Climate Leadership Across the Alliance

CALIFORNIA
COLORADO
CONNECTICUT
DELAWARE
HAWAII
ILLINOIS
MAINE
MARYLAND
MASSACHUSETTS
MICHIGAN
MINNESOTA
MONTANA
NEVADA
NEW JERSEY
NEW MEXICO
NEW YORK
NORTH CAROLINA
OREGON
PENNSYLVANIA
PUERTO RICO
RHODE ISLAND
VERMONT
VIRGINIA
WASHINGTON
WISCONSIN
Climate Leadership Across the Alliance

Contents

Map of U.S. Climate Alliance Members 2
California 3
Colorado 5
Connecticut 7
Delaware 9
Hawaii 11
Illinois 13
Maine 15
Maryland 17
Massachusetts 19
Michigan 21
Minnesota 23
Montana 25
Nevada 27
New Jersey 29
New Mexico 31
New York 33
North Carolina 35
Oregon 37
Pennsylvania 39
Puerto Rico 41
Rhode Island 43
Vermont 45
Virginia 47
Washington 49
Wisconsin 51
Climate Leadership Across the Alliance

Individual leadership by each Alliance governor is the foundation of our collective ambition. U.S. Climate Alliance members are taking bold climate action across every sector of the economy.

MAP U.S. Climate Alliance Members

CODES:
- Green: Alliance members in 2018
- Purple: Alliance members joining in 2019

**CALIFORNIA** | **COLORADO** | **CONNECTICUT** | **DELAWARE** | **HAWAII**
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**ILLINOIS** | **MAINE** | **MARYLAND** | **MASSACHUSETTS** | **MICHIGAN**
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**MINNESOTA** | **MONTANA** | **NEVADA** | **NEW JERSEY** | **NEW MEXICO**
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**NEW YORK** | **NORTH CAROLINA** | **OREGON** | **PENNSYLVANIA** | **PUERTO RICO**
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**RHODE ISLAND** | **VERMONT** | **VIRGINIA** | **WASHINGTON** | **WISCONSIN**

*Alliance member joined in 2019
California established its climate leadership with the *California Global Warming Solutions Act of 2006*, becoming the first state in the nation to adopt an economy-wide cap-and-trade program. Emissions in California are now below 1990 levels and set to drop further with the *100% Clean Energy Act of 2018*. Since 2014, California Climate Investments preserved or restored over 500,000 acres of land, contracted for over 3,200 units of affordable housing, sprouted 50,000 urban trees, and installed 110,000 efficiency measures in homes statewide.

**Climate Framework and Laws** The *California Global Warming Solutions Act of 2006* (AB 32) established California as a global leader in reducing greenhouse gas (GHG) emissions and called for 2020 GHG emissions to return to 1990 levels. Corresponding Senate Bill 32 (2016) mandated a statewide goal to reduce GHG emissions 40% below 1990 levels by 2030. Legislation passed in July 2017 clarified the role of California’s Cap-and-Trade Program, the only multi-sector GHG emissions trading system in the United States, in achieving these goals. A 2018 executive order issued by former Governor Jerry Brown updated the state’s long-term GHG emissions-reduction target to carbon neutrality by 2045.

**Power Generation** In 2018, California set a goal of 100% zero-carbon resources for retail electricity sales by 2045. Enacted in 2006, the California Solar Initiative is a $3.3 billion sustained commitment to investing in rooftop solar that, as of June 2017, has provided incentives for 1,876 megawatts of installed solar capacity. The Electric Program Investment Charge provides approximately...
$162 million annually through 2020, primarily to address policy and funding gaps related to the development, deployment, and commercialization of next-generation clean energy technologies.

**Energy Efficiency** California’s Building Energy Efficiency Standards are working toward two zero-net-energy goals: all new residential construction by 2020; all new commercial construction by 2030.

**Transportation** Executive Order B-48-18 commits California to putting five million zero-emission vehicles (ZEVs) on its roads by 2030, along with installing 200 hydrogen fueling stations and 250,000 ZEV chargers by 2025. This executive order builds upon California’s original ZEV Action Plan, which targets 1.5 million ZEVs on the state’s roads by 2025. California’s Low Carbon Fuel Standard (LCFS) requires a 10% reduction in the carbon intensity of transportation fuels in California by 2020 and 20% reduction by 2030. The Innovative Clean Transit regulation, approved December 2018, sets a statewide goal for public transit agencies to gradually transition to 100% zero-emission bus fleets by 2040. In April 2019, the state developed a new $17 million program to fund clean mobility projects for vulnerable communities, including smaller-scale car-, bike-, or scooter-sharing projects, as well as subsidies for transit or car-hailing companies. In June 2019, the California Air Resources Board (CARB) approved a rule that will require fixed-route shuttles serving the state’s 13 largest airports to transition to 100% ZEVs by 2035.

**Resilience** California has invested over $10 million in a portfolio of 48 research projects for its *Fourth Climate Change Assessment* that provide new applied findings on expected climate change impacts for the state and inform policies and programs to support adaptation and resilience. The state released an updated *Indicators of Climate Change in California* report in June 2018 that provides 36 indicators tracking climate change drivers and the resultant effects on the state’s physical and biological systems.

**Climate Finance** California Climate Investments, a statewide initiative that puts billions of cap-and-trade dollars to work reducing GHG emissions, invested nearly $1.4 billion in funding new projects in 2018. The California Alternative Energy and Advanced Transportation Financing Authority supports programs like the California Hub for Energy Efficiency Financing and the Sales Tax Exclusion, which is allocated $100 million annually, that increase the development and deployment of renewable energy sources, energy efficiency, advanced transportation, and manufacturing technologies.

**Short-Lived Climate Pollutants** California requires a 50% reduction in black carbon and 40% reduction in methane and hydrofluorocarbon from 2013 levels by 2030. Through the *Short-Lived Climate Pollutant Reduction Strategy*, California is implementing strategies aimed at reducing these pollutants. In 2019 the California Public Utilities Commission (CPUC), the California Air Resources Board (CARB), and the California Department of Food and Agriculture (CDFA) announced funding for six pilot projects in the San Joaquin and Sacramento Valleys designed to demonstrate the collection of biomethane from dairy digesters and its injection into natural gas pipelines.

**Natural and Working Lands** California’s Forest Health Program uses funds from California Climate Investments to implement projects that restore forest health, reduce GHG emissions, and protect upper watersheds where the state’s water supply originates. Through 2018, the program awarded $110 million in grants. In January 2019, the state released its *Draft 2030 Natural and Working Lands Climate Change Implementation Plan*. The plan aims to increase state-led conservation, restoration, and management activities two to five times above current levels, to achieve a level of effort commensurate with that invested in other sectors of California’s climate change portfolio.
**Climate Framework and Laws** In May 2019, Governor Jared Polis signed new climate legislation into law, including the *Climate Action Plan to Reduce Pollution* (HB 19-1261), which set the state’s new GHG emissions-reduction targets. These actions advance the administration’s *Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action*, which details the steps Colorado will take toward a clean energy future. Multiple state agencies are now initiating a study on how to achieve the climate goals set by HB 19-1261.

**Power Generation** Colorado has the nation’s first voter-passed renewable energy standard (RES), which requires investor-owned utilities to generate 30% of their electricity from renewable energy by 2020. In 2019, Governor Polis signed several pieces of legislation into law: the *Community Solar Gardens Modernization Act*, which expands the size of, and access to, community solar gardens; *Sunset Public Utilities Commission* (PUC), which aims to modernize the PUC through accounting for the social cost of carbon dioxide emissions, and establishing a pathway for the state’s largest utility to reduce emissions 80% by 2030; and *Collect Long-Term Climate Change Data*, requiring the Air Quality Control
Commission (AQCC) to collect and report on GHG emissions data and propose a first draft rule to begin to address the emissions by July 1, 2020. Just Transition from Coal-based Electrical Energy Economy (HB 19-1314) HB 19-1314 establishes a Just Transition Office tasked with delivering programming and funding to communities and workers impacted by a transition away from coal-fired electricity and to disproportionately impacted communities who have borne the costs of pollution.

**Energy Efficiency** Colorado’s energy efficiency resource standard is estimated to achieve 1.7% average incremental electric savings annually through 2028. In 2019, the state adopted appliance energy and water efficiency standards for new equipment sold in the state, which will be phased in over three years. The state’s updated Building Energy Codes requires local jurisdictions to adopt one of the three most-recent versions of the International Energy Conservation Code at a minimum when updating any other building code.

**Transportation** The Colorado Electric Vehicles Plan, released January 2018, sets a goal of 940,000 zero-emission vehicles (ZEVs) on the road and 500 electric transit vehicles by 2030, laying out a strategy for building out Colorado’s electric vehicle (EV) fast-charging infrastructure and for leading by example through accelerating purchase of EVs for agency fleets. In November 2018, the state adopted low-emission vehicle standards for new light- and medium-duty vehicles. In August 2019, the AQCC approved state adoption of ZEV standards. Colorado has allocated approximately $14 million of Volkswagen Settlement funds to transit agencies to deploy electric buses and has awarded $10.3 million to build fast charging along five highway corridors. The state is now revising its Volkswagen Settlement fund plan to direct all remaining dollars to support zero-emission bus and truck adoption. The Charge Ahead Colorado program is on track to install 234 community-based EV charging stations by the end of the fiscal year. In 2019, the legislature passed five pieces of EV legislation, including the extension of EV tax credits through 2025, requiring utilities to develop plans to support widespread transportation electrification, and rulemaking authority for the state’s Department of Transportation (DOT) to design fees on transportation network companies to incentivize shared and electrified trips. The Colorado Energy Office is also conducting a feasibility study and stakeholder process to consider adoption of a low-carbon fuels standard.

**Resilience** The Colorado Resiliency and Recovery Office spearheads efforts to help communities increase resilience through implementation of the statewide Colorado Resiliency Framework, which guides Colorado’s ongoing support of local resilience planning and implementation efforts. Efforts include building resilience into disaster recovery, as well as taking proactive measures that minimize effects from changing conditions and threats. The January 2018 Colorado Climate Plan update provides a roadmap of specific strategies and recommendations state agencies can take to reduce GHG emissions and increase adaptation and resilience.

**Climate Finance** In December 2018, then-Governor John Hickenlooper joined the Colorado Energy Office and the Coalition for Green Capital to launch the Colorado Clean Energy Fund. In May 2019, Governor Polis signed House Bill 19-1272, which allows public housing authorities to participate in the state’s property-assessed clean energy (PACE) program, a way to finance clean energy projects.

**Short-Lived Climate Pollutants** Colorado was the first state to regulate methane emissions from oil and gas operations. In 2014, the AQCC approved regulatory updates that require infrared camera inspections or approved alternatives. The regulations reduce methane emissions from the oil and gas sector by an estimated 64,000 tons annually. Colorado recently passed a comprehensive oil and gas reform package, Protect Public Welfare Oil and Gas Operations (SB 19-181), which directs the AQCC to promulgate rules to minimize emissions—including methane—from the oil and gas sector, and to require continuous emissions monitoring where feasible.

**Natural and Working Lands** The state’s Department of Agriculture is creating a state program to promote, coordinate, and monitor soil health activities and measure benefits for air quality, agricultural production, water quality and quantity, GHG reduction, watershed stability, and resistance to drought, as well as implementing a voluntary program that pays agricultural producers who demonstrate implementation of practices that offset corporate carbon emissions.
CONNECTICUT

CONNECTICUT’S CLIMATE LEADERSHIP

Connecticut’s Governor’s Council on Climate Change recommendations report, *Building a Low Carbon Future for Connecticut: Achieving a 45% GHG reduction by 2030*, provides the state with comprehensive and meaningful greenhouse gas (GHG) reduction strategies across all sectors of the economy, ensuring the state maintains a downward trajectory to meet its climate targets. The recommendations in the report build upon successful policies and measures the state has implemented to date, proposes strengthening existing programs, and puts forth new strategies to help Connecticut reach its mid- and long-term GHG reduction targets.

**Climate Framework and Laws** An Act Concerning Connecticut Global Warming Solutions (PA 08-98) requires Connecticut to implement a wide range of measures to reduce energy consumption and associated GHG emissions. Adopted in 2008, the legislation requires the state to achieve a 10% reduction below 1990 emissions by 2020 and 80% reduction below 2001 emissions by 2050. One decade later, in 2018, *An Act Concerning Climate Change Planning and Resiliency* (PA 18-82) requires the state to reduce statewide emissions 45% below 2001 levels by 2030. To ensure the state maintains a sustainable downward trajectory, the Governor’s Council on Climate Change released *Building a Low Carbon Future for CT: Achieving a 45% Reduction by 2030*, a comprehensive report outlining meaningful GHG reduction strategies across all sectors of the economy. Governor Ned Lamont’s first executive order directed executive branch state operations—including office
buildings, materials management practices, and vehicle fleets—to become energy-efficient and more sustainable through an expanded lead-by-example initiative aimed at reducing the state's carbon and environmental footprint and reducing the cost of government operations.

**Power Generation** 2018’s *An Act Concerning Connecticut’s Energy Future* (PA 18-50) doubled the state's renewable portfolio standard (RPS) from 20% by 2020 to 40% by 2030. In June 2019, Governor Lamont signed *An Act Concerning the Procurement of Energy Derived from Offshore Wind* (HB 7156), which requires the state to solicit up to 2 gigawatts of offshore wind power over the next 11 years, equal to 30% of the state load. Connecticut is also a member of the Regional Greenhouse Gas Initiative (RGGI), which sets a carbon cap on the state’s power-sector emissions. Auction proceeds from RGGI fund various state and local programs that promote energy efficiency, renewable energy, and other carbon-reduction measures.

**Energy Efficiency** The Connecticut Energy Efficiency Fund (CEEF) supports a variety of utility-administered programs that provide financial incentives to help Connecticut consumers reduce the amount of energy used in their homes and businesses. These opportunities, along with other clean energy financing initiatives from the Connecticut Green Bank, are communicated through the Energize CT platform and brand, a “one-stop shop” to provide Connecticut residents the resources they need to save energy and build a clean energy future.

**Transportation** Connecticut is a member of the Multi-State ZEV Task Force, dedicated to putting 3.3 million zero-emission vehicles (ZEVs) on the road by 2025. As part of this program, Connecticut is aiming to put approximately 150,000 electric vehicles (EVs) on the road by 2025. The Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) Program provides residents with a point-of-sale rebate on the purchase or lease of new ZEVs, up to $5,000. Connecticut is also a member of the Transportation and Climate Initiative (TCI), which is currently working to develop a regional approach to capping transportation-related carbon emissions.

**Resilience** *An Act Concerning Climate Change Planning and Resiliency* requires Connecticut to prepare for the ongoing effects of climate change and sea-level rise by requiring state- and federally-funded projects to plan for a scenario of 50 centimeters of sea-level rise by 2050. The Connecticut Institute for Resilience and Climate Adaptation (CIRCA) is a partnership by the state and University of Connecticut to increase the resilience and sustainability of vulnerable communities along Connecticut’s coast and inland waterways by addressing critical infrastructure, coastal flooding, sea-level rise, and living shorelines.

**Climate Finance** Established in 2011, the Connecticut Green Bank leverages limited state funding to attract private capital, enabling the state to expand the deployment of rooftop solar, while driving down installed costs and ratepayer incentives. The Bank’s commercial property-assessed clean energy (C-PACE) program provides building owners the opportunity to take advantage of energy upgrades and pay for them over time through a voluntary benefit assessment lien, levied and recorded against the benefiting property, to be repaid along with real property taxes. The Connecticut Solar for All program is a partnership between the Connecticut Green Bank and Posigen, a solar company, which offers a solar lease paired with energy efficiency measures for low- to moderate-income homeowners, regardless of income or credit. Since the partnership launched, solar penetration in Connecticut’s low-income communities has increased 188% and over 800 low-income verified households have signed up to go solar.

**Short-Lived Climate Pollutants** Connecticut announced its intention to propose regulations in 2018 to phase out the use of high-warming hydrofluorocarbons (HFCs), consistent with the 2015 and 2016 U.S. EPA Significant New Alternatives Policy (SNAP) rules.

**Natural and Working Lands** Connecticut released an updated version of its *Comprehensive Open Space Acquisition Strategy* to achieve its goal of protecting 21% (673,210 acres) of the state’s land as open space by 2023, 10% of which is to be state-owned as additions to the system of parks, forests, and wildlife areas. As of 2017, 75% of the preserved acreage goal (over 500,000 acres) has been achieved.
Climate Framework and Laws  The Climate Framework for Delaware (2014) is a summary of state agency recommendations for both climate mitigation and adaptation. It identifies state agency actions to reduce GHGs that contribute to climate change, increase resilience to climate impacts, and avoid and minimize flood risks that increase state liability and decrease public safety.

Power Generation  Delaware is an active member of the Regional Greenhouse Gas Initiative (RGGI), a market-based program to reduce GHGs in the power sector. The state’s Green Energy Program (GEP) provides grants to homeowners, local businesses, and other relevant stakeholders to fund renewable energy systems, from solar photovoltaics to small wind turbines, geothermal heat pumps, and fuel cells. Since 1999, the GEP provided more than $54.3 million for renewable energy projects installed in Delaware and increased Delaware’s solar capacity from 8.6 megawatts (MW) in 2010 to over 100 MW in early 2019.

Energy Efficiency  The Energy Efficiency Investment Fund (EEIF) provides grant money to Delaware businesses, local governments, and nonprofits to make facility upgrades that lower their energy use and cost. In 2018, EEIF distributed $3,247,730 in grant funding across 186 projects that amounted to nearly 29,000 megawatt-hours (MWh) avoided. The Energy Efficiency Industrial (E2I) Program provides grants directed toward
large industrial and commercial businesses whose annual energy consumption is greater than 10,000 MWh or 95,000 MMBtu annually. The Weatherization Assistance Program provides energy retrofits to low-income homes in Delaware; in 2016 the program generated approximately 135,000 kWh and 5,700 MMBtu of energy savings. In 2014, the Energy Efficiency Advisory Council (EEAC) expanded the state’s energy-savings targets and affected energy providers are currently working to meet these voluntary goals that aim to achieve 1% incremental savings in 2019 for electricity sales and 0.5% for natural gas sales. In 2018, Governor John Carney signed a bill enabling commercial property-assessed clean energy (C-PACE) financing in Delaware. Energize Delaware will serve as the administrator of C-Pace, which will provide a method of financing commercial energy efficiency and renewable energy projects.

**Transportation** Delaware’s Clean Vehicle Rebate Program provides financial incentives ranging from $1,000 to $3,500 for residents and businesses to buy or lease new alternative fuel vehicles. This program complements the Delaware Workplace Charging Program, which offers technical guidance and rebates up to $5,000 to businesses for every installation of an electric charging station. Delaware adopted the Low Emission Vehicle Program in 2013. Delaware is also participating in the policy design efforts of the Transportation and Climate Initiative (TCI), a regional collaboration of 12 Northeast and Mid-Atlantic jurisdictions seeking to develop the clean energy economy and reduce GHG emissions in the transportation sector. In addition, in June 2019, the Delaware Public Service Commission gave approval to Delmarva Power to offer electric vehicle (EV) services. Delmarva Power will expand public charging infrastructure and offer a new rate option for residential customers who charge their EVs at home.

**Climate Finance** Energize Delaware—formerly the Delaware Sustainable Energy Utility—is a nonprofit organization that administers various energy efficiency and renewable energy projects for Delawareans, including their flagship Home Performance with ENERGY STAR program, the new ZeMod (Zero Energy Modular Homes) Delaware program, and the Low-Interest Revolving Loan Fund, among many others.

**Short-Lived Climate Pollutants** Delaware has developed a Low-Global Warming Potential Refrigerants Program (deployment scheduled in 2019) to incentivize businesses and industry to voluntarily transition away from hydrofluorocarbons (HFCs). In June 2019, Governor Carney directed the Department of Natural Resources and Environmental Control to begin developing regulations for the use and manufacturing of HFCs in Delaware by March 30, 2020.

**Natural and Working Lands** Natural and working lands strategies will be a component of the statewide climate plan currently in development. Delaware has committed GHG reduction funds to the Urban and Community Forestry Program, which offers grants for tree planting, tree care, and tree management projects on publicly-owned lands. Since its passage, the Delaware Land Protection Act (1990) has protected 57,000 acres of land from development.

**Resilience** Through various mechanisms, including the Open Space Program and the Coastal Zone Act Program, Delaware has permanently protected an estimated 90% of its coastline. The Beach Preservation Act directs the Department of Natural Resources and Environmental Control to prevent and repair damage to shorelines and has a dedicated funding source derived from the Accommodation Tax.
Climate Framework and Laws New in 2019, Act 122 reorganized and elevated the status of the State Energy Office to endorse the concept that strong policy-making on climate change and renewable energy actions is essential for Hawaii to meet its targets. The Energy Office is charged with a full energy portfolio, including clean transportation and Hawaii’s decarbonization goals. Act 15 (2018) set a greenhouse gas (GHG) target of carbon neutrality by 2045 (“to sequester more atmospheric carbon and GHGs than emitted”) and established a Greenhouse Gas Sequestration Task Force to align the state’s clean energy and carbon sequestration efforts with climate initiative goals, among other tasks. Act 32 (2017) enshrined the principles and goals of the Paris Agreement as the framework for Hawaii to pursue climate change planning. The Hawaii Climate Adaptation Initiative Act (2014) acknowledged climate change as the paramount challenge of this century and established what is now the State Climate Mitigation and Adaptation Commission. Act 286 (2012) adopted a statewide climate adaptation policy and added said policy to the State Planning Act.

Power Generation The Hawaii Clean Energy Initiative (HCEI) is a framework of statutes and regulations supported by a diverse group of stakeholders committed
to Hawaii’s clean energy future. In 2015, Hawaii became the first state to adopt a 100% renewable portfolio standard (RPS), requiring electric utilities to generate all of their electricity from renewable energy sources by 2045.

**Energy Efficiency** Hawaii’s Energy Efficiency Portfolio Standard requires 4,300 gigawatt-hours (GWh) of electricity-use reductions statewide by 2030. The Ka Hei Department of Education Energy Efficiency and Sustainability Program integrates energy efficiency and sustainability improvements into facility upgrades and student education through a combination of energy efficiency measures, clean energy generation, and a comprehensive sustainability program. HRS 196-9 targets energy efficiency and environmental standards for state facilities, as well as for vehicles and fuel. Hawaii passed legislation in 2019 that adopts energy and water efficiency standards for five products sold in the state starting January 1, 2021 and not currently covered at the federal level, including computers, faucets, showerheads, spray sprinklers, and certain fluorescent lamps.

**Transportation** Act 144 (2019) allows agencies to contract for vehicle procurement or associated capital investments in charging or fueling infrastructure similar to facility-based energy services contracts. In 2018, Hawaii’s Climate Change Mitigation and Adaptation Commission recognized that ground transportation contributes significantly to Hawaii’s share of GHG emissions and announced its support for mechanisms to reduce overall vehicle miles traveled; converting all remaining vehicle-based ground transportation to renewable, zero-emission fuels and technologies; and putting a price on carbon as the most-effective single action that will achieve Hawaii’s ambitious and necessary emissions-reduction goals. The Commission supports the need to transform public fleets through electrification, renewable fuels, modeshare, and supporting infrastructure development/deployment. Hawaii’s State Alternate Fuel Standards require 20% of highway fuel demand to be provided by alternate fuels by 2020 and 30% by 2030, while state agencies are required to purchase fuel-efficient vehicles and include projected fuel costs in life-cycle cost-benefit analysis. HRS 103D-412 directs all state and county entities when purchasing new light-duty motor vehicles, to look for vehicles with reduced dependence on petroleum-based fuels.

**Resilience** Hawaii’s Climate Commission provides direction, facilitation, coordination, and planning among state and country agencies, federal agencies, and other partners about climate change mitigation and resilience strategies. The Commission issued a series of recommendations and finalized a mission statement in September 2018 to help guide Hawaii’s response to the impacts of climate change, including urging counties to incorporate a 3.2-foot (1 meter) sea-level rise exposure area into their development plans and requesting all new development, redevelopment, and modifications be directed away from beach areas. In addition, HB 2106 HD3 calls for the Environmental Council to adopt rules for all environmental assessments and impact statements to include consideration of sea-level rise.

**Climate Finance** The Environmental Response, Energy, and Food Security Tax (aka Barrel Tax) is a $1.05 tax per imported barrel of petroleum products that discourages fossil-fuel consumption and funds environmentally friendly initiatives. The Green Energy Market Securitization Program is a sustainable green financing initiative that provides low-cost capital to finance over 44 megawatts (MW) of clean energy improvements for as many as 30,000 Hawaii consumers who might otherwise have difficulty obtaining financing. Hawaii’s Climate Commission established a working group to discuss a framework for equity issues related to climate mitigation, adaptation, and resilience, including climate change-related financing.

**Natural and Working Lands** The Sustainable Hawaii Initiative sets the following goals for Hawaii: a) double food production by 2020, b) implement Hawaii’s interagency biosecurity plan by 2026, c) protect 30% of Hawaii’s priority watersheds, d) effectively manage 30% of Hawaii’s marine areas, and e) achieve 100% renewable energy by 2045. HB 1986 creates a framework for a carbon offset program that allows for carbon credits through global carbon sequestration protocols, which will address carbon sequestration through forest restoration. The Division of Forestry and Wildlife has launched a forest carbon sequestration program, which involves restoring the native forest of two areas—Kahikinui/Nakula Forest and Pu’u Mali Forest—while generating independently certified carbon offsets.
Governor J.B. Pritzker is committed to putting Illinois on a path toward 100% clean and renewable energy. This year, he signed legislation supporting wind energy development, establishing an Offshore Wind Task Force, and repealing the state’s Kyoto Protocol Act that prevented the state from taking action to address greenhouse gas (GHG) emissions. Governor Pritzker’s capital plan also includes $140 million for renewable energy projects.

**Climate Framework and Laws** The 2016 *Future Energy Jobs Act (FEJA)* is Illinois’s defining comprehensive climate legislation. The Act updated the state’s renewable portfolio standard (RPS), net energy metering, and energy-efficiency standards, as well as established a new zero-emissions credits plan. FEJA requires the state’s two biggest electric utilities to expand their energy-efficiency programs and reduce electricity waste, creates a community solar program, devotes $750 million to programs that provide training for new energy jobs, and requires a minimum of 3,000 megawatts (MW) of new solar power and 1,300 MW of new wind power to be built in the state by 2030.

**Power Generation** The *Energy Infrastructure Modernization Act of 2011 (PA 097-0616)* authorized the implementation of a 10-year, $2.6 billion investment program to strengthen the existing electric system through adoption of smart meters, real-time pricing programs, and other smart-grid enabled programs. Under the direction of FEJA, the Illinois Power Agency created the state’s long-term renewable resources procurement plan, which outlines the procurement of 666 MW of community and distributed solar by the end of 2021. In addition, FEJA sets up Illinois Solar for All, a low-income solar deployment and job-training program that provides increased access to clean energy for low-income
communities through incentives that help make solar installations more affordable.

**Energy Efficiency** FEJA mandates that the state’s two biggest electric utilities cut electricity waste by 21.5% and 16% cumulative persisting annual savings by 2030, respectively. FEJA also dedicates $25 million per year to energy-efficiency programs for low-income households through 2030. The *Energy Efficient Building Act* (20 ILCS 3125/) requires all new commercial and residential construction for which a building permit application is received by a municipality or county to follow a comprehensive statewide energy conservation code.

**Transportation** Illinois EPA is establishing the Driving a Cleaner Illinois program to administer Environmental Mitigation Trust funds from the Volkswagen Settlement. The program has funded compressed natural gas (CNG) vehicles and electric public transit buses, and current funding is available through the program to replace old diesel school buses with new all-electric school buses. Rebuild Illinois, the state’s $45 billion, 6-year capital plan, includes $70 million for transportation electrification efforts and $70 million for solar on state facilities.

**Climate Finance** The Renewable Energy Resource Fund, which was initially funded with compliance payments made by retail electric suppliers as part of their RPS obligations, is being used to fund the Illinois Solar for All program, which provides incentives for low-income distributed generation, community solar projects, and solar job training programs.

**Natural and Working Lands** The Illinois Department of Natural Resources has several conservation programs, including the Conservation Reserve Enhancement Program (CREP), the Coastal Management Program, Green Infrastructure Grants, and flood mitigation efforts. Illinois’ forests have sequestered 343 million tons of carbon, and the state’s 2018 *Forest Action Plan* includes considerations of climate change on its forests.
Governor Janet Mills signed into law in June 2019 bipartisan legislation to create the Maine Climate Council. The Climate Council is charged with leading Maine’s efforts to reduce the state’s greenhouse gas (GHG) emissions 45% below 1990 levels by 2030 and at least 80% by 2050. Governor Mills also signed major legislation to increase the state’s renewable portfolio standard (RPS) to 80% by 2030 and set a goal of 100% renewable electricity by 2050.

**Climate Framework and Laws** In June 2019, Governor Janet Mills signed into law bipartisan legislation to create the Maine Climate Council. The Climate Council is charged with leading Maine’s efforts to reduce the state’s GHG emissions 45% below 1990 levels by 2030 and at least 80% by 2050. The Climate Council will consist of state, business, nonprofit, tribal, and youth representatives, as well as science and technical experts. The Council will develop the action plans to meet the state’s GHG reduction goals, promote jobs and economic benefits for Maine people in the transition to a lower-carbon economy, and support the climate resiliency of Maine’s communities.

**Power Generation** Maine is a member of the Regional Greenhouse Gas Initiative (RGGI) and invests all RGGI revenue into energy-efficiency programs. Governor Mills signed major legislation into law (June 2019) to increase the state’s RPS to 80% by 2030 and set a goal of 100% renewable electricity by 2050. This legislation also requires the Maine Public Utilities Commission to procure 14% of Maine’s electric load from renewable energy projects, and creates a program to incentivize renewable heating and cooling. Maine also reset the state’s metering policy for solar, thereby ensuring that consumers who produce electricity from solar panels will be fairly compensated for supplying excess energy back
Governor Mills signed legislation in June 2019 which incentivizes at least 375 megawatts (MW) of new solar distributed generation, which is expected to be primarily solar photovoltaic development for projects under 5 MW. The bill creates two separate but complementary incentives, one for commercial and institutional customers and another for community shared projects, with prices that are set competitively and declining in subsequent procurements.

Energy Efficiency Maine has an energy efficiency resource standard (EERS) requiring the procurement of the maximum achievable cost-effective energy efficiency for electricity and natural gas. Efficiency Maine’s most recently approved three-year plan estimates the EERS will achieve 2.3% average incremental electric savings per year through 2022. Efficiency Maine offers a Home Energy Savings Program through which homeowners can receive up to $3,500 toward the cost of home weatherization and rebates for high-performance heating systems. The appliance program runs through distributors and retailers will install more than 10,000 heat pump water heaters in each of the next three years. The Low-Income Heat Pump Initiative works with the Maine State Housing Authority to identify low-income homeowners who would benefit from the installation of a heat pump to lower fuel costs and installs heat pumps in those homes. In June 2019, Governor Mills signed legislation establishing the goal of installing 100,000 new heat pumps in Maine by 2025.

Transportation Maine has adopted both the zero-emissions vehicle (ZEV) mandate, which requires auto manufacturers to offer for sale specific numbers of the cleanest cars available, and the emission standards of Section 177 of the Clean Air Act. Maine is participating in the development of the Transportation and Climate Initiative (TCI), a regional collaboration that seeks to improve transportation, develop the clean energy economy, and reduce carbon emissions from the transportation sector. As part of TCI, Maine is monitoring efforts aimed at developing a regional market-based program that will cap transportation emissions. Maine is working with other eastern states to explore issues unique to highly rural states and how TCI can incorporate potential solutions for those states. Maine is using a significant portion of its Volkswagen Settlement funds on public transportation investments and charging infrastructure. In March 2019, Governor Mills and Efficiency Maine Trust announced a set of initiatives that will expand the use of electric vehicles (EVs) across Maine, including the creation of rebates to purchase EVs and the installation of at least 50 public vehicle charging stations using Settlement funds. This will support the purchase of EVs both as fleet resources and by Maine residents and business owners. The latter will be a rebate for Maine residents and business owners and is anticipated to invest an estimated $2.25 million in EV purchases.

Resilience Maine’s recently enacted An Act to Help Municipalities Prepare for Sea Level Rise (LD 563) directs states and local agencies to conduct their activities affecting the coastal area consistent with the policy of encouraging the assessment of and planning for the effects of the rise in sea level.

Climate Finance Maine has authorized local governments to establish residential property-assessed clean energy (PACE) programs. Maine has “green finance” opportunities for efficiency work for homeowner and businesses through loans via Efficiency Maine. Maine invests research and development funds and later-stage capital in renewable energy projects through the state’s Maine Technology Institute fund and the Finance Authority of Maine.

Natural and Working Lands The Land for Maine’s Future Program is Maine’s primary funding vehicle for conserving land for its natural, recreational, and economic value. Since its inception in 1987, the program has helped conserve more than 600,000 acres of land, including working farms, forests, and waterfronts. The Maine Conservation Task Force’s 2019 report on the next generation of land conservation recommends the state support projects that promote resilience and landscape connectivity to help ecosystems, wildlife, and natural resource-based economies adapt to a changing climate. The Governor’s Climate Council Legislation sets up a specific “Working Lands” group to explore opportunities for increasing and preserving significant carbon sequestration through Maine’s vast forest lands and soil practices.
MARYLAND'S CLIMATE LEADERSHIP

In 2019, Maryland will release a plan to achieve a 40% greenhouse gas (GHG) emissions reduction by 2030, with billions of dollars of increased in-state economic output and more than 11,000 additional jobs through 2030. The plan includes a proposed legislative initiative from Governor Hogan to achieve 100% clean electricity by 2040 through a new Clean and Renewable Energy Standard (CARES). Maryland is also a key member of the Transportation and Climate Initiative, is developing hydrofluorocarbon (HFC) and natural gas sector regulations, and has continued to support clean car standards.

Climate Framework and Laws The Maryland Commission on Climate Change advises the governor and the General Assembly on ways to mitigate, prepare, and adapt to climate change. On April 4, 2016 Governor Larry Hogan signed the Greenhouse Gas Emissions Reduction Act – Reauthorization (GGRA) into law. Expanding on the requirements of the original 2009 GGRA, the GGRA of 2016 requires statewide GHG emissions reductions of at least 40% from 2006 levels by 2030 in a way that positively impacts Maryland’s economy, protects existing manufacturing jobs, and creates significant new “green” jobs in Maryland. There is also an aspirational goal to reduce emissions 80–95% by 2050.

The Maryland Department of the Environment (MDE) and the Regional Economic Studies Institute of Towson University evaluated the economic dislocations resulting from potential carbon mitigation strategies in the state, including direct impacts to fossil-fuel-reliant workers, fiscal impacts resulting from industry changes at the local level, and other related disparities associated with the state’s efforts to reduce GHG emissions. To meet objectives set in the State’s 40 by 30 Plan, MDE requested strategies for transitioning impacted fossil-fuel-reliant workers and mitigating other economic dislocations associated with GHG reduction efforts.
**Power Generation** Maryland passed the Clean Energy Jobs Act (CEJA) in May 2019, which sets a 50% renewable portfolio standard (RPS) by 2030. CEJA carves out 14.5% of the target for solar development and mandates 1.2 gigawatts (GW) of offshore wind solicitations. Governor Hogan is looking to propose legislation next year to put Maryland on a path of 100% clean electricity by 2040 through the Clean and Renewable Energy Standard (CARES). CARES would require that an increasingly large share of zero- and low-carbon resources generate Maryland’s electricity. Maryland is a member of the Regional Greenhouse Gas Initiative (RGGI), where auction proceeds fund various state and local programs that promote energy efficiency, renewable energy, bill assistance, or other consumer benefits.

**Energy Efficiency** Maryland’s EmPOWER Energy Efficiency Program charges utility customers a monthly fee that funds programs like lighting and appliance rebates for homeowners, energy efficiency services for industrial facilities, and home energy assessments, among other incentives. Maryland’s Weatherization Assistance Program helps eligible low-income households with the installation of energy conservation materials. Maryland’s energy efficiency resource standard targets 2.9% average incremental electric savings per year through 2018. Maryland’s GGRA draft plan proposes to incentivize increased deployment of efficient electric heat pumps to heat homes in Maryland. In June 2019, Governor Hogan signed an executive order directing two agencies to develop an initiative to reduce energy consumption in state buildings 10% by 2029.

**Transportation** Maryland is a member of the Transportation and Climate Initiative (TCI), a regional effort of 11 Northeast and Mid-Atlantic states and Washington, D.C., to reduce GHG emissions in the region’s transportation sector. Cooperation continues between Maryland and other states to develop a regional cap-and-invest program for transportation fuels. Maryland is a member of the Multi-State ZEV Task Force and has a goal of having 60,000 zero-emissions vehicles (ZEVs) on the road by 2020 and 300,000 ZEVs on the road by 2025. It offers the Maryland Excise Tax Credit up to $3,000 and a rebate up to 40% through the Electric Vehicle Supply Equipment Rebate. The Maryland Clean Cars Program, adopted in 2007, commits the state to follow California’s Low-Emission Vehicle Standards.

**Resilience** The CoastSmart Communities Program assists Maryland’s coastal communities to address short- and long-term coastal hazards, such as sea-level rise, by providing technical assistance and training opportunities, along with financial assistance through the Community Resilience Grant Program. In 2018, Maryland launched the Climate Leadership Academy to provide climate training and support to state and local government officials, citizens, the private sector, and nonprofits.

**Climate Finance** The Maryland Energy Administration’s Energy Finance Initiative is a collection of programs, financing tools, and other resources that help fill the funding needs of clean energy projects. For example, the Solar Canopy Grant Program combines Maryland’s RPS goal for solar with the state’s ongoing support of EV infrastructure. The program aims to capture the unrealized potential of existing parking facilities by installing solar photovoltaics while still allowing parking services to be offered.

**Short-Lived Climate Pollutants** Maryland announced its intention to adopt regulations in 2020 to prohibit the use of high-warming hydrofluorocarbons (HFCs), consistent with the vacated U.S. EPA Significant New Alternatives Policy (SNAP) rules. Maryland has three initiatives to address fugitive methane emissions from natural gas compressor stations and other related equipment, landfills, and wastewater treatment plants. A draft regulation will be available in late 2019.

**Natural and Working Lands** Maryland established the Maryland Healthy Soils Program to increase biological activity and carbon sequestration in the state’s soils by promoting practices based on emerging soil science, through incentives, research, education, technical assistance, and financial assistance for farmers. Maryland is using sustainable forestry management practices to capture carbon in public and private Maryland forests. These programs aim to improve sustainable forest management on approximately 30,000 acres of private land annually and 100% of State-owned resource lands, and to ensure 100% of State forest lands will be third-party certified as sustainably managed.
Climate Framework and Laws Through the 2008 Global Warming Solutions Act, the Commonwealth set nation-leading, aggressive greenhouse gas (GHG) emissions limits of 25% below 1990 levels by 2020 and at least 80% by 2050. Executive Order 569 (EO 569) in 2016 committed the Commonwealth to develop an integrated climate change strategy that addressed both mitigation and adaptation. The Commonwealth has promulgated new regulations to ensure compliance with the 2020 emission-reduction limit and finalized declining Regional Greenhouse Gas Initiative (RGGI) program emissions caps for 2021 through 2030.

Power Generation Massachusetts has passed comprehensive energy diversity legislation (An Act to Promote Energy Diversity, Chapter 188 of the Acts of 2016) and implemented a range of comprehensive energy policies, including the solicitation and procurement of 9.45 terawatt-hours (TWh) of hydroelectric power and 1,600 megawatts (MW) of offshore wind, as well as...
energy storage targets. Investments in solar and storage continue through the Solar Massachusetts Renewable Target (SMART). Governor Charlie Baker signed legislation in 2018 (An Act to Advance Clean Energy) requiring the Massachusetts Department of Energy Resources (DOER) to analyze the costs and benefits of requiring electric distribution companies to solicit and procure an additional 1,600 MW of new offshore wind generation. In May 2019, DOER released its Offshore Wind Study, recommending these additional procurements. Also, in response to the 2018 legislation, DOER is currently developing a first-in-the-nation Clean Peak Energy Standard, which would reduce emissions as well as provide energy security and resilience.

**Energy Efficiency** In 2018, the American Council for an Energy-Efficient Economy (ACEEE) named Massachusetts the most energy-efficient state for the eighth year in a row. The first nine years of the energy-efficiency program are expected to return more than $20 billion in ratepayer benefits. The recently-approved 2019–2021 Three-Year Energy Efficiency Plans continues to set nation-leading savings goals and expands the energy-efficiency programs to include fuel switching, strategic electrification, and active demand management. In 2008, Massachusetts developed one of the first “stretch” energy codes, which over 77% of Massachusetts municipalities have adopted.

**Transportation** Massachusetts is engaged with several regional initiatives to reduce transportation sector emissions, including the Transportation and Climate Initiative (TCI), the New England Governors and Eastern Canadian Premiers, and the Multi-State ZEV Taskforce. Governor Baker also established the Commission on the Future of Transportation in the Commonwealth in 2018 to advise his administration on future transportation needs and challenges. The Commission’s report recommends a goal that “all new cars, light-duty trucks, and buses sold in Massachusetts will be electric by 2040” and also recommends a market-based GHG reduction program for the transportation sector.

**Resilience** The Municipal Vulnerability Preparedness (MVP) program has helped cities and towns plan and build more-resilient communities and by awarding funds and technical assistance to 71% of state municipalities. Massachusetts published and has begun implementing a first-in-the-nation integrated State Hazard Mitigation and Climate Adaptation Plan based on the best science and data to develop operational, on-the-ground strategies. In August 2018, Governor Baker signed an environmental bond bill, which codifies EO 569 into law and invests heavily in climate resiliency, environmental protection, and municipal assistance. The $2.4 billion authorized by the bill will fund projects including, but not limited to, forest land protection programs and coastal resiliency projects.

**Climate Finance** Since 2008, Massachusetts has reinvested $306 million in RGGI auction proceeds to increase the energy efficiency of residences and businesses, provide clean-energy solutions to over 180 “Green Communities,” and support the implementation of alternative energy resources. Governor Baker sponsored S.10, An Act Providing for Climate Change Adaptation Infrastructure Investments in the Commonwealth, which proposes to raise the deeds transfer excise that is applied statewide to real estate sales, to help support climate adaptation and resilience projects. Since 2010, The Mass. Clean Energy Center (MassCEC) has invested nearly $35 million in over 250 clean-energy technology companies and climate solutions leveraging over $1.18 billion in private investment. To advance the growth and development of the region’s clean energy workforce and supply chain, MassCEC operates two critical wind industry assets: North America’s largest indoor wind blade test facility and the New Bedford Marine Commerce Terminal. The Affordable Access to Clean and Efficient Energy (AACEE) Initiative includes a $15 million commitment to expand clean-energy opportunities for low- and moderate-income residents.

**Natural and Working Lands** Over the last four years (FY15–FY18) Massachusetts permanently conserved 48,396 acres (75 square miles). In addition, EEA is investing $1 million annually in grants to improve local land use practices. Early in 2019, the Commonwealth published new land use/land cover data, which when combined with carbon profiles for land cover types and re-iterated, enables the tracking of changes in terrestrial carbon stock. Governor Baker announced another $1.6 million in state and federal grant funding in April 2019 for Massachusetts towns to conduct projects relating to climate adaptation and river and wetland habitat restoration.
Climate Framework and Laws Early in her first term, Governor Gretchen Whitmer signed two directives that address climate change. Executive Directive 2019-12 pledged Michigan to join the U.S. Climate Alliance and ordered the state to implement policies that advance the goals of the Paris Agreement, aiming to reduce greenhouse gas (GHG) emissions by at least 26–28% below 2005 levels by 2025; track and report progress to the global community, including when the world convenes to take stock of the Paris Agreement; and accelerate new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level. Executive Order 2019-06 created the Office of Climate and Energy to coordinate the activities of state departments and agencies on climate response; provide insight and recommendations to state government and local units of government on how to mitigate climate impact and adapt to climate change; and provide guidance and assistance for the reduction of GHG emissions, renewable energy and energy efficiency, and climate adaptation and resilience. In August 2019, Governor Whitmer announced new lead-by-example efforts that will make state facilities, parks, fish hatcheries, and prisons more sustainable. Michigan saw 4% growth in clean energy jobs from 2017 to 2018, which represents 2.5 times the state’s overall jobs growth rate; 2.5% of all Michigan jobs (1 in 40) are now in clean energy.
**Power Generation** Michigan's *Clean, Renewable, and Efficient Energy Act*, signed into law in December 2016, requires Michigan electric providers to achieve a retail supply portfolio that increases from 10% in 2015 to 15% in 2021. Michigan's 2016 integrated resource planning process is resulting in utilities including more efficiency and renewables in their long-term plans than required under the renewable energy standard (RES) and energy waste reduction standard. Nearly all electric utilities regulated by the Michigan Public Service Commission (MPSC) have committed to carbon-reduction targets and renewable energy beyond statutory requirements. This year, the MPSC held a state-hosted energy storage symposium for stakeholders. Michigan’s overall coal use declined from 66% to 37% between 2008 and 2017. The Michigan Energy Assistance Program provides $50 million in energy assistance to low-income customers. Michigan’s Voluntary Green Power green tariffs program allows customers to specify a certain amount of electricity they buy from a utility is to be generated using renewable energy sources and has many corporate leaders participating.

**Energy Efficiency** Michigan’s Public Acts 341 and 342 of 2016 set a state standard of an incremental 1% energy-efficiency target per year, requiring all electric providers (other than alternative electric suppliers) and all rate-regulated natural gas utilities to file energy optimization (efficiency) programs with the MPSC. Utilities have been consistently exceeding minimum targets for energy efficiency.

**Transportation** The Michigan Climate and Energy Office is working toward accelerating economic growth by encouraging investment to advance mobility, manufacturing, and healthy communities. The office recently funded a study to optimize electric vehicle (EV) charging station placement in Michigan, and the MPSC has approved more than $23 million in utility investment in EV charging. In April 2019, they hosted an EV ride-and-drive event that gave residents the opportunity to look at, ride in, or drive in a variety of EVs.

**Resilience** During two periods of extreme weather with record-low temperatures during the 2018–19 winter, Governor Whitmer signed a state-of-emergency declaration and activated the State Emergency Operations Center (SEOC). Following these emergencies, the governor directed the MPSC to review the supply, engineering, and deliverability of Michigan’s natural gas, electricity, and propane and evaluate if Michigan’s energy systems are adequate to account for changing system conditions and extreme weather events. The *Statewide Energy Assessment* and accompanying recommendations will be released in September 2019.

**Climate Finance** Michigan Saves is a nonprofit organization operating as a green bank that offers financing programs for energy-efficiency improvements throughout the state. Established in 2009 through a grant from the MPSC, Michigan Saves makes affordable financing and incentives available through grants and partnerships with private-sector lenders and energy providers. They authorize and monitor a network of contractors and provide technical assistance for both customers and contractors. Their portfolio includes programs for residential, commercial, and municipal customers, and supports energy efficiency, geothermal, and solar PV projects. As of 2018, Michigan Saves financed more than $172 million in energy efficiency and renewable energy improvements. Michigan has authorized property-assessed clean energy (PACE) financing and now 25 counties and 15 municipalities (representing a majority of Michigan residents) have PACE financing in their community. Michigan has authorized on-bill financing for municipal electric utilities and investor-owned utilities. The state has also updated its performance contracting laws in recent years, including authorizing tax-exempt lease purchase options for energy upgrades.

**Natural and Working Lands** The Michigan *Wildlife Action Plan for 2015–2025* provides a framework to coordinate wildlife and habitat conservation and considers the climate vulnerability of focal species of greatest conservation need. In June 2019, the Michigan Department of Agriculture and Rural Development announced its decision to allow land currently enrolled in the Farmland and Open Space Preservation Program, which provides tax incentives to landowners who keep their land under agreements for agricultural use, to be used for commercial solar array purposes.
In the 2019 Legislative Session, Governor Walz championed the One Minnesota Path to Clean Energy, a set of policy proposals that will lead the state’s electricity sector to 100% clean energy by 2050, which aimed to drastically cut air pollution while creating jobs and opportunity for people across Minnesota, keeping energy costs low for Minnesota families, and maintaining reliability of the electricity grid.

**Climate Framework and Laws** Governor Tim Walz and Lieutenant Governor Peggy Flanagan announced their proposed One Minnesota Path to Clean Energy, a set of policy proposals that will lead Minnesota to 100% clean energy in the state's electricity sector by 2050. The plan includes a Clean Energy First proposal, which prioritizes renewable energy procurement whenever a utility proposes to replace or add new power generation, and an Energy Optimization proposal, which would raise Minnesota’s energy efficiency resource standard (EERS) for investor-owned electric utilities and encourage utilities to develop programs to help residents switch to more-efficient, cleaner energy.

**Power Generation** The Next Generation Energy Act (2007) set a 25% renewable energy standard (RES) by 2025. As of 2016, Minnesota had achieved more than 22% of electricity coming from renewable sources and is projected to reach more than 40% by 2030. This act also set greenhouse gas (GHG) reduction goals of 15% by 2015, 30% by 2025, and 80% by 2050. In 2013, the Minnesota Legislature passed a 1.5% solar energy standard, which requires utilities to produce 1.5% of retail sales from solar energy by 2020. The legislation also set a 10% solar goal by 2030. More than 100 community solar projects now exist in the state and accounted for 508 megawatts (MW) of Minnesota's total solar capacity in 2018.
Energy Efficiency  The Conservation Improvement Program (CIP) is a ratepayer-funded statewide program administered by electric and natural gas utilities to help Minnesota households and businesses use electricity and natural gas more efficiently. The Next Generation Energy Act set a 1.5% EERS beginning in 2010 for electric and natural gas utilities. Each utility is required to develop a CIP plan to achieve energy savings equal to at least 1.5% of gross retail sales annually. The Sustainable Buildings 2030 Energy Standard is a progressive energy conservation program designed to significantly reduce the energy and carbon in Minnesota commercial, institutional, and industrial buildings that receive general obligation bonds. Every five years, the total carbon emissions target from buildings is reduced so that in 2030 a 100% reduction (net-zero carbon) is achieved.

Transportation  In 2019, the Minnesota Department of Transportation (MnDOT), the Minnesota Pollution Control Agency, and Great Plains Institute released Accelerating Electric Vehicle Adoption: A Vision for Minnesota, a statewide vision for increasing electric vehicle (EV) use to 20% of light-duty vehicles by 2030. The plan calls for strategies including: accelerate EV sales and use through education and other methods, build out EV charging infrastructure, coordinate on regional and national initiatives to expand EV charging opportunities, and prioritize renewable energy to charge EVs. In addition, MnDOT has its own GHG emissions-reduction goal of 30% below 2005 levels by 2025 for emissions generated by MnDOT-owned projects and facilities. The Department of Administration has goals for state enterprise, including GHG emissions reduction, energy consumption, sustainable purchases, state fleet fossil-fuel consumption, solid waste, and water-use targets.

Resilience  Minnesota state agencies are implementing several programs to address climate impacts. For example, the Minnesota Pollution Control Agency, in partnership with Conservation Corps Minnesota, supports community resilience projects that focus on new green infrastructure in underserved urban neighborhoods and in cities throughout the state. In 2019, Minnesota’s Interagency Climate Adaptation Team (ICAT) issued a comprehensive report, Adapting to Climate Change in Minnesota, to further advance priority climate adaptation recommendations and assess Minnesota state agency responses to climate impacts. The report identified six priority recommendations for further action: resilience to extreme precipitation, health of vulnerable populations, preserving ecosystems, strengthening agricultural water management, managing climate impacts in population centers, and better using climate data.

Climate Finance  The state administers and oversees programs that help advance private-sector and residential investments in energy efficiency and renewable energy. Examples include Minnesota’s commercial property-assessed clean energy program (MinnPACE), Trillion BTU Revolving Loan Fund, and the Minnesota Housing Finance Agency’s Fix it Up! program. Minnesota offers a Residential Renewable Energy Tax Credit, as well as Made in Minnesota, an incentive program for consumers who install solar PV and solar thermal systems using solar modules and collectors manufactured in Minnesota.

Natural and Working Lands  The Minnesota Pollution Control Agency issued the Greenhouse Gas Emissions in Minnesota: 1990–2016 report in January 2019, detailing Minnesota’s progress on its GHG emissions reductions. The report noted that improving best management practices in forestry and agriculture can serve to reduce the state’s emissions.
Climate Framework and Laws Montana released its initial Climate Change Action Plan in 2007. That plan spelled out the state's goal of reducing emissions to 1990 levels by 2020. Key aspects include: providing incentives for advanced fossil-fuel generation and carbon capture and storage, developing clean-car standards for light-duty vehicles, and improving agricultural soil carbon management. In 2016, Governor Bullock released the Montana Energy Future report, detailing his energy vision for the state. In 2019, Governor Bullock signed Executive Order 8-2019 (EO 8-2019), joining Montana to the U.S. Climate Alliance and creating the Montana Climate Solutions Council. The Council will provide recommendations and strategies for the state to reduce GHG emissions and strengthen GHG inventories, including accounting measures to track progress and maintain accountability. The Council is tasked with issuing the Montana Climate Solutions Plan for achieving an interim goal of net GHG neutrality for average annual electric loads in the state by no later than 2035 and a goal of economy-wide net GHG neutrality at a date determined by the Council.

Power Generation Montana’s economy is well positioned to build upon the clean-energy accomplishments of the past six years, including
attainment of the 15% renewable portfolio standard (RPS) for utilities in 2015, doubling wind capacity with 180 megawatts (MW) of new construction, quadrupling installed solar capacity with the development of Montana’s first six utility-scale solar farms, installation of community solar projects by four rural electric cooperatives, and a 250% increase in the number of solar-powered homes and businesses. The Montana Solar Community Project seeks to expand access to solar energy solutions for Montana communities by providing technical, planning, and financial resources to help develop projects. Montana is the fifth-largest producer of hydroelectric power in the United States, with more than half of all power in the state produced from renewable resources. The Montana Renewables Development Action Plan (June 2018) identifies 28 significant findings and 19 actions to remove barriers to the development and export of Montana renewable resources. The state also requires that new coal plants completed since January 2007 meet an emissions performance standard.

**Energy Efficiency** State government leads by example through its High-Performance Building Standards required of all new state buildings, and the State Building Energy Conservation Program. In addition, in 2014 Governor Bullock directed state agencies to begin monitoring energy use in state buildings and to begin publicly disclosing these energy numbers online. The state has adopted the International Energy Conservation Code with Montana-specific amendments applicable to all new residential construction. Montana tax law also provides an income tax credit for certain investments in energy efficiency.

**Transportation** In October 2017 Governor Bullock joined Montana into a memorandum of understanding (MOU) among western states to provide a framework for creating an Intermountain West Electric Vehicle Corridor. The University of Montana became the first university in the country to operate fast-charging electric buses in 2016. Montana requires that state vehicles meet or exceed the Corporate Average Fuel Economy (CAFE) Standards.

**Resilience** The Montana Ready Communities Initiative (MRCI) supports community resilience in the face of natural, human-caused, and economic challenges. The Montana Department of Commerce will develop a Montana Resiliency Framework, which will be an integrated and interdisciplinary strategy to ensure that long-term planning, projects, and priorities proactively address challenges and vulnerabilities while building community resilience. As part of EO 8-2019, the Montana Climate Council will coordinate with relevant state agencies to incorporate climate adaptation strategies into existing planning and operations and lead a state government-wide effort to prepare Montana’s communities for disaster-related risks.

**Climate Finance** The Alternative Energy Revolving Loan Program provides low-interest loans to increase investments in alternative energy systems and energy conservation measures in homes and businesses. Since its inception, more than $10.3 million in funding has been provided. In addition, income tax credits are available for both new home alternative energy systems and geothermal energy systems or ground-source heat pumps.

**Natural and Working Lands** EO 8-2019 requires that the Climate Solutions Council include strategies for supporting “voluntary, incentive-driven tools and technologies for improving productivity, reducing emissions, and boosting soil health and carbon storage on farms and ranchlands, and in forests and wood products” in the Montana Climate Solutions Plan.
In June 2019, the Nevada state legislature passed Senate Bill 254 that establishes the state’s GHG emissions-reduction targets of 28% below 2005 levels by 2025, 45% by 2030, and net-zero or near-zero emissions by 2050. The Department of Conservation and Natural Resources (DCNR) is required to produce an annual inventory and develop a set of policy options—in consultation with other agencies as directed by the governor—for reducing GHG emissions. DCNR is also charged with issuing a projection of future GHG emissions across a 20-year timeframe. The annual report would cover emissions in six sectors: electricity production, transportation, industry, commercial and residential, agriculture, and land use and forestry. It would also include policy recommendations and estimates of required GHG reductions to achieve the state’s decreasing GHG target.

In April 2019, Governor Steve Sisolak signed Senate Bill 358, establishing more-stringent targets for Nevada’s RPS and made Nevada the fourth state in the U.S. to establish a 100% clean energy target. The new RPS increases Nevada’s target to 50% renewable energy by 2030, with a goal of 100% by 2050, and applies to all electricity providers in the state. On May 29, 2019, Governor Sisolak approved Senate Bill 27.
300, allowing utilities to adopt alternative rate-making structures such as performance-based ratemaking.

**Energy Efficiency** Nevada has adopted the 2018 International Energy Conservation Code (IECC) for its residential and commercial building codes (local governments adopted with amendments). Nevada is leading by example through its requirement to track and improve energy usage in State buildings. Under Revised Statute 701.218, the Governor’s Office of Energy tracks and documents energy consumption for buildings owned or occupied by state agencies and will identify areas for efficiency improvements. Assembly Bill 54, approved in May 2019, establishes new light bulb efficiency standards, backstopping the proposed rollback of the federal standards.

**Transportation** Senate Bill 145 (2017) incentivized installation of energy storage and renewable energy systems and established the Electric Vehicle Infrastructure Demonstration Program. The legislation laid the groundwork for utility NV Energy’s electric vehicle (EV) infrastructure program and energy-storage investments. NV Energy’s EV infrastructure program allows up to $15 million for public EV charging infrastructure. Nevada is a signatory of the Intermountain West Electric Vehicle Corridor, an eight-state memorandum of understanding (MOU) to improve EV interconnectivity between member states. The MOU seeks to “make it possible to seamlessly drive an EV across the Signatory States’ major transportation corridors.” The MOU signatories agree to expand EV charging infrastructure throughout the corridor and share best practices. Nevada and Colorado co-chair this effort. The Nevada Electric Highway (NEH) program aims to “expand that state’s electric vehicle charging infrastructure by placing charging stations at cost-effective and strategic locations, initially along U.S. 95 between Reno and Las Vegas.” Charging stations are already available along the U.S. 95 Reno-Las Vegas corridor of the NEH in Beatty, Fallon, Tonopah, and Hawthorne, and along the U.S. 93 corridor in Panaca. Additional future stations have received grants and are under construction.

**Resilience** Senate Bill 329 requires electric utilities to provide the Public Utilities Commission of Nevada (PUCN) natural disaster plans, with particular focus on the prevention of wildfires and service restoration in response to such disasters. In 2018, the Nevada Department of Public Safety’s Division of Emergency Management released a *Statewide Resilience Strategy and Legislative Recommendations* to the Nevada Commission on Homeland Security. While the strategy does not discuss climate impacts directly, it does propose the formation of a Resilience Commission to oversee preparedness and response efforts related to emergencies or disasters in the state.

**Climate Finance** Nevada established its Clean Energy Fund (NCEF) in 2017. NCEF seeks to expand and expedite financing for clean energy and energy-efficiency projects in Nevada that create high-paying, long-term jobs. The Fund also aims to foster the development of measurement and verification protocols for clean-energy projects, promote the creation of performance data that enables effective underwriting, and stimulate the development of secondary investment markets, among other objectives.

**Natural and Working Lands** Nevada’s state *Wildlife Action Plan* was revised in 2012 to incorporate climate change impacts and analyze the vulnerability of habitats and species. The Nevada Division of Forestry is finalizing a statewide wildfire planning, mitigation, and restoration strategic plan that will incorporate climate change impacts.
Governor Murphy has reestablished New Jersey’s leadership on climate change, putting the state on a path to 100% clean energy by 2050. His ambitious climate agenda includes leading New Jersey’s reentry into the Regional Greenhouse Gas Initiative (RGGI), advancing the development of offshore wind, restructuring the state’s solar market, promoting green job growth, and ensuring equitable access to clean energy for people across the state.

**Climate Framework and Laws** The *Global Warming Response Act* (2007) authorizes the state to enter the RGGI and establishes two targets for greenhouse gas (GHG) emissions, including an 80% reduction from 2006 levels by 2050; the goal of reaching 1990 emission levels by 2020 has already been achieved. In June 2019, New Jersey formally re-entered RGGI. New Jersey’s participation begins on January 1, 2020, with the first auction in March 2020.

Governor Murphy has also signed an executive order directing the Department of Environmental Protection (DEP) to develop guidance on how all state departments can incorporate environmental justice considerations into their actions. Environmental justice touches a wide variety of issues related to quality of life, including housing, health, and transportation.

**Power Generation** In May 2018, Governor Phil Murphy signed Executive Order 28 (EO 28) directing the development of an *Energy Master Plan* that lays out the strategy for New Jersey to reach 100% clean energy by 2050. The first draft was released in June 2019, identifying seven strategies to achieve this goal, including: cutting emissions from the transportation and building sectors, deploying renewable energy and...
clean power generation with a focus on disadvantaged communities, improving energy efficiency, modernizing energy infrastructure, and supporting innovation and economic growth. Executive Order 8 (EO 8) establishes an ambitious goal of generating 3,500 megawatts (MW) of offshore wind by 2030. In June 2019, the Board of Public Utilities awarded the first 1,100 MW of offshore wind through a competitive bid process.

The state’s Clean Energy Act (2018) set additional targets for expanding New Jersey’s generation of clean energy, including a renewable portfolio standard (RPS) of 50% by 2030, restructuring the solar industry to enable long-term growth, establishing a community solar program, and investing in energy storage. New Jersey has also implemented a zero-emission credits (ZECs) program for its nuclear industry.

**Energy Efficiency** The Clean Energy Act also includes the state’s first statutory energy-efficiency standards, which sets annual reductions of 2% for electricity consumption and 0.75% for natural gas consumption. In 2018, New Jersey was recognized as the “most improved” state for its energy-efficiency policies and best practices, according to the annual scorecard from the American Council for an Energy-Efficient Economy (ACEEE).

**Transportation** New Jersey is a part of the Multi-State ZEV Task Force, has signed the State Zero-Emission Vehicles Programs Memorandum of Understanding, and has committed to getting 330,000 zero-emission vehicles (ZEVs) on the road by 2025. Using multiple funding opportunities, including the Volkswagen Settlement, New Jersey provides grants to install workplace charging infrastructure and offers incentives for drivers of fuel-efficient vehicles or ZEVs, including E-ZPass toll discounts, insurance discounts, and tax breaks, among others. In June 2019, New Jersey established “Partnership to Plug-in,” a first-of-its-kind, statewide partnership seeking to address critical aspects of electrification such as mapping of existing and planned charging infrastructure assets, installing electric vehicle (EV) charging infrastructure throughout the state, working with lawmakers to establish an EV rebate program to incentivize adoption among New Jersey residents, and creating an attractive corporate environment for ZEV-related primary and secondary companies.

**Resilience** New Jersey is addressing resilience through infrastructure, regulation, and planning. Working with the U.S. Army Corps of Engineers, the state’s DEP has completed over $1.2 billion of coastal protection infrastructure projects over the past five years, with another $800 million under way to ensure that developed areas can withstand weather and flooding events with minimal impacts. Since Superstorm Sandy, DEP has financed over $300 million of storm resiliency improvements (e.g., flood walls, relocation of critical equipment to higher elevations, new auxiliary power units). New Jersey is investing in energy resilience by developing microgrids capable of maintaining power during extreme weather events and upgrading its fuel supply and distribution infrastructure to ensure fuel can be distributed in case of an extreme weather event. DEP’s regulatory structure for coastal development encourages growth in areas outside the 500-year flood zones. New Jersey is engaged with several planning initiatives related to climate change, including work with local coastal communities on a Regional Resilience and Adaption Action Plan and is developing a statewide climate change resilience strategy.

**Natural and Working Lands** Governor Murphy signed legislation banning offshore oil drilling in New Jersey state waters and prohibiting DEP from issuing any permits and approvals for the on-shore development of offshore oil drilling infrastructure. Following the announcement in 2018 that the Trump Administration authorized airgun use in waters off the East Coast, Governor Murphy and a group of bipartisan governors from nine other states along the Atlantic coastline opposed the seismic testing and offshore drilling in the Atlantic Ocean. The governor announced his support for a full fracking ban in the Delaware River Basin and that proposed rules should be amended to ban all fracking activity, including the import, treatment, and discharge of fracking wastewater. New Jersey also has robust open space and farmland preservation programs that have preserved nearly 1.5 million acres of land.
Climate Framework and Laws In January 2019, Governor Michelle Lujan Grisham issued Executive Order 2019-003 (EO 2019-003) announcing New Mexico’s membership in the U.S. Climate Alliance, while also directing state agencies to evaluate climate-change impacts and incorporate mitigation and adaptation into state programs and operations. The order issued a statewide goal of reducing GHG emissions 45% below 2005 levels by 2030 and established an interagency Climate Change Task Force. The Task Force is required to issue a New Mexico climate strategy by September 2019, which should consider a range of emissions-reduction policies, including vehicle standards, building code modifications, market-based initiatives, and renewable energy transmission infrastructure development.

Power Generation In March 2019, the governor signed the Energy Transition Act, which increases the state’s renewable energy standard (RES) to 40% by 2045 and 50% by 2030 for investor-owned utilities (IOUs) such as Public Service Company of New Mexico (PNM) and rural electric cooperatives. For IOUs, the law increases...
that standard to 80% by 2040 and targets 100% carbon-
free sources by 2045. For electric cooperatives, the bill
calls for a similar goal by 2050. The bill also establishes
three funds to provide transition assistance to tribal
communities, displaced workers, and the broader
affected community to promote economic development
and job training.

**Energy Efficiency** In 2019, a new bill passed
updating utility energy-efficiency targets and removing
utilities’ barriers to energy conservation by decoupling
profit gains from quantity of power sold. In April 2019,
New Mexico’s General Services Department announced
a $32 million energy-efficiency project retrofitting more
than 30 State office buildings in Santa Fe. The project will
include lighting efficiency and HVAC improvements, solar
power for 19 buildings, and battery storage capabilities
for solar power. New Mexico is leading by example
through this initiative, which will save the state an
estimated $1.1 million per year.

**Transportation** In March 2019, legislation
passed clarifying that electric vehicle (EV) charging
infrastructure providers will not be regulated as public
utilities. By reducing uncertainty about how these
companies will be regulated, the bill aims to spark
EV infrastructure deployment in New Mexico. The
bill also enacts a new section of the Public Utilities
Act requiring public utilities to file an application
to expand transportation electrification with the
commission. Applications will be evaluated on factors
including reduction of GHG emissions and air pollution,
accessibility increases for low-income and underserved
users, and expected efficiency improvements. Governor
Lujan Grisham’s EO 2019-003 directs the Climate Change
Task Force to evaluate the options to reduce GHG and
criteria pollutant emissions from light-duty vehicles sold
in state, including low-emission vehicle (LEV) emissions
standards and zero-emissions vehicle (ZEV) performance
standards. New Mexico has also taken efforts to electrify
its State vehicle fleet.

**Resilience** In 2019, two new resilience-related bills
were enacted: the Forest & Watershed Restoration Act
(with $2 million recurring funding for projects) and the
Healthy Soils Act. The report due under EO 2019-003 is
expected to yield additional resilience strategies.

**Climate Finance** New Mexico offers various
sustainability tax credits. The Sustainable Building Tax
Credit program applies to commercial and residential
buildings that meet certain green-building or energy-
efficiency requirements. The state’s Biodiesel Blending
Facility Tax Credit covers up to 30% of the cost of both
purchasing and installing equipment used to produce
biodiesel blends containing at least 2% biodiesel, with
a maximum credit amount of $50,000 per facility. The
geothermal ground-coupled heat pump tax credit
provides up to 30% of system cost, up to $9,000. The
Agricultural Biomass Tax Credit incentivizes the removal
and transportation of agricultural biomass waste to
generate electricity or renewable natural gas.

**Short-Lived Climate Pollutants** Pursuant to
EO 2019-003, the New Mexico Environment Department
and the state’s Energy, Minerals and Natural Resources
Department are jointly developing a statewide,
enforceable regulatory framework to secure reductions
in oil- and gas-sector methane emissions and to prevent
waste from new and existing sources. New Mexico
released a detailed state map indicating the location and
scale of methane emissions from wells across the state,
including oil, gas, CO₂, injection, and water wells. The map
also shows the total excess volatile organic compound
emissions reported as a measure of air-quality impacts.
Climate Framework and Laws In 2019, Governor Andrew Cuomo signed the historic Climate Leadership and Communities Protection Act (CLPCA), which requires the state to reduce GHG emissions 85% below 1990 levels by 2050 and offset the remaining 15%. Under Governor Cuomo’s Reforming the Energy Vision (REV) strategy, New York is building a clean, affordable, and resilient energy system for all New Yorkers. In 2017, Governor Cuomo co-founded the U.S. Climate Alliance and issued Executive Order 166 (EO 166), reaffirming New York’s commitment to emissions reductions in the face of the federal government’s retreat from the Paris Agreement.

Power Generation The state’s new Clean Energy Standard will dramatically increase New York’s electricity from renewable energy to 70% by 2030; by 2040, all electricity will be derived from carbon-free sources. On July 18, 2019, Governor Cuomo announced the procurement of 1,700 megawatts (MW) of offshore wind, the nation’s largest offshore wind procurement. And since 2012, the distributed solar sector has grown 1,700% in the state. New York will be one of the largest global

NEW YORK’S CLIMATE LEADERSHIP

New York’s Climate Leadership and Community Protection Act requires the state to achieve a carbon-free electricity system by 2040 and reduce greenhouse gas (GHG) emissions 85% below 1990 levels by 2050, setting a new standard for states and the nation to expedite the transition to a clean-energy economy.
economies to end the use of coal for electric generation. The move follows the adoption of regulations requiring all power plants in New York to meet new emissions limits for carbon dioxide that will ultimately end the use of coal in New York State power plants by the end of 2020. In April 2019, Governor Cuomo announced up to $30 million to support projects to improve the resilience, flexibility, and integration of renewable energy resources onto New York’s electric grid while also soliciting 1.5 terawatts (TW) of large-scale renewable energy projects under the state’s Clean Energy Standard. And under the CLPCA, clean-energy targets announced by the governor in January will be codified: 3 gigawatts (GW) of energy storage by 2030, 6 GW of distributed solar by 2025, and 9 GW of offshore wind by 2035.

**Energy Efficiency** The state’s New Efficiency: New York initiative is an ambitious acceleration of energy efficiency and includes a wide range of strategies to help households, developers, building owners, and industrial facilities reduce energy consumption. The initiative will enable New York to save the energy equivalent to that of 1.8 million homes by 2025. The CLCPA calls for a specific target of increasing energy efficiency in the state 23% above 2012 levels by 2030. In 2019, New York State launched the Buildings of Excellence Competition, a $30 million competition with $10 million being offered in each of three rounds for low-carbon building design and development.

**Transportation** The Charge NY program is accelerating the transition to a self-sustaining market for plug-in electric vehicles (PEVs) in New York State. In its first phase, the program established a goal of 30,000 to 40,000 PEVs by the end of 2018. The recently announced Charge NY 2.0 aims to attain at least 10,000 charging stations by 2021. New York Power Authority’s EVolve NY program will invest $250 million in the electric vehicle (EV) marketplace by 2025, including funding 200 fast chargers across the state through 2020. New York’s $55 million Drive Clean NY program provides EV rebates to consumers, and the state’s Environmental Protection Fund supports municipal purchases of zero-emissions vehicles (ZEVs) and infrastructure. New Yorkers are buying EVs at a record pace, with sales increasing by 63% in 2018.

**Resilience** Climate Smart Communities is an interagency partnership that provides no-cost state support to local governments that pass resolutions to act on climate change. Across New York, 270 communities representing 41% of the population have taken the 10-point Climate Smart Communities Pledge, and 24 communities have gone beyond the pledge to become certified Climate Smart Certified Communities. The Community Risk and Resiliency Act requires state agencies to consider sea-level projections, extreme weather events, and other climate change impacts in implementing programs, and New York’s Department of State has developed best practices for building, resilience, and land use.

**Climate Finance** In 2013, Governor Cuomo established NY Green Bank to accelerate clean-energy deployment by working in collaboration with the private sector to transform financing markets. As of August 2018, the Bank’s committed investments of $522 million are expected to mobilize $1.46 to $1.7 billion in sustainable infrastructure investment in clean-energy projects in New York State.

**Short-Lived Climate Pollutants** New York announced its intention to propose regulations in 2019 to prohibit the use of high-warming hydrofluorocarbons (HFCs), consistent with the 2015 and 2016 U.S. EPA Significant New Alternatives Policy (SNAP) rules.
Governor Cooper’s 2018 executive order calls for a 40% reduction in statewide greenhouse gas (GHG) emissions, 40% improvement in state building energy efficiency, and 80,000 zero-emissions vehicles (ZEVs) by 2025. In 2019, state agencies developed plans to support these goals—including a Clean Energy Plan, Zero-Emission Vehicles Plan, workforce assessments, and Motor Fleet Zero-Emission Vehicles Plan—and published a state GHG Inventory. North Carolina hosts 43,000 clean energy jobs and remains #2 nationally in installed solar capacity. A 2017 energy law will roughly double the state’s solar capacity in four years.

**Climate Framework and Laws** In October 2018, Governor Roy Cooper signed Executive Order 80 (EO 80), reaffirming the state’s commitment to address climate change and transition to a clean energy economy. EO 80 establishes the state’s GHG emissions-reduction target (40% below 2005 levels by 2025). It also identifies actions to reduce North Carolina’s climate impact and vulnerability, including: establishing a Climate Change Interagency Council responsible for developing mitigation and adaptation programs; requiring the submission of a clean energy plan and a ZEV plan; and requiring agencies to incorporate climate measures into their programs, operations, and policies. EO 80 supports the development of clean-energy businesses and investments, and requests that the state’s Department of Commerce submit a workforce assessment to help North Carolinians meet demand for clean energy and transportation jobs. The North Carolina Department of Environmental Quality (DEQ) has released a statewide GHG inventory for...
sector-specific emissions covering 1990–2017, and also projects future emissions through 2030.

**Power Generation** North Carolina’s renewable energy and energy efficiency portfolio standard (REPS) requires investor-owned utilities in the state to supply 12.5% of 2020 retail electricity sales from eligible energy resources by 2021. Municipal and electric cooperatives must meet a target of 10% by 2018. DEQ is charged with developing the *North Carolina Clean Energy Plan* under Section 4 of EO 80. This will be a stakeholder-informed action plan to increase the utilization of clean-energy technologies, energy-efficiency measures, and clean transportation solutions.

**Energy Efficiency** The North Carolina State Energy Office (SEO) works with local governments, businesses, and community organizations to help them become more energy efficient and educates businesses about tax credits that can make sustainable practices benefit their bottom line. The state’s Utility Savings Initiative for public buildings assesses the entire stock of state buildings, which in the summer of 2018 met its U.S. Department of Energy Better Buildings Challenge goal by achieving an overall 21% improvement in energy intensity, compared to the 2009 baseline year, for North Carolina’s building portfolio totaling 138 million square feet. The North Carolina Weatherization Assistance Program enhances the well-being of low-income residents through the installation of energy-efficient and energy-related health and safety measures. In FY 2019, the program weatherized 2,083 residences across the state. EO 80 Section 8 requires the development of a Comprehensive Energy, Water, and Utility Use Conservation Program to further reduce energy consumption for all state-owned buildings. As of February 2019, the state has achieved a 28% reduction in energy consumption.

**Transportation** EO 80 aims to have 80,000 zero-emission vehicles (ZEVs) on the state’s roads by 2025. The state Department of Transportation (DOT) is required to develop a ZEV plan outlining compliance with this goal and submit it to the governor by October 1, 2019. Since 2001, 75% of North Carolina state government new light-duty vehicle (LDV) fleet acquisitions must be alternative-fuel vehicles (AFVs). The state earns vehicle credits for purchased light-duty and heavy-duty AFVs, which may be sold, banked, or traded between fleets. As of September 2017, North Carolina earned a total of 3,023 credits under this program. North Carolina’s Department of Administration is exploring the application and utilization of ZEVs in both state and local government motor fleets and will be submitting the *NC Motor Fleet ZEV Plan* by October of 2019.

**Resilience** The North Carolina Division of Coastal Management (DCM) is addressing sea-level rise and coastal resilience through several research, planning, and policy initiatives. DCM provides staff support to the Coastal Resource Commission (CRC) Science Panel, which develops a *5-Year Sea Level Rise Synthesis and Assessment Report* to monitor changing conditions, evaluate state-specific data, and guide coastal policy development. EO 80 Section 9 requires DEQ, with the support of the cabinet agencies, to submit the *NC Climate Risk Assessment and Resiliency Plan* informed by stakeholder engagement by March 2020. Section 9 also calls for the support of local governments interested in developing community-level adaptation and resilience plans. In addition, DEQ is working with the North Carolina Institute for Climate Science to develop the *NC Climate Science Report* detailing the current climate trends in the state, which will be released in December of 2019.

**Natural and Working Lands** The Division of Mitigation Services restores and protects wetlands and waterways through mitigation programs designed to assist private and public entities in complying with state and federal compensatory mitigation for streams, wetlands, riparian buffers, and nutrients. The DEQ Natural and Working Lands (NWL) stakeholder group is also exploring cost-effective opportunities in land conservation and management practices that provide co-benefits of improving ecosystem health and sequestering carbon and will be working to develop a *NWL Action Plan* to be published by January 2020.
Climate Framework and Laws The Clean Electricity and Coal Transition Act (2016) prohibits the state’s largest investor-owned utilities from including electricity generated by coal in their rates by 2030, while doubling Oregon’s renewable portfolio standard (RPS) commitment to 50% by 2040. The Oregon Global Warming Commission tracks trends and makes recommendations on reducing greenhouse gas (GHG) emissions, including through the Roadmap to 2020 report.

Power Generation SB 98 (passed in 2019) creates the nation’s first portfolio goals for renewable natural gas procured and served by Oregon’s natural gas utilities. Oregon’s last coal-fired power plant is on track to close by 2020. The state requires electric utilities to offer voluntary programs for their customers to opt to be served entirely by renewable energy sources. The state’s investor-owned utilities are required to propose plans for investment in Utility Transportation Electrification Programs, which are reviewed by the Oregon Public Utility Commission and total several million dollars annually. The Energy Facility Siting Council is working to reduce net CO₂ emissions of energy facilities in Oregon.
by setting net CO₂ emissions rate standards and requiring facilities to reduce their emissions accordingly, leading to several million metric tons CO₂-equivalent emission reductions to date. Oregon shares information on the location, system size, cost per watt, and annual total production of its solar facilities through the Oregon Solar Dashboard, an online tool released in 2019.

**Energy Efficiency** The State Energy Efficiency Design Program (SEED) helps state buildings implement energy efficiency through institutional retrofits and best practices, saving the state more than $71 million in energy costs annually. The Energy Efficient Schools Program has implemented approximately 3,000 cost-effective energy efficiency projects in Oregon’s K-12 public schools. Governor Brown signed a 2017 executive order directing increased energy efficiency targets for state-owned buildings and establishing a carbon neutrality goal for all new state office buildings permitted after January 1, 2022 (Executive Order 17-20). The executive order also focuses on increasing energy efficiency in all buildings across Oregon by revising building codes, improving state appliance standards, and prioritizing retrofits of certain existing buildings.

**Transportation** Executive Order 17-21 lays out a multi-agency strategy for achieving the goal of having 50,000 registered EVs on Oregon’s roads by 2020. This goal is complemented by the Clean Vehicle Rebate Program, which began issuing rebates in early 2019. Oregon’s Clean Fuels Program requires a 10% reduction in the lifecycle carbon intensity of the state’s transportation fuels from 2015 levels by 2025.

**Resilience** Oregon’s *Climate and Health Resilience Plan* (2017) identifies adaptation strategies for state and local governments across multiple climate impacts. Oregon also has had a Climate Change Adaptation Framework in place since 2010, which was used to build awareness of climate change impacts and develop short-term actions to address these. Efforts began in 2018 to update this framework, with publication expected in summer 2020. This updated framework will aim to inventory what actions have been taken, update science and adaptation actions, and address gaps in the 2010 Framework, including uniquely impacted communities and regions, public health issues, implementation schedule, and using benchmarks to evaluate progress and demonstrate success. Oregon’s Health Authority offers a Climate Change: Resilience Planning Toolkit with checklists and resources for communities to build capacity for action, identify risks, engage with stakeholders, evaluate vulnerability, create action plans, and improve processes based on evaluation.

**Climate Finance** Since 1980, the Small-Scale Energy Loan Program (SELP) has made loans totaling over $600 million for local energy projects. A 3% Public Purpose Charge is applied to ratepayers of the state’s largest investor-owned utility to fund energy efficiency, low-income weatherization, and small-scale renewable projects. The state also supports the Renewable Energy Development Grant Program and the State Home Oil Weatherization Program.

**Natural and Working Lands** Oregon’s Department of Forestry has developed a statewide inventory of forest carbon stocks and flows in Oregon’s forested landscapes. Oregon also created the Ocean Acidification and Hypoxia (OAH) Council to evaluate the impacts of OAH on Oregon’s resources and communities and recommend actions to the legislature and state leadership. The state also established and supports the work of the Oregon Climate Change Research Institute.
Climate Framework and Laws The Pennsylvania Climate Change Act requires the Department of Environmental Protection (DEP) to develop and update an annual inventory of GHG emissions, administer a Climate Change Advisory Committee, set up a voluntary registry of GHG emissions, and prepare and update a Climate Change Action Plan every three years. In January 2019, Governor Tom Wolf established Pennsylvania’s first GHG reduction target through Executive Order 2019-01 (EO 2019-01), Commonwealth Leadership in Addressing Climate Change and Promoting Energy Conservation and Sustainable Governance. EO 2019-01 also created the Commonwealth’s GreenGov Council, which is charged with incorporating environmentally sustainable practices into Pennsylvania’s policy, planning, operations, procurement, and regulatory functions.

Power Generation Pennsylvania enacted the Alternative Energy Portfolio Standard (AEPS) in 2004 to provide economic development opportunities by increasing its mix of alternative electricity generation. AEPS requires that by 2021, electric distribution companies and generation suppliers must supply 8% of their electricity from Tier I energy sources (including solar, wind, low-impact hydro, geothermal, biomass, biologically derived methane gas, coal-mine methane,
and fuel cell resources) and 10% from Tier II energy sources (including new and existing waste coal, distributed generation, demand-side management, and municipal solid waste, among other sources). In 2018, Pennsylvania finalized its implementation plan for in-state solar generation sources. Going forward, all new Tier I solar credits must now come from facilities connected to Pennsylvania’s distribution system. January’s executive order established a lead-by-example goal for state agencies to procure renewable energy that offsets at least 40% of the Commonwealth’s annual electricity use and evaluate opportunities to source electricity through Pennsylvania Certified Tier I credits, and/or direct purchase of renewable power generation sited within Pennsylvania.

**Energy Efficiency** Pennsylvania enacted its energy efficiency and conservation program in 2008. Now in its third phase, the program set five-year cumulative targets for each of the Commonwealth’s seven major electric distribution companies of about 3.7% for the 2016–21 time period. As a result, Pennsylvania’s residents have saved over 8.8 million megawatt-hours (MWh) of electricity since 2009, resulting in $6.4 billion in savings to Pennsylvania electric customers, while employing over 65,000 people in the field. Pennsylvania also updated its Uniform Construction Code, including adopting the 2015 International Energy Conservation Code (IECC), while also allowing the city of Philadelphia to adopt the 2018 IECC. Additionally, January’s executive order set a lead-by-example energy performance goal for state agency buildings to collectively reduce overall energy consumption by 3% per year and 21% below 2017 levels by 2025.

**Transportation** Pennsylvania is investing in alternative vehicle deployment through various state incentive programs and completing FAST Act Alternative Fuel Corridors. Pennsylvania is also a member of the Transportation and Climate Initiative (TCI), a regional collaboration of 12 Northeast and Mid-Atlantic states and the District of Columbia that seeks to improve transportation, develop the clean energy economy, and reduce carbon emissions from the transportation sector. Through TCI, Pennsylvania is actively working with other states to design an approach to cap GHG emissions from the transportation sector. Additionally, EO 2019-01 set a lead-by-example goal for all state agencies to replace 25% of the state passenger car fleet with battery electric and plug-in electric hybrid cars by 2025 and evaluate opportunities for the reduction of vehicle miles traveled and incorporation of new technology where appropriate.

**Resilience** DEP updates and publishes a report of the potential impacts of climate change in Pennsylvania every three years. Pennsylvania’s latest Climate Action Plan identified two adaptation-focused goals: 1) Minimize disruptions to Pennsylvania’s citizens, economy, and environment from climate related hazards and 2) Increase Pennsylvania’s ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from climate-related disruptions. The plan also includes sector-specific strategies the Commonwealth should implement in order to achieve these goals. In 2019, Governor Wolf unveiled his Restore Pennsylvania plan to address critical infrastructure needs, including investments that help mitigate flooding. If passed, it will provide funding to help towns and cities prepare for flooding and severe weather, upgrade floodwalls and levees, replace high-hazard dams, and conduct stream restoration and maintenance. The plan will also establish a disaster relief trust fund to assist Pennsylvanians who suffer losses that are not compensated by the federal government.

**Climate Finance** In 2018, Pennsylvania established its commercial property-assessed clean energy (C-PACE) program, which provides business property owners access to low-interest, long-term loans for clean energy and clean water projects that are repaid as property tax to benefit the community. Governor Tom Wolf awarded nearly $30 million in grants for 78 new Solar Energy Program project approvals in 22 counties through the Commonwealth Finance Authority, which will expand solar energy implementation and promote development across Pennsylvania.

**Natural and Working Lands** The Pennsylvania Agricultural Conservation Easement Purchase Program strengthens the Commonwealth’s agricultural economy and protects prime farmland. This program enables state and county governments to purchase conservation easements from farmers. Since 1988, 5,329 farms have been approved for easement purchases totaling 552,702 acres. Through its outreach programs, the Department of Conservation and Natural Resources provides leadership and technical assistance in conserving and managing Pennsylvania’s important forest lands.
Puerto Rico signed the Climate Change Mitigation, Adaption and Resiliency Law, which establishes clear goals, metrics, and deadlines to address the devastating effects of climate change. It also passed the Public Energy Policy Law of Puerto Rico, which mandates 100% renewable energy by 2050. Also, the Puerto Rico Department of Education, in association with Department of Natural and Environmental Resources, is currently developing a climate change curriculum to be implemented in the first semester of 2020.

**Power Generation** In April 2019, Governor Rosselló signed the Public Energy Policy Law of Puerto Rico. The law establishes multiple energy provisions in line with the Governor’s Pledge for Climate Change goals, including calling for 100% renewable energy by 2050, with intermediate benchmarks for 40% by 2025 and 60% by 2040. The law also calls for the elimination of coal as an energy source by 2028. It also establishes an array of provisions intended to improve energy-system resilience and streamline the energy deployment process. The Puerto Rico Electric Power System Transformation Act, enacted in 2019, restructures the Puerto Rico Electric Power Authority (PREPA) through the creation of public-private partnerships (P3s), following declines in PREPA’s service quality and affordability. The act was deemed necessary in response to years of deteriorating infrastructure and service, exacerbated by Hurricane Maria. The P3 framework is intended to increase transparency, fast-track investment, and improve operations.

**Climate Framework and Laws** In response to Hurricane Maria’s impact to the island in 2017, Puerto Rico’s then-Governor Ricardo Rosselló prioritized ambitious climate-change initiatives to bolster resilience, transition the energy sector, and reduce greenhouse gas emissions.
(GHG) emissions. In November 2018, Governor Rosselló introduced the *Puerto Rico Pledge for Climate Change*, which established 10 benchmarks:

1. 100% renewables by 2050 (40% by 2025)
2. 100% CapEx (capital investments) on resilience
3. 500,000 trees in 5 years; increasing reforestation efforts thereafter
4. Reduce carbon footprint by 50% in the next 5 years
5. Climate change education: implement robust school curriculums on mitigation, adaptation, resilience, and response
6. New construction code: stronger, more resilient; transition people into safe housing
7. Create multi-sectoral group to monitor and update necessary policy changes
8. Support science, research, and policy regarding erosion, conservation, water management, pollution
9. Short-term immediate intervention on beaches, reefs, aquifers, and other vulnerable environments
10. Rebuild framework of Puerto Rico needs to be centered on innovation and resiliency

**Energy Efficiency** The *Climate Change Mitigation, Adaptation, and Resiliency Law* introduces a set of energy-efficiency parameters for Puerto Rico, including goals to reduce general energy consumption by at least 1% per year starting in 2020, until reaching 10% by 2030 (weighted by population density), and to reduce the current energy consumption of public facilities. The law also calls for energy-efficiency improvements for new construction and directs the Puerto Rico Department of Housing to develop programs to encourage use and installation of environmentally-friendly energy equipment. In 2014, a lead-by-example mandate was enacted that requires a minimum 40% reduction in electricity consumption for each branch of government by 2022. Agencies must also promote energy savings performance contracts (ESPCs) and consider them as the first option for energy-efficiency projects, unless they can demonstrate that a project is not cost effective. The legislature must reduce its electrical energy consumption 12% below fiscal year 2012–13 levels by 2022. In addition, municipalities must reduce electricity consumption by either 5% annually for three years or 15% in the first three years.

**Transportation** Under 2019’s *Climate Change Mitigation, Adaptation, and Resiliency Law*, Puerto Rico will work to promote the use of hybrid vehicles or those that work with alternative fuel sources by 2028. In 2014, legislation was enacted that provides a tax exemption on all electric vehicles (EVs) and plug-in hybrids (PHEVs) and establishes guidelines for more charging stations. The law details that all EVs and PHEVs are exempt from import tax, that the EV tax exemption remains in effect until 10% of cars imported or produced in Puerto Rico are electric, and that condominiums are prohibited from limiting the installation of charging stations, within certain HOA regulations.

**Resilience** The *Climate Change Mitigation, Adaptation, and Resiliency Law* introduces a set of resilience parameters for Puerto Rico, including goals to reduce the population’s vulnerability to water scarcity through water conservation programs in residences, businesses, and industries; rainwater harvesting; and aquifer and watershed protection. Additionally, the law directs Puerto Rico to adapt to sea-level rise, effectively manage beach erosion and coastal floods, protect and restore coral reefs, and plant 500,000 native trees within the next 5 years. In addition to energy provisions, the *Public Energy Policy Law of Puerto Rico* establishes microgrid integration measures intended to boost Puerto Rico’s resilience.

**Climate Finance** Enacted in July 2010, the *Green Energy Incentives Act* established the Green Energy Fund (GEF), which specifically supports renewable-energy development in Puerto Rico. Funded via sales taxes on motor vehicles, the GEF will have a maximum ceiling of $40 million per year by FY 2020. Through the GEF, the Government of Puerto Rico will co-invest up to $185 million in the development of renewable-energy projects on the island.
Climate Framework and Laws Under the Resilient Rhode Island Act of 2014, Rhode Island intends to reduce greenhouse gas (GHG) emissions to 10% below 1990 levels by 2020, 45% by 2035, and 80% by 2050. Rhode Island’s Executive Climate Change Coordinating Council (EC4) is responsible for overseeing progress towards these targets. In a 2017 executive order, Reaffirming Rhode Island’s Commitment to the Principles of the Paris Climate Agreement, Governor Gina Raimondo called upon state agencies to take all necessary actions to reduce GHG emissions in line with the Resilient Rhode Island Act, the Lead-by-Example program established by Executive Order 15-17, and any other applicable laws. Additionally, Executive Order 19-06, issued in July 2019, launched a heating-sector transformation in Rhode Island aimed at advancing the state’s development of clean, affordable, and reliable heating technologies.

Power Generation In February 2019, Governor Raimondo announced the filing of a contract for Revolution Wind, a new 400-megawatt (MW) offshore wind farm. The project builds on the success of Rhode Island’s Block Island Wind, North America’s first offshore wind farm. The governor set an ambitious goal to increase Rhode Island’s clean-energy portfolio tenfold by 2020 (to 1,000 MW) and create 20,000 clean-energy jobs.
2019 STATE FACTSHEETS
UNITED STATES CLIMATE ALLIANCE

throughout the state by 2020. Rhode Island is on track to meet the 1,000-MW goal with 371 MW currently achieved and has already experienced an astonishing 74% growth in its clean-energy workforce since 2014. In March 2019, the Rhode Island Office of Energy Resources announced a new set of initiatives to encourage solar carports and solar projects located on brownfields. $2 million has been earmarked for these initiatives, made possible thanks to Rhode Island’s participation in the Regional Greenhouse Gas Initiative (RGGI).

Energy Efficiency Rhode Island’s energy-efficiency programs generated $483 million in total benefits in 2018, while preventing nearly 1.15 million metric tons of GHG emissions. Rhode Island ranks third nationally in energy efficiency according to the American Council for an Energy-Efficient Economy (ACEEE) scorecard. The Office of Energy Resources actively supports public-sector energy efficiency through its Lead-by-Example initiatives, including offering financial incentives for LED streetlight adoption by municipalities and supporting cost-effective investments that have already reduced state government energy consumption by more than 10%.

Transportation Rhode Island is investing approximately $10 million in Volkswagen Settlement funds in zero-emissions electric buses for its public transportation fleet. With this initiative, Rhode Island’s bus fleet will be about 36% low- and zero-emission vehicles. An additional $1.5 million in Settlement funds will be utilized to enhance Rhode Island’s current network of public charging infrastructure throughout main highway corridors. Rhode Island’s Beneficiary Mitigation Plan acknowledges the connection between vehicle emissions and environmental justice, stating that settlement funds will be prioritized in urban, high-traffic-volume areas, and/or along bus routes that may connect environmental justice communities. Rhode Island is also expanding public transit through downtown Providence by connecting Rhode Island Hospital, one of the city’s largest employers, to Providence’s train station with new routes that will provide service every five minutes, utilizing the state’s first bus-only lanes.

Resilience In September 2017, Governor Raimondo appointed a chief resilience officer to drive climate resilience efforts across the state, both within government and in collaboration with business, academic, and nonprofit partners, with the mission to develop a statewide Climate Resilience Action Strategy, which was submitted to the governor on July 2, 2018. The report, called Resilient Rhody, provided recommendations across a variety of areas including transportation, water/coastal areas, power, and emergency preparedness and is now being implemented. In April 2019, the Rhode Island Infrastructure Bank announced that five municipalities will participate in the initial round of its Municipal Resilience Program, which will provide technical assistance and the ability to apply for implementation funds.

Climate Finance Rhode Island has a variety of programs that help fund or remove barriers towards energy efficiency, renewable energy, and resilience projects. Rhode Island Infrastructure Bank actively supports and finances investments in infrastructure that enhance the environment through a variety of means, including the issuance of bonds. Since inception, the Bank has invested over $2 billion in environmental infrastructure projects across the state. Most recently, the Bank’s authority was expanded to include financing of resilience projects for local, state, and federal infrastructure.

Natural and Working Lands Rhode Island’s Department of Environmental Management (DEM), in conjunction with the U.S. Department of Agriculture (USDA) Forest Service, offers guidance on how landowners can properly manage forest areas and maintain healthy local ecosystems through its Forest Stewardship Program. DEM also works cooperatively with the USDA Forest Service on the Forest Legacy Program to preserve forests and stem the loss of the traditional values provided by forested lands through conservation easements or land purchases. Since its inception, the program has protected 3,583 acres in 22 parcels in Rhode Island. In April 2019, the state—in partnership with American Forests—received a $650,000 grant to develop strategies for advancing statewide urban and community forestry. The initiative builds staff capacity and targets urban forest projects that improve public health outcomes and mitigate climate change.
Climate Framework and Laws Vermont’s 2016 Comprehensive Energy Plan established two goals for greenhouse gas (GHG) emissions reductions from Vermont’s energy use: 40% below 1990 levels by 2030 and 80–95% by 2050. The plan also expands upon the state statutory goal of 25% renewable by 2025 (10 V.S.A. § 580(a)), and established goals to reduce total per-capita energy consumption 15% by 2025 and more than one-third by 2050. 25% of the remaining energy need should come from renewable sources by 2025, 40% by 2035, and 90% by 2050. Additional goals for 2025 include: increasing the share of renewable energy used for transportation to 10%, increasing the share of renewable energy used in buildings to 30%, and obtaining 67% of electric power from renewable sources. In 2017, Governor Phil Scott created the Vermont Climate Action Commission to recommend actions to reduce GHG emissions consistent with the goals of Vermont’s 2016 Comprehensive Energy Plan while spurring economic activity.

Power Generation Vermont’s renewable energy standard (RES) mandates electric utilities increase the portion of renewable energy sold to Vermont customers to 55% of Tier 1 sources in 2017, gradually increasing to 75% by 2032; 1% from Tier 2 sources (distributed renewable generation smaller than 5 megawatts (MW)) in 2017, increasing to 10% in 2032; and 2% from Tier 3 sources in 2017, increasing to 12% in 2032 (small municipal utility obligation begins in 2019). A utility may meet the Tier 3 requirement through additional distributed
renewable generation, or through projects that reduce net fossil-fuel consumption by their customers. Vermont is also a member of the Regional Greenhouse Gas Initiative (RGGI), with proceeds from RGGI auctions used to help fund thermal energy and process fuel-efficiency programs statewide.

**Energy Efficiency** Efficiency Vermont is the nation’s first ratepayer-funded energy-efficiency utility, aiming to save energy and lower emissions through efficiency improvements to homes and businesses. Vermont also requires new residential and commercial buildings to meet minimum energy-efficiency standards. Vermont offers a weatherization program to assist older and lower-income residents with efficiency upgrades. In May 2018, Vermont enacted legislation expanding appliance efficiency standards to 16 additional products.

**Transportation** Vermont’s Low Emission Vehicle Program ensures that new vehicles sold in Vermont are the cleanest available by requiring that certain new vehicles meet California emissions standards, as well as other requirements. This program also requires that a portion of vehicles sold meet zero-emissions vehicle (ZEV) standards. Vermont is a member of both the Transportation and Climate Initiative (TCI) and the Multi-State ZEV Task Force and has recommitted to the recommendations in the updated 2018–2021 Multi-State ZEV Action Plan to spur ZEV adoption. Through a public-private partnership, Vermont supports Drive Electric Vermont to promote the sale of electric vehicles (EVs) in Vermont through outreach and education. As of August 2018, Vermont has the third-highest (tied with WA) per-capita EV adoption rate in the country (Auto Alliance Dashboard, 2018). Vermont recently launched a state-funded EV incentive program, focused on getting low- to moderate-income Vermonters into cheaper and cleaner EVs. Volkswagen Settlement funds are supporting a bus electrification pilot program as well as an EV supply equipment grant program to increase the number of charging stations in Vermont. As of July 2019, Vermont has awarded more than $1 million across 30 charging station projects and plans to award up to $2.8 million through 2027.

**Resilience** Vermont’s state and local governments are creating plans for adaptation strategies to help prepare communities for future flooding events, specifically through the Federal Emergency Management Agency and the Vermont Economic Resilience Initiative. Vermont’s Flood Ready website offers resources to help communities increase resilience to floods, and provides information on funding sources, community-specific risk assessments, and case studies from successful projects across the state.

**Climate Finance** The Sustainable Energy Loan Fund and the Vermont Clean Energy Development Fund provide funding for renewable and sustainable energy projects, while the Efficiency Vermont Heat Saver Loan Program provides funding for weatherization and high-efficiency heating systems. The Home Weatherization Assistance Trust Fund provides long-term state funding to lower-income Vermonters for weatherization through a 0.5% gross receipts tax on all non-transportation fuels sold in the state, generating approximately $6 million annually.

**Short-Lived Climate Pollutants** In June 2019, Governor Scott signed a bill regulating hydrofluorocarbons (HFCs) as a backstop to rollbacks of certain U.S. EPA Significant New Alternatives Policy (SNAP) rules. The bill will phase down HFC use by limiting sale or lease of new equipment that includes HFCs where safer substitutes are available.

**Natural and Working Lands** The 2017 Vermont Forest Action Plan outlines goals and planned actions to meet desired future forest conditions, and advances ongoing management, conservation, and preservation efforts. These conservation efforts, along with promoting the growth of new forest, increases the state’s carbon sequestration, biological diversity, and ecological productivity. Vermont is also working to supplement the existing 350,000 acres of recreation and conservation land with previously lost or damaged floodplain and wetland areas to help mitigate the impacts of future flooding events. Vermont’s Working Lands Enterprise Initiative (WLEI) supports Vermont’s entrepreneurs in the agriculture and forest product sectors through technical and financial assistance, and has issued over $5.3 million in working lands funds since 2012.
Governor Northam’s Administration is pursuing a comprehensive sector-based approach to climate change that will involve working across state government to reduce pollution, grow the clean energy economy, prepare for climate impacts, strive for climate and environmental justice, and increase the resiliency of Virginia communities.

**Climate Framework and Laws** In September 2019, Governor Northam signed Executive Order 43 (EO 43), which includes the goal that by 2030, 30% of Virginia’s electric system will be powered by renewable energy resources; by 2050, 100% of Virginia’s electricity will be produced from carbon-free sources such as wind, solar and nuclear. In April 2019, Virginia’s Air Pollution Control Board approved a regulation to decrease and limit CO₂ emissions from power plants 30% by 2030, with an initial cap of 28 million tons of CO₂. This regulation would have allowed Virginia to link with the Regional Greenhouse Gas Initiative. The General Assembly inserted a budget item to halt work on this rule. However, the state hopes the rule will be implemented next year and is currently exploring other mechanisms to reduce carbon emissions. A 2018 executive order established the Governor’s Conservation Cabinet, which will deliver a report in 2019 detailing agency collaboration on conservation issues. In January 2019, Governor Northam issued an executive order establishing the Virginia Council on Environmental Justice, which will provide recommendations for including environmental justice considerations throughout decision-making processes.

**Power Generation** Virginia has seen a dramatic increase in its solar capacity, with overall generation increasing from 17 megawatts (MW) in 2014 to more than 350 MW in 2019. Much of this increase is due to the success of the Permit By Rule program run by the Department of Environmental Quality (DEQ). Since 2015, DEQ has permitted over 1,000 MW of solar with notices of intent for an additional 3,429 MW from
planned installations. Governor Northam signed the Grid Transformation and Security Act in March 2018 to overhaul Virginia’s energy regulatory landscape and set the framework for a large influx of renewable energy deployment. The legislation enables Virginia’s electric utilities to modernize the grid, emphasizing investment in clean energy technology. This will allow for more growth by increasing the amount of utility-scale solar from 500 MW to 5,000 MW over ten years, with 3,000 MW coming in the first four years. EO 43 requires Virginia to procure 30% of its own electricity from renewable resources by 2022 and to also procure at least 10 MW of distributed solar at state facilities annually. In July 2019, Governor Northam helped break ground for the Coastal Virginia Offshore Wind demonstration project, consisting of two 6 MW wind turbines located about approximately 27 miles off the coast of Virginia Beach. The first offshore wind project to be installed in federal waters, this is a first step toward the development of commercial-scale offshore wind off the coast of Virginia, including 2,000 to 2,400 MW of potential generation in a larger wind energy area adjacent to the CVOW project.

Energy Efficiency Virginia has a statewide goal to reduce retail electricity consumption 10% by 2022 using a 2006 baseline. The Grid Transformation and Security Act will require Virginia electric utilities to invest $1 billion in energy efficiency projects over the next decade. EO 43 requires the development of a Resource Conservation Management Plan to meet the state’s portion of the goal and requires all state agencies to use energy performance contracting to reduce energy consumption. To date, energy performance contracting efforts have reduced nearly 43 million kWh of electricity and avoided 31,219 metric tons of CO₂ emissions annually.

Transportation Virginia is leveraging Volkswagen Settlement funding to make catalytic investments in transportation electrification and has so far allocated nearly $48 million from this funding toward electric vehicles (EVs). In 2018, Virginia announced a $14 million contract to begin building a statewide EV charging network of high-powered direct current fast chargers. In June 2019, Governor Northam announced that more than $12 million in state funding will be allocated to deploy electric transit buses in three Virginia localities, using nearly $9 million of a $14 million allocation from the VW Settlement funding. This September, the Governor launched a $20 million clean school bus program to fund the deployment of electric school buses across the Commonwealth. Virginia allows localities in air quality non-attainment areas to use federal Congestion Mitigation and Air Quality Improvement (CMAQ) funds. Through 2020, $9 million in CMAQ funding will be made available for state and local use to cover the incremental costs of purchasing or converting a vehicle to alternative fuels. Virginia is also a member of the regional Transportation and Climate Initiative that is working to develop emission reduction strategies for the transportation sector, including through market-based mechanisms like cap-and-invest.

Short Lived Climate Pollutants At the direction of Governor Northam, Virginia is considering methods for limiting methane leakage from natural gas infrastructure. As of June 2019, the Virginia DEQ has held two working group meetings to develop an appropriate regulatory framework and evaluate data to inform the regulation.

Climate Finance The Commonwealth’s first statewide Green Community Program is funded through the reauthorization of Qualified Energy Conservation Bonds. VirginiaSAVES has provided nearly $65 million in financing support for energy efficiency projects since September 2015. The projects funded will reduce over 18 million kWh of electricity, 22 million gallons of water, and 18,675 tons of CO₂ each year.

Resilience In November 2018, Governor Northam issued an executive order to increase Virginia’s resilience to sea level rise and natural hazards. The EO directs the administration to designate a Chief Resilience Officer, assess vulnerability of state-owned buildings, and develop a Coastal Resilience Master Plan, among other resilience-related actions. The EO also calls for improved coordination and risk communication.

Natural and Working Lands Governor Northam recently revealed his core land conservation initiative, which will use data and mapping tools to identify high-value lands for conservation purposes. The initiative aims to align conservation goals with the achievement of broader targets, including climate change and resiliency. In April 2019, Virginia launched a data-driven land conservation tool called ConserveVirginia, which maps high-value lands and conservation areas to help prioritize and inform projects.
Climate Framework and Laws  In May 2019, Governor Jay Inslee signed a package of climate legislation advancing Washington’s progress towards achieving its emissions-reduction goals and solidifying the state’s climate leadership. One of the four bills signed establishes a pathway to 100% clean electricity by 2045, with intermediate milestones for utilities to eliminate coal power by 2025 and achieve carbon neutrality for Washington’s electricity supply by 2030.

Power Generation  With more than 75% of its electricity coming from hydro and other renewable sources, Washington leads the nation in carbon-free electricity. Washington supports renewable energy development through a range of programs such as its renewable energy standard (RES), Solar Incentives Jobs Program, and Renewable Energy Sales Tax Exemptions. In May 2019, Governor Inslee signed an updated renewable electricity target, requiring Washington utilities to transition to a carbon-neutral electricity supply by 2030 and to entirely eliminate fossil fuels from electricity generation by 2045.
**Energy Efficiency** Washington was the first state in the country to adopt high-performance green buildings standards for state-funded buildings and is on track to reduce energy use in new construction 70% by 2030. As part of the suite of climate legislation signed in May 2019, the *Clean Buildings Act* establishes a first-of-its-kind standard that will improve the energy performance of thousands of large commercial buildings in Washington. The act requires commercial buildings to achieve efficiency standards starting in 2026 and creates a new statewide incentive program to help underwrite early retrofits. A separate bill signed in 2019 focuses on appliance standards and requires improved efficiency for 17 product categories.

**Transportation** Washington has the second-highest sales rate of electric vehicles (EVs) of any state in the nation. In 2014, Washington set a goal of putting 50,000 EVs into use by 2020. As of July 2019, Washington is on track to meet this goal with 46,500 EVs on the road. The 2019 climate package signed by the governor builds on this success by adding six new programs: 1) an EV sales tax incentive, 2) a grant program for zero-emissions transit options, 3) a sales tax incentive for zero-emissions buses, 4) a pilot program to expand access to zero-emissions vehicles (ZEVs) to low-income residents, 5) authorization of $140.5 million for ferry fleet electrification, and 6) new authorization to utilities to invest in transportation electrification.

**Resilience** The Interagency Climate Adaptation Network (ICAN) and the Washington Coastal Hazards Resilience Network (CHRN) both work across many government departments and state agencies to enact studies and plans for climate resilience, addressing issues such as coastal erosion and best land use practices considering long-term climate impacts. Governor Inslee directed the formation of a resilience subcabinet under the Washington Military Department’s Emergency Management Division in 2017. The multi-agency Resilient Washington Subcabinet has issued recommendations for strengthening natural disaster preparation and response.

**Climate Financing** Established by Governor Inslee in 2013, the Washington State Clean Energy Fund (CEF) is designed to expand clean-energy projects and technologies statewide. As of 2019, $125 million had been invested, leveraged by an additional $200 million in federal and private funds, in a range of areas spanning clean, renewable, and efficient energy. As part of the CEF investments, $10.6 million has been invested in grid-modernization projects. Additionally, meter-based financing has completed 574 loans for a total of $6.7 million to pay for energy-efficiency projects in Washington homes.

**Short-Lived Climate Pollutants** Washington introduced a law to phase down super-polluting HFCs as part of the series of four climate bills signed in May 2019 (House Bill 1112). The law ensures that newly manufactured equipment uses HFC alternatives that are safer for the climate. Requirements become effective in 2020 for certain equipment, with multiple effective dates through 2024 for all equipment types.

**Natural and Working Lands** The Washington Legislature has directed the Department of Natural Resources to launch a statewide carbon sequestration advisory group for natural and working lands, and to conduct carbon inventory studies for the state. This effort will culminate in recommendations to state policy makers in December 2020. The Ocean Acidification Policy and Management and the Washington Shellfish Initiative are both multi-group collaborations that inform ocean management in the interest of ocean habitats and the thriving shellfish industry. Inland, the Chehalis Basin Strategy, the Yakima Integrated Basin plan, and the state’s Floodplains by Design programs each seeks to tackle both flooding issues and habitat loss through large-scale flood damage mitigation and restoration measures.
Governor Evers is leading Wisconsin in a new direction that embraces sciences, grapples with the very real implications of climate change, and invests in renewable energy. That’s why in August 2019 he signed Executive Order 38, which sets a state goal of 100% carbon-free energy by 2050 and establishes a state Office of Sustainability and Clean Energy to promote the development and use of clean energy across the state and advance innovative sustainability solutions that improve the state’s economy and environment.

**Climate Framework and Laws** In February 2019, Governor Tony Evers became the 21st governor to join the U.S. Climate Alliance. Governor Evers stated in his announcement that “by joining the U.S. Climate Alliance, we will have support in demonstrating that we can take climate action while growing our economy at the same time.” Governor Evers and Lieutenant Governor Mandela Barnes are also committed to focusing on environmental justice and equity issues related to climate change in communities across Wisconsin.

**Power Generation** In his 2019 Budget in Brief, Governor Evers introduced a statutory goal of 100% carbon-free electricity production by 2050. The budget plan also outlines $75 million in bonds for energy projects between 2019 and 2021, including $25 million for renewable-energy projects at state-owned facilities. Wisconsin's renewable energy standard (RES) was introduced in 1999 and has undergone subsequent amendments expanding the definition of eligible resources. A 2006 amendment established a 10% statewide target by 2015, and required electric providers to maintain or increase their percentage of renewable...
generation for all years after 2015. As of 2017, all electric providers are in compliance.

**Energy Efficiency** Wisconsin’s Focus on Energy program supports investment in energy efficiency for the state’s residents and businesses. As required by state statute, Wisconsin’s investor-owned energy utilities and participating municipal and electric cooperative utilities fund the program. For every $1 invested in the program’s projects, the state gains $5.93 in benefits. Last year, over 110,000 homeowners and 5,100 businesses participated in Focus in Energy programs; since 2011, Focus on Energy has delivered more than $1 billion in net economic benefits to Wisconsin. According to third-party evaluation, Wisconsin achieved the highest rate of energy savings per dollar spent compared to other state programs.

**Transportation** Wisconsin plans to competitively award up to $32 million of its Volkswagen Settlement funding to replace public transit vehicles. No less than $10 million or 15% of its initial allocation of trust funds will be used to replace and scrap model year 1992–2009 medium- and heavy-duty trucks in the State fleet. As part of the just-passed 2019–2020 budget, Governor Evers used his veto power to allocate an additional $15 million of Settlement funds to replacing public transit vehicles and $10 million for electric vehicle (EV) infrastructure.

School districts planning to purchase biodiesel buses may be eligible for funding from the Wisconsin Department of Public Instruction (DPI). DPI may cover the cost difference between petroleum diesel and biofuel.

Individuals are exempt from motor vehicle fuel excise taxes on the first 1,000 gallons of renewable fuel purchased annually, if the fuel is for use in a personal vehicle. Wisconsin also has established targets for annual renewable fuel sales, including ethanol and any other fuel derived from a renewable resource that can substitute for gasoline.

**Resilience** Wisconsin Emergency Management released a Hazard Mitigation Plan, which was most recently amended in January 2017. The plan describes steps the state can take to prevent disasters and minimize damage and encourages Wisconsin to implement community resilience measures and climate adaptation strategies.