scaling up renewables and storage; (3) encourage high levels of energy efficiency; (4) support the commercialization of decarbonized fuels; (5) reduce non-energy GHG emissions; (6) prioritize sustainable management of natural and working lands; and (7) reduce fuel combustion while decarbonizing the economy.	North Carolina Deep Decarbonization Pathways Analysis Executive Order No. 246

ND	Advanced Nuclear	H.C.R. 3034 is a resolution proposing that the Legislative Management consider studying sustainable energy policies to maximize the economic viability of existing energy sources, assess future electric demand, and determine the feasibility of advanced nuclear development and transmission in the state.	H.C.R. 3034 (Adopted)
NE	Advanced Nuclear	L.R. 21, introduced in January 2023, is a resolution creating the Small Modular Reactor Study Committee. The Committee would study the operating and construction feasibility of SMRs in the state.	L.R. 21 (I)
	Renewable Energy	L.B. 566, introduced in January 2023, requires the Natural Resources Committee in the legislature to study the economic impacts of an increasing reliance on intermittent energy. The study must include: an analysis of the short- and long-term costs and economic risks of replacing baseload generation of electricity with intermittent renewable energy generation; an analysis of the economic benefits of maintaining and developing coal, natural gas, and nuclear power plants; and a determination of whether current trends towards intermittent energy threaten power suppliers' ability to maintain existing baseload generation. The study would be due by November 15, 2023.	L.B. 566 (I)
NH	Carbon Pricing	H.B. 372, introduced in January 2023, establishes the Economic Impact of National Carbon Pricing Study Commission to study the short and long-term impacts of pending national/regional carbon pricing legislation and mechanisms on the state's economy and environment. The bill died in the House on March 9, 2023.	H.B. 372 (D)
NJ	Advanced Nuclear, Plant Replacement	A.B. 4901, introduced in December 2022, directs the Board of Public Utilities to study the development of and create a pilot program for SMR construction. The study must include whether an SMR can be constructed on the same site of an existing electric facility and whether SMRs can replace retired or retiring gas and coal facilities located in the state. The study must be conducted 18 months after the effective date.	A.B. 4901 (I) S.B. 3312 (I)
	Energy Decarbonization	In January 2023, the Governor of New Jersey announced the beginning of efforts to develop the new 2024 Energy Master Plan, which will serve as a blueprint for achieving the state's new climate goals.	Press Release
NM	Nuclear	H.B. 73, introduced in February 2023, is a memorial that would request the Radioactive and	H.M. 73 (D)

		Hazardous Materials Committee and the Interim Science and Technology Committee study the construction of a nuclear plant in the Four Corners area. The study would be due by June 1, 2023. The memorial did not pass by the end of the session and died.	
NV	Renewable Energy	S.B. 421 directs the Joint Standing Interim Committee on Growth and Infrastructure to conduct an interim study concerning the development of a statewide renewable energy plan to provide for the efficient and coordinated placement of renewable energy generation projects and energy storage systems in locations that will have the fewest potential conflicts with adjacent land uses, historically underserved communities and the natural, cultural, historical and recreational resources of the state. The bill failed to advance before the crossover deadline.	S.B. 421 (D)
NY	Economy-Wide Decarbonization	A.B. 2652 and S.B. 5788 create the Green New Deal for New York with goals that include meeting 100% of the power demand in the state through clean, renewable, and zero-emission energy sources. These bills also create a task force for the deal which will be in charge of creating a plan for the transition of the state's economy to become GHG emission neutral by 2030.	A.B. 2652 (I) S.B. 5788 (I)
	Electricity Decarbonization	A.B. 4999 and S.B. 2474 direct the NYSERDA to conduct a study on the technical and economic feasibility of a 100% renewable energy system by the year 2034 or 2054 and a reduction in anthropogenic GHG emissions 100% below 1990 by 2054 and 50% by 2034. The study must include timing, costs, economic impacts, and feasibility. The study must be completed by September 1, 2024 and every four years thereafter. The bills were amended in March and April of 2023 to instruct NYSERDA to work in conjunction with DPS, DEC, and the federally designated electric bulk system operator. The amendments also require the inclusion of statewide electrical demand system being zero-emission by 2040. It also changes the years and percentages associated with GHG emission reduction. The study must now focus on 60% of 1990 levels by 2030 and 15% by 2050. The study is also directed to address ratepayer impacts and is due by January 1, 2024.	A.B. 4999 (I) S.B. 2474 (I)
	Fossil Fuel Plant Retirement	A.B. 4866 and S.B. 2935 direct NYSERDA to conduct a study of competitive options to facilitate the phase out, replacement, and redevelopment of the state's oldest and most polluting fossil fuel	A.B. 4866 (I) S.B. 2935 (I)

		facilities and their sites by 2030, with renewable energy system. The bills then authorize and direct the PSC to commence a proceeding on implementing the strategies described in the study, and to issue an order no later than July 30, 2024. Both bills were amended to have the study address the phase-out of at least 4 GW of fossil fueled generation statewide capacity in total and to prioritize facilities that only operate when usage is highest. The amendments also directs NYSERDA to implement a competitive award process to facility the replacement and redevelopment of 4 GW of fossil fueled generation.	
	Renewable Energy	A.B. 5198 and S.B. 2030 direct the Public Service Commission in consultation with NYSERDA to conduct a fully cost benefit analysis of the technical and economic feasibility of renewable energy systems in the state as compared with other methods of electricity generation. This study will be repeated and reported every four years.	A.B. 5198 (I) S.B. 2030 (I)
OR	Emission Reduction Rate Impacts	H.B. 2216 and S.B. 681 direct the Public Utility Commission to study the rate impacts that are associated with implementing the GHG emissions reductions required by the previously passed H.B. 2021. The study would be due by September 2024.	H.B. 2216 (I) S.B. 681 (I)
RI	Decarbonization Impacts	H.B. 6178 and S.B. 499, both introduced in March 2023, would require the state to write an annual report on how its programs and policies shift the environmental impact of carbon-free energy technologies onto impoverished and developing countries, including the disclosure of: human rights abuses and labor conditions; the environmental impacts of mineral mining; the traceability of mining supply chains; the effects of toxic pollution resulting from decommissioning, recycling, and disposal of carbon-free energy technology products.	H.B. 6178 (I) S.B. 499 (I)
	Energy Decarbonization	H.B. 5527 and S.B. 205, both introduced in February 2023, are resolutions requesting a study be done regarding the technical and economic outcomes of decarbonizing Rhode Island by 2030. Technical factors would include: bringing the state to top energy efficiency; generating 100% of the state's energy needs with solar and wind; evaluating offshore and onshore wind, vertical-access wind turbines, and other viable clean energy technologies for energy production; evaluating producing extra energy for out-of-state energy sales; producing recommendations without	H.B. 5527 (I) S.B. 205 (I)

		harming or disrupting wilderness, habits, and wildlife; renovating the grid for maximum resilience and efficiency; evaluating microgrids and battery energy storage for energy distribution; electrifying heating/cooling and transportation; and replacing natural gas pipelines with geothermal loops. Economic factors would include: determining costs of energy efficiency, solar, and wind infrastructure, renovating the grid, and electrifying heating/cooling and transportation; determining profits from energy production; determining the best ratio of public/private development and ownership for maximum state revenue; evaluating leasing/partnerships with property owners; projecting electricity rates; evaluating reinvestment of profits into the state's communities; evaluating annual dividends to citizens; and evaluating jobs and other economic effects during building and after construction. The report would be produced by a third party chosen through an RFP process and would have a budget of $2.5 million. The RFP would be issued by September 2023, and the study completed by March 2024.	
SD	Nuclear	S.C.R. 601 is a resolve proposing that the Executive Board of the Legislative Research Council consider establishing an interim legislative committee to examine the potential use of nuclear power in the state as a clean and reliable energy source.	S.C.R. 601 (Adopted)
TN	Energy Decarbonization	In February 2023, the Tennessee Valley Authority Board announced the Valley Pathways Study in partnership with the University of Tennessee's Baker Center. The study will help further drive economic competitiveness of the region by accelerating a clean-energy economy. The study will be used to expand the region's innovation in new nuclear, renewables, hydrogen, among other technologies.	Valleys Pathways Study Website
TX	Nuclear, Plant Replacement	S.B. 1404, introduced in March 2023, would establish a coal-to-nuclear conversion work group. The work group must study the benefits of conversion and develop a model plan to implement conversion. The model plan must include the potential benefits and economic viability of conversion, along with recommendations for a regulatory framework. A summary report, including the model plan, would be due by October 31, 2024. The Senate passed the bill in late April 2023.	S.B. 1404 (P1)

VT	Energy Storage Mandates	S.B. 140, introduced in March 2023, establishes the Legislative Energy Storage Study Committee to evaluate the benefits of energy storage to customers, utilities, and the state's storage industry. The Committee must submit a written report to the General Assembly by December 15, 2023 including a determination whether the state should establish energy storage mandates and goals, and if so, what these targets should be for the next five years.	S.B. 140 (I)
WA	Carbon Pricing	Introduced in January 2023, H.B. 1659 was created to prevent the manipulation of the carbon market price. The bill requires the state institute for public policy to submit a report making recommendations for the establishment of an office, agency, or entity independent from the department of ecology that will be responsible for regulation and oversight of the carbon auctions. The bill also requires an audit be performed on the effectiveness and efficiency of the cap and invest program for accountability, program improvement, and oversight. The bill did not advance before the legislative crossover deadline.	H.B. 1659 (D)

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early May 2023.

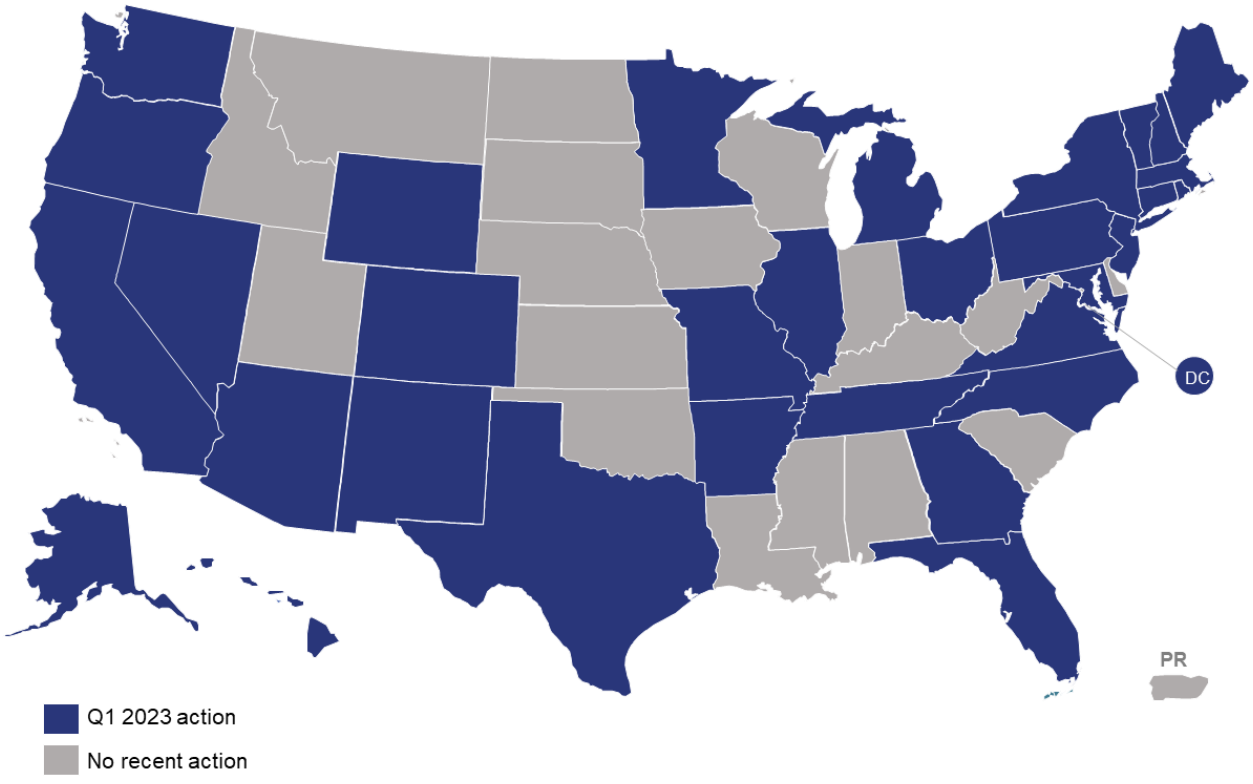
CLEAN ENERGY TARGETS

Key Takeaways:

- In Q1 2023, 32 states plus DC considered changes to clean energy standards, renewable portfolio standards, clean energy goals, and technology-specific targets.
- Minnesota lawmakers enacted legislation adopting a 100% clean energy standard, to be achieved by 2040.
- The Governor of New Jersey signed an executive order setting a goal for 100% of the electricity sold in the state to be from clean sources by 2035.

Clean energy standards, renewable portfolio standards, and other technology-specific capacity targets set requirements for electric suppliers to generate or procure a certain amount or percentage of electricity from eligible clean energy resources. While many of these targets are mandatory requirements, some states have also established clean energy goals (often through executive orders) that lack direct enforcement mechanisms.

Figure 8. State Action on Clean Energy Targets (Q1 2023)

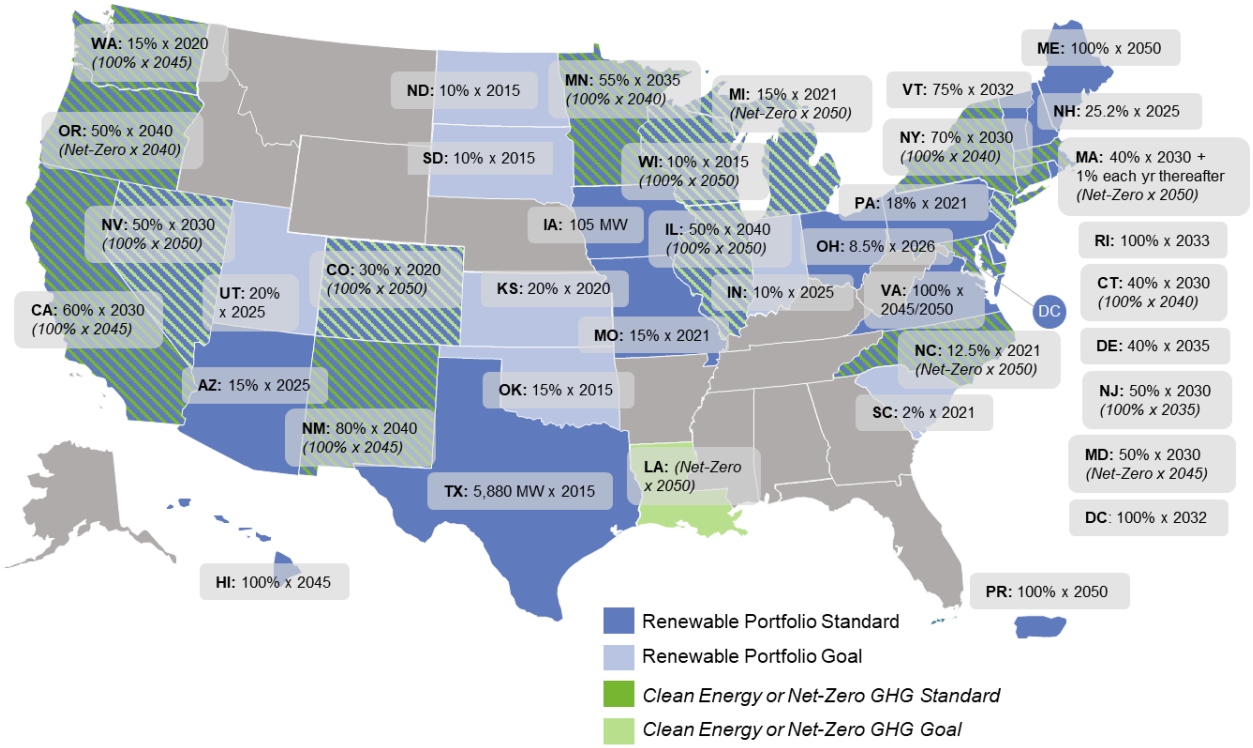


Currently, 36 states have a renewable portfolio standard or goal in place, while 17 states have established broader clean energy standards or goals. Of these states, 21 have targets to achieve 100% clean energy or net-zero carbon emissions by 2050 at the latest. Additionally, several states have established goals or requirements for energy storage and offshore wind

deployment specifically. In Q1 2023, 32 states and DC took actions related to clean energy targets, with two states and DC approving changes to clean energy targets.

The most significant action related to state clean energy targets took place in Minnesota during the quarter. Minnesota lawmakers increased the existing renewable portfolio standard and established a new carbon-free electricity standard, requiring 100% carbon-free electricity generation for all utilities in the state by 2040. The standard also includes an interim target of 80% carbon-free electricity by 2035. Furthermore, the bill directs the Public Utilities Commission to take all reasonable actions within its authority to ensure that all citizens benefit from clean energy and have the opportunity to participate in the clean energy economy.

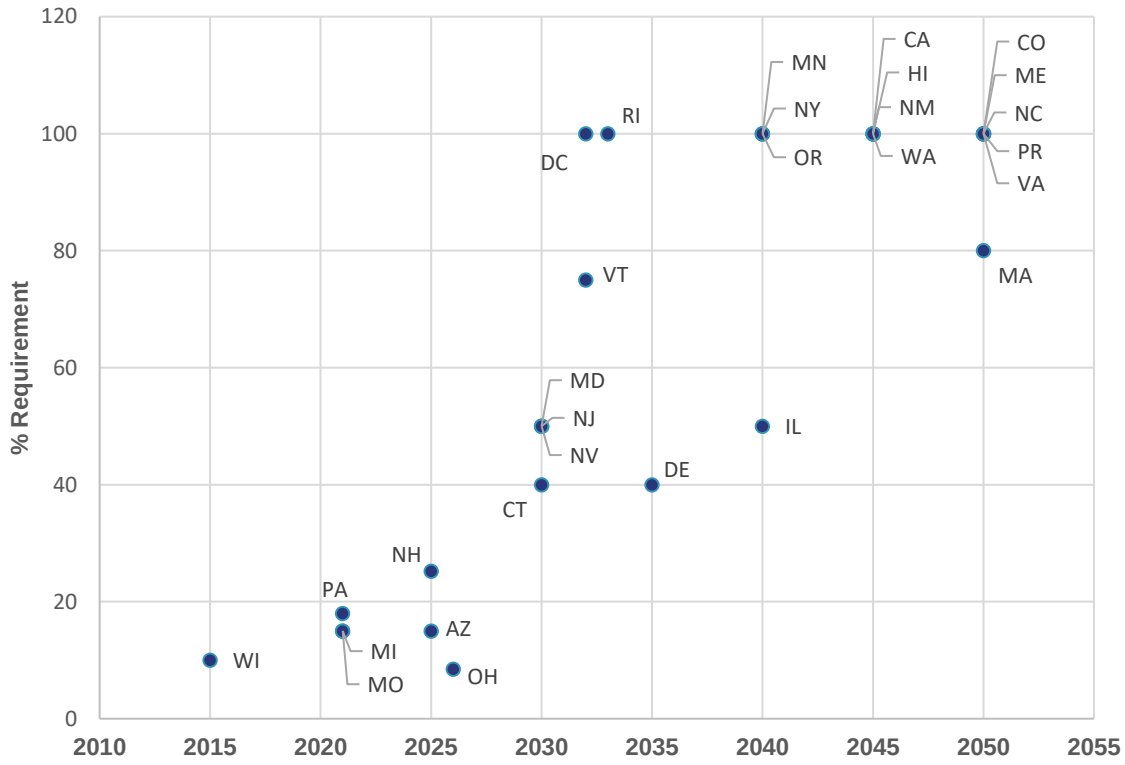
Figure 9. Existing State Clean and Renewable Energy Targets (May 2023)



Another notable development took place in New Jersey, where the Governor signed Executive Order 315 in February 2023, setting a goal for 100% of electricity sold in the state to come from clean sources by 2035. The Governor also signed an executive order setting goals for decarbonization of the buildings sector during the quarter. The state's 2024 Energy Master Plan will offer a blueprint for achieving the clean energy goal. In the District of Columbia, the City Council updated the District's existing renewable portfolio standard under Bill 950 during the quarter, which increases the current solar target from 10% to 15% of electricity by 2041, with incremental increases in the preceding years. The bill also established a non-compliance fee for the solar requirement, beginning with $0.50 per kWh in 2023 and decreasing thereafter.

A number of other bills considered during the quarter amend rules governing the implementation of states' existing clean or renewable energy standards. New Hampshire's H.B. 251 requires cost compliance disclosures on customer utility bills that provide information on the annual cost to the average residential ratepayer for state compliance with the renewable portfolio standard. In Virginia, legislators passed H.B. 2026 and S.B. 1231, allowing biomass-fired electric generation to be excluded from the state's requirement for all carbon-emitting generation be retired by the end of 2045. S.B. 1231 also allows biomass facilities in operation by the start of 2023 to be eligible for the state's renewable portfolio standard, with certain limitations.

Figure 10. Existing State Clean and Renewable Energy Targets (May 2023)



Note: Graph excludes statewide greenhouse gas emission reduction targets, as well as clean/renewable energy targets established by executive order or clearly denoted in legislation as a goal.

In Washington, H.B. 1584 integrates advanced nuclear, renewable natural gas, and green electrolytic hydrogen into the state's comprehensive energy strategy to reduce dependence on fossil fuels. Meanwhile, H.B. 1416 requires non-residential customers who purchase electricity from a third party or generate their own electricity to comply with the state's target of 100% greenhouse gas-neutral electricity sales by 2030.

Many states also proposed either new or updated technology-specific capacity targets. The Hawaii State House passed H.B. 193, which updates the state's energy efficiency resource standard to 6,000 GWh by 2045 and allows demand response programs to be eligible for the

standard. Maryland lawmakers enacted S.B. 781 in April 2023, which allows the Department of General Services to issue a competitive procurement solicitation for up to 5 million MWh/year of offshore wind energy. The bill sets a goal of reaching 8,500 MW of offshore wind capacity by 2031. Virginia legislators sent two bills – H.B. 2444 and S.B. 1441 –to the Governor's desk; both bills accelerate the timeline for reaching the state's existing offshore wind capacity target of 2,500 to 3,000 MW.

Figure 11. 100% Clean Energy or Net-Zero Electricity Sector Emissions Targets

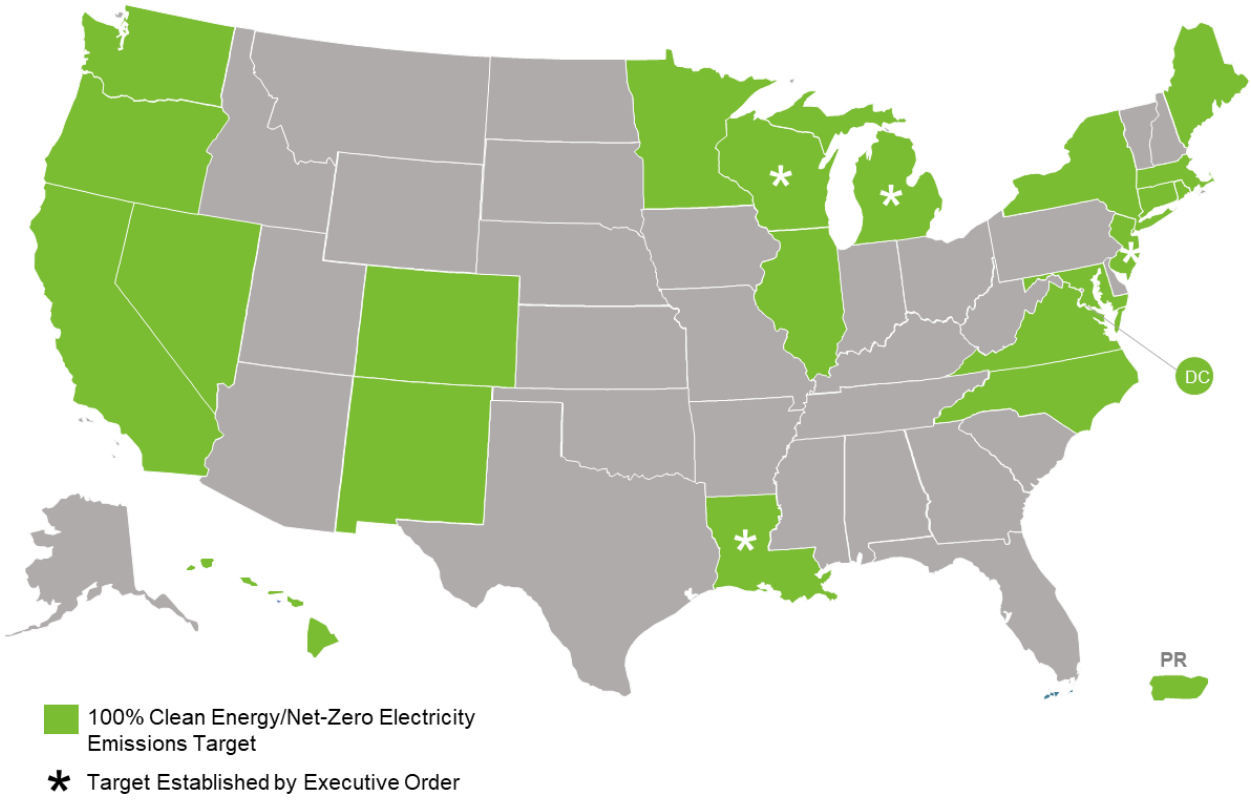


Table 4. Proposed Clean and Renewable Energy Target Changes

State	Current Target	Proposed Target	Source
Alaska	N/A	80% renewable by 2040	H.B. 121 / S.B. 101
Arizona	15% renewable by 2025	100% carbon-free by 2050	S.C.M. 1002
Connecticut	40% renewable by 2030	100% carbon-free by 2040	H.B. 6057
Florida	N/A	100% renewable by 2050	H.B. 957 / S.B. 970
Georgia	N/A	100% carbon-free by 2050	H.B. 251
Hawaii	100% renewable by 2045	80% renewable by 2070	H.B. 859

Massachusetts	40% renewable by 2030 + 1% each year thereafter and net-zero emissions by 2050	100% carbon-free & 80% renewable by 2035	H.B. 3689
		100% renewable by 2035	S.B. 2167
		100% renewable by 2030	H.B. 3231 / S.B. 2121
Minnesota	31.5% renewable by 2020 (Xcel) / 26.5% renewable by 2025 (Other IOUs)	100% carbon-free by 2040	H.B. 7
Missouri	15% renewable by 2021	100% renewable by 2059	H.B. 325
New Hampshire	25.2% renewable by 2025	Phase-out of current targets by 2028	H.B. 509
New Jersey	50% renewable by 2030	100% carbon-free by 2050	A.B. 3079
		100% carbon-free by 2035	E.O. 315
New York	70% renewable by 2030 / 100% carbon-free by 2040	100% renewable by 2032	A.B. 1787
		100% renewable by 2034	A.B. 4393 / S.B. 2007
Texas	5,880 MW renewables by 2015	100% renewable by 2050	H.B. 1013
Vermont	75% renewable by 2032	100% renewable by 2035	H.B. 320

Table 5. Proposed Technology-Specific Capacity Target Changes

State	Technology	Current Target	Proposed Target	Source
Arizona	Distributed Energy Storage	N/A	10% by 2035	S.C.M. 1002
DC	Solar	10% by 2041	15% by 2041	DC Bill 950
Hawaii	Energy Efficiency	4,300 GWh by 2030	6,000 GWh by 2045	H.B. 193 / S.B. 683
Illinois	Energy Storage	N/A	7,500 MW by 2030	H.B. 3415
	Energy Storage	N/A	7,500 MW by 2030	S.B. 1587
Maryland	Offshore Wind	1,200 MW by 2030	8,500 MW by 2031	H.B. 793
Massachusetts	Energy Storage	1,000 MWh by 2025	2,000 MW by 2030	S.B. 2168
	Offshore Wind	5,600 MW by mid-2027	8,000 MW by mid-2026	H.B. 3147
	Offshore Wind	5,600 MW by mid-2027	11,200 MW by mid-2025	H.B. 3161
	Offshore Wind	5,600 MW by mid-2027	15,000 MW by mid-2035	S.B. 2169
	Solar	3,200 MW	10,000 MW by 2030	S.B. 2119
Michigan	Energy Storage	N/A	2,500 MW by 2030	H.B. 4256
Minnesota	Energy Storage	N/A	3,000 MW by 2034	H.B. 1386 / S.B. 1614
	Energy Storage	N/A	3,000 MW by 2034	H.B. 2754

New Hampshire	Solar	0.7% by 2020	25% by 2050	H.B. 605
New Jersey	Energy Storage	2,000 MW by 2030	2,000 MW by 2035	A.B. 2879 / S.B. 1386
	Offshore Wind	7,500 MW by 2035	7,500 MW by 2050	A.B. 2879 / S.B. 1386
	Solar	1.1% by 2031	3.87% by 2034	A.B. 1744
New Mexico	Distributed Generation	N/A	15% by 2033	S.B. 266
	Energy Storage	N/A	2,000 MW / 7,000 MWh by 2034	S.B. 456
Rhode Island	Energy Storage	N/A	500 MW by 2034	H.B. 5850
Texas	Energy Efficiency	0.4% of peak demand	1% savings by 2027	H.B. 4784 / S.B. 258
Virginia	Offshore Wind	5,200 MW by 2035	5,200 MW by 2033	H.B. 2444
	Offshore Wind	5,200 MW by 2035	5,200 MW by 2025	S.B. 1441

Table 6. Updates on Clean Energy Targets (Q1 2023)

State	Sub-Topic	Description	Source
AK	RPS Rules, RPS Targets	H.B. 121 and S.B. 101, both introduced in March 2023, would establish a renewable portfolio standard of: 25% of sales come from renewable energy resources by the end of 2027, 55% by the end of 2035, and 80% by the end of 2040. To be eligible, a facility must: be located within the load-serving entity's service area, be connected to the same network that serves the entity's customers, or be located within the service area of an electric utility whose customers receive power cost equalization. Load-serving entities could also satisfy the targets by purchasing RECs. Load-serving entities could use facilities under power purchase agreements to meet the RPS goals. The bill would also require load-serving entities to file annual compliance reports and to integrate the RPS requirements into their IRPs There would be a $20/MWh non-compliance fine for each MWh an entity is below the RPS. Eligible technologies would include: solar, solar thermal, wind, wave, tidal, current, run-of-river hydro, in-river hydrokinetic, conventional hydro, lake tap hydro, water released through a dam, geothermal, and waste to energy (including wood, municipal solid waste, biofuels, and thermal from a geothermal heat pump using municipal solid waste).	H.B. 121 (I) S.B. 101 (I)
AR	Clean Energy Policy	S.B. 544, introduced in March 2023, was amended on March 30, 2023 to include that it is state policy to promote the development of non-renewable energy sources, as well as renewables (i.e. geothermal, solar, wind, biomass, biofuel, hydroelectric), nuclear, energy storage, among other things. The bill also specifies that it is state policy to promote the use of clean energy sources through consideration of lifecycle emissions. The bill died due to the end of the legislative session.	S.B. 544 (D)
	Renewable Energy Rules	S.B. 407, introduced in March 2023, defines bioenergy produced from biomass as renewable. The bill passed the Senate on March 28, 2023, and the House on March 5, 2023. The Governor signed the bill in April 2023.	S.B. 407 (E)
AZ	Capacity Target – Energy Storage, RPS Rules – Eligible Technologies, RPS Targets	S.C.M. 1002, introduced in January 2023, is a concurrent resolution urging the Arizona Corporation Commission to adopt new renewable energy standards, which the Commission previously proposed but failed to approve. The targets would require 50% emissions-free electricity by 2032 and 100% by 2050, along with an energy storage requirement of 10% distributed energy storage by 2035.	S.C.M 1002 (I)

	RPS Rules – Eligible Technologies, RPS Targets	S.B. 1502, introduced in January 2023, would establish a renewable portfolio standard of: 13% of sales come from "renewable energy resources" by the end of 2023; 14% by the end of 2024; 15% by the end of 2025 and thereafter. Eligible technologies would include solar, wind, biomass, geothermal, and hydroelectric. The bill would also establish that it is the public policy of the state that utilities should pursue the use of "clean energy resources," defined as solar, wind, biomass, geothermal, hydroelectric, and nuclear. The bill did not pass the Senate when voted upon and died.	S.B. 1502 (D)
CA	RPS Rules – Eligible Technologies	A.B. 1550 prohibits green hydrogen used by a generating facility from qualifying under the state's RPS unless it satisfies all applicable requirements established by the California Energy Commission, and meets any of the following requirements: (1) the green hydrogen is used by an onsite generating facility within California or that has a first point of interconnection to a California balancing authority, (2) the green hydrogen is used by an offsite generating facility within California or that has a first point of interconnection to a California balancing authority and is delivered to the generating facility through a dedicated pipeline, or (3) the green hydrogen is delivered to a generating facility through a common carrier pipeline and the green hydrogen physically flows within California or toward the generating facility for which the green hydrogen was procured under the original contract.	A.B. 1550 (I)
CO	RPS Rules – Eligible Size	H.B. 1080, introduced in January 2023, increases the size limit of eligible pumped hydropower from 15 MW to 400 MW. The bill was postponed indefinitely in committee in late March 2023.	H.B. 1080 (D)
	RPS Rules – Eligible Technologies	S.B. 16, introduced in January 2023, expands the definition of "clean heat resource" to include wastewater thermal energy. The bill was signed into law in May 2023.	S.B. 16 (E)
	RPS Rules – Eligible Technologies	S.B. 79, introduced in January 2023, defines nuclear energy as a "clean energy resource," making it an eligible technology for the state's renewable energy standard. The bill was postponed indefinitely in committee in late March 2023.	S.B. 79 (D)
CT	CES Targets	H.B. 6057, introduced in January 2023, requires all electricity generated in the state to be derived from energy sources that emit zero GHGs by 2040. The bill did not pass by the joint favorable deadline and died.	H.B. 6057 (D)

	RPS Rules – Eligible Technologies	S.B. 123, introduced in January 2023, changes the definition of renewable energy source classes. Class II, which only includes electricity derived from trash-to-energy facilities, would be integrated into Class I. Class I would also be expanded to include nuclear power and all hydropower; existing rules limit eligible hydropower facilities based on various requirements. The bill would also increase the limit of hydropower to meet Class I targets from 5% to 15%. The bill did not pass by the joint favorable deadline and died.	S.B. 123 (D)
DC	RPS Rules – Alternative Compliance Payments, RPS Targets	DC Bill 950 increases the local solar requirements of the District's RPS from 10% to 15% by 2041. The bill incrementally increases each year's target percentage until 2041. The bill also set fees per kWh for non-compliance with the local solar requirements each year, starting with $0.50/kWh in 2023, decreasing to $0.30/kWh for 2033 through 2041, and $0.10/kWh thereafter. The Mayor signed the bill on January 10, 2023 as Act Number A24-0742. The Act was transmitted to Congress on January 26, 2023 and became Law L24-0314 effective on March 10, 2023.	DC Bill 950 (E)
FL	Renewable Energy Goal	H.B. 957 and S.B. 970, introduced in March 2023, prohibit drilling/exploration for oil, gas, and other petroleum products on state land/waters. The bills stipulate a state renewable energy goal of reaching 100% renewable energy by 2050. The Office of Energy, in consultation with other state agencies, universities, utilities, etc. are directed to develop a unified state plan for 100% renewable electricity by 2050. The plan must include interim goals to reach 50% renewable generation by 2040. The plan must also include recommendations for creating a coal to solar program and an electric generation task force for investigating carbon capture and sequestration (CCS). The plan must be submitted by January 1, 2025, with updates provided each January 1 thereafter. The bills died in committee in May 2023.	H.B. 957 (D) S.B. 970 (D)
GA	CES Targets	H.B. 251, introduced in February 2023, amends Code Section 46-1-6 to include a definition for clean energy. The bill states that beginning January 1, 2050 all electric utilities shall provide all of their electricity via clean energy sources. The bill did not advance before the legislative crossover deadline.	H.B. 251 (D)
HI	EERS Targets	Existing law requires the Public Utilities Commission to develop an Energy Efficiency Portfolio Standard to achieve 4,300 GWh of electricity use reductions by 2030. H.B. 193 and S.B. 683 modify the target to achieve 6,000 GWh of cumulative persisting electricity savings by 2045. The bills define "cumulative persisting electricity savings" as the total	H.B. 193 (P1) S.B. 683 (D)

		electric energy savings in a given year from measures installed in that year or in previous years, but no earlier than January 1, 2009, that are still operational and providing savings in that year because the measures have not yet reached the end of their useful lives. The bills also clarify that demand response programs can be used to meet the requirement. The House passed H.B. 193 in March 2023. S.B. 683 failed to advance before the session ended.	
	RPS Rules – Eligible Technologies	H.B. 1445 and S.B. 424 remove biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, as eligible renewable energy technologies under the state's RPS. Neither bill advanced before the crossover deadline.	H.B. 1445 (D) S.B. 424 (D)
	RPS Rules – Eligible Technologies	H.B. 1463 removes biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, as eligible renewable energy technologies under the state's RPS. The bill failed to advance before the session ended.	H.B. 1463 (D)
	RPS Rules – Eligible Technologies	S.B. 634 removes biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, as eligible renewable energy technologies under the state's RPS. The bill failed to advance before the session ended.	S.B. 634 (D)
	RPS Targets	Hawaii's current RPS requires sales to be from renewable energy by 2045, with interim targets of 40% by 2030 and 70% by 2040. H.B. 859 reduces and delays the RPS to require 60% renewable energy by 2050 and 80% by 2070. The bill failed to advance before the session ended.	H.B. 859 (D)
IL	Capacity Target – Energy Storage	H.B. 3415 directs the Illinois Power Agency to develop an energy storage procurement plan that results in the electric utilities contracting for energy storage credits from contracted energy storage systems to reach a cumulative energy storage capacity of 7,500 MW by 2030. No later than December 31, 2026 and every 2 years thereafter, the Agency is to conduct an analysis to determine whether the contracted amount of energy storage is enough to support the state's renewable energy standard and carbon emission standard. If the need for energy storage is greater than the target established in this bill, the Agency is to establish a new target for the Corporation Commission to consider.	H.B. 3415 (D)

	The bill also directs the agency to develop a firm energy resource procurement plan for new resources, including initiating proceedings and conducting competitive solicitations to deploy new long-duration and multi-day energy storage. The plan should ensure stable, competitive resource development at a pace needed to ensure grid reliability and resilience during atypical or extreme grid conditions that may occur at least once in 20 years. The should also ensure that a minimum of 2 new long-duration or multi-day energy storage resources each with a rated capacity greater than 20 megawatts are deployed or contracted by the end of delivery year 2026. The bill failed to advance before the crossover deadline.	
Capacity Target – Energy Storage	S.B. 1587 makes it a goal of the Illinois Power Agency to cost-effectively deploy contracted energy storage systems. It further requires the Agency to develop a storage procurement plan that results in the electric utilities contracting for energy storage credits from energy storage systems in amounts that increase from 1,000 MW in 2024 to 7,500 MW in 2030. No later than December 31, 2026 and every two years thereafter, the Agency is to conduct an analysis to determine whether the contracted quantity of energy storage is sufficient to support the State's renewable energy standards and carbon emission standards. The bill also authorizes, but does not require the Agency to develop and implement a firm energy resource procurement plan for new long-duration and multi-day energy storage. The procurement plan must ensure regular procurement opportunities to deploy new long-duration and multi-day energy storage resources by 2030, and must ensure stable, competitive resource development at a pace needed to ensure grid reliability and resilience during atypical or extreme grid conditions that may occur at least once in 20 years. The plan must also ensure that a minimum of two new long-duration or multi-day energy storage resources each with a rated capacity greater than 20 MW shall be deployed or contracted by the end of delivery year 2026. The bill failed to advance before the crossover deadline.	S.B. 1587 (D)
RPS Rules	Existing law allows "high voltage direct current RECs and the associated energy converted to alternating current by a high voltage direct current converter station" to qualify for the state's RPS. H.B. 1463 removes language that allows a qualifying direct current applicant that does not own, control, operate,	H.B. 1463 (D)

	or manage, within the state, any plant, equipment, or property used for the transmission of electricity at the time of its application to file an application for a certificate of public convenience and necessity on or before December 31, 2023. The bill failed to advance before the crossover deadline.	
RPS Rules	Illinois' existing RPS includes a carve-out for RECs produced by a solar facility at a brownfield site. H.B. 2178 expands the definition of a "brownfield site photovoltaic project" to include a project that is located within the property boundaries of a coal-fueled electric generating plant that was retired as of January 1, 2023, or that the generating plant owner commits to retire prior to the commercial operation date of the project. The bill failed to advance before the crossover deadline.	H.B. 2178 (D)
RPS Rules	Modifies the Long-Term Renewable Resources Procurement Plan by adding a new class of brownfield site photovoltaic projects, defined as one installed on the site of a coal-fueled electric generating plant in Illinois that was retired as of January 1, 2023. The bill failed to advance before the crossover deadline.	H.B. 2205 (D)
RPS Rules – Eligible Technologies	Existing law provides that the Long-Term Renewable Resources Procurement Plan requires the Illinois Power Agency to procure 10,000,000 RECs annually from new solar and wind projects, increasing to 45,000,000 RECs by the end of delivery year 2030. H.B. 2857 amends this requirement such that only 75% of the total RECs must come from new solar and wind projects, with other renewable energy resources eligible for the remaining 25%. The bill failed to advance before the crossover deadline.	H.B. 2857 (D)
RPS Rules – Eligible Technologies	S.B. 1353 allows "new, newly modernized, or retooled hydropower facilities to comply with the state's RPS. The bill failed to advance before the crossover deadline.	S.B. 1353 (D)
RPS Rules	Illinois' existing RPS includes a carve-out for RECs produced by a solar facility at a brownfield site. S.B. 1588 expands the definition of a "brownfield site photovoltaic project" to include a project that is located within the property boundaries of a coal-fueled electric generating plant that was retired as of January 1, 2023, or that the generating plant owner commits to retire prior to the commercial operation date of the project. The bill failed to advance before the crossover deadline.	S.B. 1588 (D)
RPS Rules	S.B. 1789 establishes that RECs procured from new utility-scale wind projects, new utility-scale solar	S.B. 1789 (D)

		projects, and new brownfield solar projects must be from facilities built by general contractors that must enter into a project labor agreement with two or more labor organizations. The bill failed to advance before the crossover deadline.	
	RPS Rules – Eligible Technologies	Existing law provides that the Long-Term Renewable Resources Procurement Plan requires the Illinois Power Agency to procure 10,000,000 RECs annually from new solar and wind projects, increasing to 45,000,000 RECs by the end of delivery year 2030. S.B. 2012 amends this requirement such that only 75% of the total RECs must come from new solar and wind projects, with other renewable energy resources eligible for the remaining 25%. The bill failed to advance before the crossover deadline.	S.B. 2012 (D)
MA	Capacity Target – Energy Storage, RPS Rules – Carve-Outs	S.B. 2168, introduced in February 2023, establishes an energy storage target of 2 GW by January 1, 2030, and a subsequent target to be achieved by 2035. The Department of Energy Resources (DOER) must establish annual statewide deployment targets to be achieved by distribution companies and municipal lighting plants. A company must not own more than 20% of the annual storage target, and the DOER must create an alternative energy portfolio carve-out for energy storage systems.	S.B. 2168 (I)
	Capacity Target – Offshore Wind	H.B. 3147, introduced February 2023, amends the state's General Laws, including that distribution companies must enter in long-term offshore wind contracts equal to 8,000 MW (rather than the current 5,600 MW) of aggregate capacity no later than June 30, 2026 (one year earlier than current law). The bill also stipulates that the staggered procurement schedule developed by the Department of Energy Resources (DOER) must specify that subsequent solicitations must occur within 12 months of the previous solicitation (instead of the current 24 months), among other amendments.	H.B. 3147 (I)
	Capacity Target – Offshore Wind	H.B. 3161, introduced in February 2023, amends the state's General Laws, including procurement goals for offshore wind development. The bill stipulates that distribution companies must enter into long-term contracts for about 11,200 MW of aggregate nameplate capacity by June 30, 2025. This amends current language that mandates 5,600 MW by June 30, 2027.	H.B. 3161 (I)
	Capacity Target – Offshore Wind	S.B. 2169, introduced in February 2023, increases the amount of offshore wind energy generation that must be procured by distribution companies. The bill mandates that companies must enter into long-term contracts for generation equal to 12 GW of aggregate	S.B. 2169 (I)

	nameplate capacity by June 30, 2030, and 15 GW by June 30, 2035.	
Capacity Target – Offshore Wind	S.B. 2182, introduced in February 2023, amends the deadline for procurement of 1,600 MW of offshore wind generation to December 31, 2030, and changes the 1,600 MW goal to 6000 MW.	S.B. 2182 (I)
Capacity Target – Offshore Wind, RPS Rules – Eligible Technologies, RPS Targets	H.B. 3231 and S.B. 2121, introduced in February 2023, amend the state RPS to replace a part of the current language with the following: an additional 33% of total energy sales must be renewable by the end of 2022, 40% by the end of 2023, 48% by the end of 2024, 55% by the end of 2025, 65% by the end of 2026, 75% by the end of 2027, 87% by the end of 2028, and 100% by the end of 2029. The RPS amendments also take out the following currently eligible sources: waste-to-energy and biomass, and do not consider the following as renewable: fossil fuels, construction and demolition debris, nuclear, biomass, and hydropower at more than 30 MW in capacity. In addition, the bills requires distribution companies to jointly and competitively conduct additional offshore wind generation solutions/procurements of up to about 6 GW of aggregate nameplate capacity, as well as 6 GW of solar required by retail suppliers, in addition to the currently required number of solicitations/procurements; and both may be required by the end of 2029. Offshore wind proposal must include environmental and fisheries mitigation plans and solar proposal must include an environmental mitigation plan. If selected and approved, projects must provide financial and technical assistance to support wildlife and habitat monitoring through a minimum of $10,000/MW contribution; and all offshore wind bids must allocate at least 1% of the project cost to a general offshore wind power research and workforce development fund to be administered by the state's Clean Energy Center. The Department of Energy Resources must also establish an environmental working group and fisheries working group to provide input on best practices for avoiding, minimizing, and mitigating impacts to wildlife, habitats, resources, etc., as well as an environmental working group for avoiding, mitigation, and minimizing impacts to wildlife, resources, habitats, etc. by solar installations.	H.B. 3231 (I) S.B. 2121 (I)
Capacity Target - Solar	S.B. 2119, introduced in February 2023, stipulates that when the Department of Energy Resources (DOER) has established a program goal of at least 3000 MW of solar, the DOER must propose a new solar incentive program no later than the end of 2023, with a 10 GW solar capacity goal by 2030. The	S.B. 2119 (I)

	existing solar incentive program may be amended to meet this goal.	
CES Rules – Eligible Technologies	H.B. 3216, introduced in February 2023, amends the state's definition of clean energy generation to include nuclear power generation located in the control area of the New England ISO and commenced commercial operation before 2011.	H.B. 3216 (I)
CES Rules – Eligible Technologies	H.B. 3696, introduced March 2023, amends the state's General Laws to include offshore wind energy, any combination of new Class I RPS resources, and energy storage to the definition of clean energy generation.	H.B. 3696 (I)
CES Targets, RPS Targets	H.B. 3689, introduced in March 2023, transitions the state to 100% clean energy for electricity by 2035. The bill stipulates that by 2035, 100% of electricity used by residents, institutions, businesses, state and municipal agencies, and other entities within state borders must be clean, with at least 80% being renewables. The bill establishes the council for the clean energy transition no later than 90 days after enactment, and each executive office and quasi-public agency must submit a report to the council on how current policy can be amended to facilitate a 100% clean energy transition. The aggregate findings will be published within six months of the first council meeting, and will be updated every three years. The council must determine within a year of enactment a date no later than 2035 by which state operations will be powered by 100% clean energy. The council will meet at least four times to review the progress of achieving 100% clean energy. Additionally, the bill creates an office of clean energy equity to oversee the equitable deployment of clean energy technologies, as well as just transition office to ensure workers employed in the energy sector are able to find work in a 100% clean economy. The bill also amends the state's RPS, stipulating that until 2026 an additional three percent of sales must be from renewables; until 2029 an additional four percent of sales must be from renewables; until 2035 an additional six percent of sales must be from renewables; and that at least 80% of total sales in 2035 and every year thereafter must be from renewables. In addition, at least 15% of additional renewable energy kWh sales are required starting in 2025. Moreover, H.B. 3689 creates a new section (Section 11F 1/4), which stipulates that by 2035 the Department of Energy Resources (DOER) must establish a CES. The CES for 2035 and every year after must be 100% of kWh sales in the state. In	H.B. 3689 (I)

	2032 and every three years after, the DOER must examine whether it is feasible to require retail electricity suppliers to purchase more than 80% of electricity from Class I sources, and allows the DOER to require suppliers obtain a higher percentage of Class I sources, up to 100%. The section also stipulates that every municipal lighting plant must achieve the following schedule: at least 20% of Class I generation between 2026 and the end of 2029; at least 50% between 2030 and the end of 2034; at least 80% in 2035 and every after, with every plant having to provide 100% clean electricity in 2035 and every year after. Municipal light plants must file a plan with the DOER s by 2026.	
Clean Energy Goal	S.B. 2167, introduced in February 2023, stipulates that it is the goal of the state to meet 100% of its energy needs with renewables by 2035, including energy consumed for electricity, heating/cooling, agricultural uses, industry, and all other uses by residents, institutions, businesses, state and other government agencies.	S.B. 2167 (I)
RPS Rules	H.B. 3148, introduced in February 2023, directs every energy retail supplier to provide end-use customers a minimum requirement of 3.8 cent/kWh sales of energy attributes from Class II non-waste-to-energy generation, for supply contracts, starting or renewed, in 2023 and after.	H.B. 3148 (I)
RPS Rules – Eligible Technologies	H.B. 3188, introduced in February 2023, adds "relicensed hydroelectric facilities" as Class I renewable energy generation sources.	H.B. 3188 (I)
RPS Rules	H.B. 3209, introduced in February 2023, specifies that new renewable energy generating sources that begin commercial operation or an existing facility that increases capacity after July 31, 2021, does not qualify as a Class I source if it is located within 5 miles of an environmental justice community and produces air pollutants from the facility operations.	H.B. 3209 (I)
RPS Rules – Eligible Technologies	H.B. 3211 and S.B. 2137, introduced in February 2023, remove woody biomass fuels as a considerable alternative energy supply for intermediate or large generation units.	H.B. 3211 (I) S.B. 2137 (I)
RPS Rules – Compliance Multipliers	S.B. 2129, introduced in February 2023, stipulates that anaerobic digestion and other renewable energy sources that utilize agricultural byproducts will count double with respect to the minimum RPS percentage.	S.B. 2129 (I)
RPS Rules – Compliance Multipliers	S.B. 2162, introduced in February 2023, stipulates that 25 MW of anaerobic digestion resources under Class I renewable generating sources are counted	S.B. 2162 (I)

		double with respect to the minimum RPS percentages.	
	RPS Rules – Applicable Utilities	H.B. 3150 and S.B. 2117, introduced in February 2023, require municipal utilities to meet the obligations of the state's RPS and Clean Peak Standard beginning in the year 2030.	H.B. 3150 (I) S.B. 2117 (I)
	RPS Rules – Eligible Technologies	H.B. 3214 and S.B. 2110, introduced in February 2023, add fusion energy to the state's RPS. Fusion energy is defined as, "energy generated when nuclei from light atoms, such as hydrogen, combine to form a single heavier one, such as helium."	H.B. 3214 (I) S.B. 2110 (I)
	RPS Targets	S.B. 2172, introduced in February 2023, amends the state's RPS by removing "December 31, 2029" from the line, "an additional 3 percent of sales each year thereafter until December 31, 2029," which is in reference to the percentage of kWh sales from renewable energy sources.	S.B. 2172 (I)
MD	Capacity Target – Offshore Wind	H.B. 793 and S.B. 781, as amended, make changes to existing offshore wind targets and processes for developers in Maryland. The bills would make both offshore wind development and transmission development for offshore wind subject to community benefit agreements, meaning that projects would have to promote increased opportunities for local, small, minority-, veteran-, or woman-owned businesses in the energy industry and requiring construction work to be subject to an agreement with labor organizations meeting prevailing wage, training, workforce development, and safety standards. The bill directs the Commission to report to the Governor and legislature regarding compliance with minority business goals and participation in benefit agreements. The bills would allow applicants, if 15% of the project labor hours are performed by qualified apprentices, to be exempted from the requirement that 80% of the value of state or federal incentives be passed along to ratepayers and direct the Commission to create a process to apply for exemption. If a partial exemption is granted, 80% of the remaining portion of the incentive would be passed along to ratepayers. The bills direct the Commission and Maryland Energy Administration to request that PJM conduct an analysis of transmission system upgrade options to accommodate offshore wind infrastructure and work with PJM to ensure that analysis leverages existing infrastructure and avoids unnecessary risks or single contingencies. The bills direct the Commission to consult with other states served by PJM to evaluate options for regional transmission cooperation to help	H.B. 793 (D) S.B. 781 (E)

achieve renewable energy targets. The bills instruct the Commission to submit its status update on this analysis to the General Assembly. By July 1, 2025, the Commission is directed to issue (or request that PJM issue) at least one competitive solicitation for open access offshore wind transmission facilities and complementary onshore transmission upgrades and expansions. The bills require the Commission to consider the analysis conducted by PJM or in collaboration with other states when developing selection criteria for projects and to evaluate the potential for cooperating with other states in the PJM region to maximize benefits. The solicitations must include specifications requiring proposals to allow future transmission lines to connect in a meshed manner and share landing points, consider other clean energy generation and storage facilities, incorporate community benefit agreements, demonstrate net benefits to ratepayers, and ensure competitive bidding.

The bill requires the solicitation process to include a prequalification process to ensure financial and technical capabilities of entities responding to solicitations, provide for rigorous separation between reviewers and developers, and promote rigorous competition among prequalified entities.
The Commission would be required to consider the amount of new transmission infrastructure needed to ensure system reliability, achieve the state's offshore wind, renewable energy, and decarbonization goals, and obtain consumer, environmental, and economic benefits. The Commission shall, after evaluations with PJM, issue an order selecting one or more proposals for development by December 1, 2027 after at least one public comment hearing and an evidentiary hearing. If the Commission finds that none of the proposals adequately support the goals, the Commission may close the solicitation without project selection. If no proposal is selected by December 2027, the Commission must issue a statement to the Governor and General Assembly explaining its determination and recommending a path forward to achieve the state's offshore wind goal.

The Department of General Services, in consultation with the Commission, is directed to issue a competitive procurement solicitation and allows the Department to enter into at least one contract for power purchase of up to 5 million MWh annually of offshore wind energy from one or more qualified offshore wind projects. Overall, the bill sets a state goal of 8,500 MW of offshore wind capacity by 2031. Agreements would have a term of at least 20 years,

	have community benefit and domestic content preferences, and require descriptions of environmental impact mitigation and wildlife habitat mitigation and monitoring. The bill establishes evaluation criteria for bids including comparing the social costs of greenhouse gases from the project and monitoring and mitigation of wildlife habitat impacts. The Department of General Services would identify the state's energy needs and retire RECs associated with offshore wind agreements to meet its RPS obligations. The State shall be exempted from RPS requirements if the Department of General Services procures 100% of the state's energy needs from the wind power purchase agreement. The bills require the State to issue a procurement for offshore wind by July 31, 2024 with a procurement submission window of at least 180 days and enter into a contract by September 2025. The bills direct the Commission to file a report by December 31, 2024 and each year thereafter detailing efforts to promote opportunities for small, minority-, women-, and veteran-owned businesses. The report shall also include information on participating wind developers, the number of qualifying small businesses that receive contracts or subcontracts for offshore wind projects, the percentage of contractors which are small businesses, and plans to increase small business participation in offshore wind projects. The bills would set an annual appropriation of $3.5 million for Commission studies and analyses. The rules would go into effect June 1, 2023. The Senate passed S.B. 781 on March 17, 2023. The House passed it on April 4, 2023 with amendments. The Conference Committee report for S.B. 781 was adopted by both chambers on April 10, 2023. The Governor signed 781 on April 21, 2023. The House passed H.B. 793 on April 4, 2023, the Senate passed it on April 10, 2023 with amendments.	
RPS Rules – Alternative Compliance Payments	H.B. 511 and S.B. 357 alter the non-compliance fee for the state's RPS. For years 2024 and after, the fee for a shortfall of the Tier 1 renewable resource targets would be $0.06/kWh. These bills did not pass both chambers prior to the adjournment of the legislature in April 2023.	H.B. 511 (D) S.B. 357 (D)
RPS Rules – Eligible Technologies	H.B 718 and S.B. 590 amend the state’s RPS rules to no longer qualify energy generated from forest resources including mill residues, soft wood thinning, and yard waste, and disqualify gas produced from anaerobic digestion of animal or poultry waste. These bills did not pass both chambers prior to adjournment of the legislature in April 2023.	H.B. 718 (D) S.B. 590 (D)

ME	RPS Rules	L.D. 187, introduced in January 2023, eliminates the Energy Efficiency and Renewable Resource Fund, and would use money received from alternative compliance payments to lower future RPS compliance costs. The bill is a concept a draft, and the full bill text is currently not available.	L.D. 187 (I)
	RPS Rules – Alternative Compliance Payments	L.D. 1431, introduced in March 2023, requires competitive electricity providers that do not satisfy RPS requirements to pay a penalty of $100 per ton of carbon emitted annually from sources that do not satisfy said requirements.	L.D. 1431 (I)
	RPS Rules – Eligible Size	L.D. 43, introduced in January 2023, removes the 100 MW max capacity for renewably-sourced electrical generation. The capacity removal is for fuel cells, tidal power, solar, wind, geothermal, hydroelectric, biomass, anaerobic digestion of waste by-products, and solid waste generators in conjunction with recycling. The bill died in May 2023.	L.D. 43 (D)
	RPS Rules – Eligible Size	L.D. 622, introduced in February 2023, removes the 100 MW max capacity for renewably-sourced electrical generation. The capacity removal is for fuel cells, tidal power, solar, wind, geothermal, hydroelectric, biomass, anaerobic digestion of waste by-products, and solid waste generators in conjunction with recycling. The bill died in May 2023.	L.D. 622 (D)
	RPS Rules – REC Prices	L.D. 297, introduced in January 2023, proposes a cap on REC prices to minimize future electric rate increases for customers. The bill is a concept a draft, and the full bill text is currently not available.	L.D. 297 (I)
MI	Capacity Target – Energy Storage	H.B. 4256, introduced in March 2023, establishes an energy storage target for utilities of 2,500 new MW by the end of 2029. At least 50% of a utility's share of the target must come from contracts where: the system owner is not the utility or a utility affiliate, the contract is at least 15 years, and the contract does not require transfer of ownership to the utility. Contracts would be chosen via a competitive bidding process. The Public Service Commission must open a proceeding to establish rules for the energy storage contract. The bill would also require the Commission to complete a study on long-duration (over 10 hours) and multi-day (over 24 hours) storage systems. After, the Commission must establish targets for long-duration and multi-day systems.	H.B. 4256 (I)
MN	Capacity Target – Energy Storage	H.B 1386 and S.B. 1614, introduced in February 2023, direct each utility required to file a resource plan to deploy energy storage systems with a capacity to be determined by the Public Utilities Commission no later than October 1, 2023. The bills	H.B. 1386 (I) S.B. 1614 (I)

	establish an aggregate minimum storage capacity for the states at 3,000 MW by December 31, 2033.	
Capacity Target – Energy Storage	H.B 2754, as amended in April 2023, directs each utility required to file a resource plan to deploy energy storage systems with a capacity to be determined by the Public Utilities Commission no later than October 1, 2023. The bills establish an aggregate minimum storage capacity for the states at 3,000 MW by December 31, 2033. Its sister bill, S.B. 2847, does not include this language.	H.B. 2754 (I)
CES Rules	H.B. 3105 and S.B. 3034, introduced in March 2023, clarify that carbon-free energy standards do not apply to electricity generated by electric utilities located outside of Minnesota.	H.B. 3105 (I) S.B. 3034 (I)
CES Rules	S.B. 2505 changes rules and separates electric utilities and public utilities. The bill retains the existing language for public utilities only, directing the Commission to modify or delay clean energy resource requirements (the "standard obligation") for public utilities in the event of a significant rate impact, reliability impact or other infeasibility that is beyond the utility's control. For non-public electric utilities, the bill creates a new section which directs the Commission to modify or delay the implementation of standard obligations if the Commission finds that such actions would result in a significant rate impact, raise reliability concerns, or create technical issues. The bill directs the Commission to modify or delay standard obligations only if the infeasibility circumstances were beyond the electric utility's control. The bill also modifies the existing carbon free standard, so that the 90% carbon free requirement by 2035 applies only to public utilities, in 2040, public utilities are required to source 100% carbon-free electricity and electric utilities are required to source 80%, and adds a provision for all electric utilities to reach 100% carbon-free electricity by 2050.	S.B. 2505 (I)
CES Rules – Eligible Technologies	S.B. 3055 would add "nuclear" to the eligible energy technologies listed in statute for carbon-free energy sources. The bill would add a requirement for electric utility rate impact reporting to include an explanation of the utility's efforts to reduce carbon emissions and increase renewable energy use in operations that does not adversely affect customer costs or system reliability. The bill would remove the existing prohibition on constructing new nuclear facilities and exempt nuclear, hydroelectric, and biomass electric generation facilities from certificates of necessity requirements.	S.B. 3055 (I)

CES Targets	H.B. 899, introduced in January 2023, establishes a target for 55% of energy sold in the state to be from energy sources including solar, wind, hydroelectric of any capacity, hydrogen, and biomass by 2035. The bill would also establish a carbon-free energy standard for the state, requiring 80% of electricity sold to come from sources that do not emit carbon dioxide into the atmosphere by 2030. The carbon-free energy standard increases to 90% in 2035 and 100% in 2040.	H.B. 899 (I)
CES Targets, RPS Targets	H.B. 7, enacted in February 2023, requires electric utilities in the state to generate or procure 55% of their electricity from eligible energy sources by 2035, which include solar, wind, hydrogen, sustainable biomass, and hydroelectric. The bill allows new hydroelectricity up to 100 MW to be eligible but, any capacity of hydroelectric facility operational as of the effective date of this bill would be eligible. The bill allows energy recovery facilities (i.e. facilities combusting solid waste for heat and/or power) to be considered eligible energy sources only if the facilities are not located in a county with a population density less than 1,500 persons per square mile or greater than 2,500 persons per square mile. The bill also requires a carbon-free energy standard in addition to the existing renewable energy standard. The carbon-free standard requires public electric utilities to generate or procure electricity from carbon-free technologies equal to 80% of retail electric sales by 2030 (60% for non-public electric utilities), increasing to 90% for all utilities in 2035, and 100% for all utilities by 2040. The bill clarifies the authority of the Commission to modify or delay the standard obligation. When examining rate impacts, reliability and technical issues, the Commission must consider the environmental costs that would result from delay or modification based on environmental values and social costs of GHG emissions. When considering delay or modification, the bill also instructs the Commission to consider the impacts on environmental justice areas, and results of beneficial electrification including additional electric loads and GHG emission savings. The bill allows RECs to be used to satisfy both the carbon-free energy standard and either the solar energy standard or the eligible energy technology standard, provided it is from an eligible technology. The bill allows the Commission to issue an order to reduce the carbon dioxide emissions from coal power	H.B. 7 (E)

plants that do not have capacity obligations with an RTO and are wholly-owned by utility required to file a resource plan with the Commission. The order may limit operations to the peak summer and winter months other than for reliability or emergency operations or establish an annual limit on emissions from coal-fired generating units.

The bill establishes additional reporting requirements for utilities including reporting on the utility's renewable energy mix relative to standard obligations, compliance efforts taken, obstacles and solutions to compliance, the number of Minnesotans employed to construct new facilities to comply with standard obligations, efforts by the utility to retain and retrain workers employed at generation facilities which have ceased operation for work in new facilities, impacts of facilities constructed for compliance in environmental justice areas, efforts made to increase the diversity of the utility's workforce and vendors, and information about the origin and generation time frame of any RECs used for compliance with the standard obligation.

The bill directs the Commission to take reasonable actions to ensure that implementation of renewable energy objectives occurs in a manner that maximizes net benefits to all Minnesota Citizens. The bill lists reasonable actions for the Commission as: creation of high-quality jobs, recognition of workers' rights to organize and unionize, ensuring workers have tools for success during the energy transition (particularly in environmental justice areas), ensuring that Minnesotans can benefit from and participate in the clean energy economy, and provision of affordable electric service particularly to low-income consumers. The bill encourages utilities to locate new energy generation facilities in communities where fossil fuel generation plants have been, or are scheduled to be, retired.

The bill directs the Commission to provisionally adopt and apply the draft cost of GHG emissions valuations by the U.S. EPA's External Review Draft of its Report on the Social Cost of Greenhouse Gases, released in September 2022. The Commission will adopt the estimates contained in the final report version when that becomes available. If the estimates of the Social Costs of Greenhouse Gases are exceeded by the federal interagency Working Group on the Social Cost if Greenhouse Gases or its successor organizations, then the Commission shall adopt those estimates instead.

The bill creates an additional requirement for utilities'

		resource plan filings to report on local job impacts and steps that the utility, its suppliers, and contractors are taking to maximize opportunities for local workers in construction projects. The Commission is directed to consider local job impacts and give preference to proposals that maximize opportunities for local workers when evaluating utility proposals. The bill requires the Commission to prioritize hiring workers from communities hosting retiring electric generation facilities to the maximum extent possible. The bill allows the Commission to also give preference in resource selection matters to projects utilizing components produced domestically by entities that received an advanced manufacturing tax credit. The bill adds several considerations for Commission consideration regarding designating siting and routes of electric infrastructure. Additions include evaluation of benefits of the proposed facility regarding protection of environmental quality, reliability of state and regional energy supplies, evaluation of a proposed facility's impact on socioeconomic factors, and evaluation of the facility's employment and economic impacts in the vicinity of the site and the state. The bill directs the Commission to consider the facility's local employment and economic impacts and allows the commission to reject or place conditions on a site or route permit based on those impacts. The bill directs the Commission to require prevailing wage rates and workforce enforcement provisions as a condition for permit issuance for plants, including for repowering projects. The House passed this bill on January 26, 2023. The Senate substituted this bill for S.B. 4 and passed the bill on February 2, 2023. The Governor signed this bill on February 7, 2023.	
	RPS Rules – Eligible Size	H.B. 343 and S.B. 299, introduced in January 2023, allow hydroelectric generation of any capacity, as opposed to 100 MW of less, to qualify as an eligible energy technology for meeting state clean energy standards.	H.B. 343 (I) S.B. 299 (I)
MO	RPS Rules	H.B. 1293 and S.B. 374, introduced in February and January 2023 respectively, alter the rules for REC purchasing by utilities from accelerated renewable buyers. Accelerated renewable buyers are customers with an aggregate load over 10 MW that enter contract to obtain RECs from renewable energy resources, or to obtain energy and RECs from solar and wind generation in the Southwest Power Pool that began operation after January 1, 2020. Utilities	H.B. 1293 (I) S.B. 374 (I)

		could not use RECs purchased and retired by accelerated renewable buyers to meet their RES requirements; however, the energy purchased by the buyer would be excluded from the utility's sales, which is used to determine RES requirements. Accelerated renewable buyers would be exempt from any RES compliance costs.	
	RPS Rules – Eligible Technologies	H.B. 1093, introduced in February 2023, alters the definition of "renewable energy resources" to include pumped hydro storage.	H.B. 1093 (I)
	RPS Rules – Eligible Technologies, RPS Targets	H.B. 325, introduced in January 2023, changes the definition of "renewable energy resources." New eligible resources would include energy storage (but not pumped hydro storage), and hydrogen as a gaseous fuel outside of fuel cell usage (as long as the hydrogen is produced by an eligible renewable energy source). Resources removed from eligibility would include: dedicated crops grown for energy production; cellulosic agricultural residues; plant residues; methane from landfills, from agricultural operations, or from wastewater treatment; thermal depolymerization or pyrolysis for converting waste material to energy; clean and untreated wood such as pallets; hydropower (not including pumped storage) that does not require a new diversion or impoundment of water and that has a nameplate rating of ten MW or less; and other sources of energy not including nuclear that become available after November 4, 2008, and are certified as renewable by rule by the department. The bill would also create new RES targets for all electric utilities: 15% of generated or purchased electricity by the end of 2023; 20% by the end of 2028; 40% by the end of 2033; 60% by the end of 2043; 80% by the end of 2053; and 100% by the end of 2058. The targets originally ended at 15% by 2021 and thereafter.	H.B. 325 (I)
	RPS Targets	H.B. 1079, introduced in February 2023, creates new RES targets for all electric utilities: 15% of generated or purchased electricity by the end of 2023; 20% by the end of 2028; 40% by the end of 2033; 60% by the end of 2043; 80% by the end of 2053; and 100% by the end of 2058. The targets originally ended at 15% by 2021 and thereafter.	H.B. 1079 (I)
NC	CES Rules – Eligible Technologies	S.B. 678 redefines the state's Renewable Energy and Energy Efficiency Portfolio Standard to the Clean Energy and Energy Efficiency Portfolio Standard (CEPS). The new CEPS would include nuclear energy, including fusion energy. The Senate passed the bill in April 2023.	S.B. 678 (P1)

NH	RPS Rules	In September 2022, the New Hampshire Public Utilities Commission opened an investigation into a number of topics, including processes related to RPS. The investigation relates to the timing and other approaches historically used by state utilities for RPS; potential enhancement to the Commission's review proceedings for RPS, among other things. A pre hearing conference was scheduled for October 5, 2022. Parties filed comments on September 26 and 27, 2022. Unitil commented that the investigation should be separated in order to review the topic of RECs. Eversource commented that a regional approach to RPS compliance or energy procurement is not reasonable, due to the influx of regional differences. The state's Department of Energy commented on February 1 2022, that RPS compliance should be the responsibility of the utility. No significant actions occurred in Q1 2023.	Docket No. IR 22-053
	RPS Rules – Alternative Compliance Payments	H.B. 165, introduced in January 2023, amends the state's RPS reducing Class III payment rates to $0, and stipulates that starting in 2023 the Department on Energy must adjust rates by January 31 each year using the Consumer Price Index by the Bureau of Labor Statistics of the US Department of Labor for class IV, and 1/2 of such index for Class I and II, while Class III is removed from this provision. The bill died in committee on February 14, 2023.	H.B. 165 (D)
	RPS Rules – Alternative Compliance Payments, Eligible Technologies	H.B. 616, introduced in January 2023, adds Gen. IV or later nuclear energy systems as a new RPS class, and removes the use of class definitions. The bill also stipulates a rate of $55 for each MWh not met through certificate purchase.	H.B. 616 (I)
	RPS Rules – Compliance Costs	H.B. 251, introduced in January 2023, directs the Public Utilities Commission to provide a cost compliance disclosure on customers' billing that includes the Commission's total cost in dollars for compliance with the RPS. The bill was amended in the House on March 9, 2023, changing the introduced language mentioned above. Instead of providing the total cost in dollars the Commission is directed to include in their estimation the annual cost for the average residential ratepayer for compliance with the RPS. The amended bill also requires utilities to include an annual estimated cost that is calculated by multiplying the average per kWh cost of the RPS for the prior compliance year by the average residential monthly consumption of 625 kWh. The bill passed the House on March 9, 2023 as well.	H.B. 251 (P1)
	RPS Targets	H.B. 509, introduced in January 2023, requires the state Department of Energy to implement a phase	H.B. 509 (I)

		out of the minimum electric RPS by 2028. The bill establishes a 20% reduction in the minimum percentages for renewable generation in each class starting in 2023.	
	RPS Targets	H.B. 605, introduced in January 2023, changes the minimum RPS percentages for solar generation to 2.5% (2024), 5% (2025), 3.5% (2026), 4% (2027), 5% (2028), 6% (2029), 7.5% (2030 and after), 10% (2035 and after), 15% (2040 and after), 20% (2045 and after), and 25% (2050 and after). The bill died in committee on March 16, 2023.	H.B. 605 (D)
NJ	Capacity Target – Energy Storage, Capacity Target – Offshore Wind, RPS Targets	A.B. 2879 and S.B. 1386, introduced in February 2022, codify the goals of the 2019 New Jersey Energy Master Plan into law. The bills establish that by 2025, at least 35% of electricity used in the state will be from renewable sources, and 50% by 2050. By 2030, offshore wind facilities in the state shall generate at least 3.5 GW, and at least 7.5 GW by 2050. The bills require that electric utilities and energy storage companies shall have battery storage with a combined 2 GW capacity capable of discharging for at least 24 hours by 2035.	A.B. 2879 (I) S.B. 1386 (I)
	CES Targets	A.B. 3079, introduced in February 2022, creates a carbon emissions portfolio standard requiring the Board of Public Utilities and Department of Environmental Protection to adopt rules requiring all power sold to customers in the state be derived from sources with zero carbon emissions by 2050. The Board would establish a multi-year schedule setting forth gradual emissions reduction requirements to transition to zero carbon electricity by 2050.	A.B. 3079 (I)
	CES Targets	E.O. 315, signed on February 15, 2023, directs the Board of Public Utilities to revise the state clean energy roadmap to provide for 100% of the electricity sold in the state to be from clean sources by January 1, 2035.	E.O. 315
	CES Targets, RPS Targets	A.B. 4658 and S.B 2978, introduced in September 2022, amend the state's renewable portfolio standards. The bills require that 100% of the electricity sold in the state be from renewable resources beginning on June 1, 2045. The bill would add a provision for electricity generated by new nuclear facilities and zero-carbon electric generating facilities to reduce the number of kWh needed for RPS compliance beginning on June 1, 2030. This provision would apply to nuclear facilities located in the state within the preceding year. The bills also require that, beginning in 2030, at least 50% of renewable energy certificates retired for RPS compliance be generated within New Jersey.	A.B. 4658 (I) S.B. 2978 (I)

	RPS Rules – Alternative Compliance Payments, Compliance Costs, RPS Targets	A.B. 1744, introduced in January 2022, amends the rules regarding the state's RPS. The bill establishes a tapering percentage of costs that may be borne by customers for procurement of renewable energy in compliance with the standards from 8.5% in 2022 to 5% in 2037. The bill would increase the percentage of electric retail sales with much be met by solar energy in energy years 2022 to 2033 and establish that 3.87% of electricity sold must come from solar resources in energy years 2034 to 2037. The bill reduces the solar alternative compliance payments slightly for energy years 2021 to 2033 and establishes $120/MWh solar alternative compliance payments for 2034 to 2037. Revenue from solar alternative compliance payments would be made available to solar projects with unpurchased recs in an auction each year.	A.B. 1744 (I)
	RPS Rules – Eligible Technologies	S.B. 217, introduced in January 2022, adds fusion energy to the types of Class I renewable energies.	S.B. 217 (I)
	RPS Targets	S.B. 439, introduced in January 2022, extends the requirements for electricity sold in the state to come from solar sources into 2034 and 2035, requiring 1.1% of sales to be from solar in those years. The bill would allow the Board of Public Utilities to make adjustments to the solar renewable portfolio requirements after the closure of the Solar Renewable Energy Credit program in 2035. The bill includes requirements for an assessment schedule, such that initial assessment of the SREC program would finished in time to allow adjustments by energy year 2025 (June 1, 2024 - May 31, 2025). Subsequent assessments will allow adjustments in time for EY 2030 and EY 2035. The Senate passed this bill on June 29, 2022.	S.B. 439 (P1)
NM	Capacity Target – Energy Storage	S.B. 456, introduced in February 2023, establishes targets for energy storage deployment. Only facilities that began commercial operation after July 1, 2023 would be eligible. The targets would be: 1,000 MW/4,000 MWh of new energy storage capacity by the end of 2028; 2,000 MW/8,000 MWh by the end of 2033. The Public Regulation Commission would create utility-specific capacity targets. The Public Regulation Commission would also require utilities to incorporate energy storage capacity into their IRPs. The Senate passed the bill in mid-March 2023 with amendments. The amendments changed the targets to: 1,000 MW/3,000 MWh by the end of 2028, and 2,000 MW/7,000 MWh by the end of 2033. The Commission would be allowed to change the targets, or add new targets, based on its own analysis. The	S.B. 456 (D)

	bill did not pass the House by the end of the session and died.	
RPS Rules	S.B. 326, introduced in February 2023, alters RPS calculation rules to integrate net-metered facilities, in conjunction with S.B. 266. If a qualifying facility is net-metered, all generated energy would be considered as purchased by the utility, and all energy consumed onsite would be included towards meeting the RPS requirements. The bill did not pass by the end of the session and died.	S.B. 326 (D)
RPS Rules – Covered Entities	S.B. 165, introduced in January 2023, is titled the Local Choice Energy Act. The act would allow customers of public utilities and cooperatives to aggregate their electric loads with a local choice energy provider. Local choice energy providers would have to meet new RPS targets for renewable energy resources: 40% by 2025, 50% by 2030, 80% by 2040, and 100% zero-carbon resources by 2045. The Public Regulation Commission must adopt rules implementing the act within 180 days of the effective date. The bill did not pass by the end of the session and died.	S.B. 165 (D)
RPS Rules – Eligible Technologies	H.B. 96, introduced in January 2023, expands the definition of "renewable energy resource" to include natural gas using combined cycle technology, making it an eligible technology for the state's RPS. The bill did not pass by the end of the session and died.	H.B. 96 (D)
RPS Targets	S.B. 266, introduced in January 2023, alters the state's RPS to require IOUs to receive a certain percentage of their energy from "retail distributed generation," which would include renewable energy facilities under 5 MW-AC that are either behind the meter or that allocate at least 30% of their capacity low-income customers. Retail distributed generation should comprise at least 6% of an IOU's total retail sales by 2026, 8% by 2028, 10% by 2030, 12% by 2031, and 15% by 2033. The bill was amended in February 2023, changing the definition of "retail distributed generation" to renewable energy facilities under 5 MW-AC interconnected to the distribution grid, that are either behind the meter or are community solar facilities. For eligible facilities that are net metered, all generated energy would be considered as purchased by the utility, and all energy consumed onsite would be included towards meeting the RPS. The amendment would also require the Public Regulation Commission to report on the status of the retail distributed generation requirements by November 2032, and recommend future targets. The bill did not pass by the end of the session and died.	S.B. 266 (D)

NV	Capacity Target – Energy Storage	Existing laws and regulations establish an energy storage procurement target of 1,000 MW by 2030. S.B. 314 requires the Public Utilities Commission to adopt biennial targets that deliver the greatest benefits to the customers of the electric utility in relation to the costs of the procurement of energy storage systems. In calculating the benefits and costs of the procurement of energy storage systems, the Commission must consider all known and measurable benefits and costs. The Senate passed the bill in April 2023.	S.B. 314 (P1)
	Capacity Target – Energy Storage	S.B. 334 allows hydrogen storage that only uses green hydrogen to satisfy the state's energy storage target. The Senate passed the bill in April 2023.	S.B. 334 (P1)
NY	RPS Rules – Compliance Costs	Introduced in February 2023, A.B. 4335 establishes a moratorium for one year on surcharges associated with the system benefit charge, renewable portfolio standard, or energy efficiency portfolio standard, or similar fund imposed by the Commission. The bill also restricts the Commission from increasing the amount of surcharge for the system benefit charge, renewable portfolio standard, energy efficiency portfolio standard, or any similar fund. The purpose of this bill is to lower electricity bills.	A.B. 4335 (I)
	RPS Rules – Eligible Technologies	Introduced in February 2023, A.B. 4585 and S.B. 4566 categorize electric generating facilities utilizing biomass within a military installation as a renewable energy system. This designation will last until November 30, 2034.	A.B. 4585 (I) S.B. 4566 (I)
	RPS Rules – REC Prices	Introduced in January 2023, S.B. 2468 modifies the competitive tier 2 program to maintain the viability of the state's existing large-scale, renewable energy resources. The bill instructs the PSC and NYSERDA to make the following modifications, the maximum bid price utilized by NYSERDA for each solicitation will be equal to 75% of tier 1 REC sale prices, the previous $200 million cost cap on total program expenditures is eliminated, instead costs will be determined by the volume of accepted offers multiplied by the price of accepted offers no greater than the max bid price, the program will last through 2023, and the target volume of tier 2 RECs annually is half of the quantity of renewable generation serving total electric load in the state minus generation from facilities owned by the power authority or otherwise contracted with NYSERDA.	S.B. 2468 (I)
	RPS Targets	A.B. 279 and S.B. 4134 implement the "New York State Build Public Renewables Act," requiring the New York Power Authority to provide only renewable energy and power to customers by January 2031 and	A.B. 279 (I) S.B. 4134 (P1)

		phase out use of existing non-renewables by December 13, 2031. S.B. 4134 passed the Senate in February 2023.	
	RPS Targets	Introduced in January 2023, A.B. 1787 requires the establishment of a 100% clean energy system by 2032 with net zero GHG emissions. Interim goals for the clean energy system are 40% by 2026 and 70% by 2031. In this case, clean energy systems do not include nuclear power, natural gas, biomass, or fossil fuels.	A.B. 1787 (I)
	RPS Targets	A.B. 4393 and S.B. 2007 establish a 100% clean renewable energy system for electricity by 2034 with zero net greenhouse gas emissions. Clean renewable energy will include solar, wind, geothermal, and tidal sources and does not include nuclear, natural gas, biomass, or fossil fuels.	A.B. 4393 (I) S.B. 2007 (I)
OH	EERS Targets	H.B. 79 allows utilities to file applications for approval of a portfolio of energy savings programs. A portfolio is to be designed to achieve gross annual energy savings of at least 0.5% of the prior year's retail electric sales to participating customers.	H.B. 79 (I)
OR	RPS Targets	H.B. 3524 requires 10% of electricity sold in this state by each electric company that makes sales to 25,000 or more retail electricity consumers to be generated by small-scale renewable energy facilities or certain biomass facilities by 2030.	H.B. 3524 (I)
PA	Capacity Target – Solar, RPS Targets	S.B. 230 increases the Tier I alternative energy standard requirements to 12.89% (of retail electricity sales) for June 1, 2023 – May 31, 2024. The requirement increases each year until reaching 30% for June 1, 2023 – May 31, 2031. The bill also increase the solar PV requirement to 1% of retail electricity sales for June 1, 2023 – May 31, 2024, increasing each year until reaching 4% for June 1, 2023 – May 31, 2024. Additionally, the bill sets a new requirement for solar that is owned and operated by community solar organizations; the proposed target is 0.35% for June 1, 2024 – May 31, 2025, increasing each year until reaching 2% for June 1, 2030 – May 31, 2031.	S.B. 230 (I)
	RPS Rules – Eligible Technologies	S.B. 181 allows combined heat and power systems that are PURPA qualifying facilities to be eligible resources under the state's alternative energy portfolio standard. The facilities must have an annual operating efficiency of at least 60% and would qualify as a Tier II alternative energy source for up to 50 MW of combined generation on a site.	S.B. 181 (I)

RI	Capacity Target – Energy Storage	H.B. 5850, introduced in March 2023, establishes energy storage targets of: 150 MW by the end of 2027, 500 MW by the end of 2033.	H.B. 5850 (I)
	RPS Rules - RECs	H.B. 6178 and S.B. 499, both introduced in March 2023, establish a program for tradeable RECs. Any eligible energy technology in the state could produce tradeable RECs. Utilities could purchase these RECs in lieu of procuring energy directly to satisfy the state's RPS requirements. The bill would also allow for the ability to establish a program authorizing REC trading between states.	H.B. 6178 (I) S.B. 499 (I)
TN	Clean & Renewable Energy Rules	H.B. 946 requires that any ordinance, resolution, or regulation established by a political subdivision that imposes clean energy requirements or expectations include the following as eligible sources: solar, PV cells and panels, hydropower, wind, hydrogen, nuclear, natural gas, fuel cells, waste-to-energy facilities, energy storage, geothermal, energy production from dedicated crops, energy from industrial byproducts, waste heat recovery, combined heat and power, pumped storage, and compressed air storage. If a political subdivision sets a renewable energy requirement, the eligible sources must include solar, PV cells and panels, hydropower, wind, hydrogen, geothermal, biomass, renewable natural gas, and nuclear.	H.B. 946 (E)
TX	Capacity Target – Dispatchable Generation	S.B. 2015, introduced in March 2023, replaces "natural gas" with "dispatchable generation" in the natural gas energy credits trading program. The Public Utility Commission must activate the trading program by 2027 if the Commission determines that dispatchable generation capacity installed after January 1, 2024 would fall below 55% of all generating capacity. The bill would also alter an existing goal of 50% of generation installed after January 1, 2000 must use natural gas to become 50% of generation installed after January 1, 2024 must be dispatchable. The Senate passed the bill in April 2023.	S.B. 2015 (P1)
	Demand Reduction Target	H.B. 3964, introduced in March 2023, establishes annual demand reduction requirements for utilities: 5,000 kW/8.76 million kWh for utilities with less than 300,000 customers; 15,000 kW/26.28 million kWh for utilities with 300,000-750,000 customers; 25,000 kW/43.8 million kWh for utilities with 750,000-1.5 million customers; 75,000 kW/131.4 million kWh for utilities with 1.5-3 million customers; 100,000 kW/175.2 million kWh for utilities with 3-4 million customers; and 125,000 kW/219 million kWh for utilities with more than 4 million customers.	H.B. 3964 (I)

	EERS Targets	H.B. 4784, introduced in March 2023, establishes annual energy savings requirements for utilities: 0.25% in 2024; 0.5% in 2025; 0.75% in 2026; 1% in 2027 and thereafter. The Public Utility Commission would establish a calculation methodology.	H.B. 4784 (I)
	EERS Targets	S.B. 258, introduced in January 2023, establishes energy efficiency goals for utilities: 0.25% annual energy savings in 2024, 0.5% in 2025, 0.75% in 2026, and 1% in 2027 and thereafter. The Public Utility Commission would establish a calculation methodology.	S.B. 258 (I)
	RPS Rules, RPS Targets	H.B. 2288, introduced in February 2023, requires the Public Utility Commission to abolish all programs and terminate any payments or credits required for the purposes of a renewable portfolio standard, by 2030. The bill would also require the Public Utility Commission to suspend the state's current RPS targets by 2030.	H.B. 2288 (I)
	RPS Rules – Alternative Compliance Payments, RPS Targets	S.B. 1752, introduced in March 2023, sunsets existing RPS targets and the alternative compliance payment mechanism on December 31, 2023. Afterwards, a retail electric provider would only be required to purchase enough RECs to verify any marketing claims made related to the content of renewable energy.	S.B. 1752 (I)
	RPS Rules - RECs	S.B. 2014, introduced in March 2023, repeals the statute outlining the state's REC program. The Senate passed the bill in April 2023.	S.B. 2014 (P1)
	RPS Targets	H.B. 1013, introduced in January 2023, implements new renewable electric generating capacity targets: 50% of total generating capacity installed in the state must come from renewable energy technologies by 2030; and 100% by 2050. The bill would also remove mention of the state's previous targets which ended in 2015 and the alternative compliance payment for the expired non-wind carve-out.	H.B. 1013 (I)
	RPS Targets	S.B. 2259, introduced in March 2023, implements a new RPS target. By 2030, an additional 5,000 MW of baseload generating capacity from dispatchable or unvarying renewable energy technologies must be installed.	S.B. 2259 (I)
VA	Capacity Target – Offshore Wind	H.B. 2444 accelerates the target timeline for offshore wind procurement from December 31, 2034 to December 31, 2032. The statewide offshore wind capacity limit of 5,200 MW and the Phase II utility (i.e. Dominion Energy Virginia) capacity requirement of 2,500 MW to 3,000 MW are unchanged by this bill. The bill would make construction, operations, and	H.B. 2444 (E)

	manufacture of wind turbine components eligible for utility cost recovery. The House passed this bill on February 7, 2023 with minor amendments. The Senate passed this bill on February 16, 2023. The Governor signed the bill in May 2023.	
Capacity Target – Offshore Wind	S.B. 1441 accelerates the target timeline for offshore wind procurement from December 31, 2034 to December 31, 2024. The statewide offshore wind capacity limit of 5,200 MW and the Phase II utility (i.e. Dominion Energy Virginia) capacity requirement of 2,500 MW to 3,000 MW are unchanged by this bill. The bill would make construction, operations, and manufacture of wind turbine components eligible for utility cost recovery. The Senate substituted the text of H.B. 2444, changing the target date to 2032, and passed the bill on February 7, 2023. The House passed this bill on February 21, 2023. The Governor signed the bill in May 2023.	S.B. 1441 (E)
RPS Rules, RPS Targets	H.B. 2130, as substituted in January 2023, allows the State Corporation Commission to initiate, with its own motion, a proceeding to extend the renewable or zero-carbon time frames presently in statute with Phase II utilities meeting 100% of their energy needs with zero-carbon electricity by 2045, and Phase I utilities by 2050, as deemed necessary to maintain electric reliability. The bill would exempt utilities from paying alternative compliance fees where requirements are waived or modified. The bill directs the Commission to consider ratepayer impact of alternative zero-carbon, non-RPS compliant resources when evaluating proposals by utilities to conduct or acquire new generation facilities. Annual generation output from new zero-carbon sources that utilities receive approval to procure would reduce that utility's annual RPS obligations by the same energy amount. The bill directs the Commission to submit a report to the Governor and General Assembly with recommendations for statutory changes to improve reliability, reduce costs, and incorporate emerging energy technologies by December 1, 2025 and each year thereafter. The House substituted and passed the bill on February 7, 2023. The bill did not pass the Senate before the legislature adjourned in March 2023.	H.B. 2130 (D)
RPS Rules, RPS Targets	S.B. 1125, introduced in January 2023, allows the State Corporation Commission to defer RPS requirements if compliance would increase utility costs for customers in excess of costs for other generation alternatives. The bill instructs each electric utility to annually report on the impact of power generation retirements on reliability and affordability of electricity in Virginia starting on	S.B. 1125 (D)

	December 1, 2024. The bill directs the Commission to submit a report to the Governor and General Assembly with recommendations for statutory changes to improve reliability, reduce costs, and incorporate emerging energy technologies by December 1, 2025 and each year thereafter. This bill died in committee on January 30, 2023.	
RPS Rules – Eligible Technologies	H.B. 2026 eliminates the phase-out of biomass-fired electric generating units. The bill would also allow biomass-fired generation units that do not co-fire with coal to continue operation after December 31, 2045 when all other carbon-emitting generation sources must be retired. The House passed this bill on January 24, 2023. The Senate passed this bill with amendments on February 16, 2023. The House concurred on the same day. The Governor signed the bill in May 2023.	H.B. 2026 (E)
RPS Rules – Eligible Technologies	H.B. 2197, as substituted in January 2023, adds advanced nuclear technology and hydrogen as qualifying electric generating resources to Virginia's RPS eligible resources. The House passed this bill as substituted from committee on February 6, 2023. The Senate passed by this bill indefinitely on February 20, 2023.	H.B. 2197 (D)
RPS Rules – Eligible Technologies	H.B. 2197, introduced in January 2023, add nuclear and hydrogen as qualifying electric generating technologies to Virginia's RPS eligible resources. The House left this bill in committee on February 7, 2023.	H.B. 2311 (D)
RPS Rules – Eligible Technologies	S.B. 1231, as substituted in February 2023, adds an exception for biomass electricity generation to RPS requirements that all carbon-emitting electric generation units be retired by December 31, 2045. The bill would consider biomass electricity to be RPS eligible for biomass facilities fueled by biomass in operation as of January 1, 2023 provided that it is sustainably harvested, uses forest product manufacturing residuals and that it provides no more than 10% of its annual net generation to the electric grid or no more than 15% of its annual useful energy to a third party. The bill would also extend RPS eligibility to electric utility-owned biomass generation facilities up to 52 MW fueled by forest product manufacturing residuals, or sustainable harvested forest materials as defined by the State Forester. The bill directs the Commonwealth Department of Forestry to develop best management practices for sustainable harvesting of biomass for power generation by December 1, 2023. The Senate passed the bill on February 6, 2023, the House adopted a substitute and passed the bill on February 21, 2023. The Senate concurred in the House	S.B. 1231 (E)

		substitution on February 22, 2023. The Governor signed the bill in May 2023.	
VT	RPS Rules – Eligible Technologies	H.B. 395, introduced in February 2023, allows hydroelectric renewable energy generation plants with a capacity greater than 200 MW to be considered renewable. Beginning January 1, 2024, the amount of energy that may be used to meet RES obligations will reduce 10% annually from the amount sold/used in 2023.	H.B. 395 (I)
	RPS Rules – Eligible Technologies, RPS Targets	H.B. 320, introduced in February 2023, updates the amount of total renewable energy required under the state's Renewable Energy Standard (RES). The bill increases the requirements for existing renewable energy shares of annual retail electricity purchases to 57% by 2025, with a 1.5% increases every year thereafter, until 64.5% by 2030 is reached. Starting January 1, 2031, the max amount of renewable energy required must be 59.6% of retail purchases, and will decrease by 4.9% each year thereafter, until 40% by 2035 is reached. The bill adds hydroelectric energy plants to the definition of applicable distributed renewable generation, specifically those owned and operated by a retail electricity provider as of January 1, 2020 with a system capacity of 5 MW or less. The requirement for distributed renewable generation is decreased to reach at least 5.8% by 2025, increasing by at least an additional 2.84% each year until reaching 20% by 2030 and then increasing 2.84% each subsequent year thereafter until 2030. The requirement then increases by at least 2% each year till 30% is reached by 2035. As for new renewable energy increases, they must be 1% of each retail electricity provider's annual retail purchases beginning January 1, 2025, which increases by an additional 2.9% each year thereafter, until 30% by 2035 is reached. New wood biomass facilities for electric generation and combined heat and power are eligible under the RES.	H.B. 320 (I)
	RPS Targets	H.B. 289, introduced in February 2023, increases the amount of renewable energy required under the state's RPS. The bill requires that 63% of each retail electricity provider's annual retail electric sales must be renewably sourced beginning in 2023. The requirement increases by an additional 10.6% each second January 1 thereafter, until reaching 100% by 2032.	H.B. 289 (I)
WA	CES Rules	H.B. 1416, introduced in January 2023, extends provisions of Washington's Clean Energy Transformation Act to non-residential customers of customer-owned utilities who purchase electricity from an entity other than the directly interconnected	H.B. 1416 (E)

		utility or generate electricity to meet 100% of its own needs. The provisions include the state requirement that all retail sales of electricity be GHG neutral by January 1, 2030. The bill passed the House in February and the Senate in April 2023. The Governor signed the bill in May 2023.	
	CES Rules	Introduced in January 2023, S.B. 5043 states that electricity from power plants in compliance with the GHG emissions performance standards is not a violation of the state policy requiring that 100% of electricity be supplied by non-emitting electricity generation and renewable resources by January 1, 2045. The bill did not advance before the legislative crossover deadline.	S.B. 5043 (D)
WY	Carbon Capture Targets	Introduced in January 2023, H.B. 193 repeals the state's reliable and dispatchable low-carbon energy standard requirements. The bill did not advance before the end of the legislative session.	H.B. 193 (D)

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early May 2023.

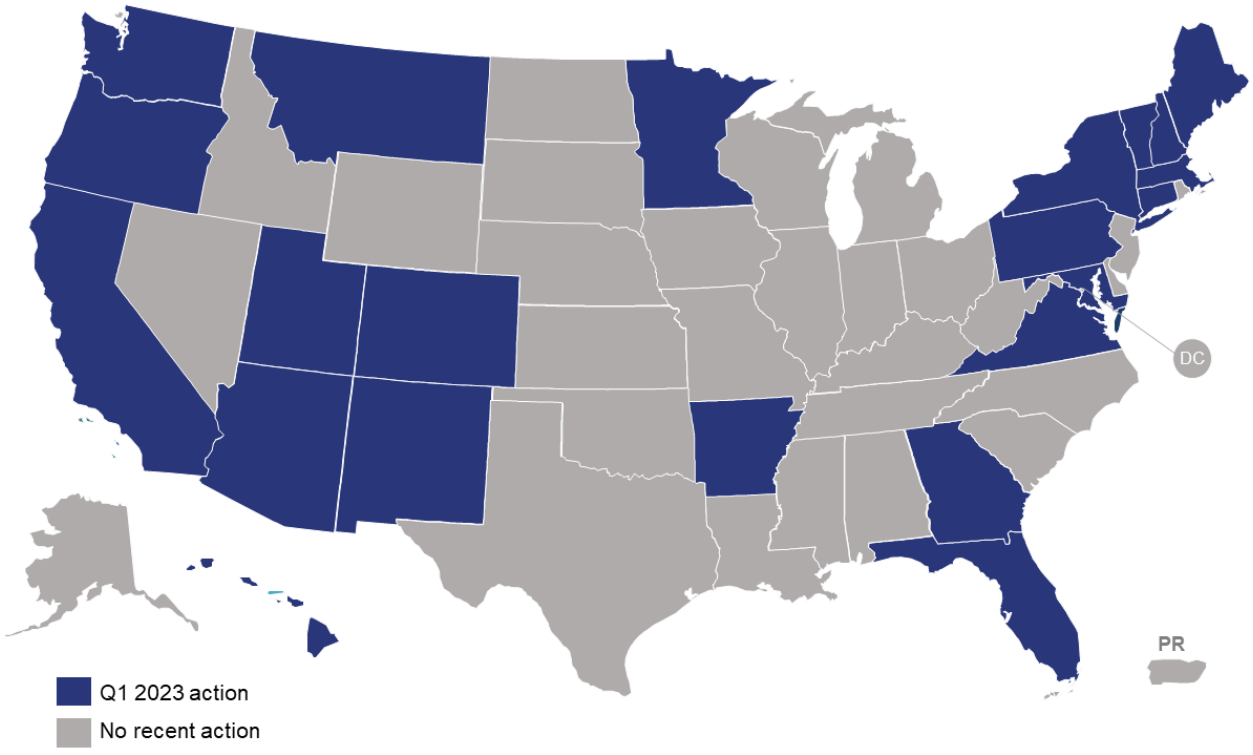
EMISSION TARGETS AND CARBON POLICIES

Key Takeaways:

- In Q1 2023, 22 states took actions to emission reduction targets and other carbon policies.
- The Governor of Massachusetts signed an executive order creating a Climate Chief position that will help develop a comprehensive government approach for achieving the state's emission reduction commitments.
- Oregon regulators opened a proceeding to investigate implementation issues related to the state's electricity emission reduction targets.

In Q1 2023, 22 states took actions related to emission reduction targets and other carbon policies affecting the electric power sector. Of these, 14 states considered new emission reduction targets or changes to existing targets, 6 states considered rules related to emission reduction policies, and 13 states considered carbon pricing policies, such as cap-and-trade systems or carbon taxes.

Figure 12. Action on Emission Targets and Carbon Policies (Q1 2023)



This quarter, several states considered legislation creating or adjusting emission reduction targets within their jurisdictions. Florida, New Hampshire, and New Mexico introduced legislation creating statewide targets for achieving net zero emissions by 2051 in Florida and 2050 in New Hampshire and New Mexico. Legislators in Colorado introduced a bill to increase

the current emissions reductions goal from 90% below 2005 levels by 2050 to 100% reductions. Meanwhile, Oregon's H.B. 2816 focused on high energy use facilities, requiring greenhouse gas (GHG) emissions associated with electricity used at said facilities be 100% below baseline levels by 2040.

Table 7. Emission Reduction Targets Under Consideration in Q1 2023

State	Current Target	Proposed Target	Source
Arizona	N/A	90% reduction by 2051, over 2005 levels	S.B. 1509
Colorado	90% reduction by 2050, over 2005 levels	100% reduction by 2050, over 2005 levels	S.B. 16
		80% reduction by 2030, over 2005 levels	S.B. 198
Connecticut	80% reduction by 2050, over 2001 levels	Net-zero emissions by 2050	S.B. 1145
Florida	N/A	Net-zero emissions by 2051	H.B. 859
Maryland	Net-zero emissions by 2045	14% reduction from each ratepayer class by 2031	H.B. 904 / S.B. 689
Massachusetts	Net-zero emissions by 2050	Net-zero emissions by 2045	S.B. 563
		110% reduction by 2050, over 1990 levels	H.B. 3231 / S.B. 2121
Minnesota	80% reduction by 2050, over 2005 levels	Net-zero emissions by 2050	H.B. 1973 / S.B. 2188
Montana	N/A	50% reduction by 2050, over 2005 levels	S.B. 532
New Hampshire	N/A	Net-zero emissions by 2050	H.B. 208
New Mexico	45% reduction by 2030, over 2005 levels	Net-zero emissions by 2050	H.B. 12
New York	85% reduction by 2050, over 1990 levels	Net-zero emissions by 2040	A.B. 3223
Vermont	80% reduction by 2050, over 1990 levels	Net-zero emissions by 2060	S.B. 136

While many states introduced bills to set emission reduction targets, other states focused on creating rules to guide emission reductions. In Oregon, H.B. 3152 allows the Public Utility Commission to institute proceedings to ensure the regulations, rules and orders, and programs overseen by the Commission align with the state's established greenhouse gas emissions reduction targets. In Maine, L.D. 589 requires the Public Utilities Commission to ensure that the state's grid benefits ratepayers by encouraging emissions reductions.

One way to encourage emissions reduction is by using carbon pricing. Carbon pricing is a way to capture the external costs of greenhouse gases by assigning emissions a monetary value.

Several states, including Hawaii, Massachusetts, and Montana introduced bills that would create an emission fee. Hawaii's H.B. 1146, S.B. 1004, H.B. 1498, and S.B. 1060 would add carbon emissions to an existing environmental response, energy, and food security tax charged on each barrel or petroleum product sold in the state. The tax is currently equal to $1.05/barrel or fraction of a barrel of petroleum product, with the bills establishing different values for each type of petroleum product that increases over time.

Meanwhile, Massachusetts' S.B. 2080 establishes a fee per metric ton of carbon dioxide equivalent. The fee must be equal to at least $50 in the first year and increase by $10 each year up to $200. Montana's S.B. 532, institutes the much lower fee of $10 per metric ton of carbon content with an annual increase of $1 per metric ton plus the rate of inflation. While many states, including those listed above, introduced bills to assign value to emissions or emission producing products within their own state, lawmakers in Hawaii adopted H.R. 125 encouraging the United States Congress to pass national carbon fee and dividend legislation.

Table 8. Updates on Emission Targets and Carbon Policies (Q1 2023)

State	Sub-Topic	Description	Source
AR	Emission Reduction Rules	S.B. 407, introduced in March 2023, defines bioenergy produced from biomass as carbon neutral, and when it is paired with carbon capture and storage it is defined as carbon negative. The bill passed the Senate on March 28, 2023 with minor amendments, and the House on April 5, 2023. The Governor signed the bill into law in April 2023.	S.B. 407 (E)
AZ	Emission Reduction Rules	H.B. 2279, introduced in January 2023, repeals a statute that prevents a state agency from adopting or enforcing, without express legislative authorization, a state or regional program meant to regulate the emission of GHGs for the purposes of climate change.	H.B. 2279 (I)
CA	Carbon Pricing	A.B. 9 authorizes the California Air Resources Board to include the use of market-based compliance mechanisms in regulating GHG. The bill also requires the Board to initiate a regulatory process to evaluate potential updates to the market-based compliance mechanism, and requires regulatory changes to take effect no later than January 1, 2025.	A.B. 9 (I)
	Emission Reduction Target	S.B. 308 requires the California Air Resources Board to adopt a resolution by December 31, 2027 to establish rules for certifying carbon dioxide removal processes that may be used to generate negative emissions credits. The Board must also adopt a regulation to require emitting entities to purchase negative emissions credits equal to a portion of their greenhouse gas emissions in each calendar year beginning with GHG emissions for calendar year 2028. The Board is to determine the percentage required for each year, beginning with calendar year 2028, with the goal of increasing the total capacity to provide negative emissions credits over time in order to meet the state's net zero GHG emissions policy. Those percentages must be at least 1% in 2030, 8% in 2035, 35% in 2040, and 100% in 2045.	S.B. 308 (I)
	Emissions Reporting	S.B. 253 directs the State Air Resources Board to adopt regulations by January 1, 2025 to require business with revenues in excess of $1 billion and that do business in California to publicly disclose to the emissions registry their scope 1, 2, and 3 emissions starting in 2026.	S.B. 253 (I)

CO	Emission Reduction Target	S.B. 16, introduced in January 2023, adds new GHG emission reduction goals (compared to 2005 levels): 65% reduction by 2035, 80% by 2040, and 90% by 2045. The 2050 goal would increase from 90% to 100%. The bill was enacted in May 2023.	S.B. 16 (E)
	Emission Reduction Target	S.B. 198, introduced in March 2023, creates GHG emission reduction goals for retail electric sales (compared to 2005 levels): 46% by 2027, and 80% by 2030. These goals would only apply to electric utilities, not the economy as a whole. The Senate passed the bill in April 2023, and the House passed it in early May 2023.	S.B. 198 (P2)
CT	Emission Reduction Target	H.B. 5564, introduced in January 2023, updates existing emissions targets to be in line with the most current science and ensure compliance with the state's GHG reduction requirements. The bill did not pass by the joint favorable deadline and died.	H.B. 5564 (D)
	Emission Reduction Target	S.B. 1145, introduced in February 2023, alters the existing 2050 emissions target to be an economy-wide net zero, provided emissions of GHGs are at least 80% below 2001 levels; the existing target is simply 80% below 2001 levels. The bill would also require the Department of Energy and Environmental protection to establish sector-specific sub-targets by 2025, including targets for residential heating and cooling, and C&I heating and cooling.	S.B. 1145 (I)
FL	Carbon Pricing, Emission Reduction Target	H.B. 95 and S.B. 970, introduced in March 2023, prohibit drilling/exploration for oil, gas, and other petroleum products on state land/waters. The bills stipulate a net zero emissions statewide by 2051. The Office of Energy, in consultation with other state agencies, universities, utilities, etc. are directed to develop a unified state plan for a net zero by 2051 goal. The plan must include interim goals to reach a 40% emission reduction by 2030, and an 80% emission reduction by 2041. Per the bills, all private coal and oil fired units must reach zero emissions by 2030; all private and municipal natural gas fired units must reach zero emissions by 2040 (except for municipal units that convert to green hydrogen or similar technologies) and environmental justice communities must be prioritized; and all CHP or cogeneration technology/units must reach zero emissions by 2045, unless they are converted to green hydrogen or similar technology for achieving zero carbon emissions. The plan must also include recommendations for a commission on market-based carbon pricing solutions, and an electric	H.B. 957 (D) S.B. 970 (D)

		generation task force for investigating carbon capture and sequestration (CCS). The plan must be submitted by January 1, 2025, with updates provided each January 1 thereafter. The bills died in committee in May 2023.	
	Carbon Pricing, Emission Reduction Target	H.B. 1217 and S.B. 1238, introduced in March 2023, stipulate that a state agency may not adopt/enforce a state or regional program to regulate emissions for the purpose of addressing atmospheric temperature changes without legislative authorization given by state low carbon fuel standards, plans/programs to enable regulation of mobile/stationary sources, a greenhouse gas tax/fee, emissions trading, or state/regional programs prompted by the United States' participation in an international treaty, executive agreement, or interstate compact/agreement. The bills died in committee in May 2023.	H.B. 1217 (D) S.B. 1238 (D)
GA	Emission Reduction Target	H.B. 251 , introduced in February 2023, stipulates that the Public Utilities Commission must adopt no later than July 1, 2024 regulations that gradually reduce CO_2 emissions from every electric utility in the state from 2025 to 2050. The bill did not advance before the legislative crossover deadline.	H.B. 251 (D)
HI	Carbon Pricing	H.B. 191 directs the Commission to require each regulated electric and gas utility to use the estimated social cost of greenhouse gas emissions established by the United States Interagency Working Group on the Social Cost of Greenhouse Gases in that utility's respective integrated resource planning process. The bill failed to advance before the crossover deadline.	H.B. 191 (D)
	Carbon Pricing	Existing law includes an environmental response, energy, and food security tax of $1.05 on each barrel or fractional part of a barrel of petroleum product sold by a distributor to any retail dealer or end user of petroleum product, other than a refiner. H.B. 1146 and S.B. 1004 add "carbon emissions" to the list of items included in the tax. The bills also establish a different per-barrel tax for each different type of petroleum product, and creates a schedule for each tax to increase over time through 2036, after which time the taxes will remain fixed. The bills also establishes a flat credit for taxpayers, which also increases over time, to offset the economic impact of the tax. Neither bill advanced before the crossover deadline.	H.B. 1146 (D) S.B. 1004 (D)
	Carbon Pricing	Existing law establishes a state environmental response, energy, and food security tax of $1.05	H.B. 1498 (D)

		on each barrel or fractional part of a barrel of petroleum product sold by a distributor to any retail dealer or end user of petroleum product, other than a refiner. H.B. 1498 and S.B. 1060 add carbon emissions to the tax, and amends the value of the tax. The tax varies depending on the type of petroleum product and increases over time. The bill also establishes a refundable tax credit to offset the impact of the tax on consumers. The bills failed to advance before the crossover deadline.	S.B. 1060 (D)
	Carbon Pricing	H.C.R. 124, S.C.R. 200, and S.R. 99 urge the United States Congress to pass national carbon fee and dividend legislation. The House passed H.C.R. 124 and H.R. 125 in March 2023. The other two bills failed to advance before the session ended.	H.C.R. 124 (P1) H.R. 125 (Adopted) S.C.R. 200 (I) S.R. 99 (I)
MA	Carbon Pricing	S.B. 2080, introduced in February 2023, stipulates that by 2026 the Department of Environmental Protection and Secretary of Energy and Environmental Affairs must adopt market-based compliance mechanisms or fee to further emissions limits related to commercial and industrial heating and cooling, industrial processes, transportation, and residential heating and cooling, among others. The compliance mechanisms in the first year of implementation must result in a cost of emissions per metric ton of CO_2 equivalent that at least $50, which must increase by $10 each year up to $200. The collected fees or proceeds must be disbursed as rebates/refunds to residents and employers in the state in proportion to the money collected and as money credited to the state's Transportation Fund. A report must be filed detailing the effectiveness of the market-based compliance mechanisms or fees adopted. The bill also creates separate funds including the Green Commercial Building Fund, Green Industrial Fund, and Green Residential Building Fund, which will collect money from the compliance mechanisms or fee corresponding to the applicable emissions source.	S.B. 2080 (I)
	Carbon Pricing	H.B. 3235 and S.B. 2101, introduced in February 2023, create a separate account known as the Emissions Reduction Fund into which the funds from a methane emissions surcharge on gas customers' bills will reside in. Municipal boards and commissions must make recommendations to the legislative body of the municipality to fund various programs that reduce emissions, which may be approved and appropriated by the	H.B. 3235 (I) S.B. 2101 (I)

	municipal legislative body. The fund will have a limit of $15 million in 2022 inflation-adjusted dollars, for unallocated funds. At any point after five years of the fund's creation, the legislative body of the municipality can choose to terminate the fund and transfer the remainder to other funds or as free cash. Customers are exempt from the surcharge if: the applicant's income from the prior year exempts them, the residential property is the customer's primary residence, among others. The legislative body of the municipality can exempt any set of customers and a local fund may reimburse any resident for a surcharge paid by a condominium or landlord.	
Emission Reduction Rules	H.B. 873 and S.B. 2092, introduced in February 2023, change the definition of "carbon dioxide equivalent" and "Statewide greenhouse gas emissions" to include a calculated timeframe of 20 years and 100 years. The bills also mandates that the Department of Environmental Protection must use the best available science every three years to review and update CO_2 equivalents and factors impacting statewide emissions; and retroactive to 1990 adjust emissions.	H.B. 873 (I) S.B. 2092 (I)
Emission Reduction Rules	S.B. 2095, introduced in February 2023, mandates that the Department of Energy Resources must assist municipal lighting plants in their efforts to reduce emissions.	S.B. 2095 (I)
Emission Reduction Target	Executive Order No. 604, signed on January 1, 2023, establishes the Office of Climate Innovation and Resilience within the Office of the Governor. The Office will be led by the Climate Chief and the Office will develop policy and recommendations related to issues of climate innovation, mitigation, adaptation, and resilience. The Climate Chief is instructed to review the present organization, staffing, and policy-making practices of all executive agencies and offices to develop a comprehensive plan for a unified government approach to achieve the state's emission reduction commitments.	E.O. 604
Emission Reduction Target	H.B. 3120 and S.B. 2136, introduced in February 2023, remove woody biomass from the GHG emission reduction standards for municipal lighting plants.	H.B. 3210 (I) S.B. 2136 (I)
Emission Reduction Target	H.B. 3231 and S.B. 2121, introduced in February 2023, require the Department of Environmental Protection to monitor and regulation emissions and adopt regulations requiring compliance and verification of emissions, in order to establish a	H.B. 3231 (I) S.B. 2121 (I)

	greenhouse gas registry and reporting system. The Secretary of the Office of Energy and Environmental Affairs in consultation with the Department of Environmental Protection and the Department of Energy Resources (DOER) must adopt interim emissions and net emissions limits for 2025, 2030, 2035, 2040, 2045, and 2050. The 2040 net limit must not be less than 105% below 1990 emissions levels; while the 2050 net limit must achieve at least a reduction of 110% below 1990 levels, as long as the emissions after 2030 or 2040 do not go higher than zero. The bills stipulate that each municipal lighting plant must establish a GHG emission standard, at a minimum percentage of 100% by 2030 for renewable energy sold by each plant.	
Emission Reduction Target	S.B. 562, introduced in March 2023, establishes a statewide methane gas emissions limit of 30% below 2020 levels by 2030.	S.B. 562 (I)
Emission Reduction Target	S.B. 563, introduced in February 2023, amends the state's General Law stipulating a 2045 statewide GHG emissions limit for achieving at least net-zero. This amends current language that contains a 2050 emissions limit and a 2045 interim limit.	S.B. 563 (I)
Emission Reduction Target	S.B. 2096, introduced in February 2023, stipulates that before the start of the reverse auction for the state's purchases in advance of carbon dioxide removal, the state's Clean Energy Technology Center must publish a survey of removal opportunities in the state. The bill also stipulates that starting in 2024, the Center must conduct an annual reverse auction for the state's purchase in advance of removal. Each year the auction will open on April 1 and close June 30. The Center will select qualifying bids to meet the annual removal target. At least 30% of the annual target must be met by projects that deliver a max removal volume of max 10% of the annual target. At least 25% of the target must be met by projects that a minimum durability of 1,000 years, at least 50% by those with a minimum durability of 250 years, and 100% of projects must have a minimum durability of 100 years. The max average price per ton of carbon dioxide removal must be $350 by 2024, and decrease 5% each year. In reference to a carbon removal pilot project, a 5-year term is authorized and the Center will make an advance market commitment for removal purchases of 10,000 tons of carbon dioxide equivalents in 2024; 20,000 tons in 2025; 30,000 tons in 2026; 40,000 tons in 2027; and 50,000 tons in 2028.	S.B. 2096 (I)

MD	Carbon Pricing	H.B. 915 and S.B. 843, introduced in February 2023, direct the Department of Environment to establish a Climate Change Adaptation and Mitigation Program. The bills instruct the Department, by October 2024, to establish regulations and methodologies to determine and attribute responsible parties for GHG emissions from a covered period from January 1, 2000 to December 31, 2018. The bills define responsible parties as having been in the business of fossil fuel extraction or refinement and having more than 1 billion tons of GHG emissions, as determined by the Department, over the covered period. Responsible parties would be assigned a percentage of the estimated $9 billion in costs based on their percentage share of GHG emissions from their operations compared to statewide emissions over the covered period. The bill directs the Department to establish a mechanism for repayment by responsible parties by October 2025 either in a lump sum or in nine annual installments with the first payment by October 2025. The bills did not advance before the end of the legislative session.	H.B. 915 (D) S.B. 843 (D)
	Emission Reduction Target	H.B. 904 and S.B. 689, introduced in February 2023, require each electric and gas company to reduce GHG emissions from each ratepayer class by at least 2% below the 2016 baseline level each year with a cumulative reduction of at least 14% by 2031. The bills would add GHG reduction progress to the Commission's annual reporting to the General Assembly. The bills did not advance before the end of the legislative session.	H.B. 904 (D) S.B. 689 (I)
ME	Carbon Pricing	L.D. 1431, introduced in March 2023, stipulates that when the Commission is adopting rules regarding rates, they must consider the social cost of carbon. The bill also requires competitive electricity providers that do not satisfy RPS requirements to pay a penalty of $100 per ton of carbon emitted annually from sources that do not satisfy said requirements.	L.D. 1431 (I)
	Emission Reduction Rules	L.D. 340, introduced in January 2023, removes the reduction of emissions from the purpose and responsibilities of the state regulatory system for public utilities, replacing it with "to educate consumers to make independent and informed utility choices." The bill was placed in legislative files and died on April 6, 2023.	L.D. 340 (D)
	Emission Reduction Rules	L.D. 589, introduced in February 2023, requires the Public Utilities Commission to ensure that the state's grid benefits ratepayers by encouraging	L.D. 589 (I)

		emissions reductions, among other stipulations. The bill is a concept draft and the full bill text is currently not available.	
	Emission Reduction Target	L.D. 1411, introduced in March 2023, requires the Department of Environmental Protection to adopt rules setting sector-specific biennial emission limits from energy sources in the commercial, industrial, residential, and other sectors. The department may adopt sector--specific emissions limits for any other sector or source. The limits must be calculated and imposed for a 10 year period, and by December 31, 2025 -- and every four years after -- the department must adjust any sector-specific emissions limits taking into consideration the updated emissions data and reflecting policies in the most recent state climate action plan.	L.D. 1411 (I)
MN	Carbon Capture	H.B. 342 and S.B. 298 establish that the state's policy is to support development and deployment of carbon capture and sequestration technologies in Minnesota.	H.B. 342 (I) S.B. 298 (I)
	Emission Reduction Rules	H.B. 2178 and S.B. 2135, introduced in February 2023, add a definition for GHGs to the state statute and clarify that the Pollution Control Agency is responsible for promoting energy sources and waste disposal methods which produce or emit the least GHGs, as well as other air contaminants.	H.B. 2178 (I) S.B. 2135 (I)
	Emission Reduction Target	H.B. 1973 and S.B. 2188, introduced in February 2023, amends the state's GHG reduction goals. The bills would establish a 50% reduction in GHG emissions compared to 2005 levels by 2030 and net-zero emissions by 2050. The bills direct the Commissioner of the Pollution Control Agency to review the targets annually and forward recommendations to the relevant legislative committees.	H.B. 1973 (I) S.B. 2188 (I)
MT	Carbon Pricing, Emission Reduction Target	Introduced in March 2023, S.B. 532 establishes emission reduction targets of 25% below 2005 levels by 2035 and 50% by 2050. The bill also creates a carbon tax. The tax will be imposed on owners of large emission sources beginning on January 1, 2024. The tax is equal to $10/metric ton of carbon content and will increases annually by $1/metric ton plus the rate of inflation. The bill did not advance before the end of the legislative session.	S.B. 532 (D)
NH	Carbon Pricing	H.B. 372, introduced in January 2023, establishes the Economic Impact of National Carbon Pricing	H.B. 372 (D)

		Study Commission to study the short and long-term impacts of pending national/regional carbon pricing legislation and mechanisms on the state's economy and environment. The bill died in the House on March 9, 2023.	
	Carbon Pricing	H.B. 524, introduced in January 2023, relates to the Regional Greenhouse Gas Initiative and raises the threshold price for allowance sales to $3 eligible to be rebated to all retail electric ratepayers on kWh basis. The bill died in committee on March 16, 2023.	H.B. 524 (D)
	Emission Reduction Target	H.B. 175, introduced in January 2023, amends the state's energy consumption reduction to include that each state department must identify cost-effective measures to reduce GHG emissions, instead of fossil fuel consumption.	H.B. 175 (I)
	Emission Reduction Target	H.B. 208, introduced in January 2023, establishes a climate action plan and GHG emission reduction goals for the state. The bill also authorizes the Department of Environmental Services to establish an annual emissions inventory (starting in 2024) and report on a plan every five years on achieving emission limits. The Climate Action Plan stipulates that the state will reduce emissions to at least 20% by 2025, 50% by 2035, and net-zero by 2050, all below 1990 levels. The bill also amends the state's energy policy, adding language to achieve the emission goals of the action plan, meeting the energy needs of consumers at the lowest reasonable cost, among other minor language changes. The bill died in committee on March 16, 2023.	H.B. 208 (D)
NM	Emission Reduction Target	H.B. 12, introduced in February 2023, creates the Advanced Energy Technology Act. Among other things, the act would establish direct GHG emissions targets (compared to 2005 levels): 50% by 2030, 75% by 2040, and 90% by 2050 and thereafter. Along with the absolute targets, there would also be a net-zero target by 2050 and thereafter, to be achieved through offsets. The bill did not pass by the end of the session and died.	H.B. 12 (D)
NY	Carbon Pricing	A.B. 4306 and S.B. 732 instruct the Department of Environmental Conservation to establish a price per ton of carbon dioxide equivalency emitted in the production of electric energy, incorporating the social cost of carbon.	A.B. 4306 (I) S.B. 732 (I)
	Carbon Pricing	Introduced in January 2023, S.B. 2073 requires proceeds collected from the auction or sale of carbon dioxide emission allowances pursuant to	S.B. 2073 (I)

		the state's participation in the RGGI to be deposited into the energy efficiency and clean energy technology account. The bill prohibits these proceeds from being moved, transferred, or allocated to the state treasury to the credit of the state general fund, unless the funds will be used for purposes directed by the RGGI.	
	Carbon Pricing	Introduced in January 2023, S.B. 2579 establishes a tax on carbon-based fuels. The tax will be imposed on fuel distributors and utilities at a rate of no less than $35/ton of carbon dioxide equivalency. The rate will increase by $15 annually up to $185/ton carbon dioxide equivalency.	S.B. 2579 (I)
	Emission Reduction Target	Introduced in February 2023, A.B. 3223 requires existing fossil fuel-fired electric generating facilities to demonstrate that they will achieve zero GHG emissions by 2040. As part of an application for a new operating permit or renewal of an existing operating permit, the owner/operator of the fossil fuel facility must submit a plan demonstrating that the facility's operations will achieve zero emissions of GHGs on or before January 2042. In lieu of the zero emission plan, a certification stating the plant will cease operations on or before 2042 will also be accepted.	A.B. 3223 (I)
OR	Emission Reduction Rules	In February 2023, the Commission Staff filed a report recommending the Public Utility Commission (PUC) open an investigation into H.B. 2021 implementation issues. Passed in 2021, H.B. 2021 requires large IOUs and electricity service supplier to decarbonize their retail electricity sales by 80% below baseline emissions levels by 2030, 90% by 2035, and by 2040 and every subsequent year, zero emissions. The law also provides direction for the development and renew of CEP by the PUC and requires the Commission to ensure that utilities demonstrate continual progress within the CEP planning period toward meeting the clean energy targets. As part of their investigation, the Staff will attempt to address the compliance process in emissions reduction target years, any compliance determinations the PUC will make in the interim, enforcement mechanisms for compliance in the target years, and, potentially, in the interim, requirement of ensuring continual progress, requirements for the use of RECs associated with generation attributed to the utility under H.B. 2021 emissions accounting methodology, and if H.B. 2021 assigns emissions accounting policy to the Department of Environmental Quality exclusively.	Docket No. UM 2273

		Later on in February, the Commission approved the Staff's recommendation.	
	Emission Reduction Rules	Introduced in January 2023, H.B. 2236 prohibits the Governor and certain state agencies from taking measures to reduce GHG emissions within the state unless authorized by the Legislative Assembly.	H.B. 2236 (I)
	Emission Reduction Rules	Introduced in January 2023, H.B. 3152 allows the Public Utility Commission to institute proceedings to ensure the commission's regulations, rules and orders, and programs overseen by the commission align with the state's established GHG emission reduction targets.	H.B. 3152 (I)
	Emission Reduction Target	H.B. 2816 requires high energy use facilities to ensure that GHG emissions associated with electricity used at the facility are reduced to 60% below baseline emissions levels by 2027, 80% by 2030, 90% by 2035, and 100% by 2040.	H.B. 2816 (I)
PA	Carbon Pricing	H.B. 195, introduced in March 2023, establishes rules for the Commonwealth to implement a GHG cap and trade program, including joining the Regional Greenhouse Gas Initiative (RGGI). The bill requires statute to be enacted by the Senate and House of Representatives to join a cap and trade program. In pursuit of joining RGGI or a similar program, the bill directs the Department of Environmental Protection to notify the environmental resources and energy standing committees in both chambers and issue notice of a 180 day comment period. The bill directs the Department to conduct at least four public hearings on the matter during the comment period. Also, the bill directs the Department to compile a list of all individual facilities by county that would be subject to the proposed action along with the amount of carbon dioxide emitted by each facility and the estimated cost that each facility would incur to comply with the proposed action. The bill also directs the Department, for proposed actions, to calculate the change in electricity costs, possible facility closures, impacts to state and regional GHG emissions, impacts on wholesale electricity prices, administrative burden estimates, and whether any less costly or intrusive methods for achieving the emissions reductions goals are available. The report must be delivered to the standing committees in both chambers of the legislature after the comment period has closed, and the Department must request that a member of the standing committee introduce	H.B. 195 (I)

		legislation to take the proposed action (e.g. joining RGGI).	
UT	Carbon Pricing	Introduced in February 2023, H.B. 514 creates a carbon emissions tax on electricity providers beginning January 1, 2025. The tax is equal to $10/metric ton of carbon dioxide emissions, and will increase annually by 3.5% plus a percentage equal to greater of the actual percent charged during the previous fiscal year in the consumer price index and 0. The enacting clause was struck in early March 2023.	H.B. 514 (D)
	Carbon Pricing	Introduced in January 2023, H.J.R. 11 promotes the development or adoption of state social cost of carbon (SCC) estimates, calculated using best practices, for the evaluation and design of state policy, including a state carbon tax. The enacting clause was struck in March 2023.	H.J.R. 11 (D)
VA	Carbon Pricing	S.B. 1001 directs the Department of Environmental Quality to take all steps necessary to suspend the state's participation in RGGI.	S.B. 1001 (D)
VT	Emission Reduction Target	H.B. 74, introduced in January 2023, repeals the Global Warming Solutions Act. The bill also amends language in the state's greenhouse gas reduction requirements, changing the requirement to a goal. The bill does the same for the state's energy policy.	H.B. 74 (I)
	Emission Reduction Target	S.B. 24, introduced in January 2023, establishes the Clean Fuels Program which will provide the basis for low carbon fuel standards associated with fuel emissions from the production, storage, transportation, combustion, and land-use changes associated with fuels. Allowable fuel types to meet the standards include biofuels, biogas, natural gas, liquefied petroleum gas, gasoline, diesel, hydrogen, and electricity. The Commissioner of Environmental Conservation is responsible for adopting and implementing the program, including an implementation schedule to reduce emissions per unit of fuel energy by 10% below 2018 levels by 2030. By January 15, 2026, the Commissioner must file the final proposed rules on the Clean Fuels Program.	S.B. 24 (I)
	Emission Reduction Target	S.B. 136, introduced in March 2023, amends the state's GHG reduction requirement years to the following: at least 26% from 2005 levels by 2030 (instead of 2025); at least 40% from 1990 levels by 2040 (instead of 2030); and at least 80% from 1990 levels by 2060 (instead of 2050). The Secretary of Natural Resources must adopt and	S.B. 136 (I)

		implement rules consistent with the climate action plan by December 1, 2025 (instead of 2022) to achieve the goal of a 26% emissions reduction by 2030 (as stipulated above). The Secretary is given until July 1, 2027 to revise these rules to reach said goal, and is given until July 1, 2035 to adopt and implement rules pertaining to the amended 2040 goal; and is allowed to update rules to meet the 2040 goal every two years between 2035 and 2040. The Secretary is also given until July 1, 2050 to adopt and implement rules to reach the 2050 goals, and is can update rules every two years between 2050 and 2060 to meet the amended 2060 emission goals. The bill changes the 2050 deadline to achieve net zero emissions to 2060 across all sectors as part of the state's climate action plan.	
WA	Carbon Pricing	Introduced in January 2023, H.B. 1659 was created to prevent the manipulation of the carbon market price. The bill requires the state institute for public policy to submit a report making recommendations for the establishment of an office, agency, or entity independent from the department of ecology that will be responsible for regulation and oversight of the carbon auctions. The bill also requires an audit be performed on the effectiveness and efficiency of the cap and invest program for accountability, program improvement, and oversight. The bill did not advance before the legislative crossover deadline.	H.B. 1659 (D)

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early May 2023.

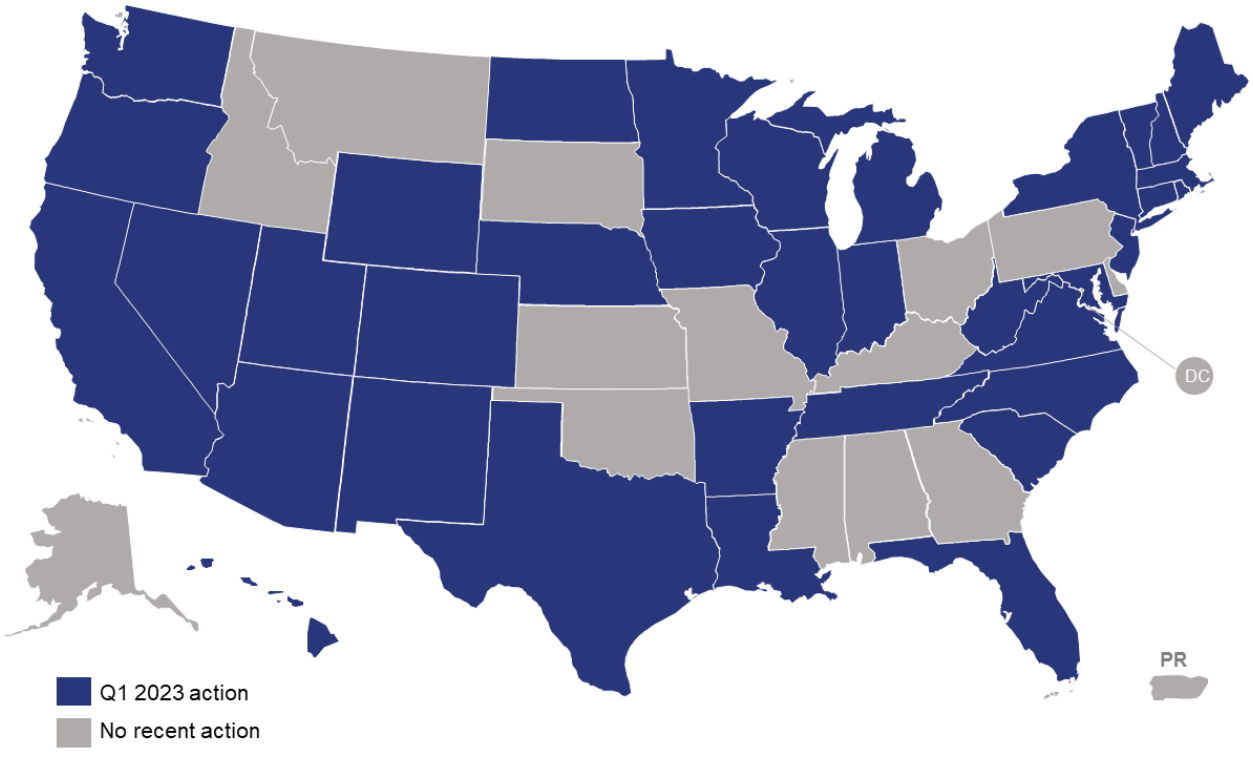
PLANNING AND PROCUREMENT RULES

Key Takeaways:

- In Q1 2023, policymakers and regulators in 36 states considered rule changes related to resource planning and procurement.
- Thirty-one states plus Puerto Rico currently have formal integrated resource planning requirements.
- Regulators opened new proceedings in North Carolina and Oregon to consider blending multiple utility planning processes.

Policymakers and utilities striving to decarbonize their electric systems must also consider the continued reliability of the grid and the costs borne by ratepayers. For many years, integrated resource planning has been an effective tool for utilities and regulators to ensure system adequacy, while procurement rules adopted by policymakers seek to ensure the lowest possible cost for certain resources. As state policies evolve to prioritize new characteristics, including decarbonization, policymakers are modifying these familiar tools to accommodate their new priorities. In Q1 2023, 36 states took actions related to planning and procurement rules.

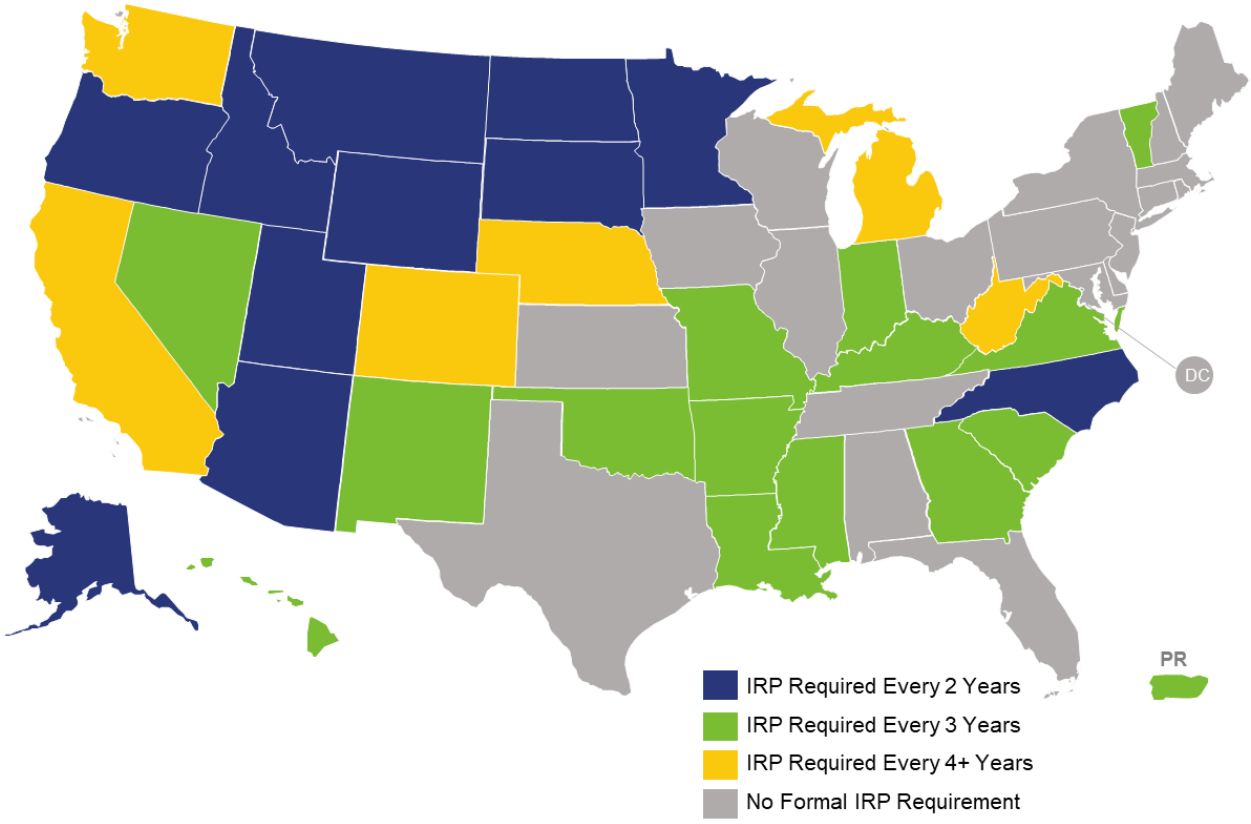
Figure 13. Action on Planning and Procurement Rules (Q1 2023)



Legislators considered a multitude of bills during the quarter addressing issues related to utility resource planning and procurement, with the greatest number of bills involving procurement

rules. Lawmakers also showed a particular interest in nuclear energy, with a number of bills lifting a state's prohibition on new nuclear plants. Policymakers also expressed interest in small modular reactors (SMRs), with introduced bills in a number of states requiring their respective utility commissions to adopt regulations to govern the deployment of SMRs.

Figure 14. States with Integrated Resource Planning Requirements



Legislation enacted in Indiana directs the Commission to adopt rules by July 1, 2023 to establish an approval process for SMRs. The Indiana Utility Regulatory Commission actually initiated this process in November 2022 and released draft proposed rules in April 2023. Indiana also enacted legislation during Q1 2023 regarding unplanned plant retirements and empowering the Commission to act in the interest of the state and utility customers. Arkansas lawmakers are also concerned with plant retirements, sending a bill to the Governor that requires the Commission to report once every three years on the remaining useful lives of electric generating units.

A number of states are taking steps to harmonize a growing list of planning activities. The North Carolina Utilities Commission is considering rules that would consolidate utility carbon plans and integrated resource plans (IRPs), while the Oregon Public Utility Commission is considering rules that would allow utility IRPs and clean energy plans to be filed together. Lawmakers in Oregon also presented the Governor with a bill that would instruct utilities to describe their

renewable portfolio standard plans within their IRPs, rather than as a separate planning document.

Nevada regulators, meanwhile, filed an order in Q1 2023 approving Phase 1 of NV Energy's fourth amendment to its 2021 IRP and addressing several IRP process reforms suggested by Google. The proposed reforms include changes to the current practice that allows a utility to file multiple significant amendments to a commission-approved IRP within a single year, giving stakeholders access to the utility's IRP models and tools, and requiring NV Energy to acquire new resources through all-source RFPs. The order signals the Commission's interest in the proposed reforms, but defers ruling on them until a later phase of the proceeding.

Table 9. Updates on Planning and Procurement Rules (Q1 2023)

State	Policy Type	Description	Source
AR	Planning Rules	S.B. 536, introduced in March 2023, requires the Arkansas Public Service Commission to produce a report once every three years discussing the remaining useful lives of existing electric generating units based on previous IRP data, starting 2024. The report must include only the existing units with a planned retirement date of less than five years from the report date. The bill passed the Senate on April 3, 2023 and the House on April 6, 2023. The Governor signed the bill into law in April 2023.	S.B. 536 (E)
	Planning Rules	S.B. 544, introduced in March 2023, was amended on March 30, 2023 to include stipulations regarding the decommissioning process, including that a project entity may take any necessary action to transition to a new facility powered by nuclear, natural gas, hydrogen, or combination of gas and hydrogen, including any action that has been permitted, except by intentionally preventing functionality of the old facility. The bill died due to the end of the legislative session.	S.B. 544 (D)
AZ	Planning Rules, Procurement Rules	In January 2022, the Arizona Corporation Commission opened a new docket in the matter of a possible rulemaking for adoption of all-source requests for proposals (RFPs) and integrated resource planning rules. The Commission Staff filed a proposed order on March 1, 2022, recommending that the Commission direct the Staff to file a notice of proposed rulemaking by April 1, 2022. Staff filed proposed rules for all-source RFPs and integrated resource planning. Under the proposed rules, load-serving entities would develop at least five alternative 15-year load forecast and needs assessments based on (1) load growth expected by the load-serving entity based on available data, (2) load growth expected by the Resource Planning Advisory Council (RPAC) based on available data, (3) no load growth, (4) lower than expected load growth, and (5) higher than expected load growth. Each load-serving entity is to file a request for approval of its load forecast and needs assessment every three years. Upon approval of the load forecast and needs assessment by the Commission, a load-serving entity is to develop an all-source request for information (RFI) to obtain responses from numerous supply-side and demand-side	Docket No. RE-00000A-22-0029 Proposed Rules

		resources that may be able to meet all or a part of the identified needs. After the all-source RFI submission deadline has passed, the load-serving entity is to review the responses and formulate a draft integrated resource plan including a preferred resource portfolio and at least 10 alternative resource portfolios. A load-serving entity is to prioritize resources resulting in the lowest lifetime costs to safely and reliably meet customer energy needs, but may consider other factors, such as improving reliability and resilience, customer service, supply diversification, supply stabilization, decreasing peak demand, reducing new transmission needs, reducing regulatory compliance costs, improving grid security, providing environmental benefits, providing economic benefits, serving the public interest, benefitting "impacted communities", and minimizing anti-competitive behavior. Every three years, a load-serving entity is to file its refined integrated resource plan. Load-serving entities are also to negotiate a project-based licensing fee that permits RPAC members to perform their own modeling in the same software package as utilized by the load-serving entity in developing the IRP. The load-serving entity is to implement the action plan approved by the Commission and use an all-source RFP process to procure resources according to the plan. An independent monitor is to be used for the all-source RFP process. Load-serving cooperatives are to submit limited integrated resource plans using a 15-year forecast.	
CA	Planning Rules	A.B. 580 directs the California Public Utilities Commission to require a load-serving entity to consider in its IRP the best practices for navigating challenges that exist when Multibenefit Land Repurposing Program grant recipients repurpose their land for zero-emission energy.	A.B. 580 (I)
	Planning Rules	Existing law tasks the Commission with identifying a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner. The portfolio should rely upon zero-carbon-emitting resources to the maximum extent reasonable and be designed to achieve any statewide GHG emissions limit. A.B. 1441 clarifies that the balanced portfolio should include an appropriate mix of renewable	A.B. 1441 (I)

	capacity, including peaking, dispatchable, baseload, firm, and as-available capacity.	
Planning Rules	A.B. 1533, as amended, requires the California Public Utilities Commission, in consultation with California balancing authorities, to issue a joint reliability progress report that reviews system and local reliability, with a particular focus on summer reliability. The joint reliability progress report should identify challenges and gaps, if any, to achieving system and local reliability and identify the amount and cause of any delays to achieving compliance with all energy and capacity procurement requirements set by the Commission. The report is due on or before December 1, 2023, and annually thereafter.	A.B. 1533 (I)
Planning Rules	Existing law requires the Public Utilities Commission, the Energy Commission, and the State Air Resources Board, on a 4-year basis, to issue a joint report to the Legislature that includes alternative scenarios in which the state's clean energy standard can be achieved and the estimated costs and benefits of each scenario. S.B. 664 specifies that the alternative scenarios should include scenarios achieving zero or near zero greenhouse gas emissions in the electricity sector in the 2035–45 timeframe.	S.B. 664 (I)
Planning Rules	The California Energy Commission (CEC) is charged with conducting assessments and forecasts for all aspects of energy supply, production, transportation, delivery and distribution, demand, and prices. The CEC compiles these assessments and forecasts into an Integrated Energy Policy Report (IEPR) every two years, with an update every other year. The CEC opened a series of proceedings in Q1 2023 to inform the creation of the 2023 IEPR. The focus of the 2023 report is to identify barriers and solutions to accelerate the connection (including interconnection, energization, and associated system upgrades) of clean energy technologies with the electric grid. One of the CEC dockets associated with the 2023 Report is 23-IEPR-02, and is centered on electricity resource plans. A staff report filed in February 2023 adopted forms and instructions for utilities to submit their electricity demand forecasts.	CEC Docket No. 23-IEPR-02
Procurement Rules	A.B. 65, introduced in December 2022, requires the Commission by 2026 to adopt a plan to increase nuclear procurement and the phase out	A.B. 65 (I)

		of natural gas procurement. The bill exempts SMRs (those with a capacity of up to 300 MW) from provisions related to existing law that prohibits the Energy Commission from certifying nuclear fission thermal power plants unless certain construction and operation conditions are met.	
	Procurement Rules	Existing law provides for the Department of Water Resources Electricity Supply Reliability Reserve Fund for purposes of implementing projects, purchases, and contracts to carry out the Distributed Electricity Backup Assets Program and the Demand Side Grid Support Program. A.B. 1373 requires the California Public Utilities Commission to annually assess a capacity payment for the use of the fund by each load-serving entity that fails to meet its system resource adequacy requirements during a month in which resources procured using moneys from the fund were used to meet a reliability need. The bill also creates a central procurement function within the Department of Water Resources that would only be exercised upon request by the Utilities Commission and only if the Commission finds that it is necessary to procure diverse clean energy resources beyond those procured by load-serving entities. Following a determination from the Commission, in consultation with the California Energy Commission and the Independent System Operator, that it is necessary for the Department to conduct one or more competitive solicitations to procure energy, capacity, ancillary services, and all associated attributes, the Department may conduct those solicitations. The purpose of these competitive solicitations is to make available to the state diverse clean energy resources that meet criteria determined by the commission, which shall include, but not be limited to, energy resources that have a first point of interconnection with the transmission grid or the distribution grid within a balancing authority area.	A.B. 1373 (I)
CO	Planning Rules	H.B. 1039, introduced in January 2023, requires load-serving entities like electric utilities to file annual resource adequacy reports with the Public Utilities Commission, or an equivalent oversight body for municipals or cooperatives. If a load-serving entity participates in a regional transmission organization or independent system operator, or participates in a voluntary regional resource adequacy reporting program,	H.B. 1039 (E)

		the entity would not have to submit the reports. The House passed the bill in early March 2023 with minor amendments. The Senate passed the bill in April, and the Governor signed it into law in late April 2023.	
	Planning Rules	S.B. 198, introduced in March 2023, alters rules regarding clean energy plan filings starting July 2023. The new rules would alter GHG calculation methodology and verification. By June 2028, the Public Utilities Commission (PUC) must calculate whether entities are on track to meet their clean energy plans and Colorado's 2030 goal of 80% emissions reduction compared to 2005. If an entity is not on track, they must submit a report identifying a specific mix of supply- and demand-side resources it has acquired or will acquire that will let it reach the 2030 goal. If a entity fails or does not submit the compliance report, the Commission must adopt rules limiting the GHG emissions from the entity's generation resources, and possibly amend operating licenses, to force compliance. Utilities with over 300,000 MWh of sales in 2022 would be required to submit a clean energy plan, along with any owners of electric generating units over 50 MW that directly emit GHGs into the atmosphere, wholesale power marketers, utilities that incorporated after July 1, 2023, wholesale T&D cooperatives, and electric cooperatives that are not a member of a wholesale T&D cooperative. Plans under the new rules must be submitted by December 31, 2024. The bill also requires the PUC to create rules guiding how the Commission will track and account for GHG emissions from utility participation in organized markets, including energy imbalance markets, extended day-ahead markets, independent system operators, and regional transmission organizations. The rules must include guidance for public platform to host the data. The Senate passed the bill in April 2023, and the House passed it in early May 2023.	S.B. 198 (P2)
CT	Planning Rules	H.B. 5564, introduced in January 2023, requires that state agencies consider the climate impacts of their permitting and regulatory actions, and also establish a robust climate planning process. The bill did not pass by the joint favorable deadline and died.	H.B. 5564 (D)

Planning Rules	H.B. 6397, as drafted by committee in February 2023, declares a climate emergency. The bill would require the Department of Energy and Environmental Protection and the Public Utilities Regulatory Authority to develop strategies for energy infrastructure development that are focused on renewable energy systems, including battery storage systems.	H.B. 6397 (I)
Planning Rules	The Public Utilities Regulatory Authority (PURA) opened a new proceeding on building blocks of resource adequacy and clean electric supply. A Notice of Proceeding released in November 2021 stated the topics of focus, including the incorporation of state PPAs into retail electricity, ratepayer protection, and the state RPS. Technical meetings were scheduled for February 18 and 25, 2022 to review Connecticut's current clean energy procurements; the February 18 meeting occurred while the February 25 meeting was canceled. A revised Notice of Proceeding was filed in late May 2022, expanding the scope of the docket to include the correlation between grid-scale procurements & distributed generation programs and the RPS requirements of the electric utilities and electric suppliers. A second technical meeting was held on June 20, 2022 to discuss the relation between utility action and the state RPS. A third technical meeting was held on January 3, 2023 to discuss Eversource's procurement processes in its various New England service areas. A revised Notice of Proceeding was filed in early March 2023, reorganizing the docket into two Topic Areas. Topic Area 1 will cover the standard service procurement process, encompassing a review of the existing processes used by Eversource and United Illuminating, a comparison to processes used by municipal utilities and the IOUs' other New England jurisdictions, and recommended changes to the processes. Topic Area 2 will cover cost-effective and efficient approaches related to the RPS and retail electric supply to advance the state's emissions reductions goals, encompassing all the previously-stated areas of focus. PURA must finish its investigation of Topic Area 1 before it can begin Topic Area 2. A fourth technical meeting was held on April 5, 2023 to discuss United Illuminating's procurement processes in its various New England service areas.	Docket No. 17-12-03RE10
Procurement Rules	S.B. 1101, introduced in February 2023, revises the state's statute to clarify that the state's	S.B. 1101 (D)

		prohibition on a fifth nuclear power facility does not apply to construction at an existing facility operating in the state as of October 1, 2022. The bill did not pass by the joint favorable deadline and died.	
FL	Planning Rules	H.B. 1217 and S.B. 1238, introduced in March 2023, stipulate that before making determinations on building energy generating facilities, an IRP and the impact of federal phase-out mandates on the estimated useful life of energy facilities on a utility, among other things, must be considered. The bills died in committee in May 2023.	H.B. 1217 (D) S.B. 1238 (D)
HI	Planning Rules	H.B. 191 directs the Public Utilities Commission to require each regulated electric and gas utility to use the estimated social cost of GHG emissions established by the United States Interagency Working Group on the Social Cost of Greenhouse Gases in that utility's respective integrated resource planning process. The bill failed to advance before the crossover deadline.	H.B. 191 (D)
	Planning Rules	The HECO companies filed their Integrated Grid Planning Report with the Commission in March 2018. The Report proposes the merger of three separate planning processes; generation, transmission, and distribution, with the goal of identifying system-wide needs, coordinating solutions, and developing an optimized portfolio of assets. The Report also proposes a stakeholder process to develop the planning process, starting with the formation of a working group to assist in the development of the forecasts and input assumptions that will drive the planning process. The stakeholder process continues with the identification of the resource, transmission, and distribution needs, and the methods through which these needs will be acquired. The Commission opened a new proceeding in July to examine the Grid Planning Report. In December 2018, the HECO companies submitted their Integrated Grid Planning Workplan, which describes the process the utilities will go through in developing their integrated grid plans and the methods of stakeholder engagement. The Commission accepted the Integrated Grid Planning Workplan in March 2019, and required HECO to file a brief explanation of the envisioned review for the identified review points and to consider whether independent evaluation of the review points will	Docket No. 2018-0165

aid the Integrated Grid Planning process. HECO filed its response on July 31st, describing the stakeholder engagement model it plans to use, and requesting that the Commission and Consumer Advocate provide their input through the working groups. The Commission responded by saying that the stakeholder engagement model is appropriate, but citing specific concerns that the companies appear to be prematurely excluding the consideration of non-wires alternatives. The Commission requested that the companies include an agenda item for the next working group meeting. The Commission filed an order in November 2019 providing further guidance to improve the ongoing stakeholder process. The Commission provided even more guidance through an order filed in November 2020. The guidance comes with the acknowledgement that the COVID-19 pandemic has presented challenges that have led to many milestone dates being missed. The guidance specifically addresses coordination, stakeholder engagement, and transparency.

HECO filed an update to its Integrated Grid Planning Workplan based on the guidance provided by the Commission in November 2020. Included in the filing was an Integrated Grid Planning Review Point for the draft inputs and assumptions for its 2020 planning process and modeling. HECO requested Commission feedback on the review point within 30 days so that it can incorporate the feedback into the final Integrated Grid Planning inputs and assumptions. The Commission issued an order in April 2021, directing HECO to revise its proposed inputs and assumptions deliverables to incorporate stakeholder and Commission feedback. On August 3, 2021, HECO filed its updated revised inputs and assumptions, which it later revised on August 19, 2021. The Commission then received comments on the updated revised inputs and assumptions in September 2021.

HECO filed its draft Grid Needs Assessment for Commission review in November 2021. The draft includes planning criteria, a suite of modeling tools and a process that HECO will use to identify the near-term quantity and timing of grid needs; develop resource plans to solve for near-term needs and long-term objectives; and evaluate proposed solutions as part of a request for proposals to meet the identified grid needs. The Commission accepted comments on

HECO's draft Grid Needs Assessment through December 20, 2021. The Commission approved HECO's revised inputs and assumptions in March 2022.

HECO conducted a stakeholder meeting in January 2022 in which it provided an update on its Integrated Grid Planning process. It has completed the data collection phase of the process and is midway through the plan definition phase. HECO then held technical advisory panel meetings in February and March 2022.

An order filed in June 2022 approved HECO's proposed Grid Needs Assessment Methodology, with modifications related to Energy Reserve Margin and Capacity Accreditation. A separate order filed in June 2022 approved HECO's revised competitive bidding framework for use in the first round of integrated grid planning. In July 2022, HECO filed a motion for partial reconsideration and clarification of the Grid Needs Assessment order. HECO argues that the order's shift from the current methodology relied upon by HECO in the grid needs assessment to an effective load carrying capability resource adequacy approach is premature and unsupported in the docket record.

In September 2022, the Commission granted in part and denied in part HECO's motion for partial reconsideration. The Commission is not convinced that HECO's current method is superior to the effective load carrying capability approach, but states that HECO is free to propose alternative resource adequacy criteria in its Resource Adequacy Workplan if it can explain how the alternative criteria meet the Commission's requirements for transparency, interactivity, and no bias towards firm thermal generation, and why the alternative criteria is preferable to the effective load carrying capability approach. HECO hosted an Integrated Grid Planning Stakeholder Technical Working Group meeting in November 2022.

In March 2023, HECO filed its Integrated Grid Plan Draft Report. The Report discusses the current status of the grid and related technologies, as well as the current planning processes. The main core of the Report is the Draft Plan, which identifies actions within the next five years to achieve the State's 2030 clean

		energy goals, and establishes a long-term strategy for reaching decarbonization by 2045. In the near term, the Draft Plan recommends four high-level actions: 1) stabilize utility rates and advance energy equity, 2) grow the marketplace for customer-scale and large-scale renewables, 3) create a modern and resilient grid, and 4) secure reliability through diverse energy sources and technologies. To grow the marketplace for renewables, the Draft Plan proposes a mix of utility procurement cycles, and customer programs and incentives.	
	Procurement Rules	S.B. 72 establishes a more streamlined approval process for renewable projects developed by a public utility, renewable energy power purchase agreement applications, projects to connect renewable facilities to the electric grid, and cost recovery applications for required substation and infrastructure upgrades. For such applications filed on or after July 1, 2023, the Commission has 180 days to approve, approve with modifications, or deny the application. For any application denied by the Commission or approved with modifications, the Commission must report its reasoning to the legislature and the Governor in writing within 30 days of the expiration of the 180 day period. The Senate passed the bill in March 2023.	S.B. 72 (P1)
IA	Planning Rules	H.F. 248, introduced in February 2023, allows utilities fueled by coal to develop a multi-year plan and budget or update an already existing plan/budget for managing emissions. The decision to update file such a plan is up to the utility. The bill stipulates that an advanced review application must be submitted by a rate-regulated public utility before starting an emission-related project, and an electricity generating facility owned by two or more public utilities can file such an application on behalf of their owners. The bill passed the House on February 15, 2023. The bill was substituted for S.F. 198 on March 22, 2023, which was withdrawn that same day. The bill then passed the Senate on March 22, 2023 as well. The Governor signed the bill into law in late April 2023.	H.F. 248 (E)
	Planning Rules	S.F. 198, introduced in March 2023 after substituting H.F. 248, allows utilities fueled by coal to develop a multi-year plan and budget or update an already existing plan/budget for managing emissions. The decision to update file such a plan is up to the utility. The bill stipulates	S.F. 198 (D)

		that an advanced review application must be submitted by a rate-regulated public utility before starting an emission-related project, and an electricity generating facility owned by two or more public utilities can file such an application on behalf of their owners. The bill was withdrawn on March 22, 2023.	
	Planning Rules	S.S.B. 1059, introduced in January 2023, amends language in Section 476.6, Code 2023, to require biannual resource planning, specifically that each rate-regulated electric public utility shall develop a multi-year plan and budget for the area served by the utility that provides reliable, secure, and low-emission electricity at the lowest cost. The bill stipulates that the plan and budget shall include future projected electricity requirements; a projected electricity resources mix, and needed capacity and infrastructure; future non-utility energy resources including generation and storage; planning for leveraging energy resources; alternate planning scenarios; and any additional info that the Iowa Utilities Board deems important. The multi-year plan and budget shall be filed by April 1, 2024 and updates shall be filed every two years.	S.S.B. 1059 (I)
	Procurement Rules	S.S.B. 1149, introduced in February 2023, mandates that existing generating facilities are allowed to make alterations to qualify for ratemaking principles by adding carbon emission reduction technologies, such as carbon capture and storage, converting to a different fuel type, repowering alternate energy production facilities, among other qualifications. The bill also allows rate-regulated public utilities to seek ratemaking principles for new leased or owned energy storage facilities, among other types of facilities.	S.S.B. 1149 (I)
IL	Planning Rules	S.B. 1587 authorizes the Illinois Power Agency to develop and implement a firm energy resource procurement plan. The procurement plan is to ensure regular procurement opportunities to deploy new long-duration and multi-day energy storage resources by 2030 and must ensure stable, competitive resource development at a pace needed to ensure grid reliability and resilience during atypical or extreme grid conditions that may occur at least once in 20 years. The bill failed to advance before the crossover deadline.	S.B. 1587 (D)

	Procurement Rules	H.B. 1079, introduced in January 2023, deletes language in the Public Utilities Act that prohibits new construction of nuclear power plants. The bill failed to advance before the crossover deadline.	H.B. 1079 (D)
	Procurement Rules	H.B. 2802 and S.B. 76, introduced in February 2023, delete state language that no construction of new nuclear power plants will take place in the state. The bills specify that no certificate of public convenience or other authorization will be given until the EPA finds that the US government has identified and approved a demonstrable tech or means for the disposal of high level nuclear waste. The bills specify SMRs as those with a capacity of max 350 MW and stipulates that no later than July 1, 2023, the Commission must adopt rules regarding authorization of SMRs. These rules must consider whether the facility will replace generation losses from the retirement of coal or gas sources and facilities. S.B. 76 passed the House on March 30, 2023, with amendments that took out the SMR provisions. H.B. 2802 failed to advance before the crossover deadline.	H.B. 2802 (D) S.B. 76 (P1)
	Procurement Rules	H.B. 3466, introduced in February 2023, deletes language in the Public Utilities Act that prohibits new construction of nuclear power plants. The bill failed to advance before the crossover deadline.	H.B. 3466 (D)
	Procurement Rules	S.B. 2552 authorizes the Illinois Power Agency to develop capacity procurement plans and conduct competitive procurement processes for the procurement of capacity needed to ensure environmentally sustainable long-term resource adequacy across the State at the lowest cost over time. The bill failed to advance before the crossover deadline.	S.B. 2552 (D)
IN	Planning Rules, Procurement Rules	H.B. 1007, as enrolled in March 2023, directs the Commission to evaluate and comment on utility integrated resource plans regarding whether the plans adequately consider reliability, affordability, resiliency, sustainability and environmental sustainability. The bill also directs the Commission to take those topic areas into account when evaluating the construction, purchase, or lease of any generation facility to comply with federal mandates, and when the Commission commences re-evaluations because it estimates that a facility under construction may no longer be necessary. The bill would reduce the amount of capacity that	H.B. 1007 (E)

	utilities may procure from capacity markets during summer and winter from 30% to 15% after June 2023; and establish capacity acquisition limits of 15% for spring and fall unforced capacity from capacity markets after June 2026. The bill further directs the Commission to analyze and report on spring and fall unforced capacity authorized acquisitions from markets starting in 2025. The House passed this bill with amendments on January 30, 2023. The Senate passed this bill with amendments on March 20, 2023, the House concurred with the amendments on March 28. The Governor signed the bill into law in April 2023.	
Planning Rules	S.B. 9, as enacted in March 2023, includes compliance project costs in the definition of "federally mandated costs" for electric utilities. If the Commission finds the costs to be just and reasonable, 80% of federally mandated costs will be recoverable through a utility's periodic retail rate adjustment with recovery occurring no earlier than the date of final agency action or when the compliance requirement becomes effective. The compliance cost recovery would not apply to retirement of electric generation facility sale or retirement in compliance with a federal consent decree of for generation facilities that sell exclusively to the wholesale market. The bill directs public utilities to inform the Commission if they decide to retire, sell, or transfer electric generation facilities with capacity of 80 MW or greater and the action was not set forth in their short term action plan from their most recent IRP. The bill allows the Commission, upon receiving an unplanned retirement, sale, or transfer notice, to investigate the impact the public utility's decision will have on planning reserve margin requirements and reliability adequacy metrics. If a public utility decides to retire, sell, or transfer a generating facility with capacity of 80 MW or more, without that retirement appearing in their most recent IRP before July 1, 2026, the bill directs the Commission to not permit amendment to the utility's depreciation rates unless the Commission finds that an adjustment is needed to ensure reliability of the utility and unadjusted depreciation would cause unjust and unreasonable impacts to the utility and its customers. The House passed this bill with amendments on February 28, 2023. The House passed this bill with amendments on March 20,	S.B. 9 (E)

		2023. The Senate concurred in House amendments on March 22, 2023 and the Governor signed the bill the same day.	
	Procurement Rules	In November 2022, the Indiana Utility Regulatory Commission initiated a rulemaking and filed a straw proposal for rules on small modular nuclear reactors (SMRs). The proceeding defines SMRs as having capacity of 350 MW or less, capable of being constructed and operated alone or in combination with other similar reactors if additional capacity becomes necessary. To comply with S.B. 176, enacted in April 2023, the Commission must establish rules by July 1, 2023. In April 2023, the Commission filed draft proposed rules. The rules would establish procedures for applications to construct SMRs including whether the proposed construction will offset capacity from retirement of coal or natural gas generators, plans for education and community outreach regarding SMRs, and information about all Nuclear Regulatory Commission proceedings related to the SMR. Comments on the draft rules are due on May 18, 2023.	Rulemaking No. 22-05 Straw Proposal (November 2022) Revised SMR Draft (April 2023)
	Procurement Rules	S.B. 176, introduced in January 2023, specifies that by July 1, 2023, the Commission must adopt rules concerning granting certificates for the construction, purchase, or lease of SMRs, now defined as having a capacity of max 470 MW. The bill passed the Senate on January 31, 2023, and then passed the House on March 13, 2023. The bill was signed by the Governor on April 20, 2023	S.B. 176 (E)
LA	Planning Rules	On February 1, 2022, the Louisiana Public Service Commission opened a rulemaking to consider modifying the rules regarding integrated resource planning in order to remove an exemption for electric cooperatives. No significant actions occurred in Q1 2023.	Docket No. R-36262
MA	Permitting Rules	H.B. 3215, introduced in February 2023, expedites the permitting process for electric utility decarbonization infrastructure projects. The bill creates the Electric Decarbonization Infrastructure Permitting Office, which will be responsible for: developing rules and regulations; adopting best management practices from electric companies; reviewing and approving qualifying project applications; monitoring projects and conducting public	H.B. 3215 (I)

	hearings, among other responsibilities. The Office must issue a consolidated permit to an approved project applicant that holds all state/local authorizations needed for siting, construction, upgrades, and operations. Eligible projects include: improvements to grid reliability, communications, and resiliency; those that enable timely increase of and interconnection to renewables and DERs; projects that promote storage and electrification technologies to decarbonize the economy and environment; projects that facilitate or expand the state's ability to reach GHG requirements, among others.	
Planning Rules	Executive Order No. 604, signed on January 1, 2023, establishes the Office of Climate Innovation and Resilience within the Office of the Governor. The Office will be led by the Climate Chief and the Office will develop policy and recommendations related to issues of climate innovation, mitigation, adaptation, and resilience. The Climate Chief is instructed to review the present organization, staffing, and policy-making practices of all executive agencies and offices to develop a comprehensive plan for a unified government approach to achieve the state's net zero commitments.	E.O. 604
Procurement Rules	H.B. 3216, introduced in February 2023, stipulates that by 2026, every distribution company must coordinate with the Department of Energy Resources and jointly/competitively solicit proposals for clean energy generation. Companies must enter into cost-effective long-term contracts for clean energy generation for an annual amount of about 9,450,000 MWh through competitive bidding processes, in order to deliver the stated amount of clean energy by the end of 2030.	H.B. 3216 (I)
Procurement Rules	H.B. 3696, introduced March 2023, amends the state's General Laws stipulating that in order to facilitate the financing of clean energy generation resources, no later than December 31, 2030, every distribution company must jointly and competitively solicit proposals for such energy and enter into long-term contracts for an annual amount of up to 9,450,000 MW. The procurement timetable must be proposed by the companies and the Department of Energy Resources to be approved by the Department of Public Utilities, and companies may conduct at least one competitive solicitation through a staggered schedule provided that they enter into	H.B. 3696 (I)

		long-term contracts of up to the aforementioned 9,450,000 MW by December 31, 2035, among other added provisions.	
MD	Planning Rules	H.B. 1035 and S.B. 905 require electric and gas utilities to develop and submit energy efficiency and conservation resource procurement plans to the Commission beginning in September 2023 and every three years thereafter. The bills delegate authority to the Commission for plan development requirements for municipal and cooperative electric utilities. The bill would include demand response measures, both in front of and behind the meter, to be eligible program components, as well as other energy reduction and GHG emission reduction strategies. The bills direct the Department of Housing and Community Development to develop plans procure or provide energy efficiency, conservation, and emissions reduction services and programs beginning in September 2023 with updates every three years thereafter. The bills instruct utilities and the Department to consult with the Commission's technical staff, Office of Peoples' Counsel, Maryland Energy Administration, and Department of Environment regarding design adequacy in their respective procurement plans. The bills instruct utilities and the Department to provide implementation updates to the Commission every six months, and directs the Commission to monitor and analyze the impact of each program.	H.B. 1035 (D) S.B. 905 (D)
ME	Procurement Rules	L.D. 442, introduced in February 2023, proposes a moratorium on renewable project approvals until the state develops a comprehensive energy plan and the Public Utilities Commission has evaluated the economics of the plan.	L.D. 442 (I)
MI	Planning Rules	On December 16, 2021, a teleconference was held to discuss a draft redline version of the Michigan Integrated Resource Planning Parameters. The changes to the IRP requirements are intended to require a more robust environmental justice and carbon analysis as well as a more robust energy storage evaluation. The process in this workgroup stems from an order issued in this docket on September 24, 2021. An order issued on March 3, 2022 directed Public Service Commission Staff to include continued discussions on planning for climate change as part of the stakeholder proceedings in this docket. Two more teleconferences were held on	Docket No. U-20633 Workgroup Website March 2022 Order

		March 24 and April 26, 2022. Public hearings were held on September 8 and 21, 2022. No action took place in Q1 2023.	
	Planning Rules	On October 17, 2019, the Michigan Public Service Commission (PSC) opened this docket to begin the MI Power Grid initiative. MI Power Grid is a multi-stakeholder initiative aiming to help integrate new clean energy technologies and optimize grid investments. It will include outreach and education as well as changes to utility regulation. PSC Staff filed their pilot project report on September 30, 2020 and their overall status report on October 15, 2020. An order reviewing the pilot project report was filed on October 29, 2020. On February 4, 2021, the PSC issued an order reviewing the October 2020 status report, setting a deadline for the final MI Power Grid report of October 1, 2022, and setting a deadline for a second status report of the third quarter of 2021. PSC Staff filed the requested second status report on September 30, 2021. The report indicated that focus areas for the remainder of the process will include, among other issues, updating IRP requirements. The Commission later extended the deadline for filing the final MI Power Grid report to April 3, 2023.	Docket No. U-20645
	Procurement Rules	H.B. 4256 sets an energy storage target and requires that at least 50% of the storage capacity used be from energy storage contracts executed after a competitive bidding process.	H.B. 4256 (I)
MN	Procurement Rules	H.F. 341 and S.F. 1736, introduced in January 2023, remove the prohibition on issuing a certificate of need for new nuclear power plants.	H.F. 341 (I) S.F. 1736 (I)
	Procurement Rules	H.F. 387, introduced in January 2023, allows certificates of need for the construction of nuclear fusion plants.	H.F. 387 (I)
	Procurement Rules	H.F. 1907 and S.F. 952, introduced in February 2023, remove the state's prohibition on new nuclear power plants.	H.F. 1907 (I) S.F. 952 (I)
	Procurement Rules	H.F. 3260 and S.F. 2824, introduced in April and March 2023 respectively, make an exception under the state's new nuclear power plant construction prohibition for SMRs (those with a max capacity of 300 MW).	H.F. 3260 (I) S.F. 2824 (I)
NC	Planning Rules	The Commission opened a new proceeding in March 2023 to consider Duke Energy's	Docket No. E-100 Sub 191

		proposed rules to consolidate Carbon Plan and Integrated Resource Planning requirements.	
ND	Planning Rules	H.C.R. 3014 is a resolution that urges the Southwest Power Pool (SPP) and Midcontinent Independent System Operator (MISO) to take action to maintain reliability of the bulk power system by "correcting market failures that have allowed capacity retirements to outpace replacement." Given the state's carbon neutral goals and carbon capture interest, the resolution also urges the Public Service Commission and the North Dakota Transmission Authority to advocate at SPP and MISO for policies that fairly compensate dispatchable energy resources, ensure generation availability at all hours, and property value generators based on their contributions.	H.C.R. 3014 (Adopted)
NE	Procurement Rules	L.B. 255, introduced in January 2023, would prohibit utilities from using eminent domain to build solar and wind facilities.	L.B. 255 (I)
NH	Planning Rules	H.B. 90, introduced in January 2023, adds to the authority for municipal planning master plans to contain a section on transitioning to renewable energy. The bill died in the House on March 9, 2023.	H.B. 90 (D)
	Planning Rules	H.B. 281, introduced in January 2023, repeals procedures for filing least cost IRPs with the Public Utilities Commission. These plans are currently focused on the utility's transmission and distribution system, despite the term IRP. The bill passed the House on March 9, 2023.	H.B. 281 (P1)
	Procurement Rules	S.B. 54, introduced in January 2023, was amended on March 30, 2023 to allow IOUs to develop by June 30, 2025 request for proposals (RFP) for multi-year energy agreements. Electric distribution utilities are allowed to issue RFPs alone or with other utilities in or out of state. IOUs may promote multiple agreements that each cannot exceed 20 years in length, and collectively cannot exceed 2 million MWh annually. Any procurement must be for new or incremental electric energy sources. The Public Utilities Commission must review and decide on any proposed agreement no later than nine months after submission. IOUs must consult with the Department of Energy on any jointly issued RFPs and to obtain approval for contracts entered with a rural electric cooperative The bill passed the Senate on March 30, 2023.	S.B. 54 (P1)

NJ	Planning Rules	A.B. 4064, introduced in May 2022, directs the Board of Public Utilities (BPU) to adopt rules and regulations regarding SMRs (max 300 MWs). The bill requires the BPU to consider whether the SMR proposed will replace a loss of capacity in the state from the retirement or planned retirement of coal and gas facilities in the state. The bill authorizes the Economic Development Authority to incentivize the construction and operation of SMRs.	A.B. 4064 (I)
NM	Planning Rules	S.B. 456, introduced in February 2023, requires utilities to incorporate energy storage capacity into their integrated resource planning. The Senate passed the bill in mid-March 2023 with unrelated amendments. The bill did not pass the House by the end of the session and died.	S.B. 456 (D)
	Planning Rules	In May 2021, the Public Regulation Commission opened a rulemaking regarding integrated resource plans and procurement procedures. The Commission filed draft regulations in June 2021 and scheduled an initial workshop for June 22, 2021. The draft regulations incorporate several statutory changes that have recently been enacted, including increased renewable energy requirements. The draft rules call for utilities to issue RFPs for new resources, and the Commission may assign an independent evaluator to ensure a competitive bidding process. A notice of proposed rulemaking was filed in November 2021. Utilities are to file IRPs every four years with a 20-year planning period following a facilitated stakeholder process. To meet utility generation needs, an RFP process with an independent monitor will be used. The Commission issued a final order on September 14, 2022 adopting the proposed rule with modifications. Utilities must file IRPs every three years, beginning with PNM in August 2023, Xcel Energy in August 2024, and El Paso Electric in August 2025. RFPs must be issued within five months of plan approval. If an RFP process is not the best option for obtaining a resource, the Commission can grant a variance request. An errata to the final order was filed the next day, attaching missing exhibits and appendices and fixing minor errors. All three major investor-owned utilities filed motions for rehearing in mid-October 2022, most of which related to administrative and technical requirements; the Commission partially approved the motions in late October 2022. Revisions pertaining to the utilities' requests were integrated into the rules on November 2, 2022, with an errata filed the	Docket No. 21-00128-UT Draft Regulation Proposed Rules

		next day. In mid-February 2023, PNM requested a deadline extension to file its IRP in mid-December 2023; the Commission approved the request. In late February 2023, Xcel requested its deadline was moved up from 2024 to 2023.	
NV	Planning Rules	Existing law requires utility IRPs to include a proposal for the expenditure of at least 10% of the total expenditures related to energy efficiency programs will be spent on energy efficiency measures for customers of the electric utility in low-income households and residential customers and public schools in historically underserved communities. S.B. 353 establishes that the 10% set-aside can also be dedicated to beneficial electrification measures. The bill failed to advance before the crossover deadline.	S.B. 353 (D)
	Planning Rules	Existing law requires utility IRPs to include a proposal for the expenditure of at least 10% of the total expenditures related to energy efficiency programs will be spent on energy efficiency measures for customers of the electric utility in low-income households and residential customers and public schools in historically underserved communities. S.B. 356 establishes that the 10% set-aside can also be dedicated to greenhouse gas reduction measures. The bill failed to advance before the crossover deadline.	S.B. 356 (D)
	Planning Rules	S.B. 421 adds additional criteria for the Utilities Commission to assess when considering a utility's IRP. The Commission must consider if the plan adequately demonstrates the economic, environmental, and other benefits to the state associated with facilities that operate on mining lands that have been abandoned, and facilities that operate within renewable energy zones. The bill failed to advance before the crossover deadline.	S.B. 421 (D)
	Planning Rules, Procurement Rules	In November 2022, NV Energy filed an application for approval of the Fourth Amendment to its 2021 Integrated Resource Plan. The amendment includes a new fuel and purchase power price forecast, and some changes to its preferred plan. The Commission issued a draft order in March 2023 approving Phase 1 of NV Energy's fourth amendment to its 2021 IRP. The draft order also addresses Google's recommendation of several IRP process reforms, including steps to address the current practice of multiple significant amendments to a Commission-approved IRP being proposed within a single year, a	Docket No. 22-11032 Draft Order (March 2023) Final Order (March 2023)

		requirement for NV Energy to give stakeholders free access to its IRP models and tools, and a requirement for NV Energy to institute a competitive all-source procurement for future resource acquisitions. The draft order expresses the Commission's interest in Google's proposed reforms, but suggests that these issues are more suitable for another phase of this proceeding. The Commission issued a formal order later in the month that mirrored the draft order.	
NY	Planning Rules	Introduced in January 2023, A.B. 522 requires owners/operators of replaceable peaker plants to submit a replacement and retirement plan with an application for an operating permit or renewing an operating permit. The plan must include a strategy for replacing the peaker plant with renewable energy systems on or before 5 years from the date of renewal of the operating permit.	A.B. 522 (I)
	Procurement Rules	A.B. 443 and S.B. 2583 provide the NY Power Authority the right of first offer and refusal for acquiring any renewable generation facility, project, and any power or energy created by a renewable generation facility or project. The bills also ban non-state run services companies and allows the Power Authority to take over and operate as an energy services company.	A.B. 443 (I) S.B. 2583 (I)
	Procurement Rules	A.B. 6066 and S.B. 4229 enact the "New York Power Authority Public Renewables Standby Act"; authorizing the power authority of the state of New York to support the goal of the climate leadership and community protection act by entering into contracts with companies, not subject to the public service commission's cost-of-service ratemaking, to procure through a competitive process the power and/or renewable energy credits from any renewable energy project in New York state.	A.B. 6066 (I) S.B. 4229 (I)
	Procurement Rules	A.B. 6340 and S.B. 2585 instruct the Commission to establish a competitive program to promote private sector investment in zero-emission energy systems that use eligible technologies. S.B. 2585 was amended twice to update several of the target dates.	A.B. 6340 (I) S.B. 2585 (I)
OR	Planning Rules	In December 2022, the Commission Staff submitted a request to adopt rules for the filing, review, and update of Clean Energy Plans (CEPs). This would revise the requirements for the filing, review, and update of Integrated	Docket No. AR 655

		Resource Plans (IRPs) (OAR 860-027-0400). The proposed procedural rules include CEP approval timeline, an annual update that summarizes the actions taken to implement the CEP goals, and allowing the IRP and CEP to be filed together.	
	Planning Rules	Introduced in January 2023, H.B. 3161 removes the requirement for electric companies to file separate implementation plans for meeting the requirements of the RPS. Instead, the bill instructs companies to describe their plan for meeting requirements as part of their IRP. The bill passed the House in March 2023 and the Senate in April. The Governor signed the bill into law in May 2023.	H.B. 3161 (E)
RI	Procurement Rules	H.B. 5172 and S.B. 61, both introduced in January 2023, require applicants for a proposed energy facility to provide a statement on how the facility would affect the state's ability to meet its emissions reduction goals. A license could not be issued to a facility if the facility adversely impacts the state's ability.	H.B. 5172 (I) S.B. 61 (I)
	Procurement Rules	H.B. 5850, introduced in March 2023, would require utilities to file rate tariffs for energy storage systems, at least one of which should apply to front-of-the-meter (FTM) systems; utilities must use a competitive method to solicit FTM proposals.	H.B. 5850 (I)
SC	Planning Rules	Existing law requires just utilities with 100,000 or more customers to file IRP with the Public Service Commission. H.B. 4070 extends this requirement to an association of electric cooperatives that provides wholesale electric service to electric cooperatives, or owns transmission assets in the state, or a combination of both. The bill failed to advance before the crossover deadline.	H.B. 4070 (D)
	Planning Rules	Duke Energy filed its 2022 IRP Update in July 2022. In October 2022, the Office of Regulatory Staff recommended the Commission accept the update, and offered several recommendations for Duke to include in its 2023 IRP. In February 2023, the Commission issued a Directive accepting the IRP Update, and adopting five of the Staff's recommendations for the 2023 IRP: (1) Duke is to continue to model both company-owned and PPA solar as selectable resource options and not arbitrarily limit the selection of PPA solar resources; (2)	Docket No. 2021-8-E Docket No. 2021-10-E Commission Directive

		Duke should include a comprehensive coal retirement analysis to determine the most economic retirement dates, while preserving reliability; (3) the 2023 IRP should include a portfolio that is optimized utilizing the economic coal retirement dates, developed without carbon taxes and that does not include any carbon dioxide reduction constraints; (4) Duke should include the impacts of extreme weather events in the reliability analysis performed as part of the target reserve margin study used in the upcoming 2023 Comprehensive IRPs (Duke is also required to develop and include a resiliency plan to deal with reliability during severe weather events so as to reduce the need for rolling blackouts); and (5) Duke should also include an analysis of the financial impacts of federal investment tax credits contained in the IRA & the IIJA in their 2023 Comprehensive IRPs, specifically as it relates to the selection of future generation resources.	
	Procurement Rules	In July 2022, the Commission opened a new proceeding for Dominion Energy South Carolina to explore the potential of a Competitive Procurement of Renewable Energy (CPRE) Program. In opening the proceeding, the Commission directed Dominion to file responses to a series of questions about CPRE programs. Dominion filed its response in September 2022, and argued that the Commission should find that a CPRE program is only in the public interest when Dominion identifies a need for additional renewable energy through its IRP or other planning process, and the identified need is of a sufficient magnitude to justify the labor, time, and expense of a CPRE program. Then Dominion requested that the Commission issue an Order also finding that there is no current public interest that justifies a CPRE Program in Dominion's balancing authority area.	Docket No. 2022-238-E
	Procurement Rules	H.B. 4048 and S.B. 523 require Central Electric Power Cooperative to submit all proposed contracts or other plans for procurement of electric generation to the Joint Bond Review Committee, the State Regulation of Public Utilities Review Committee, and the Public Service Commission of South Carolina for approval prior to execution of any long-term power contract. The bills failed to advance before the crossover deadline.	H.B. 4048 (D) S.B. 523 (D)
TN	Planning Rules	H.B. 946 and S.B. 1389, introduced in January 2023, stipulates that clean/renewable	H.B. 946 (E)

		requirements imposed by political subdivisions on public utilities are only met if at least one allowable clean/renewable source is used. The list of permissible clean energy sources include: solar, PV, hydro, wind, hydrogen, nuclear, fuel cells, natural gas, waste-to-energy, geothermal, crops grown for energy production, waste heat recovery, CHP, pumped hydropower, among others. As for renewables, permissible sources include: solar, PVs, hydro, wind, hydrogen, geothermal, biomass, renewable natural gas, and nuclear. H.B. 946 passed the House on March 6, 2023 with language amendments that remove nuclear as a permissible source of renewable energy. H.B. 946 passed the Senate on March 23, 2023 and substituted S.B. 1389 that same day. The Governor signed the bill into law in April 2023.	S.B. 1389 (D)
TX	Planning Rules	H.B. 3650 and S.B. 2274, both introduced in March 2023, put nuclear fusion under the jurisdiction of the Public Utility Commission, and would create statutory definitions for "fusion" and related terms. The bill would also clarify that any reference in state statutes, regulations, rules, etc. to nuclear energy or similar terms does not include fusion energy.	H.B. 3650 (I) S.B. 2274 (I)
	Procurement Rules	H.B. 3836 and S.B. 1975, both introduced in March 2023, order the Public Utility Commission to petition the federal Nuclear Regulatory Commission to obtain the authority to issue permits for nuclear power reactor operators.	H.B. 3836 (I) S.B. 1975 (I)
UT	Retirement Rules	H.B. 425, introduced in February and amended in March 2023, requires that notice must be provided at least 180 days before the decommissioning or disposal of a coal-powered electrical generation facility. The bill also states that any qualified utility that receives notice of federal regulation that may result in the forced retirement of a generation facility must inform the Office of the Attorney General who will take any action necessary to defend the interest of the state. It also instructs the OED to conduct a study on the environmental regulations and permits and economic opportunities for continued use of an existing coal-powered electrical generation facility. The bill passed the bill in February and the Senate in March 2023. The Governor signed the bill in March 2023.	H.B. 425 (E)
VA	Planning Rules	H.B. 1670, introduced in January 2023, revises the review schedule for Appalachian Power Company and Dominion Energy Virginia from	H.B. 1670 (D)

	triennial to biennial reviews. The change would take effect for Appalachian Power in 2023 and for Dominion in 2024. The bill was left in committee in February 2023.	
Planning Rules	H.B. 1777 and S.B. 1075, as recommended by the Governor in March 2023, remove the requirement for Appalachian Power Company to file an IRP with the Commission and makes the utility subject to biennial review with the first review commencing on March 31, 2024. The Commission is directed to initiate a review proceeding by December 31, 2023. H.B. 1777 was passed by the House on February 7, 2023. The Senate passed 1777 with a substitute on February 23, 2023 and the House adopted the substitute that same day. The Senate passed S.B. 1075 on January 27, 2023. The House substituted and passed 1075 on February 22, 2023, the Senate concurred in the substitution on the same day. The Governor returned the identical bills with recommendations on March 27, 2023. The bills were enacted in April 2023 after the legislature approved the Governor's recommendations.	H.B. 1777 (E) S.B. 1075 (E)
Planning Rules	H.B. 2275 and S.B. 1166 expands the membership of the Commission on Electricity Regulation to include citizen members and require it to meet at least twice per year. The bill also directs the establishment of the Commonwealth Energy Research Consortium consisting of higher education institutions to conduct energy research and policy analysis for the Commonwealth. The Commission shall distribute funds to the Consortium to conduct objective research and analysis. The bill also creates the Commonwealth Energy Research Fund to contain money reserved for expenditure by the Consortium on energy research and analysis. The bills would require utilities to make a draft of updated Integrated Resource Plans (IRPs) available to the public, engage the public, and provide opportunities for public comment and inquiries to the utility while it formulates its IRP. Utilities are required to report their outreach efforts to the Commission. The bills require utilities to conduct an ongoing stakeholder review process to consider and receive input on changes to the IRP development methodology, modeling inputs, and assumptions. Utilities would be directed to report on the composition of current and prospective stakeholders when	H.B. 2275 (E) S.B. 1166 (E)

		filing its IRP. The House passed H.B. 2275 on February 7, 2023. The Senate passed 2275 on February 17, 2023 with minor amendments. Through Conference, the House and Senate passed the bill with reporting requirement amendments and removal of the Commonwealth Energy Consortium as administrator of the Fund. The Governor returned a bill substitute on March 27, 2023. The Governor's amendments include adding an additional member of the Commission on Electricity Regulation (up to 14 total), removing a subsection on resource and retirement plans for coal plants, and other minor amendments. The bills were enacted after the legislature approved the Governor's recommendations.	
	Planning Rules, Procurement Rules	H.B. 1770 and S.B. 1265 would modify electricity rules in Virginia. The bills would shift Dominion Energy Virginia from a triennial review cycle to a biennial review cycle beginning in 2023. The bills direct the Commission to include the reliability impacts of electric generation facility additions or retirements by Appalachian Power or Dominion Energy as well as the potential impact of power purchases from outside of Virginia to meet a utility's load. The House passed H.B. 1770 on February 7, 2023. The Senate passed 1770 with a substitute on February 22, 2023. The Senate passed S.B. 1265 with amendments on February 7, 2023. The House passed S.B. 1265 with a substitute on February 21, 2023. The Senate and House agreed to a conference report on February 25, 2023. The Governor returned the bills with recommendations on March 27, 2023. The bills were enacted in April 2023 after the legislature approved the Governor's recommendations.	H.B. 1770 (E) S.B. 1265 (E)
	Procurement Rules	H.B. 2305, as enacted in March 2023, requires all applications for utility procurement of solar resources to go through a competitive bidding process prior to selection for approval. The House passed the bill on February 7, 2023. The Senate passed a substitute for the bill on February 20, 2023 and the House concurred in the substitution on February 23, 2023. The Governor signed the bill on March 27, 2023.	H.B. 2305 (E)
VT	Procurement Rules	H.B. 320, introduced in February 2023, instructs, among other things, the Public Utilities Commission to establish state energy procurement programs, including a tariff program for renewable facilities with up to 1.5 MW of capacity (the program must account for	H.B. 320 (I)

		20-30% of new energy procurement starting in 2025); and a net metering program for renewable facilities with up to 500 kW of capacity (the program must account for at least 20-30% of new energy procurement starting in 2025).	
WA	Planning Rules	Introduced in January 2023, H.B. 1192 and S.B. 5165 amend the requirements of utilities' IRPs. The bill increases the forecast of availability and requirements for regional generation and transmission capacity from 10 to 20 years. The forecast also must meet the requirements of the clean energy transformation act. The required transmission assessment must consider the state's emission reduction limits and opportunities to make more effective use of existing capacity through demand response, grid modernization, and other programs. S.B. 5165 was passed by the Senate in March 2023 and the House in April. The Governor signed the bill into law in May 2023.	H.B. 1192 (D) S.B. 5165 (E)
WI	Planning Rules	Introduced in February 2023, A.B. 43 and S.B. 70 require each utility to prepare and file an IRP with the Commission. The IRP should include, among other data, resource options to meet the service needs of its customers over the next 5, 10, and 15-year periods.	A.B. 43 (I) S.B. 70 (I)
WV	Permitting Rules, Retirement Rules	H.B. 2258 allow present holders of Certificates of Public Convenience and Necessity to petition the commission to re-deploy generation assets on their property to adjacent property, and requires the Commission to consider long-term energy costs and environmental impacts in reviewing the application. The bill also allows electric utilities to apply for the issuance of rate relief bonds to recover costs associated with coal-fired generation that has a remaining book value and ceases to be economically feasible compared to other resources available. This bill did not advance prior to the end of the legislative session in March 2023.	H.B. 2258 (D)
	Planning Rules, Procurement Rules	H.B. 3088 directs the Division of energy to establish mechanisms for electric utilities to procure energy storage systems as part of the utility planning processes. The bill requires that any new mechanisms established should not affect ongoing resource acquisition or competitive bidding processes. The bill further directs the Division to establish rules to include energy storage system costs and benefits into planning processes; require utilities to provide	H.B. 3088 (D)

		data and analysis of potential storage acquisitions; establish ownership rules for utilities and other persons; and establish filing requirements for energy storage acquisition plans. The House adjourned in March 2023 without advancing this bill.	
WY	Planning Rules, Plant Retirement	Introduced in January 2023, S.F. 142 seeks to promote carbon capture, utilization and sequestration (CCUS) technology associated with the continued and prolonged operation of coal-fired electric generating facilities. The bill requires public utilities that own, lease, or control coal-fired facilities to submit a plan on how the facility may be potentially augmented with CCUS in the future. The bill also prevents utilities from closing, retiring, or reducing output of a coal-fired facility without providing the Commission with notice at least four years before the scheduled action. It also prevents facilities from being retired or reducing output without making a good faith effort to sell the facility for at least a year. The bill passed the Senate in February 2023. It failed to pass before the end of the legislative session.	S.F. 142 (D)
	Retirement Rules	Introduced in January 2023, H.B. 69 allows for the continuation of the Coal-Fired Facility Closures Litigation Funding Account. The funds may be used to intervene in, defend, commence, or prosecute lawsuits against the federal government, local government, or other states' agencies that enact and enforce laws, regulations, or other actions that could impede the state's ability to export coal, cause the early retirement of coal-fired facilities in the state, or that result in the decreased use of Wyoming coal, the closure of coal-fired plants that use Wyoming's coal. The House passed the bill in January and the Senate in February 2023. It was then signed by the Governor later in February 2023.	H.B. 69 (E)

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early May 2023.

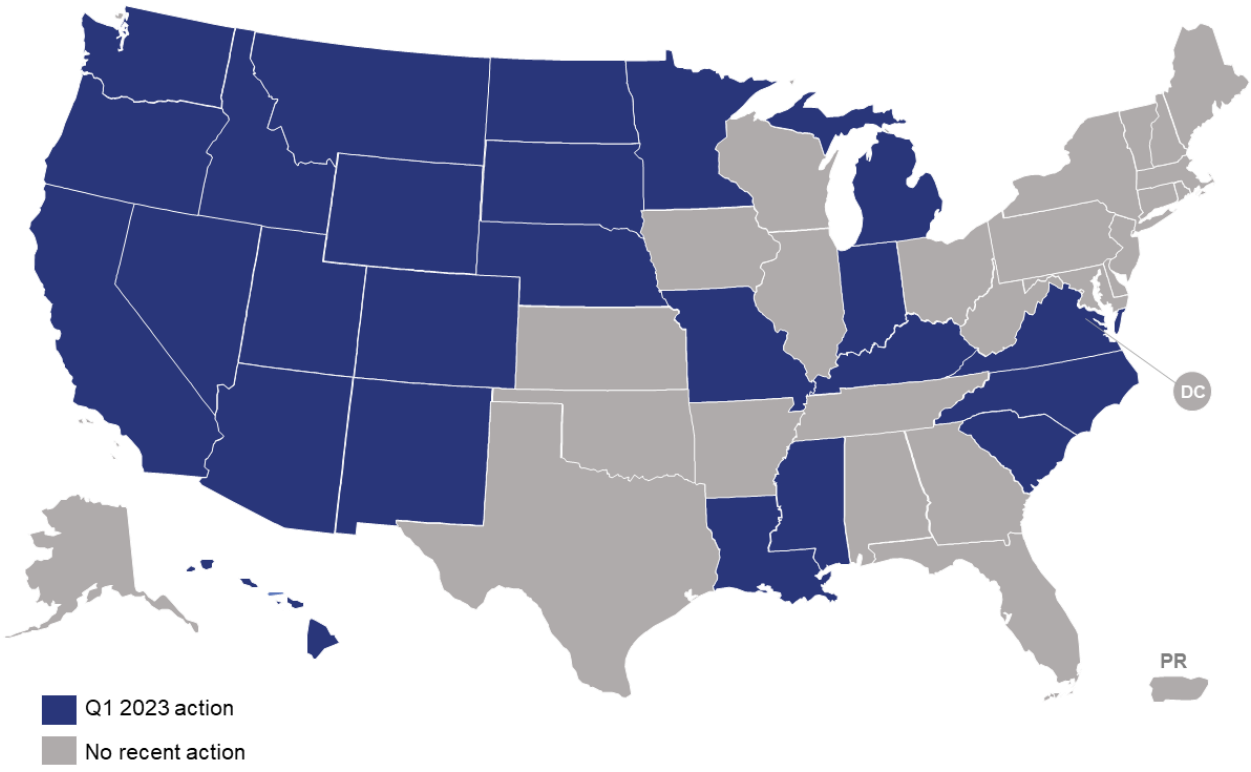
INTEGRATED RESOURCE PLANS AND GENERATION CAPACITY CHANGES

Key Takeaways:

- In Q1 2023, utilities in 25 states had integrated resource plans (IRPs) or clean energy plans under review by state regulators, or were actively engaged in public IRP development efforts.
- In Q1 2023, actions in 30 states and Puerto Rico related to electric generation capacity changes being implemented through competitive procurements and utility proposals.
- The largest resource additions included in utilities' preferred plans were solar, wind, and energy storage.
- PacifiCorp filed its 2023 IRP covering its service territories in six states – California, Idaho, Oregon, Utah, Washington, and Wyoming.

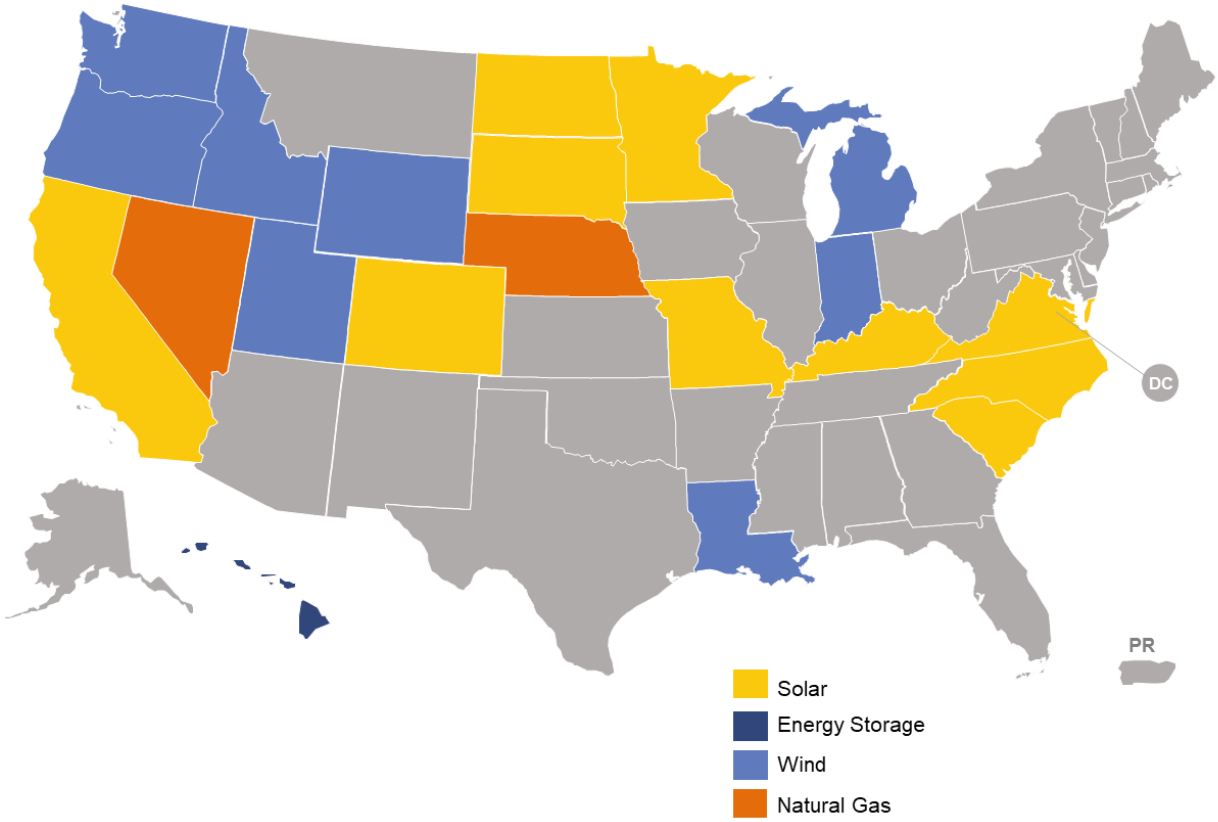
In Q1 2023, 38 utilities in 25 states had integrated resource plans (IRPs) under review by state regulators or were actively engaged in public IRP development efforts. The resource plans cover an array of generation technologies, including renewables like wind, solar, and geothermal, as well as more traditional resources like nuclear, natural gas, coal, and oil. Many plans being filed also evaluate demand-side resources and include battery storage additions to help meet peak demand and integrate renewables.

Figure 15. Action on Utility Integrated Resource Plans (Q1 2023)



Of the resource plans currently pending approval or acknowledgement, 25 contained energy storage capacity additions, 24 contained solar, 20 wind, and 10 natural gas. The largest planned resource additions in aggregate were solar (74,230.5 MW), wind (47,661.5 MW), storage (33,273 MW), and natural gas (14,950.6 MW). Solar and wind accounted for the largest supply-side resource additions in all but three states with an IRP or plan update under review during the quarter. Eighteen resource plans contained coal capacity retirements, seven for natural gas, and four for oil. A number of plans also indicated that the utility has power purchase agreements expiring for various resources.

Figure 16. Utility IRP Action, by Largest Planned Resource Addition (Q1 2023)



Note: Largest planned resource addition reflects that included in the utility's preferred or base portfolio. If multiple utility IRPs were under consideration during the quarter, the combined resource totals for planned capacity additions were used.

The largest single allocation for solar in any utility plan is for nearly 13,700 MW by 2037 in Dominion Energy's North Carolina/Virginia IRP, largely driven by Virginia's clean energy targets. This target is include in the utility's "Plan B", which factors in Virginia's new clean energy targets; the solar allocation increases to 25,692 MW by 2047. The largest single allocation for wind in any utility plan is for over 9 GW by PacifiCorp through its subsidiaries Pacific Power and Rocky Mountain Power. The median utility proposals for those technologies are much smaller, just over 1,800 MW for solar and 1,300 MW for wind. These will not be single-step processes and will take the form of several smaller procurements over the planning horizon which, for most

utilities, is 15 to 20 years. Eighteen individual utility plans included coal plant retirements or fuel conversions. There was high variability in the magnitude of coal retirements, ranging from 142 MW to over 5,000 MW in planned retirements.

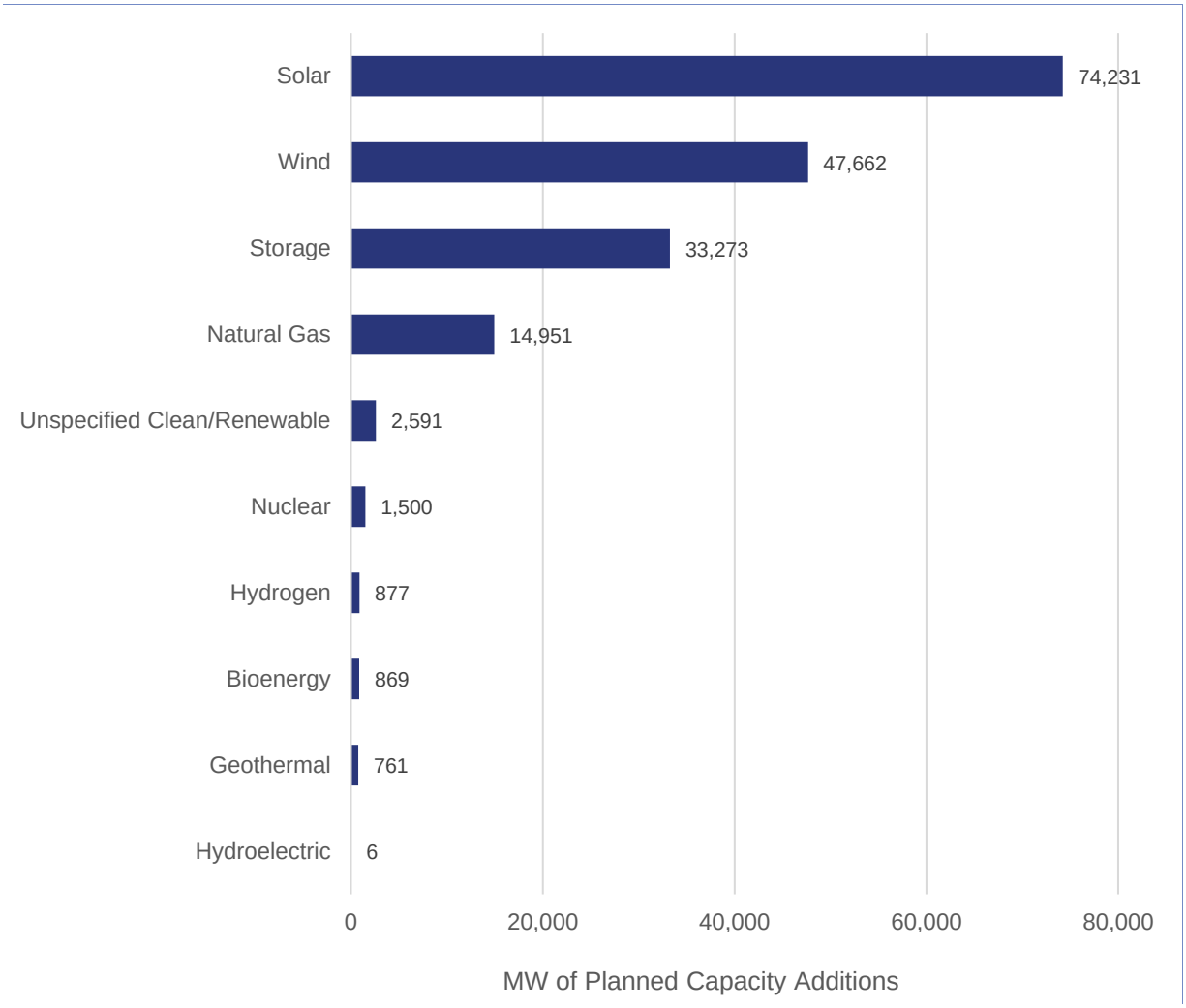
DTE Electric in Michigan filed its IRP in late 2022. The plan includes the development of 6,500 MW of solar, 8,900 MW of wind, and 1,810 of battery storage capacity between 2023 and 2042. Two coal facilities are planned to retire, representing over 3 GW in capacity. DTE also plans to fuel-switch a two-unit coal plant in 2025 and 2026 to serve as a natural gas peaking facility until retirement in 2040. The company also plans to increase its demand response programs to represent approximately 950 MW in capacity by 2027.

Table 10. Utility Integrated Resource Plans Filed in Q1 2023

State(s)	Utility	Planned Capacity Additions	Planned Capacity Retirements
CA, ID, OR, UT, WA, WY	PacifiCorp	By 2042: Wind (9,111 MW), Storage (8,095 MW), Solar (7,855 MW), Energy Efficiency (4,953 MW), Nuclear (1,500 MW), Clean Peaking Resources (1,240 MW), Demand Response (929 MW)	By 2042: Coal (5,246 MW), Natural Gas (2,660 MW)
HI	HECO Companies (Draft)	By 2035: Energy Efficiency (1,635 GWh), Battery Storage (1,304 MW), Hybrid Solar and Wind (1,241 MW), Distributed Energy Resources (372 MW)	By 2035: Oil (707 MW)
KY	Kentucky Power	By 2035: Solar (800 MW), Wind (700 MW), Storage (50 MW)	By 2035: Coal (780 MW)
MN, ND, SD	Otter Tail Power (Supplement)	By 2037: Solar (400 MW), Wind (350 MW), Storage (25 MW)	By 2037: Coal (405 MW), Oil (62.2 MW)
MO	Empire District Electric (Update)	By 2038: Solar (470 MW), Storage (290 MW), Natural Gas (16.6 MW)	By 2038: Natural Gas (~30 MW)
NE	Nebraska Public Power District (Draft)	Case #1 by 2052: Natural Gas (2,240 MW), Wind (1,800 MW), Solar (1,125 MW)	Case #1 by 2052: Coal (1,365 MW), Nuclear (770 MW), Coal-to-Gas Conversion (225 MW)
OR	Portland General Electric	By 2030: Wind (1,334 MW), Solar (756 MW), Storage (232 MW), Demand Response (228 MW), Energy Efficiency (216 MW), Community-Based Renewables (155 MW)	N/A
SC	Dominion Energy South Carolina	By 2049: Solar (5,025 MW), Natural Gas (1,708 MW), Storage (1,500 MW)	By 2049: Coal (1,284 MW)
WA	Puget Sound Energy (Update)	By 2045: Solar (4,812 MW), Wind (4,450 MW), Storage (2,617 MW), Hydrogen (877 MW), Energy Efficiency (818 MW), Biodiesel (711 MW), Demand Response (446 MW)	By 2045: Gas-to-Hydrogen Conversion (2,056 MW), Coal (370 MW)

Most utilities' planned retirements are for coal and natural gas facilities. Indeed, these two resources have historically made up the bulk of generation throughout the U.S. A few states' plans include resource retirements outside of the typical coal and natural gas generation technologies. HECO in Hawaii plans to retire over 700 MW of oil capacity by 2035, which is more than half of the company-owned oil generation on Oahu as of 2020. In Virginia, Dominion Energy is also planning retirement of oil-fueled generation, as well as three biomass power plants.

Figure 17. Planned Supply-Side Resource Additions by Technology (Among Utility IRPs Under Review in Q1 2023)



This quarter, subsidiaries of PacifiCorp filed an IRP as Rocky Mountain Power in Idaho, Utah, Wyoming, and as Pacific Power in Oregon. The plan covers the time horizon from 2023 to 2042 and covers all six states in which the company operates. Across those the states, the company plans for capacity additions of nearly 7.9 GW of solar, 8 GW of storage, and over 9 GW of wind generation. The utility also plans 1,500 MW of nuclear capacity additions. PacifiCorp, across a four-state area plans for 22 coal plants to either retire or change fuel to natural gas; total coal

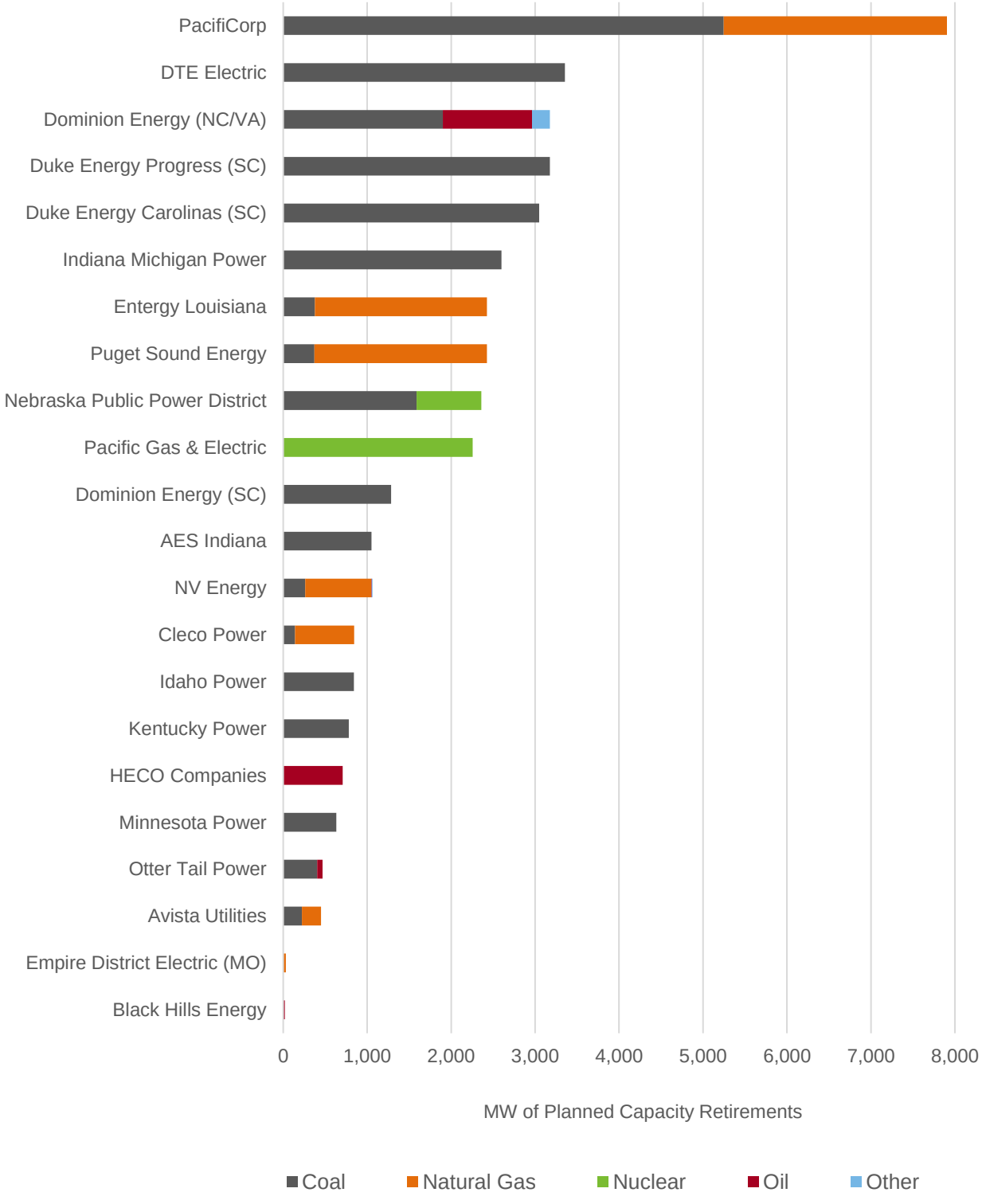
retirements over the planning horizon are expected to be over 5 GW, with 2.6 GW of natural gas retirements also planned.

Table 11. Total Planned Capacity Additions and Retirements, by Resource (Among Utility IRPs Under Review in Q1 2023)

Total Planned Capacity Additions				
Technology	**Aggregate Planned (MW)**	**Median Planned (MW)**	**Minimum Planned (MW)**	**Maximum Planned (MW)**
Solar	74,230.5	1,802.5	60	8,230
Wind	47,661.5	1,307.5	100	9,111
Storage	33,273	450	25	13,692
Natural Gas	14,950.6	1,628.5	16.6	3,063
Unspecified Clean/Renewable	2,591	598	155	1,240
Nuclear	1,500	1,500	1,500	1,500
Hydrogen	877	877	877	877
Bioenergy	860	430	149	711
Geothermal	761	170	42	379
Hydroelectric	6	6	6	6
Total Planned Capacity Retirements				
Technology	**Aggregate Planned (MW)**	**Median Planned (MW)**	**Minimum Planned (MW)**	**Maximum Planned (MW)**
Coal	27,285	841	142	5,246
Natural Gas	8,513	745.5	30	2,660
Nuclear	3,026	1,513	770	2,256
Oil	1,849	384.5	18	1,062
Biomass	213	213	213	213

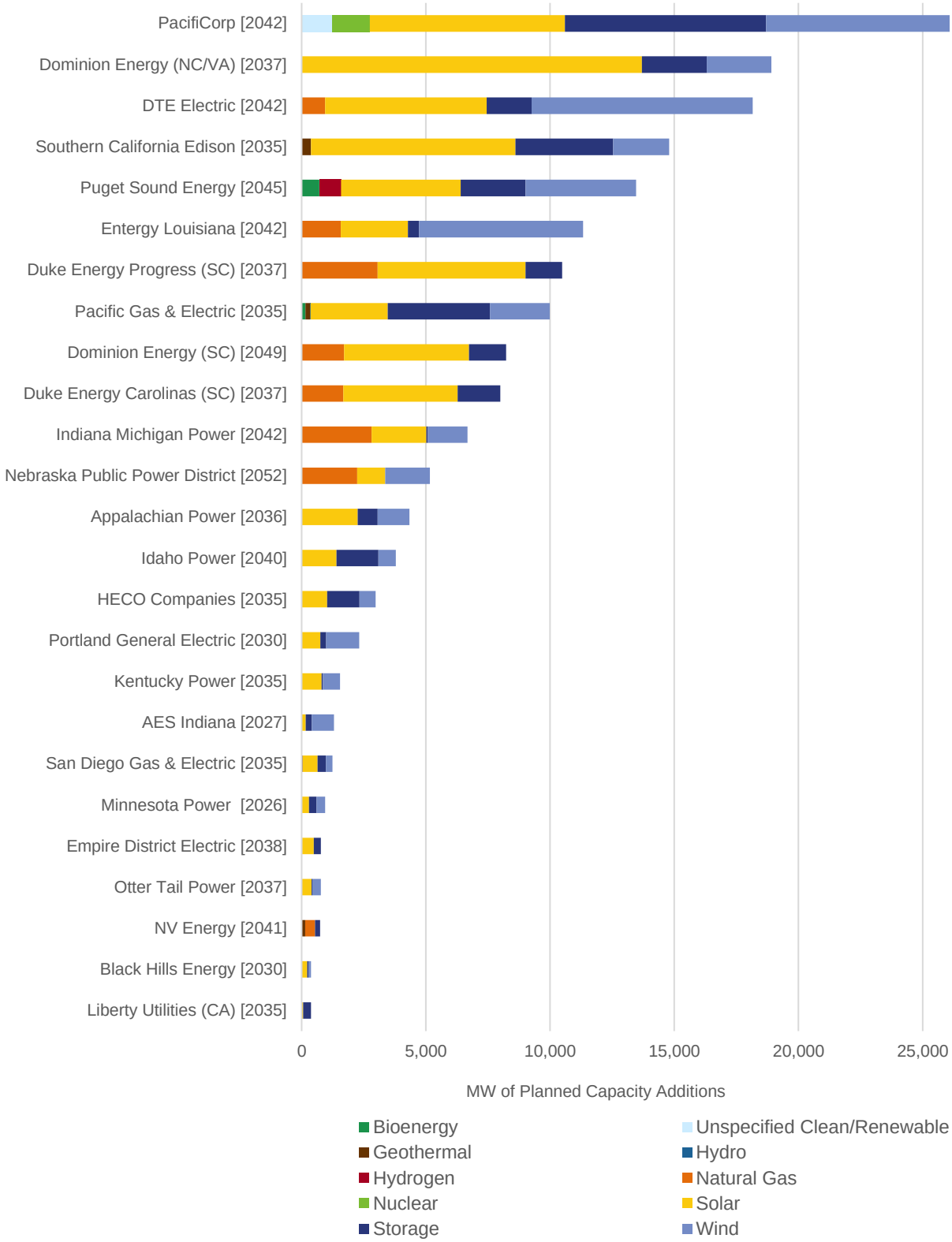
Note: For median and minimum planned capacity, only IRPs that include any amount of the specified resource are considered in the calculation. Expiring contracts with generators are not included in capacity retirement figures.

Figure 18. Planned Generation Retirements, by Resource (Q1 2023)



Note: Fuel conversions are categorized as retirements of the resource being converted. Contract expirations are not included in the figure.

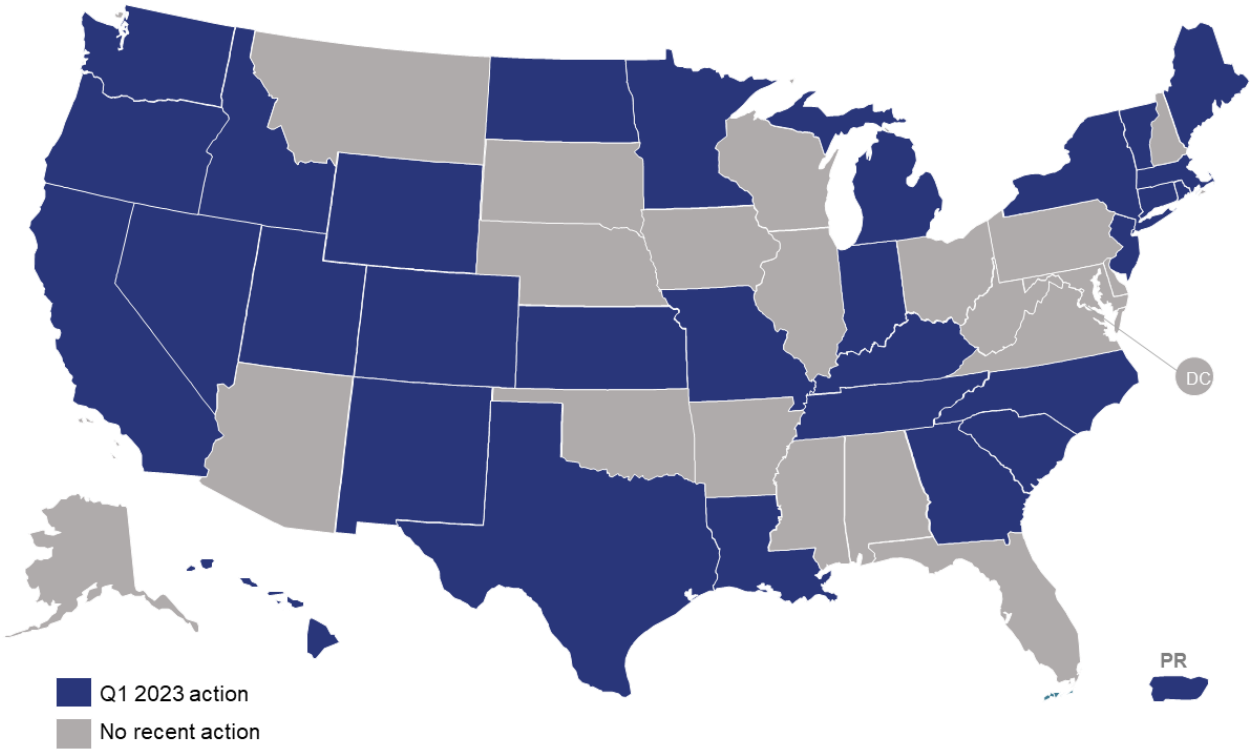
Figure 19. Planned Supply-Side Capacity Additions, by Resource (Q1 2023)



Note: Planning horizon used for supply-side capacity additions is indicated in brackets.

Utility IRPs can be working documents that are subject to change as technologies and market conditions evolve. Some states require utilities to take additional steps beyond plan submission before actual capacity changes occur, such as procuring certificates of public convenience and necessity. Some utilities and state regulators will proceed with competitive procurement of resources through issuance of a request for proposals (RFPs) for a certain amount of generation capacity to meet state and utility capacity needs and/or comply with state mandates. These may be open-ended requests for energy capacity (all-source procurements), or they may be requesting proposals for specific resource types (technology-specific, firm, dispatchable, peaking, etc.). In Q1 2023, actions in 30 states and Puerto Rico related to generation capacity changes.

Figure 20. Action on Electric Generation Capacity Changes (Q1 2023)



Many states are conducting offshore wind energy procurements at the state level. New York closed its third offshore wind solicitation in January 2023, seeking at least 2 GW of capacity. Rhode Island concluded a request in March 2023, aiming for 1 GW in offshore wind capacity. Also in March, the State of New Jersey issued an RFP for up to 4 GW of offshore wind and a similarly-sized offshore wind RFP is under consideration in Massachusetts.

Utilities in some states are taking a technology-agnostic approach. The Georgia Public Service Commission opened a docket in March 2023 for up to 1,050 MW of commercial- and industrial-scale renewables. PNM in New Mexico has an open all-source RFP proceeding with an undetermined capacity for resources to be operational in the 2026 to 2028 timeframe. Utilities in

Colorado, Vermont, and Washington have planned for procurement of distributed generation and storage in their service areas.

Kentucky Utilities/Louisville Gas and Electric has taken a more direct approach than technology-specific or all-source RFPs. In January 2023, the Kentucky Public Service Commission accepted the companies' application for certificates of public convenience and necessity for two combined cycle natural gas plants of 621 MW capacity each, two 120 MW solar facilities, and a 125 MW/500 MWh battery energy storage system at an existing company site. The application planned a further 637 MW of solar power purchase agreements, as well as nearly 1.5 GW of coal retirements by 2028.

Figure 21. Electric Generation Capacity Changes, by Largest Proposed Resource Addition (Q1 2023)

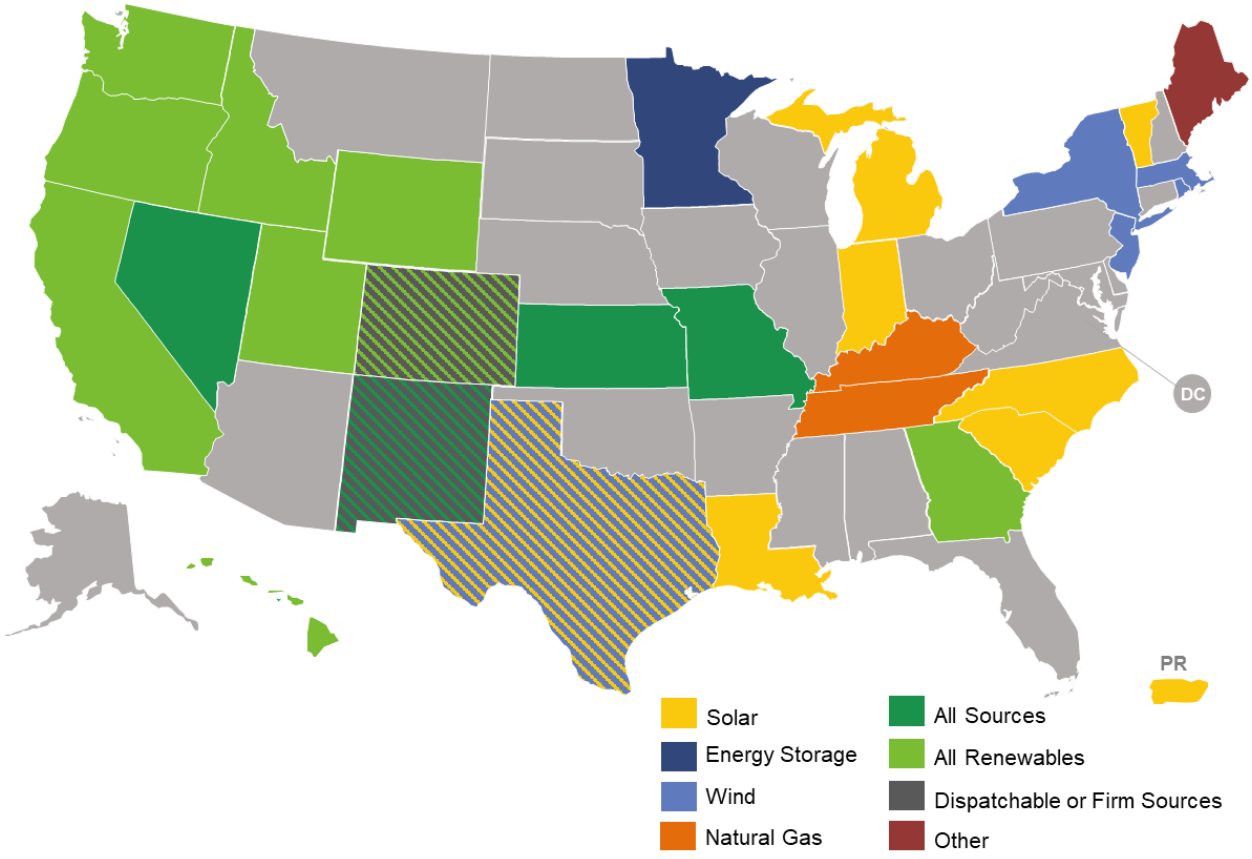


Table 12. Updates on Utility Integrated Resource Plans (Q1 2023)

State	Utility	Planned Capacity Additions	Planned Capacity Retirements	Description	Source
AZ	Arizona Public Service	TBD	TBD	On February 28, 2022, the Arizona Corporation Commission opened a new proceeding for resource planning and procurement in 2021, 2022, and 2023. Arizona Public Service is currently developing its 2023 IRP.	Docket No. E-99999A-22-0046 APS Website
	Tucson Electric Power, UNS Electric	TBD	TBD	On February 28, 2022, the Arizona Corporation Commission opened a new proceeding for resource planning and procurement in 2021, 2022, and 2023. Tucson Electric Power and UNS Electric are currently developing their 2023 IRP.	Docket No. E-99999A-22-0046 TEP/UNS Website
CA	Liberty Utilities	By 2035: • Solar: 60 MW • Storage: 314 MWh	N/A	The California Public Utilities Commission issued a decision in February 2022 adopting the Preferred System Plan (PSP) for the 2022 IRP cycle. The PSP meets a statewide 38 million metric ton (MMT) GHG target for the electric sector in 2023 and 35 MMT for 2032. The PSP adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035. Liberty Utilities filed its 2022 IRP in November 2022 based on the PSP. Liberty Utilities' IRP includes a total of four conforming portfolios. Portfolio A involves Liberty remaining a full-requirements wholesale customer of NV Energy and meets the 30 MMT benchmark. It includes 60 MW of new solar with 294 MWh of storage, and purchasing the remaining renewable energy it needs from NV Energy. Portfolio B also meets the 30 MMT benchmark,	Docket No. R-20-05-003 Decision No. 22-02-004 (February 2022) IRP

			and is the same as Portfolio A, but includes an additional 55 MWh of storage. Portfolios C and D meet the 25 MMT benchmark, and are identical to Portfolios A and B respectively, but relying on a different amount of renewable energy from NV Energy. Portfolio B is Liberty's preferred portfolio for the 30 MMT case, and Portfolio D is its preferred portfolio for the 25 MMT case. A proposed decision filed in January 2023 requires a supplemental mid-term reliability procurement of a total of 4,000 MW of net qualifying capacity in addition to the previously ordered 11,500 MW. The proposed decision argues that it is needed due to updated load forecasting from the California Energy Commission showing that electricity demand will increase more greatly than previous estimates, as well as the ongoing effects of climate change, and the likelihood of some additional unexpected fossil plant retirements. It also recommends electricity resource portfolios to the CAISO to study in its 2023-2024 Transmission Planning Process. A decision filed in February 2023 formalized the supplemental procurement requirement.	
Pacific Gas & Electric	New Additions by 2035 for 25 MMT conforming portfolio: • Storage: 4,117 MW • Solar: 3,110 MW • Wind: 2,402 MW	• Nuclear (Diablo Canyon): 2,256 MW	The California Public Utilities Commission issued a decision in February 2022 adopting the Preferred System Plan (PSP) for the 2022 IRP cycle. The PSP meets a statewide 38 million metric ton (MMT) GHG target for the electric sector in 2023 and 35 MMT for 2032. The PSP adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035.	Docket No. R-20-05-003 Decision No. 22-02-004 (February 2022) IRP Narrative

	• Geothermal: 200 MW • Biomass: 110 MW • Biogas: 39 MW • Small Hydro: 6 MW		Pacific Gas & Electric (PG&E) filed its 2022 IRP in November 2022 based on the PSP. PG&E's IRP presents two conforming portfolios and one alternative portfolio. One conforming portfolio meets a 30 MMT greenhouse gas target, the other meets a 25 MMT GHG target, and the alternative portfolio meets a 30 MMT greenhouse gas target and includes additional transportation electrification load. The 30 MMT conforming portfolio results in 5,521 MW of resource additions by 2035. The 25 MMT conforming portfolio results in 5,627 MW of resource additions by 2035. The 30 MW alternative portfolio results in 11,429 MW of resource additions by 2035. These are to be added to the baseline resources that have already begun deliveries or are expected to come online by 2030, or future resource additions needed to meet the IRP's GHG emission planning requirements. The totals presented here represent the baseline new resource additions and the new additions associated with the 25 MMT conforming portfolio. A proposed decision filed in January 2023 requires a supplemental mid-term reliability procurement of a total of 4,000 MW of net qualifying capacity in addition to the previously ordered 11,500 MW. The proposed decision argues that it is needed due to updated load forecasting from the California Energy Commission showing that electricity demand will increase more greatly than previous estimates, as well as the ongoing effects of climate change, and the likelihood of some additional unexpected

			fossil plant retirements. It also recommends electricity resource portfolios to the CAISO to study in its 2023-2024 Transmission Planning Process. A decision filed in February 2023 formalized the supplemental procurement requirement.	
PacifiCorp	By 2040: • Battery Storage: 6,181 MW • Solar: 5,628 MW • Energy Efficiency: 4,290 MW • Wind: 3,628 MW • Demand Response: 2,448 MW • Nuclear: 1,500 MW • Non-Emitting Peaker: 1,226 MW • Pumped Hydro: 500 MW	By 2040: • Coal: 3,375 MW • Coal Converted to Natural Gas (2024) & then retired (2038): 713 MW • Natural Gas: 840 MW • Hydro: 163 MW • Wind: 10 MW • Solar: 18 MW	The California Public Utilities Commission issued a decision in February 2022 adopting the Preferred System Plan (PSP) for the 2022 IRP cycle. The PSP meets a statewide 38 million metric ton (MMT) GHG target for the electric sector in 2023 and 35 MMT for 2032. The PSP adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035. PacifiCorp filed its 2021-2022 IRP in November 2022 based on the PSP. PacifiCorp's 2021-2022 IRP has a multi-state scope and includes a mix of new resources, including advanced nuclear. A proposed decision filed in January 2023 requires a supplemental mid-term reliability procurement of a total of 4,000 MW of net qualifying capacity in addition to the previously ordered 11,500 MW. The proposed decision argues that it is needed due to updated load forecasting from the California Energy Commission showing that electricity demand will increase more greatly than previous estimates, as well as the ongoing effects of climate change, and the likelihood of some additional unexpected fossil plant retirements. It also recommends electricity resource portfolios to the CAISO to study in its 2023-2024 Transmission Planning Process. A decision filed in	Docket No. R-20-05-003 Decision No. 22-02-004 (February 2022) IRP

			February 2023 formalized the supplemental procurement requirement.	
San Diego Gas & Electric	New Additions by 2035 for 30 MMT conforming portfolio: • Solar: 603 MW • Battery Storage: 280 MW • Hybrid: 239 MW • Wind: 144 MW • Offshore Wind: 116 MW • Demand Response: 67 MW • Long-Duration Storage: 55 MW • Geothermal: 42 MW	N/A (expiring contracts listed)	The California Public Utilities Commission issued a decision in February 2022 adopting the Preferred System Plan (PSP) for the 2022 IRP cycle. The PSP meets a statewide 38 million metric ton (MMT) GHG target for the electric sector in 2023 and 35 MMT for 2032. The PSP adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035. San Diego Gas & Electric (SDG&E) filed its 2022 IRP in November 2022 based on the PSP. SDG&E's IRP includes two conforming portfolios that achieve targets of 30 and 25 MMT for 2035. Both portfolios include capacity expansions of 1,546 MW by 2035. SDG&E argues that the 25 MMT portfolio is not feasible today without additional regulatory reforms, and urges the Commission to approve the 30 MMT portfolio. A proposed decision filed in January 2023 requires a supplemental mid-term reliability procurement of a total of 4,000 MW of net qualifying capacity in addition to the previously ordered 11,500 MW. The proposed decision argues that it is needed due to updated load forecasting from the California Energy Commission showing that electricity demand will increase more greatly than previous estimates, as well as the ongoing effects of climate change, and the likelihood of some additional unexpected fossil plant retirements. It also recommends electricity	Docket No. R-20-05-003 Decision No. 22-02-004 (February 2022) IRP

				resource portfolios to the CAISO to study in its 2023-2024 Transmission Planning Process. A decision filed in February 2023 formalized the supplemental procurement requirement.	
	Southern California Edison	New Additions by 2035 for 25 MMT conforming portfolio: • Solar: 8,230 MW • Storage: 2,817 MW • Offshore Wind: 1,798 MW • Long-Duration Storage: 1,110 MW • Wind: 460 MW • Geothermal: 379 MW	N/A	The California Public Utilities Commission issued a decision in February 2022 adopting the Preferred System Plan (PSP) for the 2022 IRP cycle. The PSP meets a statewide 38 million metric ton (MMT) GHG target for the electric sector in 2023 and 35 MMT for 2032. The PSP adds over 40 GW of incremental new nameplate capacity by 2030 and over 50 GW of incremental new nameplate capacity by 2035. Southern California Edison filed its 2022 IRP in November 2022 based on the PSP. A proposed decision filed in January 2023 requires a supplemental mid-term reliability procurement of a total of 4,000 MW of net qualifying capacity in addition to the previously ordered 11,500 MW. The proposed decision argues that it is needed due to updated load forecasting from the California Energy Commission showing that electricity demand will increase more greatly than previous estimates, as well as the ongoing effects of climate change, and the likelihood of some additional unexpected fossil plant retirements. It also recommends electricity resource portfolios to the CAISO to study in its 2023-2024 Transmission Planning Process. A decision filed in February 2023 formalized the supplemental procurement requirement.	Docket No. R-20-05-003 Decision No. 22-02-004 (February 2022) IRP
CO	Black Hills Energy	Proposed by 2030:	Proposed:	On May 27, 2022, Black Hills Energy filed its Electric	Docket No. 22A-0230E

	• Solar: 258 MW • Wind: 149 MW • Storage: 50 MW Approved by 2030: • Solar: 200-250 MW • Wind: 100 MW • Storage: 50 MW	• Diesel: 18 MW (by 2025) Approved: • Diesel: 18 MW (by 2033)	Resource Plan (ERP), Clean Energy Plan, and Renewable Energy Standard Compliance Plan. The preferred plan includes acquisition of 450 MW of clean energy resources by 2030: 149 MW of wind, 258 MW of solar, and 50 MW of battery storage. Of this, 228 MW, or 50%, would be utility-owned. The ERP also noted that Black Hills would no longer be pursuing a 200 MW solar PPA approved in a previous version of the plan, as the developer pulled out due to supply chain issues. The plan also includes early retirements for the utility's 8 MW Pueblo and 10 MW Pueblo Airport diesel units in 2025; Pueblo was originally scheduled for 2029, and Airport for 2033. On January 13, 2023, Black Hills filed a settlement agreement. The settlement agreement lowered the overall MW acquisition to around 400 MW: 100 MW of wind, 200-250 MW of solar, and 50 MW of storage. Around 200 MW, or 50%, would be utility-owned. The agreement shifted the Pueblo early retirement to 2026, while the Airport units would retire on the original schedule of 2033. The Commission filed a decision on March 22, 2023 adopting the settlement agreement with modification. The decision ordered docket participants to engage in a stakeholder process to develop two performance incentive mechanisms for Black Hills, one for emissions reduction and one for utility-owned generation. The emissions reduction PIM must incentivize deeper, quicker, and/or reductions while also disincentivizing the opposite. The utility ownership	Settlement Agreement Decision

				PIM must incentivize the company to submit accurate bids and to control the costs on any selected utility-owned project, not to incentivize the company to build more utility-owned projects. The decision authorized Black Hills to implement a competitive bidding process to acquire its resources.	
HI	HECO Companies	By 2035: • Energy Efficiency: 1,635 GWh • Storage: 1,304 MW • Hybrid Solar + Wind: 1,241 MW • Offshore Wind: 400 MW • DERs: 372 MW	By 2035: • Oil: 707 MW	In March 2023, HECO filed its Integrated Grid Plan Draft Report. The report discusses the current status of the grid and related technologies, as well as the current planning processes. The main core of the report is the Draft Plan, which identifies actions within the next five years to achieve the State's 2030 clean energy goals, and establishes a long-term strategy for reaching decarbonization by 2045. The plan also includes a proposed schedule of plant retirements and new resource deployment.	Docket No. 2018-0165 Integrated Grid Plan Draft Report (March 2023)
ID	PacifiCorp *(across all six states)*	By 2042: • Wind: 9,111 MW • Storage: 8,095 MW • Solar: 7,855 MW • Energy Efficiency: 4,953 MW • Demand Response: 929 MW • Advanced Nuclear: 1,500 MW • Clean Peaking: 1,240 MW	By 2042: • Coal: 5,246 MW • Natural Gas: 2,660 MW	In March 2023, PacifiCorp d/b/a Rocky Mountain Power, filed its 2023 IRP. It covers a 20-year planning horizon from 2023 to 2042 and encompasses the company's six-state territory. The IRP includes plans to add a total of 9,111 MW of new wind resources, 8,095 MW of storage resources, 7,855 MW of new solar, and 500 MW of advanced nuclear in 2023 with an additional 1,000 MW of advanced nuclear in the long term. The IRP also includes the retirement or gas conversion of 22 coal-fired facilities. Thirteen of these facilities will be retired or converted by 2030 with an additional seven by the end of 2032. The remaining two facilities will retire by 2039. These retirements/conversions	Docket No. PAC-E-23-10 2023 IRP

				will result in 1,153 MW of reduced coal-fired generation capacity by the end of 2025, and over 2,999 MW by 2032. PacifiCorp will also retire 2,660 MW of natural gas through 2042.	
ID, OR	Idaho Power	TBD	TBD	Idaho Power is preparing to file its 2023 IRP later this year. The utility has been holding monthly meetings with its IRP Advisory Council since September 2022	Idaho Power Website
IN	AES Indiana	By 2027: • Wind: 900 MW • Storage: 240 MW • Solar: 165 MW • Demand Response: 53 MW	By 2027: • Coal-to-Natural Gas Conversion: 1,052 MW (2025)	In December 2022, AES Indiana (Indianapolis Power & Light) filed its 2022 IRP. The utility's preferred portfolio includes conversion of the coal-fired Petersburg Units 3 and 4 to natural gas in 2025. The preferred short term action plan also includes adding 550 to 1,065 MW of wind and solar as replacement for the Petersburg facility and adding 200 to 240 MW of battery storage at Petersburg. The short term action plan also includes implementing a three-year demand-side management plan with targeted annual average efficiency savings of 130,000 to 134,000 MWh (1.1% of 2021 sales) and 53 MW of summer peak demand response. Stakeholders filed comments on the IRP in 2023.	IURC Website 2022 IRP
	CenterPoint Energy	TBD	TBD	The Indiana Utility Regulatory Commission approved CenterPoint Energy Indiana's request to extend the filing deadline for its 2022-2023 IRP to June 1, 2023. The utility has been holding stakeholder meetings in advance of its upcoming IRP filing.	CenterPoint Energy Website Extension Request
KY	Kentucky Power	By 2035: • Solar: 800 MW • Wind: 700 MW	By 2035: • Coal: 780 MW	In March 2023, Kentucky Power filed its 2022 IRP. The utility's preferred plan would add 800 MW of new solar, 700 MW of wind, and extend operation of 295 MW of natural gas	Docket No. 2023-00092

		• Storage: 50 MW		generation (from retirement in 2031 to 2041) as well as a plan for 50 MW/4 hours of energy storage to be added by 2035. Kentucky Power plans for retirement of its portion of the coal-fired Mitchell generation facility; two units with capacity of 385 MW and 395 MW.	
LA	Cleco Power	Draft IRP (by 2030): • Renewables: 500 MW • Dispatchable Resources: 500 MW	Draft IRP (by 2030): • Natural Gas: 704 MW • Coal: 142 MW	On October 26, 2022, Cleco Power filed its Draft IRP Report. The utility's preferred portfolio includes keeping Madison 3 through 2040 at minimum, alongside the execution of the Diamond Vault carbon capture storage project at the facility. In addition, the IRP stipulates that the utility plans to procure up to 500 MW of installed renewable capacity/energy and 500 MW of unforced renewable capacity in the next five years via RFPs. Cleco Power may also consider expanding its current energy efficiency program, amongst other elements. The final IRP report is expected to be completed in May 2023, and the next IRP cycle is scheduled for initiation in October 2025. The Commission Staff filed a staff report on February 28, 2023, identifying issues that still remain in the draft IRP report. The report stipulates that Cleco has not clearly defined its resource options, and that the company must update associated costs for several cases utilizing the impact of current tax subsidies. Staff recommended that Cleco report the results of testing its portfolios across all of its scenarios for most insight into costs and risks, and provide a clear rationale for choosing its preferred portfolio, as well as report its current carbon footprint and that of each portfolio in each scenario.	Docket No. I-36175 IRP Draft Report

Entergy Louisiana	Draft IRP (Portfolio 1 by 2042): • Wind: 6,600 MW • Solar: 2,700 MW • Natural Gas: 1,580 MW • DSM: 1,310 MW • Storage: 450 MW	Drat IRP (by 2032): Deactivation: • Natural Gas: 2,048 MW • Coal: 378 MW Contract Expiration: • Natural Gas: 956 MW • Hydro: 48 MW • Biomass: 2 MW	On October 24, 2022, Entergy Louisiana filed a draft report of its 2023 IRP. The 2023 IRP describes the company's long term planning for the study period 2023-2042. In terms of Entergy Louisiana's future supply-side additions, the company plans to continue adding renewables, starting with solar and complementing it with wind resources until battery storage is needed to move intermittent renewable energy into hours of peak demand. The utility also plans to add a limited number of hydrogen-capable gas combined cycle gas turbine (CCGT) units as large gas units become deactivated. The amount and timing of each resource addition will be based on market solicitations and may vary from the company's IRP modeling. The IRP also consists of eight action items including: (1) Implementing the company's solar portfolio and newest Geaux Green Tariff; (2) Complete its two outstanding RFPs, such as the 2021 RFP for 600 MW of solar and optional battery storage and the 2022 RFP for 1,500 MW solar, additional wind resources, and optional battery storage; (3) Continuing issuing sizeable and frequent renewable RFPs; (4) Continue to monitor the development of proposed revisions to the Cross-State Air Pollution Rule (CSAPR) and look for opportunities to advocate for final ruling that limits the risk of additional pollution control investment costs/revisions to the company's current plans; (5) Explore solving some of the company's energy and capacity deficits with DG and/or other customer solutions; (6) Continue participating in commission rulemakings on resource planning, reliability,	Docket No. I-36181 2023 IRP Draft Report

				and resource adequacy; (7) Explore more demand-side management opportunities; and (8) Pursue power resiliency through soon-to-be-filed Protect Louisiana Plan, highlight the company's pursuit for resiliency acceleration through electric system hardening projects. The utility also notes that it might consider joining the Southwest Power Pool (SPP) if electric cooperatives in the state continue to rely on the Midcontinent Independent System Operator's (MISO) planning resource action for a significant share of their planning reserve margin requirements, instead of physical capacity. On March 8, 2023, the Commission staff filed a staff report detailing issues that still remain in the draft IRP, including a number of recommendations for Entergy Louisiana such as: reporting CO_2 emissions for all portfolios and futures, incorporating IRA tax credits into assumptions, make use of all the futures in determining the preferred portfolio and not betting on one specific future, among others.	
	SWEPCO	TBD	TBD	In January 2022, SWEPCO requested to initiate its IRP process. On March 29, 2023, SWEPCO filed its draft IRP. The filing only included exhibits and appendices, including distributed generation (DG) projections for SWEPCO's business in the state. The projections detail that the company will plan to have a total of about 36 MW of in service DG capacity and 5,757 DG resources by 2042.	Docket No. I-36242
MI	DTE Electric	By 2042: • Wind: 8,900 MW • Solar: 6,500 MW	By 2042: • Coal: 2,086 MW (1,535 in 2028,	DTE filed its IRP on November 3, 2022. The proposed course of action includes: 6,500 MW of solar; 8,900 MW of wind; 1,810 MW of battery storage;	Docket No. U-21193 IRP

	• Storage: 1,810 MW • Natural Gas: 946 MW	1,531 in 2035) • Coal-to-Gas Conversion: 1,270 MW (then retired in 2040)	1.5%/year of energy waste reduction; and 38 MW of conservation voltage reduction/volt-var optimization. The plan also proposed converting Belle River from a 1,270 MW coal-fired baseload plant to a 1,270 MW natural gas-fired peaker plant in 2025 (Unit 1) and 2026 (Unit 2), then retiring the peaker plant by 2040. The plan also proposed retiring the Monroe Power Plant Units 3 and 4 in 2028, which are 1,535 MW of coal-fired generation, and Units 1 and 2 in 2035, which are 1,531 MW; Units 1 and 2 would be replaced by 946 MW of low or zero-carbon dispatchable energy (currently a natural gas combined cycle turbine with carbon capture and sequestration).	
Indiana Michigan Power	Proposed by 2041: • Natural Gas: 2,820 MW • Solar: 2,200 MW • Wind: 1,600 MW • Storage: 60 MW Approved by 2028: • Carbon-Free Resources (e.g., solar and wind): 2,160 MW • Dispatchable Resources (e.g., natural gas): 750 MW • Storage: 255 MW	• Coal: 2,600 MW (1,300 MW in 2024, 1,300 MW in 2028)	Indiana Michigan Power Company filed its IRP on February 28, 2022. The preferred portfolio in the plan includes the addition of: 1,600 MW of wind through 2038; 1,900 MW of solar through 2041; 300 MW/60 MW of solar + storage in 2027; 1,070 MW of natural gas combined cycle in 2037; and 1,750 MW of natural gas combustion turbine through 2040. The preferred plan also includes the retirement of Rockport Unit 1 by 2028 and Unit 2 by 2024. A settlement agreement was filed on November 14, 2022. The agreement replaced all the proposed targets with two overarching, non-specific targets: 2160 MW Installed Capacity of carbon-free resources (e.g. solar, wind) through 2028 and 750 MW installed capacity of fully dispatchable resources (e.g. natural gas combustion turbines, explicitly excludes coal and new combined cycle)	Docket No. U-21189 Settlement Agreement Order

				through 2028. For carbon-free resources, at least 30% should come from purchased power agreements, and around 70% from company-owned additions, if feasible; I&M could earn a performance incentive if over 50% of capacity additions come from PPAs. The settlement also included 255 MW installed capacity of storage by 2028, to replaced planned 250 MW of combustion turbine additions. The storage must have a minimum dispatchability of 4-hour increments in a 24-hour period. The storage could be either standalone or renewable-plus-storage; if renewable-plus-storage, the renewable generators could count towards the utility's target for new carbon-free resources. If storage resources are unavailable or not economically feasible, the utility could seek additional carbon-free resources. The agreement approved the timeline for the Rockport retirement. The Commission filed an order on February 2, 2023 approving the settlement agreement in full.	
MN	Minnesota Power	Proposed by 2026: • Wind: 200 MW • Solar: 200 MW Approved by 2026: • Wind: 300-400 MW • Solar: 300 MW • Storage: 100-500 MWh	Proposed: • Coal: 350 MW (2029) Approved: • Coal: 632 MW (350 MW in 2029, 582 MW in 2035)	Minnesota Power filed its 2021 IRP in February 2021. In January 2023, the Commission filed an order approving Minnesota Power's 2021 Plan and setting additional requirements. The order directs the utility to acquire 300-400 MW of wind with 200 MW operable by 2026. The Commission directs Minnesota Power to acquire up to 300 MW of solar and storage demonstration projects of at least 100 MWh and up to 500 MWh by 2026. Minnesota Power is instructed to use an RFP bidding process for future resource acquisitions and provide the Department of Commerce and other	Docket No. 21-33 2021 IRP Order (January 2023)

				stakeholders with notice of RFP issuances.	
	Otter Tail Power	By 2037: • Solar: 400 MW • Wind: 350 MW Storage: 25 MW	By 2037: • Coal: 405 MW • Fuel Oil: 62.2 MW	On March 31, 2023, Otter Tail Power filed a 2023-2037 supplemental resource plan which revised some of the estimates and plans from its 2021 IRP filing from August 2021. Otter Tail's preferred portfolio includes solar capacity additions of 100MW in 2027, 2028, 2030, and 2032, 400 MW total. The utility's preferred portfolio also includes 200 MW of wind in 2029, 150 MW of wind in 2031, and a battery capacity addition of 25 MW in 2032.	Docket No. 21-339 Supplemental Resource Plan (March 2023)
MO	Empire District Electric	By 2038: • Solar: 470 MW • Storage: 290 MW • Natural Gas: 16.6 MW	• Natural Gas: ~30 MW (2025) Expiring PPAs: • Wind: 255 MW	Empire District Electric Company filed its 2023 updates to its IRP on March 29, 2023. The utility's preferred plan through 2041 includes 5 MW of distributed storage, 50 MW of utility-scale storage, 12 MW of distributed solar + storage (4 MW of which would be the storage component), and 705 MW of utility-scale solar + storage (235 MW of which would be the storage component). The utility noted that changes may occur to its storage projects due to the Inflation Reduction Act. The updates also altered the replacement project for Riverton Units 10 and 11; instead of using 30 MW of reciprocating internal combustion engines, the replacement will use two 13.3 MW combustion turbines, which would also allow for hydrogen blending in the future. The replacement is expected to be completed in 2025. The update also noted that two wind farm PPAs are set to expire in 2025 and 2028, totaling 255 MW.	Docket No. EO-2023-0294 2023 IRP Annual Update

	Evergy Missouri Metro	TBD	TBD	On January 4, 2023, Evergy Missouri Metro filed a request to extend the deadline for its 2023 IRP filing to June 2023. The Commission approved the request on February 16, 2023.	Docket No. EO-2023-0212
	Evergy Missouri West	TBD	TBD	On January 4, 2023, Evergy Missouri West filed a request to extend the deadline for its 2023 IRP filing to June 2023. The Commission approved the request on February 16, 2023.	Docket No. EO-2023-0213
MS	Entergy Mississippi	TBD	TBD	Entergy Mississippi filed its mid-cycle supply-side update to its 2021 IRP in February 2023. In May 2023, the utility filed a notice initiating its next IRP cycle. The utility is requesting a delay to file the IRP on August 15, 2024 and hold a public workshop on August 15, 2023.	Docket No. 2019-UA-232
	Mississippi Power	TBD	TBD	Mississippi Power filed a notice in March 2023 initiating its next IRP cycle. The utility is planning to file the IRP by April 15, 2024. An initial public workshop was held on March 31, 2023.	Docket No. 2019-UA-231
MT	NorthWestern Energy	TBD	TBD	On November 23, 2022, NorthWestern Energy submitted a notice of filing for their 2023 IRP. The utility plans to file the IRP with the Commission on March 31, 2023. In October 2022, NorthWestern provided a draft to its Electric Technical Advisory Committee (ETAC) for comments. The March 2023 filing allows for NorthWestern to conduct additional modeling in response to ETAC'S comments. In March 2023, NorthWestern updated the IRP filing date to April 28, 2023.	Docket No. 2022.11.102
NC	Dominion Energy	Plan B (By 2037): • Solar: 13,692 MW • Storage: 2,620 MW	Plan B (By 2037): • Coal: 1,900.9 MW • Oil: 1,062 MW	Dominion filed its 2022 IRP update in September 2022. In the 2020 Plan and the 2021 Update, Dominion presented three alternative plans. In this 2022 Update, Dominion has added two additional alternative	Docket No. E-100 Sub 182 IRP

	• Wind: 2,600 MW Plan B (By 2047): • Solar: 25,692 MW • Storage: 3,070 MW • Wind: 2,600 MW • Nuclear: 1,140 MW	• Biomass: 213.2 Plan B (By 2047): • Coal: 3,563.3 MW • Oil: 1,062 MW • Coal/Biomass: 668 MW • Biomass: 213.2 MW	plans for a total of five alternative plans. Each plan covers the 15-year period from 2023 to 2037, using 2022 as the base year. In certain instances, the plan evaluates the longer 25-year period of 2023 to 2047. Plan A is a least-cost plan that meets only applicable carbon regulations and Virginia's RPS requirements of the Virginia Clean Economy Act (VCEA) of 2020, and does not meet the development targets for solar, wind, and energy storage resources in Virginia established through the VCEA. Plan B includes the significant development of solar, wind, and energy storage resources envisioned by the VCEA. Plan B also retains natural gas generation to address future system reliability, and stability. Plan C is like Plan B, but all new generation resources were selected on a least-cost optimization basis without regard for the development targets for solar, wind, and energy storage resources in the VCEA. Plan D uses similar assumptions as Plan B but retires all company-owned carbon-emitting generation by the end of 2045, resulting in zero CO2 emissions from Dominion's fleet in 2046. Plan D also includes the addition of 6,000 MW of incremental energy storage and more than 1,000 MW of incremental small modular reactors, plus it has Dominion purchasing 5,000 MW of capacity in 2045 and beyond. Plan E also retires all company-owned carbon-emitting generation by the end of 2045, but all new generation sources were selected on a least-cost basis without regard for the solar, wind, and energy storage targets in the VCEA.

	Duke Energy Carolinas, Duke Energy Progress	TBD	TBD	The Commission opened a new proceeding in March 2023 for the biennial consolidated Carbon Plan and Integrated Resource Plans (CPIRP) of Duke Energy Carolinas and Duke Energy Progress. Duke is to file its first biennial CPIRP by September 1, 2023.	Docket No. E-100 Sub 190
	Duke Energy Carolinas, Duke Energy Progress	TBD	TBD	The Commission opened a new proceeding in March 2023 for the purpose of receiving information regarding Duke's stakeholder process conducted in developing its proposed Carbon Plan and Integrated Resource Plan (CPIRP). Duke held its first Carolinas Resource Plans stakeholder meeting on February 22, 2023, during which it provided an overview of pre-filing stakeholder engagement plans and the Companies' dual-state IRP process, followed by a technical discussion of the on load forecasting methodology and key drivers. Duke held additional meetings on March 16 and March 22, 2023.	Docket No. E-100 Sub 190S
ND	Otter Tail Power	By 2037: • Solar: 400 MW • Wind: 350 MW Storage: 25 MW	By 2037: • Coal: 405 MW Fuel Oil: 62.2 MW	In March 2023, Otter Tail Power filed a supplemental update to its 2021 IRP filing. The supplemental filing serves to update the original filing to account for recent developments. Included in the filing was a 2023-2037 supplemental resource plan which revised some of the estimates and plans from its 2021 IRP filing from August 2021. Otter Tail's preferred portfolio includes solar capacity additions of 100MW in 2027, 2028, 2030, and 2032, 400 MW total. The utility's preferred portfolio also includes 200 MW of wind in 2029, 150 MW of wind in 2031, and a battery capacity addition of 25 MW in 2032. The filing also mentions future plans to retire two coal	Docket No. PU-21-380 Supplemental Filing

				plants the first in 2041 and the second in 2046, the combined capacity retired will be about 405 MW.	
NE	Nebraska Public Power District	Case #1 by 2052: • Natural Gas: 2,240 MW • Wind: 1,800 MW • Solar: 1,125 MW	Case #1 by 2052: • Coal: 1,365 MW (2050) • Nuclear: 770 MW (2034 - license expires) • Coal-to-Natural Gas Conversion: 225 MW (2028)	On March 3, 2023, the Nebraska Public Power District released its draft IRP. The draft include various emissions scenarios through 2050: one business-as-usual, one net-zero by 2050, and one net-zero by 2035. Within each scenario, different test cases were extrapolated. The 54 test cases looked at cumulative capacity additions through 2035 and through 2052 using combined cycles, combined cycles with carbon capture, combustion turbines, small modular reactors, wind, solar, and 4-hour batteries. Combined cycles, combustion turbines, solar, and wind were all used in almost all of the test cases. Small modular reactors were used in three test cases, combined cycles with carbon capture in four, and batteries in nine. Comments on the draft were due by April 12, 2023.	Program Webpage Draft IRP
NM	PNM	TBD	TBD	PNM is conducting stakeholder meetings in advance of filings its 2023 IRP. A kick-off meeting was held in March 2023. The utility plans to file its 2023 IRP on December 15, 2023.	PNM Website
	Xcel Energy	TBD	TBD	On March 1, 2023, Xcel Energy (Southwestern Public Service) filed a notice that it intends to file its IRP around October 1, 2023. The rules governing IRP filing require Xcel to file on or before September 1, 2024, in order to stagger utilities' IRP dockets; Xcel is also requesting the right to file its IRP early. The Commission approved Xcel's request, but changed the new deadline to October 15, 2023.	Docket No. 23-00073-UT Order

NV	NV Energy	By 2041: • Natural Gas: 400 MW • Storage: 200 MW • Geothermal: 140 MW	• By 2041: • Natural Gas: 787.3 MW • Coal: 261 MW • Waste Heat: 7.5 MW • Diesel: 6 MW	In November 2022, NV Energy filed an application for approval of the Fourth Amendment to its 2021 IRP. The amendment includes a new fuel and purchase power price forecast, and some changes to its preferred plan. Its original preferred plan included 600 MW of solar paired with 480 MW of storage. Supply chain issues caused NV Energy to remove those projects from the preferred plan. The preferred plan in the Fourth Amendment to the 2021 IRP now includes 200 MW of storage, 140 MW of geothermal, and 400 MW of gas peaking. The plan also requests an extension of the current Commission-approved retirement dates for other fossil fuel generators. After accounting for the requested extensions, about 787.3 MW of natural gas, 7.5 MW of waste heat, and 6 WM of diesel are set to be retired within the planning horizon. The Commission issued a draft order in March 2023 approving Phase 1 of NV Energy's fourth amendment to its 2021 IRP.	Docket No. 22-11032 Fourth Amendment to the 2021 IRP
OR	Idaho Power	By 2040: • Storage: 1,685 MW • Solar: 1,405 MW • Wind: 700 MW • Energy Efficiency: 440 MW • Demand Response: 400 MW	By 2040: • Coal: 841 MW *(Of this, 357 MW is converted to natural gas in 2024 before retirement in 2034)*	Idaho Power filed its IRP in late December 2021. It covers a 20-year planning horizon from 2021 to 2040. Idaho Power selected a Preferred Portfolio and Short-Term Action Plan. The preferred plan includes 1,405 MW of solar generation, 1,685 MW of energy storage, and 700 MW of wind. The plan also includes a total of 841 MW in coal exists. 357 MW of that total will be converted into gas in 2024, that facility will then be retired in 2034. The Commission acknowledged the IRP in a January 2023 order.	Docket No. LC-78 2021 IRP Order (January 2023)
	PacifiCorp	By 2042: • Wind: 9,111 MW	By 2042: • Coal: 5,246 MW	In March 2023, PacifiCorp d/b/a Pacific Power, filed its 2023 IRP. It covers a 20-year	Docket No. LC 82

		• Storage: 8,095 MW • Solar: 7,855 MW • Energy Efficiency: 4,953 MW Nuclear: 1,500 MW • Clean Peaking: 1,240 MW • Demand Response: 929 MW	• Natural Gas: 2,660 MW	planning horizon from 2023 to 2042 and encompasses the company's six-state territory. The IRP includes plans to add a total of 9,111 MW of new wind resources, 8,095 MW of storage resources, 7,855 MW of new solar, and 500 MW of advanced nuclear in 2023 with an additional 1,000 MW of advanced nuclear in the long term. The IRP also includes the retirement or gas conversion of 22 coal-fired facilities. 13 of these facilities will be retired or converted by 2030 with an additional 7 by the end of 2032. The remaining two facilities will retire by 2039. These retirements/conversions will result in 1,153 MW of reduced coal-fired generation capacity by the end of 2025, and over 2,999 MW by 2032. PacifiCorp will also retire 2,660 MW of natural gas through 2042.	
	Portland General Electric	By 2030: • Wind: 1,334 MW • Solar: 756 MW • Storage: 232 MW • Demand Response: 228 MW • Energy Efficiency: 216 MW • Community-Based Renewables: 155 MW	N/A	In March 2023, Portland General Electric (PGE) filed its combined IRP and clean energy plan (CEP). The plan included a preferred portfolio through 2030 with 756 MW of solar, 232 MW of storage, and 1,334 MW of wind. The preferred portfolio also includes 228 MW of cost-effective demand response, 216 MW of cost-effective energy efficiency, and 155 MW of community-based renewable energy.	Docket No. LC 80 2023 CEP & IRP
SC	Dominion Energy South Carolina	By 2049: • Solar: 5,025 MW • Natural Gas: 1,708 MW • Storage: 1,500 MW	By 2049: • Coal: 1,284 MW	Dominion Energy South Carolina filed its 2023 IRP in January 2023. In preparing the IRP, Dominion modeled a total of 24 cases. It includes five Core Build Plans across the three most likely market scenarios, resulting in 15 core cases. It then includes 9 non-Core Build Plans to serve as	Docket No. 2023-9-E 2023 IRP

			either sensitivity cases or supplemental cases. Dominion chose the reference build plan as the preferred plan. It adds 8,333 MW of new capacity between 2023 and 2049, and retires 1,294 MW of coal capacity. It adds 5,025 MW of solar supplemented by a total of 1,600 MW of battery storage, 662 MW from a natural gas-fired combined cycle resource shared with Santee Cooper that could be built at one of two sites in the South Carolina Low Country, and two heavy-duty frame simple cycle combustion turbines totaling 523 MW each.	
Duke Energy Carolinas	By 2037: • Solar: 4,599 MW • Energy Efficiency & Demand Response: 1,971 MW • Natural Gas: 1,677 MW • Storage: 1,719 MW	By 2037: • Coal: 3,050 MW	Duke Energy filed its 2022 IRP Update in July 2022. In October 2022, the Office of Regulatory Staff recommended the Commission accept the update, and offered up several recommendations for Duke to include in its 2023 IRP. In February 2023, the Commission issued a Directive accepting the IRP Update, and adopting five of the Staff's recommendations for the 2023 IRP. In February 2023, Duke Energy also updated the Commission on its stakeholder engagement plans as it prepares its 2023 system-wide Carolinas Resource Plans. It intends to file its plan with the South Carolina Public Service Commission on August 15, 2023, and with the North Carolina Utilities Commission on September 1, 2023.	Docket No. 2021-10-E Docket No. 2019-224-E 2022 IRP Update Commission Directive
Duke Energy Progress	By 2037: • Solar: 5,945 MW • Natural Gas: 3,063 MW • Storage: 1,473 MW	By 2037: • Coal: 3,175 MW	Duke Energy filed its 2022 IRP Update in July 2022. In October 2022, the Office of Regulatory Staff recommended the Commission accept the update, and offered up several recommendations for Duke to include in its 2023 IRP.	Docket No. 2021-8-E Docket No. 2019-225-E 2022 IRP Update

		• Energy Efficiency & Demand Response: 1,461 MW		In February 2023, the Commission issued a Directive accepting the IRP Update, and adopting five of the Staff's recommendations for the 2023 IRP. In February 2023, Duke Energy also updated the Commission on its stakeholder engagement plans as it prepares its 2023 system-wide Carolinas Resource Plans. It intends to file its plan with the South Carolina Public Service Commission on August 15, 2023, and with the North Carolina Utilities Commission on September 1, 2023.	Commission Directive
SD	Otter Tail Power	By 2037: • Solar: 400 MW • Wind: 350 MW • Storage: 25 MW	By 2037: • Coal: 405 MW • Fuel Oil: 62.2 MW	In March 2023, Otter Tail Power filed a supplemental update to its 2021 IRP filing. The supplemental filing serves to update the original filing to account for recent developments. Included in the filing was a 2023-2037 supplemental resource plan which revised some of the estimates and plans from its 2021 integrated resource plan filing from August 2021. Otter Tail's preferred portfolio includes solar capacity additions of 100 MW in 2027, 2028, 2030, and 2032, 400 MW total. The utility's preferred portfolio also includes 200 MW of wind in 2029, 150 MW of wind in 2031, and a battery capacity addition of 25 MW in 2032. The filing also mentions future plans to retire two coal plants the first in 2041 and the second in 2046, the combined capacity retired will be about 405 MW.	Otter Tail Filing Supplemental Filing
UT	PacifiCorp	By 2042: • Wind: 9,111 MW • Storage: 8,095 MW • Solar: 7,855 MW	By 2042: • Coal: 5,246 MW Natural Gas: 2,660 MW	In March 2023, PacifiCorp d/b/a Rocky Mountain Power, filed its 2023 IRP. It covers a 20-year planning horizon from 2023 to 2042 and encompasses the company's six-state territory. The IRP includes plans to add a total of 9,111 MW of new wind	Docket No. 23-035-10 2023 IRP (Vol, 1) 2023 IRP (Vol. 2)

		• Energy Efficiency: 4,953 MW Nuclear: 1,500 MW • Clean Peaking: 1,240 MW • Demand Response: 929 MW		resources, 8,095 MW of storage resources, 7,855 MW of new solar, and 500 MW of advanced nuclear in 2023 with an additional 1,000 MW of advanced nuclear in the long term. The plan also includes 4,953 MW of energy efficiency and 929 MW of direct load control capacity. The IRP also includes the retirement or gas conversion of 22 coal-fired facilities. Thirteen of these facilities will be retired or converted by 2030 with an additional 7 by the end of 2032. The remaining two facilities will retire by 2039. These retirements/conversions will result in 1,153 MW of reduced coal-fired generation capacity by the end of 2025, and over 2,999 MW by 2032. PacifiCorp will also retire 2,660 MW of natural gas through 2042.	
VA	Appalachian power	By 2036: • Solar: 2,178 MW (Nameplate + Firm) • Wind: 1,281 MW (Nameplate + Firm) • Storage: 800 MW • Distributed Generation: 83 MW	N/A	On April 29, 2022, Appalachian Power Company (APCo) filed its 2022 IRP. The IRP indicates that APCo intends to release an RIP in 2022 for energy storage projects that could act at non-wires alternatives to additional infrastructure and to begin compliance with the 2020 Virginia Clean Energy Act. The Hybrid scenario in the IRP includes 220 MW in new utility-owned solar capacity, 204 MW in wind capacity, and third-party solar agreements up to 64 MW of capacity. APCo does not plan any unit retirements in the short- or near-term. On January 23, 2023, the Commission filed an order accepting APCo's IRP filing. The Commission directed APCo to include additional analysis in future IRP filings. APCo is instructed to evaluate and report on any limitations to forecasting and pricing which may limit the Company's ability	Docket No. PUR-2022-00051 Final Order

				to monetize capacity in PJM. The Commission reiterated that wind and solar capacity factors are required for future IRP filings. This IRP presented customer rate impacts to Virginia and West Virginia customers combined, the Commission directed APCo to include Virginia-specific bill analyses.	
WA	Avista Utilities	By 2045: • Wind: 945 MW • Renewable Fuel: 696 MW • Storage: 170 MW	By 2045: • Natural Gas: 227.6 MW • Coal: 222 MW	Avista Utilities filed its 2021 IRP for Idaho and Washington on April 1, 2021. The preferred resource strategy includes the deployment new wind, and solar-plus-storage capacity. The plan includes 100 MW in wind capability being added in 2023, 2024, 2028, and 2041. In 2038, 100 MW of solar with storage (50 MW) capacity will be added, between 2042 and 2043, 239 MW of solar with storage (119 MW), and in 2045, 149 MW of solar with storage (75 MW) will be added. The plan also assumes the retirement of 247 MW of coal by 2025, 61.2 MW of natural gas by 2035, and an additional 24.6 MW of natural gas by 2040. In early April 2022, Avista filed its 2023 Electric IRP Work Plan, which outlines the process Avista will follow to develop its 2023 Electric IRP for filing with the Washington and Idaho Commissions by June 1, 2023. The 2023 IRP process will be similar to those used to produce the previous IRPs and will incorporate any resource acquisitions from the 2022 All Source Request For Proposals and meet capacity requirements as set by the Northwest Power Pool's Western Resource Adequacy Program. In January 2023, Avista filed its 2023 IRP Progress Report. The report included a Placeholder Resource Strategy until the full	Docket No. UE-200301

			2023 IRP is filed. In Washington, these resources include 1,341 MW of wind, 137 MW of short duration storage, and 670 MW of long duration storage by 2045. In April 2023, Avista filed a draft of its 2023 IRP. The preferred resource strategy is divided by timelines. The resource selection for 2024-2035 includes 400 MW of wind by 2032. A more detailed resource selection exists for 2036-2045. The selection includes 696 MW of renewable fuel, 170 MW of long duration storage, and 300 MW of wind, along with an additional 245 MW in wind PPA renewal. No mention of solar was made in the resource selection. The plan also accounts for the retirement of 222 MW of coal by 2025 and 277.6 MW of natural gas by 2044.	
PacifiCorp	2023 CEIP Update (by 2040): • Solar/Solar-Plus-Storage: 6,033 MW (System) / 448 MW (WA) • Wind/Wind-Plus-Storage: 3,564 MW (System) / 430 MW (WA) • Standalone Storage: ~1,399 MW *(total not explicitly stated)* • Nuclear: 1500 (System) /	2023 CEIP Update (by 2040): • Coal: Eliminated from WA allocation by 2026	PacifiCorp filed its Draft Clean Energy Implementation Plan in November 2021. The plan lists the specific actions PacifiCorp will take over the next four years to move toward the 2030 and 2045 clean energy targets. PacifiCorp plans to meet the targets primarily through its 2021 IRP preferred portfolio. The plan includes adding 3,628 MW of new wind and 5,628 MW of new solar co-located with storage over the next 20 years, along with 500 MW of advanced nuclear by 2028 and an additional 1,000 MW of advanced nuclear through 2040. By the end of 2024, the company plans to procure 1,302 MW of solar, 697 MW of battery storage (497 MW paired with solar and 200 MW standalone), and 1,792 MW of wind. The plan also includes coal unit retirement and gas peaker conversions that will	Docket No. UE-210829

	60 MW (WA) • Clean Peaking: 1,422 MW (System) / 67 MW (WA) • Pumped Storage: 500 MW (System) / 25 MW (WA) By 2025: • Energy Efficiency: 212,431 MWh • Demand Response: 37.4 MW		provide a coal-fired generation capacity reduction of 1,300 MW by 2025, 2,200 MW by 2030, and over 4,000 MW by 2040. It also notes 1,554 MW of natural gas retirements through 2040. Along with its filing, PacifiCorp filed a petition for an exemption from WAC 480-100-605, which requires that the "alternative lowest cost and reasonably available portfolio" include the social cost of GHG emissions in the resource acquisition decision. The Commission denied PacifiCorp's petition on December 13, 2021. PacifiCorp filed its final Clean Energy Implementation Plan in December 2021. In March 2023, PacifiCorp filed a revised version of its 2021 CEIP. PacifiCorp system and Washington-allocated capacity additions are noted to the left.	
Puget Sound Energy	By 2045: • Solar: 4,812 MW • Wind: 4,450 MW • Storage: 2,617 MW • Hydrogen: 877 MW • Energy Efficiency: 818 MW • Biodiesel: 711 MW • Demand Response: 446 MW	By 2045: • Natural Gas-to-Hydrogen Conversion: 2,056 MW • Coal: 370 MW	In January 2021, PSE filed a draft of the 2021 IRP. The preferred portfolio includes a total of 3,547 MW of DERs and 4,462 MW of renewable resources by 2045. The draft plan also mentions the coal retirements equal to 750 MW towards the end of 2025 and beginning of 2026. The final IRP was filed in April 2021. The final plan decreased the total planned DER to 3,222 MW and renewable resources to 4,428 MW. The renewable resources will consist of 3,250 MW of wind, 698 MW of solar, 105 MW of biomass, and 375 MW of renewable + storage hybrid. In March 2023, PSE filed a 2023 Electric Progress Report. The preferred portfolio in this filing consisted of 2,392 MW of DER, 3,650 MW of wind, 2,290 MW of solar, 1,748 MW of hybrid, and 1,800 MW of standalone storage by 2045. This plan includes the	Docket No. UE-200304 2023 Electric Progress Report

				assumption of 370 MW of coal by the end of 2025.	
	Puget Sound Energy	By 2025: • Wind: 500 MW • Solar: 380 MW • Storage: 75 MW • Demand Response: 23.7 MW • Energy Efficiency: 1,073,434 MWh	N/A	Puget Sound Energy filed its Clean Energy Implementation Plan (CEIP) in December 2021. The plan includes planned capacity additions of 800 MW of utility-scale renewables (500 MW of wind and 300 MW of solar), plus 80 MW of distributed solar, 50 MW of utility-scale storage, and 25 MW of distributed storage by 2025. The plan also includes energy efficiency targets of 536,717 MWh for 2022-2023 and 536,717 MWh for 2024-2025, as well as a demand response target of 23.7 MW by 2025.	Docket No. UE-210795 2021 CEIP
WY	Rocky Mountain Power	By 2042: • Wind: 9,111 MW • Storage: 8,095 MW • Solar: 7,855 MW • Energy Efficiency: 4,953 MW Nuclear: 1,500 MW • Clean Peaking: 1,240 MW Demand Response: 929 MW	By 2042: • Coal: 5,246 MW Natural Gas: 2,660 MW	In March 2023, PacifiCorp d/b/a Rocky Mountain Power, filed its 2023 IRP. It covers a 20-year planning horizon from 2023 to 2042 and encompasses the company's six-state territory. The IRP includes plans to add a total of 9,111 MW of new wind resources, 8,095 MW of storage resources, 7,855 MW of new solar, and 500 MW of advanced nuclear in 2023 with an additional 1,000 MW of advanced nuclear in the long term. The IRP also includes the retirement or gas conversion of 22 coal-fired facilities. 13 of these facilities will be retired or converted by 2030 with an additional 7 by the end of 2032. The remaining two facilities will retire by 2039. These retirements/conversions will result in 1,153 MW of reduced coal-fired generation capacity by the end of 2025, and over 2,999 MW by 2032. PacifiCorp will also retire 2,660 MW of natural gas through 2042.	Docket No. 17272
	Rocky Mountain Power	• CCUS: retrofitting three coal units	N/A	In March 2023, Rocky Mountain Power filed its first update to its low-carbon electricity generation portfolio. In 2020,	Docket No. 17277

			H.B. 200 created new statutes requiring low-carbon electricity generation portfolio standards for public utilities to maximize the use of carbon capture, utilization and storage (CCUS) technology. The company's initial application, filed in 2022, included an analysis of CCUS technology on its coal-fired generation units and determined it was not economically or technically feasible at the time. However, it did identify three units as potentially suitable for CCUS and determined that amine was the most suitable and mature CCUS technology available. The company filed its original RFP in 2022 and RFI in 2023. This update states that the company's three previously mentioned units remain as potentially suitable candidates for CCUS and are being further analyzed under the RFP process. Rocky Mountain Power will file its final low carbon portfolio standard plan by the end of March 2024 which, if technically and economically feasible, will include a proposed energy portfolio standard and a plan for achieving that standard.

Table 13. Updates on Electric Generation Capacity Changes (Q1 2023)

State	Utility	Generation Capacity Change	Description	Source
CA	Liberty Utilities	• Solar: 60 MW • Storage: 240 MWh	Liberty Utilities filed an application in early April 2021 to finance, construct, and operate the Luning Expansion Project, a combined 60 MW solar facility and 240 MWh lithium-ion battery storage facility. In September 2022, Liberty Utilities and the Public Advocates Office filed a motion for adoption of an All-Party Settlement Agreement, which approves the project.	Docket No. A-21-04-006
CA, ID, OR, UT, WA, WY	PacifiCorp	• Renewables: 1,345 MW • Storage: 600 MW	PacifiCorp issued its 2022 all-source RFP in late April 2022, targeting 13,45 MW of new renewables and 600 MW of co-located energy storage, based on its 2021 IRP. Proposals were due by March 14, 2023.	2022 All-Source RFP Website
CO	Xcel Energy	• All Renewables, Dispatchable Resources, & Utility-Owned Projects: 1,556 MW	Xcel Energy filed an application for approval of its 2021 Electric Resource Plan (ERP) and Clean Energy Plan (CEP) on March 31, 2021. A partial settlement agreement was filed on November 24, 2021, with an updated version filed on April 26, 2022. The Public Utilities Commission filed a decision on August 3, 2022 approving the settlement agreement and ERP with modifications. In the decision, the PUC authorized Xcel to implement a competitive bidding process for acquiring cost-effective resources and approved Xcel's bid evaluation process, allowing Xcel to begin the RFP process. Xcel Energy issued three RFPs on December 1, 2022: one for utility-owned projects, one for dispatchable generation, and one for renewable resources. The RFPs are together aiming for a total of 1,556 MW of capacity to be in commercial operation by the end of 2028; in addition to the RFPs, 3,682 MW will be filled by resources in 2029 and 2030 (the present RFPs are not covering capacity needs for these years). Proposals were due by March 1, 2023. The PUC's decision on chosen projects is expected in September 2023.	Docket No. 21A-0141E RFP Website
	Xcel Energy	• Coal-to-Natural Gas Conversion:	In December 2022, Xcel Energy filed an application for a Certificate of Public Convenience and Necessity to convert its	Docket No. 22A-0563E

		505 MW (by 2026)	Pawnee Generating Station from coal to natural gas. The utility plans to convert the 505 MW facility to natural gas operations by December 2025.	
	Xcel Energy	Retirement (2024; not currently operating): • Hydro: 750 kW	On March 1, 2023, Xcel Energy filed an application to decommission its Salida Unit 1 hydroelectric facility. Xcel is requesting a declaratory ruling that Commission authorization is not required to decommission the facility; it also filed a complete application in case authorization is required. Salida Unit 1 has not operated since 2009.	Docket No. 23A-0141E
CT	State	• Offshore Wind: TBD • Zero-Carbon Resources: TBD	On August 31, 2022, the Department of Energy and Environmental Protection released the state of Connecticut's 2022 procurement plan update. The update summarized changes that occurred since the IRP was released in 2020, e.g. new incentives from the Inflation Reduction Act, and the statutory enactment of a 100% zero-carbon electricity sector by 2040. Therefore, the Department has decided to speed up the timeline for procurements. In H2 2022, the Department will conduct RFPs for solar, transmission, energy storage systems, and anaerobic digesters. On March 7, 2023, the Department of Energy and Environmental Protection announced two procurements for grid-scale zero-carbon energy sources in 2023. One procurement will be for zero-carbon electricity generating resources that deliver incremental power into ISO-NE; eligible sources include energy efficiency, demand response, zero carbon fuel cells, geothermal, run-of-river hydropower, landfill methane gas, offshore wind, onshore wind, solar, and energy storage. The second procurement will be specifically for offshore wind. A public information meeting was held on March 29, 2023. Written comments were due by April 12, 2023. The RFPs have not yet been released.	Program Webpage 2022 Update Press Release
GA	Georgia Power	• Renewables: 1,050 MW (2023 RFP) and 1,050 MW (2025 RFP)	On November 30, 2022, Georgia Power Company filed a Clean and Renewable Energy Subscription (CARES) program that is compliant with the requirements of the 2022 IRP Final Order in Docket No.	Docket No. 44847

		44160. The application for approval of the program was filed on December 8, 2022, including the associated CARES-1 and CARES Carbon Free Energy - Around the Clock (CFE-ATC-1) tariffs. The program is designed to provide commercial and industrial customers the option to support renewable energy development in the state. The program is a tariffed program that will enable such customers to subscribe to a pro-rata share of renewable facility production procured through Georgia Power Company's RFP process. CARES-1 is available to existing commercial and industrial customers that have a peak demand of 3 MW or greater or are adding incremental new electric load of 15 MW or greater; existing municipalities, universities, schools, and hospitals that have a peak demand between 1 - 3 MW; and new economic development customers that are adding incremental new electric load of 50 MW or greater. CFE-ATC-1 is available to existing or new commercial and industrial customers that are adding incremental new electric load of 25 MW or greater or currently taking Georgia Power service and have a minimum aggregate annual peak demand of 25 MW. Through the CARES portfolios, the company is seeking a cumulative production total of 2.1 GW through planned 2023 and 2025 RFPs. Procurement from Economic Development customers will be in addition to the procurement total. On January 24, 2023, the Georgia Public Service Commission filed an order approving the program.	
Georgia Power	• Biomass: 140 MW	In March 2023, Georgia Power Company filed its draft 2023 RFP for 140 MW of biomass.	Docket No. 44880 Draft RFP
Georgia Power	• Distributed Generation: TBD	In February 2023, Georgia Power Company opened a docket for its 2023 DG RFP.	Docket No. 44942
Georgia Power	• Renewables: 1,050 MW	In March 2023, Georgia Power Company opened a docket for its Clean and Renewable Energy Subscription (CARES) 2023 RFP. The 2023 RFP will procure 1,050 MW of renewable commercial and	Docket No. 45084

			industrial resources. Commercial operation is expected in 2026 and 2027.	
HI	HECO	• Variable Dispatchable Renewables: 1,390 GWh annually • Firm Renewables: 540 – 740 MW	In January 2023, HECO issued an RFP for firm renewable capacity on the islands of Oahu and Maui. The utility is seeking at least 965 GWH annually of variable dispatchable renewable energy for Oahu and at least 425 GWh annually for Maui. HECO is also seeking 300-500 MW of renewable firm capacity to be in service by 2029 and an additional 200 MW to be in service by 2033, as well as 40 MW to be in service on Maui by 2027. Proposals were due by April 20, 2023.	Press Release
ID	Idaho Power	TBD	In December 2021, Idaho Power filed an application for changes to its green tariff program, including renaming the program Clean Energy Your Way. Among the proposed changes would be offering a tailored renewable energy option ("Clean Energy Your Way – Construction") to large customers (those with special contracts and on the Large Power Service tariff). Participating customers would be able to work with the utility to select the renewable resource(s) and provide input on the size and location as well. The utility is also requesting approval to procure resources for this program outside of the current competitive bidding requirements. However, the utility still envisions using a competitive process to procure resources.	Docket No. IPC-E-21-40
	Idaho Power	• Storage: 72 MW	In February 2023, Idaho Power filed an application for a Certificate of Public Convenience and Necessity to acquire 72 MW of energy storage (a 60 MW utility-owned facility and a 12 MW utility-owned facility) to meet an expected capacity shortfall in 2024. The utility is also requesting approval for a 25-year PPA with a 100 MW solar PV facility.	Docket No. IPC-E-23-05
IN	Centerpoint	• Solar: 130 MW	In July 2022, Centerpoint (Southern Indiana Gas & Electric) filed a petition for a certificate of public convenience and necessity (CPCN) to acquire a 130 MW-AC solar facility. The Commission issued an order in January 2023, granting the CPCN.	Docket No. 45754
	Centerpoint	• Wind: Capacity Redacted	In January 2023, Centerpoint (Southern Indiana Gas & Electric) filed a petition for	Docket No. 45836

			a certificate of public convenience and necessity to acquire a wind facility. The capacity of the project is redacted in the utility's filing.	
	Centerpoint	• Solar: 191 MW	In February 2023, Centerpoint (southern Indiana Gas & Electric) filed a petition for a certificate of public convenience and necessity to acquire a 191 MW-AC solar facility.	Docket No. 45847
	Indiana Michigan Power	• Solar: 469 MW	In March 2023, Indiana Michigan Power filed a petition for a certificate of public convenience and necessity to acquire two solar facilities (245 MW and 224 MW). The utility is also requesting approval for two solar PPAs (100 MW and 180 MW).	Docket No. 45868
IN, MI	Indiana Michigan Power	• Solar: 850 MW • Wind: 800 MW • Natural Gas: 540 MW • Storage: 315 MW	On March 31, 2023, Indiana Michigan Power released its 2023 All-Source RFP. The RFP is seeking approximately 850 MW-AC of solar resources (300 MW-AC may be paired with up to 60 MW-AC of storage), 800 MW-AC of wind (may be paired with storage), 315 MW-AC of storage (up to 60 MW-AC may be paired with up to 300 MW-AC of solar), and 540 MW-AC of gas generation. Proposals are due by May 26, 2023.	IMP 2023 RFP
KS, MO	Evergy	• All Sources: 1,240 MW	In January 2023, Evergy issued an all-source RFP, seeking 1,240 of generation resources to be in operation by December 31, 2026. Eligible resources include wind, solar PV, standalone storage, storage paired with any generation asset, and natural gas. Proposals were due by February 28, 2023.	Evergy 2023 All-Source RFP Website
KY	Louisville Gas & Electric / Kentucky Utilities	• Natural Gas: 1,242 MW • Solar PPAs: 637 MW • Solar: 240 MW • Storage: 125 MW	Louisville Gas & Electric and Kentucky Utilities (LGE/KU) filed a joint application for approval of Certificates of Public Convenience and Necessity and Demand Side Management and Energy Efficiency Plans in December 2022. The application included capacity additions of two 621 MW natural gas combined cycle plants at LGE/KU's Mill Creek and Brown plants, construction of a 120 MW solar facility in Marion County, acquisition of a 120 MW solar facility in Mercer County, and constructing a 125 MW/4-hour battery energy storage system to be located at the Company's E.W. Brown generation site. The filing also contains solar PPAs	Docket No. 2022-00402

			totaling 637 MW-AC. In January 2023, the Commission set a public hearing schedule for August 22-25, 2023, with a decision to be rendered by November 6, 2023.	
LA	Entergy Louisiana	• Solar: 225 MW	In March 2023, Entergy Louisiana filed for approval and certification of its 2022 Solar Portfolio, and requested eligibility for inclusion of the portfolio resources for its Geaux Green Option. The 2022 portfolio is comprised of about 225 MW worth of solar.	Docket No. U-36685
	Entergy Louisiana	• Solar: 3,000 MW	In March 2023, Entergy Louisiana filed for approval of an application/certification to secure up to 3 GW of solar, expand the Geaux Green Option Rider, and for approval of a new renewable tariff.	Docket No. U-36697
	SWEPCO	• Solar: 200 MW	In May 2022, SWEPCO opened an application for certification of several renewable generation facilities, including certification and acquisition of a 200 MW solar facility in Mooringsport, Louisiana with a commercial operation date set for December 2025 (the other renewable projects include: 598.4 MW and 200.6 MW of onshore wind in Oklahoma and Texas, respectively), and approval of natural gas capacity purchase agreements (CPAs) for the remaining Southwest Power Pool (SPP) planning years of 2024-2027 (totaling 900 MW of short term natural gas) to help bridge the gap until the renewable projects come online (The Public Utilities Commission approved SWEPCO's CPA for the 2023 planning year in January 2023, specifically a 250 MW PPA with Oneta Power in a previous docket (See Docket No. U-36349)). On March 23, 2023, a joint stipulation was filed by SWEPCO and Commission Staff, which stated that the Commission should approve the natural gas CPAs and acquisition of the renewable facilities, including the 200 MW in Louisiana, among other minor details.	Docket No. U-36385
MA	State	• Offshore Wind: TBD (3,600 MW in May 2023 draft RFP)	In February 2023, the Massachusetts Department of Energy Resources (DOER) requested public comment on the state's fourth-round solicitation for offshore wind projects. The questions for public comment included what the maximum	Request for Public Comment Draft RFP

			procurement target should be for the upcoming solicitation. The DOER and utilities filed a draft RFP with the Department of Public Utilities in May 2023, seeking up to 3,600 MW of offshore wind capacity.	
ME	IOUs	• CHP: Up to 20 MW	In December 2022, the Public Utilities Commission opened a docket to request proposals for combined heat and power (CHP) projects. Projects cannot be less than 3 MW or more than 10 MW in net generating capacity, and the aggregated projects cannot total more than 20 MW in capacity. On March 23, 2023, bidders were notified via order that their proposals were accepted as complete applications for participation in the state's CHP program.	Docket No. 2022-00342 CHP RFP
MI	DTE Electric	• Wind and Solar: 850 MW	In January 2023, DTE Electric released an RFP for 850 MW of wind and solar projects to support its MIGreenPower program. Of this, 300 MW is to be in operation by March 31, 2025 and 550 MW by March 31, 2026. Bids were due by April 21, 2023.	Press Release
	Indiana Michigan Power	• Solar: 245 MW	In March 2023, Indiana Michigan Power filed an application for a Certificate of Necessity for the construction of a 245 MW utility-owned solar PV facility that will be located in Indiana. The project is expected to be operational by April 2026.	Docket No. U-21377
MN	Xcel Energy	• Storage: 10 MW/1,000 MWh	In March 2023, Xcel Energy filed a petition for approval for construction of a long-duration iron-air battery energy storage facility with a capacity of 10 MW / 1,000 MWh.	Docket No. 23-119
MO	Ameren Missouri	• Solar: 150 MW	In July 2022, Ameren Missouri filed an application for a certificate of convenience and necessity to build a 150 MW solar facility to be used as part of Phase I of its proposed Renewable Solutions Program.	Docket No. EA-2022-0245
NC	Duke Energy Carolinas	Combined DEC/DEP: • Solar: 2,350 MW • Paired Storage: 600 MW	In February 2023, the North Carolina Utilities Commission opened a proceeding for Duke Energy Carolinas' 2023 solar procurement, pursuant to the initial carbon plan. Duke filed its proposed RFP for solar and solar-plus-storage resources in April 2023, which it plans to issue in August 2023. The utility's RFP would	Docket No. E-7 Sub 1290 Proposed RFP

			seek to procure 2,350 MW of solar and 600 MW of paired storage resources (combined for Duke Energy Carolinas and Duke Energy Progress), pursuant to the Commission's order on the initial carbon plan.	
	Duke Energy Carolinas, Duke Energy Progress	• Renewables (solar initially): 4,000 MW	In January 2023, Duke Energy Carolinas and Duke Energy Progress filed a joint petition for approval of the Green Source Advantage Choice Program. The tariffs would make up to 4,000 MW of renewable energy capacity available to eligible customers (up to 2,200 MW of utility-owned generation and up to 1,800 MW of third-party owned generation). Initially, program capacity will be from solar resources approved as part of the utilities' 2022-2024 solar procurements, but program capacity may include wind in the future. The program will be open to large non-residential customers and include a non-energy storage option and an energy storage or other clean energy facility option (specified as other types of clean energy options that become available in the future). The storage option will allow participating customers to time-align their energy consumption with the renewable energy output.	Docket No. E-7 Sub 1289 Docket No. E-2 Sub 1314
	Duke Energy Progress	• Solar: 9.5 MW	In January 2023, Duke Energy Progress filed an application for a Certificate of Public Convenience and Necessity for a 9.5 MW-AC solar PV facility ("Asheville Plant Solar Facility").	Docket No. E-2 Sub 1311
	Duke Energy Progress	Combined DEC/DEP: • Solar: 2,350 MW • Paired Storage: 600 MW	In February 2023, the North Carolina Utilities Commission opened a proceeding for Duke Energy Progress' 2023 solar procurement, pursuant to the initial carbon plan. Duke filed its proposed RFP for solar and solar-plus-storage resources in April 2023, which it plans to issue in August 2023. The utility's RFP would seek to procure 2,350 MW of solar and 600 MW of paired storage resources (combined for Duke Energy Carolinas and Duke Energy Progress), pursuant to the Commission's order on the initial carbon plan.	Docket No. E-2 Sub 1317 Proposed RFP
ND	Xcel Energy	20-Year Extension of Life:	In February 2023, Xcel Energy filed an application for an advanced determination of prudence for an extension of the life of	Docket No. PU-23-064

		• Nuclear: 671 MW	the 671 MW Monticello Nuclear Generating Plant beyond its 2030 retirement date. The utility is seeking to extend the life of the plant for an additional 20 years.	
NJ	State	• Offshore Wind: 1,200 – 4,000 MW	On March 6, 2023, the New Jersey Board of Public Utilities opened the application window for the state's third solicitation for offshore wind capacity. The RFP is seeking 1,200 to 4,000 MW of offshore wind capacity in order to help meet the state's offshore wind target. The application window closes on June 23, 2023.	Press Release Third Solicitation for Offshore Wind
NM	PNM	• All Sources: TBD	In November 2022, PNM opened an all-source RFP for resources to begin operation by May 1, 2026 (bids due by January 5, 2023) and by May 2027 or 2028 (bids due by February 1, 2023).	PNM 2026-2028 RFP Summary
	Xcel Energy	• All Firm Sources: 947 MW	In November 2022, Xcel Energy opened an all-source RFP for resources, seeking a total of up to 947 MW of firm generation from all resource types. Bids were due by February 27, 2023.	Xcel Energy RFP
NV	NV Energy	• All Sources: TBD	In January 2023, NV Energy issued an open resource RFP for long-term dispatchable energy and energy storage resources. Projects must be at least 20 MW. The utility is also specifically seeking non-renewable firm capacity and energy assets that may include storage and conventional generation to support system peak and renewables integration. Proposals were due by March 14, 2023.	NV Energy 2023 Open Resource RFP
NY	State	• Offshore Wind: 2,000 MW	In July 2022, NYSERDA opened the application period for its third offshore wind solicitation, seeking at least 2,000 MW of offshore wind capacity. The application window closed on January 26, 2023.	NYSERDA Website
OR	Idaho Power	• Variable Energy Resources: 1,100 MW • Peak Capacity: 350 MW	In September 2022, Idaho Power filed an application for approval of its 2026 All-Source Request for Proposals to meet its 2026 capacity resource need. Through the RFP, Idaho Power will see up to 1,100 MW of variable energy resources and a minimum of 800 MW of peak capacity. In February 2023, Idaho Power filed its final draft of its 2026 All-Source Request for	Docket No. UM 2255

			Proposals. In this new version, the minimum peak capacity was decreased to approximately 350 MW.	
	Pacific Power	• Renewables: 175 average MW	In March 2022, Pacific Power filed an application for a general rate increase including a proposed voluntary renewable energy tariff for non-residential customers (Accelerated Commitment Tariff). In February 2023, the Commission adopted a stipulation regarding the Accelerated Commitment Tariff. The stipulation specifies that the program will have a general participation cap of 175 average MW, which may later be increased if a customer with new load of 10 average MW or higher requests such. The stipulation states that the Commission's competitive bidding rules will apply and that the 2022 All-Source RFP may be used to identify resources. The utility cannot develop a utility-owned resource for the program without submitting a filing detailing accounting methods and safeguards, and the utility is to work with customers that have identified a potential program resource to evaluate it.	Docket No. UE 399 Order
	Portland General Electric	• All Sources: TBD	In January 2023, Portland General Electric (PGE) filed a notice of the commencement of the process for a 2023 All-Source RFP. The filing also includes a request for a partial waiver of the competitive bidding rules, including the selection and approval of an independent evaluator (IE), the review of scoring and modeling methodology, and the resource needs being identified in an acknowledged IRP. PGE is seeking to work with a previously approved IE, to have the scoring and modeling methodology review run parallel with the review of the draft RFP, and the 2023 RFP review process run parallel with the 2023 IRP and Clean Energy Plan docket.	Docket No. UM 2274
PR	PREPA	Tranche 1: • Solar (or energy-equivalent renewable): 1,000 MW • Storage: 500 MW/2,000 MWh Tranche 2:	On August 24, 2020, the Puerto Rico Energy Bureau approved PREPA's 2020 IRP and established the process for the next IRP filing. Since then, PREPA has been engaged in procurement processes for its 2020 IRP. Six tranches will take place in all. The Tranche 1 RFP was open from February 22 to June 18, 2021, and projects were chosen in December 2021.	Docket No. NEPR-MI-2020-0012

		• Solar (or energy-equivalent renewable): 500 MW • Storage: 250 MW/1,000 MWh	The chosen projects include 732.7 MW of solar and 220 MW of battery storage; later that month, PREPA filed notice of a contract for over 800 MW of solar through virtual power plants. The Bureau approved the chosen projects in April 2022. As of April 2023, the Tranche 1 contracts are still under negotiation due to various interconnection policy changes made by LUMA, the third party administrating PREPA. LUMA must release an interconnection facilities works RFP and select contracts before the procurement RFPs can be signed. On March 10, 2023 the Bureau ordered LUMA to complete the interconnection RFP process by July 1, 2023; if the Tranche 1 contracts are not formally signed by a certain date, they will expire. On March 31, 2023, PREPA filed a motion requesting the ability to change the contracts; economic developments since the contracts were chosen have led the proposed prices to not be cost-effective for the developers, and PREPA is not allowed to alter the contracts after they received Bureau approval. Because developers are now considering not signing the contracts due to the low prices, PREPA is requesting the right to alter the contracts to allow for higher prices. PREPA is also requesting that the expiration deadline for all contracts be extended to September 2023.	
RI	Rhode Island Energy	• Offshore Wind: 1,000 MW	In October 2022, Rhode Island Energy opened its 2022 RFP for offshore wind projects, seeking up to 1,000 MW of offshore wind capacity. Applications were due by March 13, 2023. One proposal for an 884 MW project was submitted through the solicitation.	Rhode Island Energy Website 2022 RFP
SC	Duke Energy Carolinas	Combined DEC/DEP: • Solar: 700 MW	In July 2022, the Commission opened a new proceeding for Duke Energy Carolinas (DEC) to explore the potential of a Competitive Procurement of Renewable Energy (CPRE) Program. In opening the proceeding, the Commission directed Duke Energy Carolinas to file responses to a series of questions about CPRE programs. Duke Energy Carolinas filed its response in September 2022, explaining that Duke Energy Carolinas	Docket No. 2022-239-E

			and Duke Energy Progress filed a joint solicitation to procure both utility-owned and third party owned solar facilities within the their combined balancing areas in South Carolina and North Carolina. The RFP was issued on June 20, 2022, and bids were due no later than July 22, 2022. Winning bids are expected to be announced in May 2023. Duke plans to award bids for at least 700 MW of solar through the RFP.	
	Duke Energy Carolinas, Duke Energy Progress	TBD	In October 2022, Duke Energy Carolinas and Duke Energy Progress filed a joint application to establish new customer renewable programs. Under the programs, the utility would generate or procure renewable energy through a competitive procurement process, and eligible customers could purchase clean energy environmental attributes. The Renewable Choice program would be available to large customers and include a standard offering and energy storage option. The storage option would allow participants to time-align their energy consumption with the renewable energy output.	Docket No. 2022-326-E
	Duke Energy Progress	Combined DEC/DEP: • Solar: 700 MW	In July 2022, the Commission opened a new proceeding for Duke Energy Progress (DEP) to explore the potential of a Competitive Procurement of Renewable Energy (CPRE) Program. In opening the proceeding, the Commission directed Duke Energy Progress to file responses to a series of questions about CPRE programs. Duke Energy Progress filed its response in September 2022, explaining that Duke Energy Carolinas and Duke Energy Progress filed a joint solicitation to procure both utility-owned and third party owned solar facilities within the their combined balancing areas in South Carolina and North Carolina. The RFP was issued on June 20, 2022, and bids were due no later than July 22, 2022. Winning bids are expected to be announced in May 2023. Duke plans to award bids for at least 700 MW of solar through the RFP.	Docket No. 2022-240-E
TN	Tennessee Valley Authority	Retirement (by 2028): • Coal: 2,470 MW	The Tennessee Valley Authority will replace its Cumberland coal plant with a 1,450 MW combined cycle natural gas	Press Release

		Addition (by 2026): • Natural Gas: 1,450 MW	plant facility. The facility will replace Cumberland's first unit by 2026, while the second unit's replacement has not been determined but will be replaced by 2028.	(January 2023)
TX	Entergy Texas	• Renewables: TBD	In July 2023, Entergy Texas filed a general rate case application including a Green Future Option to provide customer access to utility-scale renewables. A proposed settlement agreement filed in May 2023 approves the Green Future Option tariff.	Docket No. 53719
	Entergy Texas	• Solar and Wind (may be paired with storage): 2,000 MW	Entergy Texas released documents for its 2022 Renewables RFP, seeking up to 2,000 MW-AC of solar and wind resources, which may be paired with storage (500-1,000 MW by commencing service by May 31, 2026 and 1,000-1,500 MW commencing service by January 2, 2027). Proposals were due in February 2023.	Entergy Texas Website
VT	Green Mountain Power	• Storage: 3 MW/12 MWh	In September 2022, Green Mountain Power filed a joint petition with Vermont Electric Cooperative Inc. for joint ownership, installation, and operation of a 3 MW battery energy storage project. The Commission granted the 3 MW/12 MWh project a certificate of public good as part of a final order on March 9, 2023.	Docket No. 22-4009-PET
	Green Mountain Power	• Distributed Solar: 25 MW	In December 2022, Green Mountain Power opened its RFP for up to 25 MW of distributed solar capacity to benefit low- and moderate-income customer programs. Bid preferences are provided for projects benefitting communities that are marginalized, underserved, and overburdened by pollution. Proposals were due by January 26, 2023.	2022 Distributed VT Solar RFP
WA	Puget Sound Energy	• Distributed Solar: 80 MW • Distributed Storage: 25 MW	In December 2022, Puget Sound Energy filed its final distributed solar and storage RFP, seeking 80 MW of distributed solar and 25 MW of distributed storage to help comply with the state's clean energy standard. The application period opened in January 2023 and closed in mid-March 2023. The utility received 93 solar proposals totaling 121.83 MW, 19 storage proposals totaling 62.54 MW, and three solar-plus-storage proposals totaling 8.88 MW of solar and 3.55 MW of storage.	Docket No. UE-220971 Puget Sound Energy Website

Q2 2023 OUTLOOK

Most states will continue their legislative sessions in Q2 2023, with numerous power decarbonization bills still under consideration as of early May 2023. New legislation introduced in **Michigan** in Q2 2023 would establish a 100% renewable energy target to be achieved by 2035.

In April 2023, the Governor of **Maryland** signed S.B. 781 into law, which increases the state's offshore wind target to 8,500 MW by 2031. Bills related to **Virginia**'s offshore wind target are currently awaiting action by the Governor.

Lawmakers introduced several bills related to clean energy targets in early Q2 2023 in **Maine** and **North Carolina**. One bill introduced by Maine legislators would establish offshore wind targets for the state.

In **Montana**, NorthWestern Energy filed its 2023 integrated resource plan in late April 2023. CenterPoint Energy in **Indiana** has indicated that it will file its upcoming integrated resource plan by June 1, 2023.

In **South Carolina**, the Public Service Commission opened new proceedings for Duke Energy Carolinas' and Duke Energy Progress' upcoming integrated resource plans. In **North Carolina**, Duke Energy is to file its first biennial carbon plan and integrated resource plan by September 1, 2023.

Missouri's Evergy is planning to file its 2023 integrated resource plan in June 2023, while **Arizona** Public Service is planning to file its upcoming plan on August 1, 2023, and Xcel Energy is expected to file its **New Mexico** plan by October 15, 2023.

In April 2023, Dominion Energy **Virginia** issued an RFP for the acquisition of solar, onshore wind, and energy storage projects, with bids due by October 31, 2023 at the latest and preferably by August 1, 2023. An RFP for PPA proposals will be issued on September 1, 2023.

Also in **Virginia**, Appalachian Power issued an RFP for battery storage resources in May 2023, with proposals due by July 18, 2023. The utility also issued an RFP for wind and solar capacity in early April 2023, with proposals due by May 31, 2023.

Idaho Power released its draft 2026-2027 all-source RFP in early April 2023, which would solicit approximately 350 MW of peak capacity and 1,100 MW of variable energy resources. In **Massachusetts**, the Department of Energy Resources released its draft RFP for offshore wind capacity in early Q2 2023.

ENDNOTES

[1] Environmental Protection Agency (EPA), *Sources of Greenhouse Gas Emissions*. EPA, May 2023, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.

[2] Smart Electric Power Alliance (SEPA), *Utility Carbon-Reduction Tracker™*. SEPA, May 2023, https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-tracker/#:~:text=100%25%20carbon%2Dfree%20electricity%20by%20the%20end%20of%202030.&text=Carbon%20neutral%20scope%201%20and%202%20emissions%20by%202030.&text=Net%2Dzero%20scope%201%20and%202%20emissions%20by%202040.&text=Net%2Dzero%20CO2%20emissions%20by%202045.

[3] U.S. Energy Information Administration (EIA), *What is U.S. electricity generation by energy source?* U.S. EIA, February 2023, https://www.eia.gov/tools/faqs/faq.php?id=427&t=3.
U.S. EIA, Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2022). https://www.eia.gov/electricity/data/state/.

[4] U.S. EIA, *What is U.S. electricity generation by energy source?* U.S. EIA, February 2023, https://www.eia.gov/tools/faqs/faq.php?id=427&t=3.