



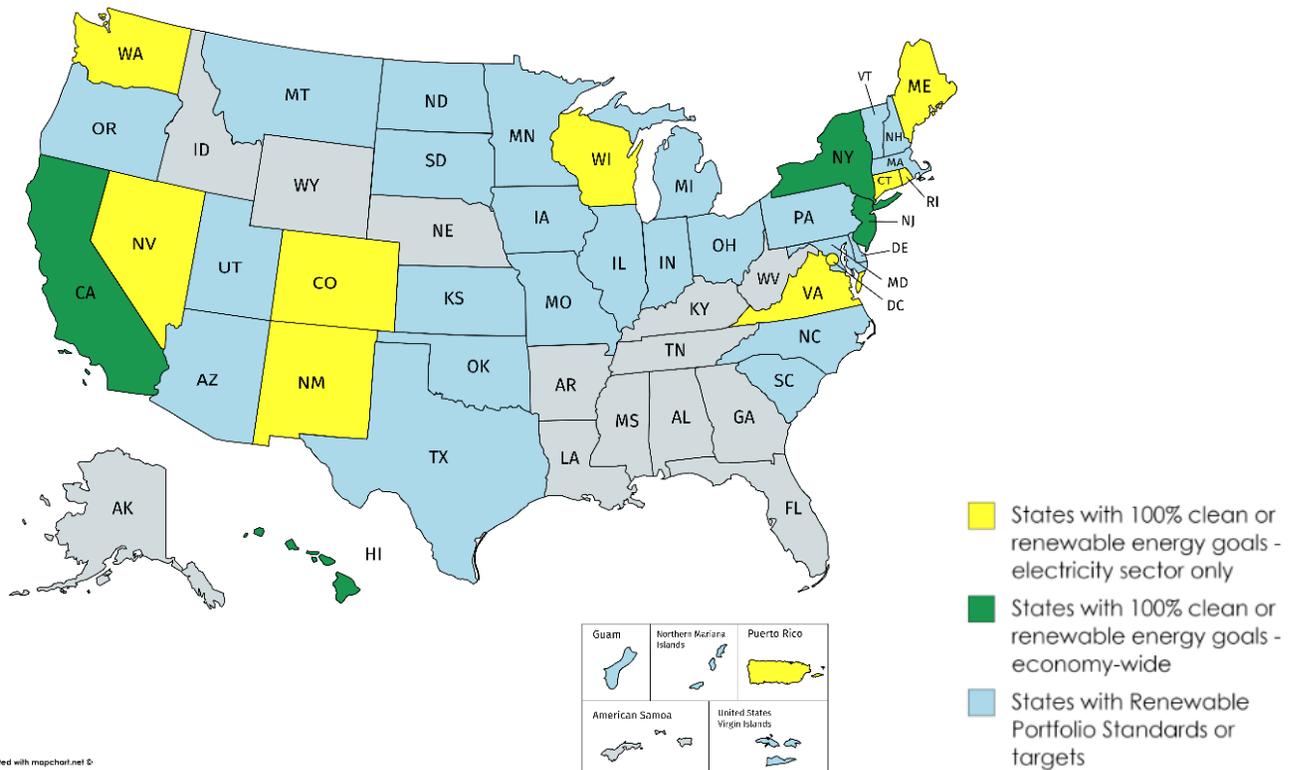
Governors Leading on Energy Transitions: An Overview of State Energy Goals

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Governors are leading on incentivizing and investing in clean energy. As of this writing, 30 states, Washington, D.C., and three territories have adopted a mandatory Renewable Portfolio Standard (RPS), while 7 states and one territory have set renewable energy goals.¹ Of these, 14 Governors and D.C. have ordered or signed into law 100 percent clean energy or zero-carbon electricity generation goals. This paper provides an overview of current Governor leadership on advancing clean energy. It provides a background on recent Governors’ actions ahead of a workshop that NGA will be hosting this fall that will help Governors’ energy advisors and other state energy policymakers explore, develop, and refine strategies to achieve their energy goals.

2016 and 2019 were the warmest years on record,² and 2020 is on track to be even warmer.³ As a result, states are seeing extreme weather events such as hurricanes, heat waves, wild fires, and winter storms increase in severity and frequency. Scientists attribute increases in extreme weather events to rising global temperatures, largely resulting from emissions from increased energy use. At the same time, the price of clean energy technologies⁴ is dropping and consumer demand for renewable and on-site generation is increasing. These factors, coupled with a desire for more diverse power generation and a greater focus on resilience, are driving many Governors to focus on clean energy resources.

U.S. Clean Energy Goals by State: July 2020



What Are State Clean Energy Goals?

Renewable Portfolio Standards and Clean Energy Standards (CES) are the two most common tools used by states to increase the share of low- or zero-emission resources. An RPS typically requires a specified percentage of electricity sales from investor owned utilities within a state come from renewable or clean energy resources and can also sometimes incorporate energy savings measures. Qualifying resources vary by state under an RPS, but traditionally included recently-installed technologies such as solar, on- and off-shore wind, small hydro, biomass and biogas-fueled generation, fuel cells, geothermal and tidal energy. A CES typically takes a more technology-neutral approach and often incorporates several tiers of low- to zero-carbon-emitting resources, in addition to new renewable resources like wind and solar. Separate standard tiers may incorporate resources like nuclear energy, small hydropower, energy storage, and existing waste to energy projects.

Having established these ambitious renewable, clean energy, or electricity sector decarbonization goals, Governors are now working to adopt the policies and regulatory strategies necessary to meet them. Reaching these new goals will require states to increase investments in existing strategies while also adopting new policies, regulations, and incentives to drive the adoption of clean technologies.

“...we have more potential to deploy renewable energy than anywhere else on the planet, and we have an obligation to make every possible effort to reach this 50% goal by 2025...It’s not just good for the environment, it’s good for Alaskans – it’s really the smart thing to do.”

Governor Mike Dunleavy
Alaska

There are a wide variety of energy policies and strategies being deployed around the country. The tools associated with these approaches include:

- Enhancing clean energy standards, adoption of energy storage targets, and offshore wind targets for coastal states;
- Modernization of electric grid infrastructure to integrate new technologies, balance variable generation with load, and automate systems to improve resilience and performance; and
- Rethinking the traditional regulatory structures and business models under which electric and gas utilities operate. This can include performance-based ratemaking, adopting time of use rates to create incentives for consumers to reduce energy usage during peak periods, and reducing barriers to the greater use of distributed and low-carbon energy resources.

Governors are also pursuing synergistic strategies to meet broader decarbonization goals. These strategies can include advancing electrification efforts such as the adoption of electric vehicles that rely on renewable generation and encouraging energy efficiency deployment across all sectors. Governors around the country are working closely with regulators and other energy stakeholders to transform the energy sector and are rethinking the way we finance energy projects, resource planning and grid modernization efforts, and the role of energy utilities.

Spotlights of State Clean Energy Goals

41 jurisdictions have renewable targets between 10 and 50 percent and 15 jurisdictions—**California, Colorado, Connecticut, D.C., Hawai'i, Maine, Nevada, New Jersey, New York, New Mexico, Puerto Rico, Rhode Island, Virginia, Washington, and Wisconsin**—have committed to 100 percent renewable or net zero carbon goals or requirements for the electricity sector. Some Governors, like NGA Chairman and New York Governor Andrew Cuomo and California Governor Gavin Newsom, have put economy wide decarbonization goals in place. Hawai'i is the only state to have a 100 percent renewable portfolio standard for electricity and a net-negative emissions decarbonized economy as early as practicable and no later than 2045.

By expanding beyond clean electricity goals, states like California, New York, and Hawai'i are also committing their transportation, commercial, and building sectors to similar emission-free futures. While some states are also considering these more expansive measures, most are focusing their efforts on setting ambitious goals for the electricity sector. Regardless of the scope or specifics of their goals, it has become clear that many states see the value of investing in cleaner generation.

New Mexico adopted legislation in March 2019 that increases the state's Renewable Portfolio Standards. The updated RPS requires 50 percent renewable energy by 2030, and achieving a zero-carbon resource standard by 2050 composed of at least 80 percent renewable energy.⁵ This legislative action reinforces an Executive Order issued by New Mexico Governor Michelle Lujan Grisham earlier in the year.⁶

In 2019, **New York** state passed the Climate Leadership and Community Protection Act,⁷ which establishes economy wide and electricity sector greenhouse gas reduction targets as well as renewable energy goals. Specifically, it mandates the state reach 70 percent renewable generation by 2030 followed by 85 percent emissions reductions across all sectors of the economy by 2050. The legislation grew out of Green New Deal legislation proposed by New York Governor Cuomo in January of that year. Working with state legislative leadership, Governor Cuomo led negotiations creating these ambitious targets, including a requirement that utilities generate emissions free electricity by 2040. The legislation also codifies Governor Cuomo's renewable energy goals of 9 gigawatts of offshore wind by 2035, 6 gigawatts of distributed solar by 2025, and 3 gigawatts of energy storage by 2030.

South Carolina has taken actions in recent years to advance the deployment of renewable resources and has seen a significant increase in solar development.⁸ The state established a voluntary renewable portfolio standard in 2014. More recently, South Carolina Governor Henry McMaster signed into law the Energy Freedom Act.⁹ This law seeks to increase competition for renewable development and enhance consumer access to solar generation by establishing a community solar program for low income consumers and renters. In addition, it removes the prior statewide 2 percent cap on net metering.

State Strategies for Incentivizing Clean Energy

Governors are pursuing a wide of range of strategies to reach their respective clean energy goals, often tailoring such programs to meet specific needs within their borders. States that adopted a CES are pursuing a “technology neutral” strategy and investing in a wide array of technologies, whereas states with RPS policies are focusing on supporting or incentivizing certain types of generation such as offshore wind or energy storage. States like New York have focused their efforts on investing in renewable energy

projects that target, traditionally disadvantaged communities, while others are prioritizing economic development goals across the entire state. Some states are looking at ways to prepare their electricity infrastructure for greater amounts of distributed energy resources, while states like Connecticut are putting measures in place to support existing, emissions-free baseload power plants or are planning for new, cleaner power plants as existing ones retire.

Creating and Supporting Clean Grid-Scale Generation

Offering support to existing zero-emission grid-scale generation can supplement the opportunities to invest in intermittent renewables while minimizing potential reliability impacts. Many states have instituted policies to support their local nuclear assets¹⁰ or encourage development of offshore wind generation.

“(Offshore wind) ...is a triple-win for our state because it provides affordable, clean energy for Rhode Islanders, adds jobs to our economy, and dramatically reduces carbon emissions.”

**Governor Gina Raimondo
Rhode Island**

Coastal states are increasingly looking to offshore wind for clean baseload generation. Home to the first operational offshore wind project in the country,¹¹ **Rhode Island** has positioned this resource as a focal point of their clean energy strategy. In early 2020, Rhode Island Governor Gina Raimondo signed an executive order mandating 100 percent of the state’s electricity come from renewable sources by 2030.¹² This executive order builds on 2017 legislation bringing online 1,000 MWs of clean energy by 2020. By the end of 2019, nearly half of the state’s clean

electric capacity came from offshore wind.¹³

In early 2020, **Massachusetts** Governor Charlie Baker accelerated the state’s decarbonization efforts by establishing net-zero statewide greenhouse gas emissions by 2050.¹⁴ Massachusetts has already procured 1,600 MWs of offshore wind resources to be delivered in the first half of the 2020s. More offshore wind resources will be procured in the coming years. In 2019, **New Hampshire** Governor Chris Sununu issued Executive Order 2019-06 which created 4 advisory boards that will work to advise state government on the development of offshore wind.¹⁵ States like New Hampshire, Massachusetts and Rhode Island are looking ahead and working to ensure that clean baseload generation will be ready to come online to meet their energy goals.

Advancing Battery Storage Technology

California is working to promote clean energy technologies for a variety of reasons, including improving grid resiliency. Following the 2019 wildfires caused by a transmission line in PG&E territory, California has focused on revamping existing clean energy policies to reduce stress on the transmission system. They are doing this by shifting dollars towards clean technologies that support resiliency and put less demand on transmission infrastructure, such as battery storage.¹⁶

In 2018, former California Governor Jerry Brown and the California State Legislature worked together to pass Senate Bill 100, a wide-ranging clean energy bill designed to accelerate the state’s carbon reduction

efforts.¹⁷ The bill requires 50 percent renewable energy by 2026, 60 percent renewable energy by 2030, and 100 percent carbon free energy by 2050. With renewables providing 26.5 GW of the state's total 2018 generation,¹⁸ California already has more renewables deployed than any other state. This planned increase in the state's share of renewables adds to 2 existing challenges. The first is the question of how to provide electricity when the sun isn't shining or the wind isn't blowing, particularly during peak demand times. The second is the question of what to do with excess generation during off peak times.

To answer these questions, California is building off a 2013 mandate that direct utilities to bring 3.1 GWs of battery storage online by 2020.¹⁹ In 2019, policy makers shifted the focus of the state's Self-Generation Incentive Program to ensure that 85 percent of the program's budget goes to energy storage.²⁰ This program has a resiliency addendum that provides extra funding for large scale energy storage and renewable generation. The program also directs a certain percentage of funding to consumers facing high fire threats, along with low-income communities, consumers with medical needs, and critical facilities such as health care facilities, and fire and police stations.²¹

States are increasingly looking to battery storage as key to successful integration of wind and solar energy into the grid. Given the intermittency of these clean generators, batteries could help ensure a consistent power supply regardless of whether the sun is shining or the wind is blowing. With this in mind, **Maryland** moved to incentivize battery storage in 2018, instituting a state income tax credit for both residential and commercial consumers. Individuals are eligible for a tax credit up to \$5,000 and commercial consumers are eligible for a tax credit up to \$75,000.²² The program has been successful with more than 60 applications in the first year of the program²³ and 175 applications in the second year.²⁴ As of February of 2020, Maryland had deployed more than five MWs of battery storage through this incentive program.

Supporting Carbon Capture Technology

Energy producing states are developing technologies to capture carbon emissions as well as diversify their economies. In June 2018, a bipartisan group of Governors announced the Governors' Partnership on Carbon Capture that "...encourages market-driven solutions in the development of CO2 pipelines and carbon-capture facilities."²⁵

Wyoming Governor Mark Gordon sees carbon capture as integral to both the state's economic future and the fight against climate change.²⁶ In January 2020, Governor Gordon proposed House Bill 200, which would create a rate-based incentive for utilities to purchase electricity from coal plants with installed carbon capture technologies.²⁷ HB 200 became law in March of 2020.

Enhancing Affordability, Access, and Clean Energy

Many states are looking to clean energy technologies to bring equity to the energy sector. The cost of energy disproportionately impacts low- and moderate- income (LMI) households,²⁸ often the same people who are most vulnerable to the impacts of climate change.

In 2019, **New Jersey** updated its Energy Master Plan, which serves as a roadmap to reach the state's goal of 100 percent clean energy by 2050.²⁹ This update included several strategies to ensure LMI communities benefit from the clean energy transition. These strategies include supporting community

solar projects with a focus on using local workers, clean energy workforce training, and prioritizing clean transportation options in underserved communities.³⁰

In 2019, Washington Governor Jay Inslee championed legislation that tackled similar issues of energy inequities. SB 5116 requires utilities to make dollars available for “energy assistance” to low-income households.³¹ This energy assistance goes beyond bill assistance, providing weatherization funding, energy efficiency funding, and allows for direct customer ownership of distributed generation. Typically, low-income customers can receive some of this assistance through federal programs but Washington is making up for the lack of state and local financial support for bill assistance, home weatherization, and energy efficiency improvements.

“...And in fact, the states and counties that embrace the renewable energy future will reap the economic rewards. That’s why we have taken bold action to put us on the path toward achieving 100% renewable energy by 2040...”

Governor Jared Polis
Colorado

Washington State also requires utilities to track and report the performance of these targeted programs to utility regulators every two years with a goal of reaching 60 percent of eligible customers by 2030 and 90 percent by 2050. While a homeowner or company will often recover the costs of weatherization upgrades, energy efficiency measures, or solar installation, the upfront costs remain a barrier for many. Non-homeowners, like renters, generally lack the authority to access these programs as well. To address this, states are considering and implementing community solar programs to bring the benefits of behind the meter solar to renters and tenants. These programs allow members of a community to opt into an off-site solar array. These individuals can access benefits similar to consumers who install rooftop solar, receiving credits on their electricity bills for the power generated. In Washington State, community solar programs are eligible for incentive payments comparable to individual owned renewable generators.³²

With a similar goal, Maryland launched the Maryland Community Solar Pilot Program in 2017. In early 2020, the state announced a \$2.5 million grant to target this existing community solar program to LMI households.³³

New York policymakers saw the 2019 Climate Leadership and Community Protection Act as an opportunity to address the unequal impacts of energy costs across geographic areas and income groups. To accomplish this, the legislation was written with a strong environmental and climate justice focus, including a requirement that steers at least 35 percent of benefits associated with clean energy and energy efficiency investment to disadvantaged communities. This act creates the Climate Justice Working Group to establish criteria to identify these communities and ensure disadvantaged communities see pollution reductions.

Governors and the Role of Executive Authority

As discussed throughout this paper, Governors are well positioned to play the lead role in creating and shaping clean energy goals. Whether through coordinating with industry, advocates, and regulators, proposing and championing legislation, or leveraging executive authority, Governors and their leadership are integral to the transition to a cleaner energy mix. Governors have broad authority when it comes to directing the programmatic decisions of state agencies, and often use this authority to encourage adoption of clean energy.

In 2018, North Carolina Governor Roy Cooper issued EO 80.³⁴ EO 80 created the North Carolina Climate Change Interagency Council, bringing together of the leader of each agency in the Governor’s cabinet. Charged with bringing a focus on climate change into the unique missions of each agency and working together to create the most equitable and effective solutions to the impacts of climate change, the Council recognizes the multifaceted role of clean energy-promoting public health, housing security, and public safety.

“...yesterday’s solutions and yesterday’s plans are no longer sufficient. We must continue to take bold action to reduce our greenhouse gas emissions. Tonight, I’m committing the Commonwealth to achieving an ambitious climate goal: net-zero greenhouse gas emissions by 2050.”

**Governor Charlie Baker
Massachusetts**

The role of the Governor as a convener and their unique ability to bring stakeholders together is also key to effectively advancing policy goals. Clean energy policies impact a wide variety of actors, resulting in dozens of competing interests applying pressure throughout any policy making process. Governors can often use the power of their office to bring unaligned participants to the table and take the helm on negotiations.

The power of the pen means that Governors are shaping both the policies themselves and the implementation of those policies. Massachusetts Governor Charlie Baker, for example, proposed and worked with the state legislature to ensure passage of the Clean Peak Standard. The Clean Peak Standard is an innovative program that uses incentives to increase the share of renewable generation at times of peak electricity demand.³⁵ Governor Baker has also leveraged his executive authority to fund innovative clean energy start-ups in Massachusetts.³⁶

Maryland Governor Larry Hogan has played a similar leadership role through the Clean and Renewable Energy Standard legislation he proposed in December of 2019.³⁷ This legislation builds upon efforts earlier in 2019 to move the state to a carbon free economy by 2040 while encouraging the growth of a green economy. Governor Hogan plans to accomplish this by “increasing the strategic use of zero- and low-carbon clean and renewable energy sources,” including nuclear technologies, hydropower, carbon capture and utilization, and increasing the installation of combined heat and power systems.

In their roles as executives of their respective states, Governors also have the authority to negotiate and join regional and national agreements that can commit their states to cleaner energy goals. The electric grid and transportation infrastructure do not end at each state’s border, and neither do environmental impacts. Regional efforts recognize the communal nature of clean energy goals and can help states share

both the costs and benefits in pursuit of their collective interests. Examples of regional and national cooperation include the Regional Greenhouse Gas Initiative, the Clean Car Promise, and the U.S. Climate Alliance.

The Regional Greenhouse Gas Initiative (RGGI) was established in 2009 as a regional cap and trade system seeking to lower greenhouse gas emissions across participating states.³⁸ Currently, RGGI is made up of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia. Pennsylvania is in the process of joining.

“...the commonwealth must continue to take concrete, economically sound and immediate steps to reduce emissions. Joining RGGI will give us that opportunity to better protect the health and safety of our citizens...”

Governor Tom Wolf
Pennsylvania

In addition to lowering the regional opportunity cost of carbon reduction, the RGGI auction proceeds offer participating states funds that can be used in support of clean energy technologies. Governors’ often have considerable influence in directing the proceeds, and many have found innovative ways to invest these funds to support clean energy initiatives. In Vermont, the initiative’s proceeds fund weatherization efforts through Efficiency Vermont, the state’s energy efficiency utility. As of 2017, programs coordinated through Efficiency Vermont had assisted nearly 1,000 households and 565 businesses avoid roughly 200,000 tons of carbon dioxide.³⁹

Policymakers recognize that it is also important to look beyond the electricity sector to meet their energy and environmental goals. Currently 11 Northeast and Mid-Atlantic states and the District of Columbia are participating in the Transportation Climate Initiative (TCI), which was formed with the mission of promoting a cleaner transportation sector and building out electric vehicle infrastructure.⁴⁰ A subset of these states are participating in a process to develop a regional cap and invest program. The TCI released a draft Memorandum of Understanding in December 2019. The Governor of each participating state must sign on to approve the final rule, giving each Governor significant leverage in rule making process. Regional agreements demonstrate the power of a Governor as a state’s chief executive. States have broad latitude in negotiating these regional agreements and in directing the proceeds from auctioning emissions allowances.

Governors also have the power of the pen; the ability to approve or disprove legislation passed by the legislative branch. This dynamic means Governors can be effective negotiators throughout the legislative process, using their influence to ensure policies that reach their desks reflect the priorities of their administrations. While the ongoing COVID-19 crisis cut short the 2020 legislative sessions for many states, some Governors were able to see their legislative priorities come to fruition during the year. New Mexico Governor Michelle Lujan Grisham, for example, signed 3 energy bills into law in early March 2020.⁴¹ This group of bills represents the next step in Governor Lujan Grisham’s work to upgrade the state’s grid and expand access to solar power.

Conclusion

As the chief policymakers at the state level, Governors will continue to shape their state's energy objectives, plans, and policies. As prices for new technologies decline, consumer demand shifts, and the need for a more affordable, resilient grid persists, these objectives frequently include an increase in low-emission or carbon-free generation. While many Governors looking to advance clean energy objectives will draw their ideas from a similar set of policies, there is no one size fit all path to success. Regulations and policy plans will need to be revised and refined over time to meet state needs. As discussed throughout the paper, Governors are aware of this and are working to tailor their efforts to the specific needs of their constituents. NGA looks forward to working with Governors and their staff in the near-term, including hosting a national workshop in the fall of 2020, to provide the tools and resources needed.

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