

2020 Year in Review: State Advanced Energy Legislation

An Update to [Seven Years of Advanced Energy Action: 2013 – 2019 State Legislation in Review](#)

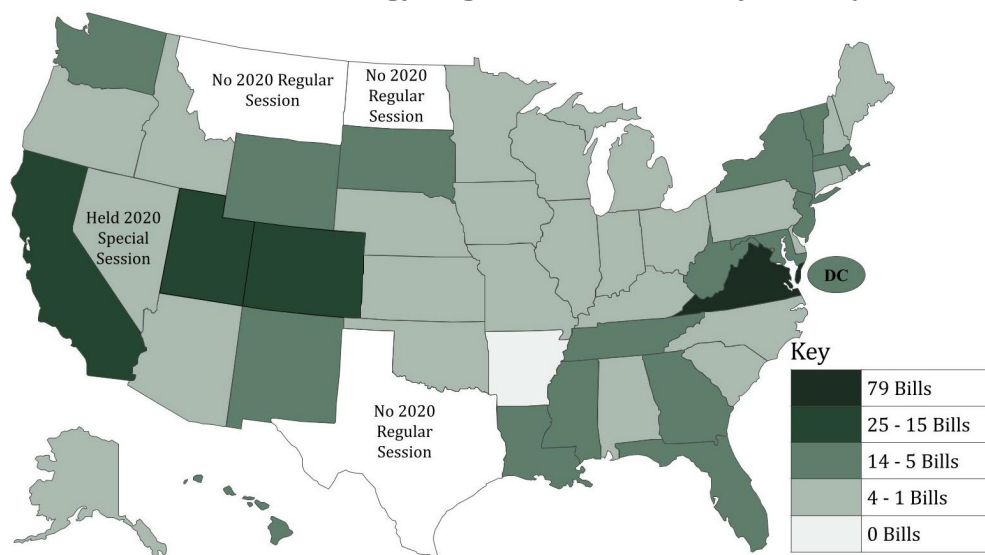
In the U.S., states have led the development of climate and energy policies to drive and respond to the energy transition. Tracking state legislative activity is important for understanding the direction of U.S. energy policy and its impacts. Using the [Center for the New Energy Economy's](#) Advanced Energy Legislation Tracker ([AEL Tracker](#)) and serving as an addendum to our previous [report](#), this report summarizes the 342 advanced energy-related bills enacted by 46 states and the District of Columbia in 2020.¹ Throughout, this report highlights the trends and new policy developments of a year marked by the COVID-19 pandemic, supply chain shortages, travel restrictions, rallies and protests, and climate change-induced extreme weather events.

The Center for the New Energy Economy (CNEE) identified the following key highlights:

1. Compared to other even years, fewer energy-related bills than expected were enacted in 2020.² This was likely the case because state officials were focused on upcoming elections and responding to the COVID-19 pandemic.
2. Among all states, Virginia stood out by enacting 79 advanced energy-related bills (see map below). Within this set of bills, the Clean Economy Act ([SB 851](#)) established a mandatory renewable portfolio standard (RPS), an energy efficiency standard, an energy storage deployment target, and carbon reduction goals for the power sector. Virginia also [joined](#) the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade program aimed at reducing emissions from power plants.
3. States continue to adopt bills related to climate change adaptation and environmental justice. Virginia ([SB883](#)) and New York ([A8960](#)) enacted legislation creating environmental justice bodies and improving community participation processes. Most of the adaptation bills, as has historically been the case, addressed sea level rise.

In the sections that follow, we highlight our key findings related to each of the nine policy categories covered by our trends papers.³

2020 Volume of Advanced Energy Legislation Enacted by State (342 bills total)



¹ All data used in this paper reflects AEL Tracker information as of May 10, 2021. Companion legislation, identical or very similar bills introduced in both chambers of a state's legislature, are counted as a single bill in all analyses by CNEE.

² We expect to see reduced activity in even years when four states do not hold regular sessions and 16 states hold shorter, and in some cases, budget-only, sessions.

³ These categories are economic development, electricity generation, emissions, energy efficiency, financing and financial incentives, infrastructure, natural gas development, regulatory, and transportation.

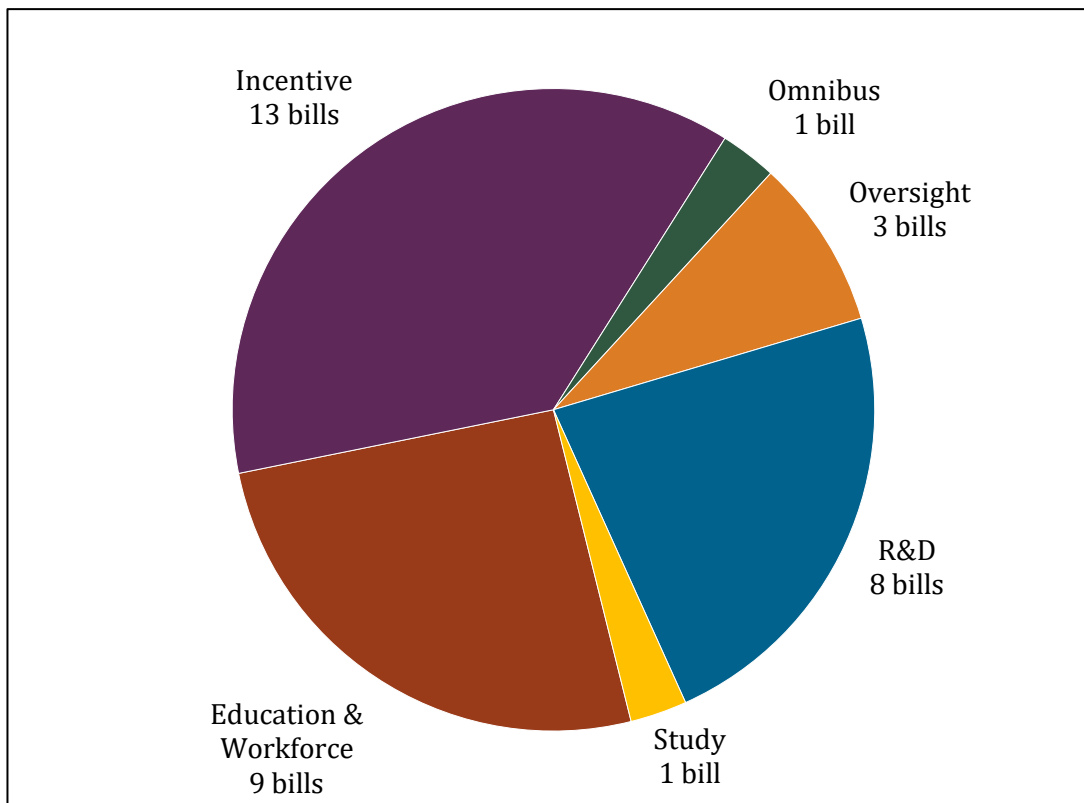


Economic Development

Legislation in the economic development category aims to attract new clean energy businesses while also maintaining an environment that supports existing businesses. Key findings related to the economic development bills enacted in 2020 include the following:

1. In 2020, bills related to state incentives that attract and retain clean energy-related businesses continued to be one of the most frequently enacted types of legislation. Examples of this include Arizona’s [House Bill 2771](#) which extended, to 2028, the availability of tax credits for international operation centers that invest in new renewable energy facilities where the energy produced will primarily be used by the operation center. Virginia’s [House Bill 234](#) established the Division of Offshore Wind in the Department of Mines, Minerals, and Energy. The Division will identify barriers to the deployment of offshore wind and develop specific programs to facilitate the establishment of an offshore wind industry hub in the Hampton Roads region of the state.
2. As we have found in years past, bills related to workforce development are some of the most common types of legislation to be enacted in this category. For example, Maryland’s [House Bill 1029](#) amended provisions related to workforce and apprenticeship training programs receiving support from the Clean Energy Workforce Account. Among the changes, the bill required that \$750,000 be used to recruit veterans and formerly incarcerated individuals. Utah’s [Senate Bill 96](#) directed the State Board of Regents to create a “deep technology talent initiative” by creating and expanding higher education programs to train students in emerging technologies. Virginia’s [Senate Bill 271](#) allowed public-private partnerships under which a private entity can use an educational institution’s land at no cost for the generation of wind or solar power in return for clean energy educational immersion programs for students at public high schools and public institutions of higher education.

2020 Enacted State Economic Development Legislation (35 bills)



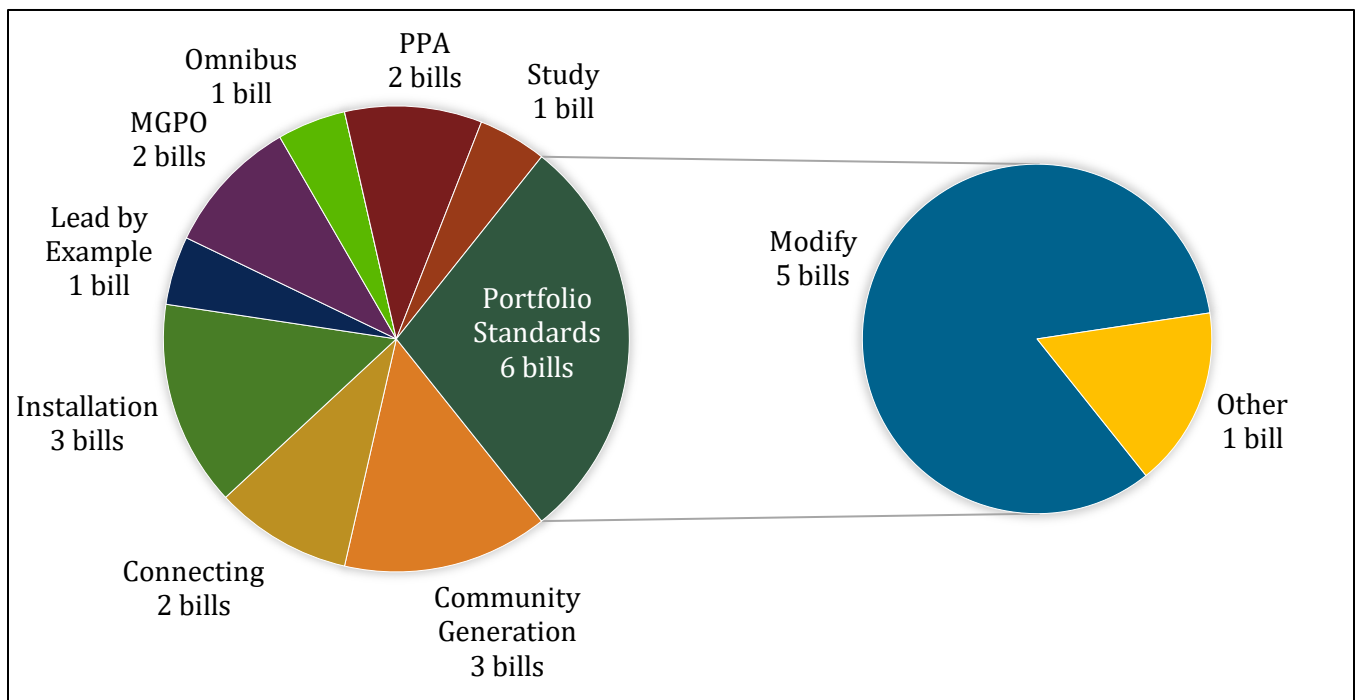


Electricity Generation

Legislation in the electricity generation category promotes renewable energy development through such mechanisms as renewable portfolio standards, shared or community renewable energy programs, or other policies to increase the deployment of distributed clean energy generation. Highlights related to the set of electricity generation bills enacted in 2020 include the following:

1. States continue to amend existing renewable portfolio standards (RPSs). In 2020, California, Maine, and Virginia enacted mostly minor amendments to existing state policy (five bills total). Found in our regulatory category as an omnibus bill, Virginia’s Clean Economy Act ([SB 851](#)) adopted a major increase to the state’s RPS. The bill repealed the state’s voluntary goal and set mandatory targets of 100% electricity sales generated from renewable sources by 2045 for Dominion Energy Virginia and 2050 for Appalachian Power Company. The ‘other’ portfolio standard bill enacted in 2020, Wyoming’s [House Bill 200](#) directed the state’s Public Service Commission to establish energy portfolio standards that require a certain percentage of electricity to be dispatchable, reliable, low-carbon electricity by 2030. Low-carbon electricity is defined by the bill as electricity generated using carbon capture, utilization, and storage (CCUS) technology that results in less than 650 pounds of carbon dioxide emissions per megawatt-hour of electricity generated.
2. Of the three community generation bills enacted in 2020, two were passed in Virginia and are of note. [House Bill 1634](#) directed Dominion Energy Virginia to create a shared solar program for its customers. [House Bill 573](#) amended an existing solar development program to create a matching program for community generation within and outside of low-income communities. Utility companies will now be required to ensure that for every facility built outside of a low-income community, a project of greater or equal value will also be built in a low-income community.
3. Other electricity generation bills enacted in 2020 include: Iowa’s [Senate File 583](#), which created a new optional inflow-outflow billing system for customer-owned electricity generation. The bill also requires that the Iowa Utilities Board establish a value of solar methodology if the Board is petitioned to do so by a utility after July 1, 2027, or when statewide distributed generation penetration equals five percent, whichever is earlier. West Virginia’s [Senate Bill 583](#) encourages the development of solar and energy storage on industrial, manufacturing, mining, and former electric generation sites by allowing utilities to develop these resources and sell the associated energy through contracts or tariffs to residential, commercial, and industrial customers.

2020 Enacted State Electricity Generation Legislation (21 bills)



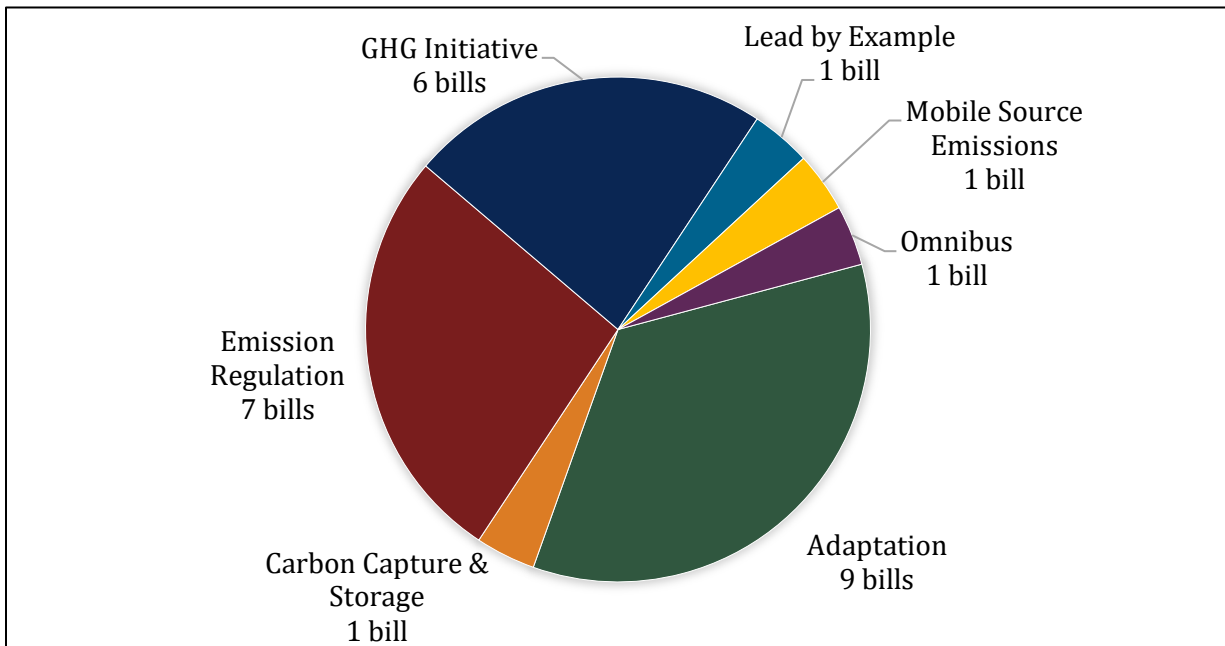


Emissions

Bills included in the emissions category typically address the regulation of mobile and point-source emissions, implement provisions of the Clean Air Act (CAA), and establish policies to adapt to and mitigate the effects of climate change. Key findings related to the emissions bills enacted in 2020 include the following:

1. Six bills related to greenhouse gas (GHG) initiatives were enacted by California ([SB 1117](#)), Vermont ([HB 688](#)), Virginia ([HB 454](#) and [SB 1027](#)), and Washington ([HB 2311](#) and [HB 2528](#)). Within this set, [legislation](#) in Vermont revised the state’s emissions reduction targets from 50% of 1990 levels by 2028 to “not less than” 40% by 2030 and from 75% below 1990 levels by 2050 to at least 80% by 2050. Washington’s [House Bill 2311](#) increased the state’s emissions reduction targets from 50% of 1990 levels by 2050 to 95% by 2050. The bill also set a new interim target of 45% below 1990 levels by 2030. Virginia’s [Senate Bill 1027](#) directed the Department of Environmental Quality to adopt regulations to implement a carbon cap and trade program in compliance with the Regional Greenhouse Gas Initiative (RGGI)
2. Seven bills addressing other emissions regulations were adopted by six states.⁴ Among these, West Virginia’s [Senate Bill 810](#) repealed statute limiting the authority of the Department of Environmental Protection to develop rules to comply with the Obama Administration’s Clean Power Plan and directs the Department to develop proposed rules to implement the Trump Administration’s Affordable Clean Energy Rule. Three of the seven bills revised Clean Air Act Title V fees.⁵ The lone omnibus emissions bill, Colorado’s [Senate Bill 204](#), created the Air Quality Enterprise to conduct air quality modeling, monitoring, and research and implement emission mitigation projects. The Board of Directors of the Enterprise is directed to establish fees, including a per ton emission fee to fund the Enterprise’s activities, which will include support of emission reduction projects undertaken by fee payers.
3. States continue to adopt legislation related to adapting to the effects of climate change. In 2020, six coastal states enacted nine bills.⁶ Given this, it is perhaps unsurprising that seven of the nine bills specifically mention addressing climate change induced sea level rise.

2020 Enacted State Emissions Legislation (26 bills)



⁴ Colorado, Delaware, Mississippi, Utah, Virginia, and West Virginia.

⁵ Delaware ([SB 249](#)), Mississippi ([HB 1028](#)), and Utah ([SB 88](#)).

⁶ California, Florida, Hawaii, Maryland, New Jersey, and Virginia.

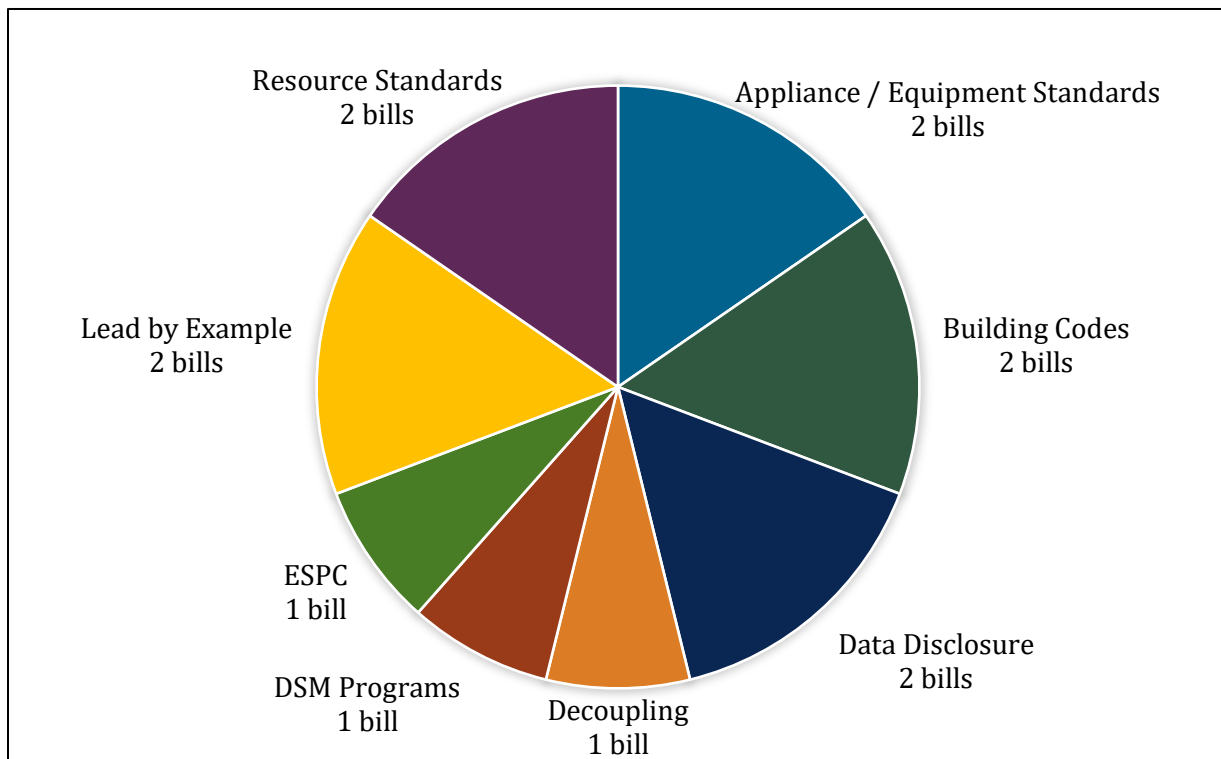


Energy Efficiency

Often referred to as the “first fuel,” energy efficiency continues to play a prominent role in state energy and climate policies while also creating savings for utility customers. Key highlights gleaned from the energy efficiency bills enacted in 2020 include the following:

1. Only 13 energy efficiency bills were enacted in 2020, a decrease from previous years. As we have noted in previous analyses, states continue to amend provisions related to energy efficiency resource standards (EERSs), building codes, appliance standards, and energy savings performance contracting (ESPC).
2. Virginia was the most active state in this category, enacting four bills amending provisions related to the state’s EERS ([HB 1576](#) and [HB 575](#)), building energy use disclosure requirements ([SB 628](#)), and ESPC program ([SB 963](#)). [House Bill 1576](#) increased the load size necessary to qualify as a large customer eligible to opt out of paying the costs associated with the state’s EERS. [House Bill 575](#) set new requirements for the stakeholder process American Electric Power and Dominion Energy Virginia must undertake when developing their EERS compliance plans. The bill tasks stakeholder groups with developing recommendations and providing other feedback to improve the state’s energy efficiency policies. Virginia’s [Senate Bill 963](#) directed each state agency to designate an existing employee as an energy manager responsible for tracking building energy use and identifying “priority buildings and spaces for energy audits or energy saving performance contracts.”
3. Three other bills of note were enacted by Colorado ([HB 1155](#)), Minnesota ([HF 3230](#)), and New Mexico ([HB 93](#)). Colorado’s legislation established new requirements for new residential construction by requiring that home builders offer buyers an electric vehicle charging system or wiring to accommodate the future installation of a system and energy efficient electric space and water heating options. Builders must also provide pricing, energy efficiency, and utility bill information for each option. Minnesota amended their existing energy efficient lighting program to include an LED promotion and education campaign, which includes establishing convenient drop off locations for spent LED bulbs. New Mexico’s legislation expanded the state’s decoupling program to include natural gas utilities.

2020 Enacted State Energy Efficiency Legislation (13 bills)



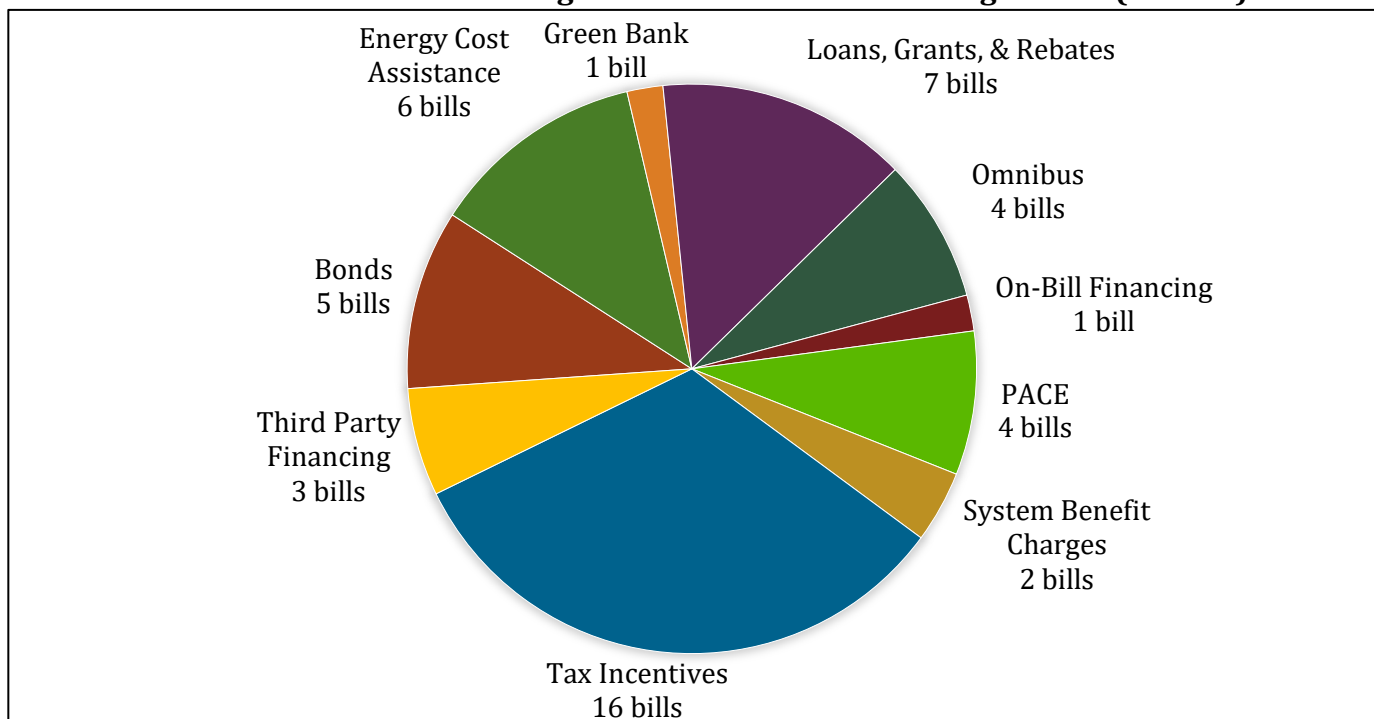


Financing and Financial Incentives

State-level financing and financial incentive policies have been important drivers of advanced energy technology adoption. This policy category includes basic incentives like tax credits and more innovative programs like green banks that reduce the upfront cost barrier to advanced energy technologies for businesses and residential consumers. Key findings from the set of financing and financial incentives bills enacted in 2020 include the following:

1. As is often the case, tax incentive-related legislation led this policy category for most frequently enacted. Of note in this set, Maryland's [House Bill 980](#) increased to \$150,000 the tax credit available for owners of residential or commercial property that install an energy storage system for use on that property. South Carolina's [Senate Bill 76](#) extended the Energy Efficient Manufactured Homes Incentive Program, which provides an income tax credit of \$750 for the purchase of manufactured homes that meet or exceed certain energy efficiency standards. New Mexico's [Senate Bill 29, reinstated](#) the new solar market development income tax credit for individuals who install a new solar thermal or photovoltaic system on a residence, business, or agricultural land.
2. In the omnibus category, legislation enacted in Minnesota ([HF 1842](#)) extended the solar energy production incentive program that Xcel Energy is required to offer to 2023, created a community energy transition grant program, and established the Prairie Island Net Zero Project grant program to assist the Prairie Island Indian Community's development of a net zero energy system. In Maryland, [Senate Bill 281](#) waived certain application fees for the Voluntary Cleanup Program if the eligible property will be used to generate clean or renewable energy. The bill also created a tax credit to incentivize public-private partnerships that develop clean and renewable energy projects on certain locations including rooftops, reclaimed mines, and superfund sites.
3. Other bills of interest enacted in 2020 include Vermont's [House Bill 942](#), which authorized several transportation investments which include funding for MileageSmart, a high fuel efficiency vehicle incentive program, and for the installation of direct-current fast-charging and level 1 charging stations throughout the state. California's [Assembly Bill 78](#) created the Climate Catalyst Revolving Loan Fund to finance projects and activities that will further California's climate goals.

2020 Enacted State Financing and Financial Incentives Legislation (49 bills)



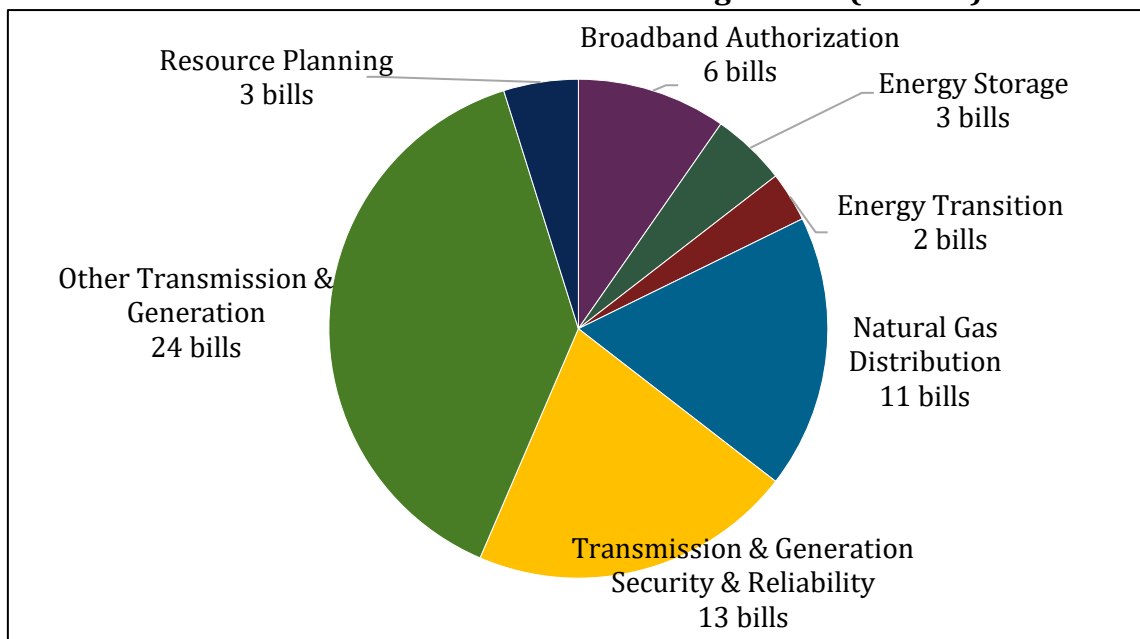


Infrastructure

The AEL Tracker's infrastructure category covers a range of topics including utility-scale electric generation facility permitting and siting, battery energy storage, transmission, and natural gas distribution infrastructure. Key findings related to the infrastructure bills enacted in 2020 include the following:

1. Bills related to electric transmission and distribution infrastructure, natural gas delivery systems, and the siting and decommissioning of electric generating facilities continue to account for a large portion of enacted legislation in the infrastructure category (53 bills combined). Here we highlight notable trends emerging within this set of legislation.
 - a. As state and local governments explore building electrification as part of a strategy to meet clean energy goals, some states have moved to preempt local permitting authority that might restrict certain new utility connections (see: Arizona [HB 2686](#), Louisiana [SB 492](#), and Tennessee [SB 1934](#)).
 - b. Part of the effort to extend broadband access to rural and other underserved communities, states have continued to authorize electric utilities to provide this service either directly or indirectly by allowing use of transmission lines for broadband service. For instance, West Virginia's [House Bill 4619](#) authorized electric utilities to seek approval for and cost recovery of "middle-mile" broadband fiber projects.
 - c. States continue to develop and expand policies related to environmental justice. In the AEL Tracker's infrastructure category, bills related to public participation during permitting and siting processes increasingly address environmental justice. For instance, Connecticut ([HB 7008](#)) and New Jersey ([SB 232](#)) amended public participation and engagement requirements related to the siting of certain facilities in environmental justice communities
2. In 2020, states continued to enact legislation related to the [energy transition](#). For example, California's [Assembly Bill 639](#) directed the Labor and Workforce Development Agency and the California Workforce Development Board to complete a stakeholder process to develop recommendations to mitigate employment impacts related to automation at the Ports of Los Angeles and Long Beach. The bill also directed the Workforce Development Board and the State Air Resources Board to provide a report to the legislature on the educational and training resources necessary to prepare the state's workforce to meet the challenges and opportunities presented by the energy transition.
3. States also continued to enact bills related to energy storage. For example, Virginia's [Senate Bill 632](#) created a goal of 2,700 megawatts of aggregate energy storage capacity to be installed by 2030. The bill also outlined utility planning and procurement requirements for energy storage.

2020 Enacted State Infrastructure Legislation (62 bills)



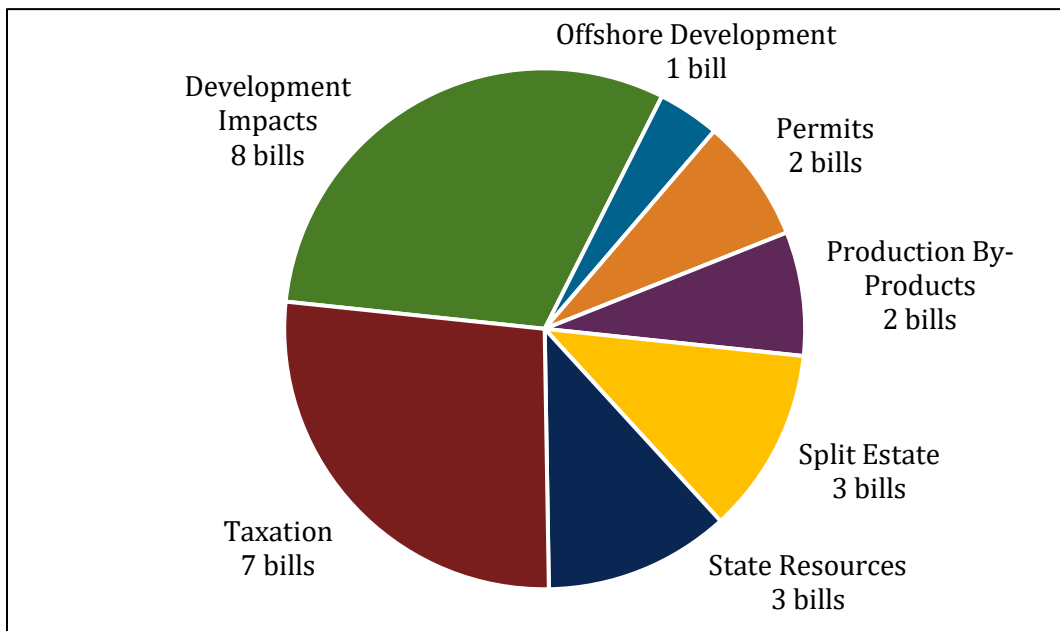


Natural Gas Development

While most natural gas regulation at the state level occurs through existing agency rulemaking authority, state legislatures also address a variety of issue areas and direct state agencies to undertake rulemakings related to the development of natural gas. Key highlights from the set of natural gas development bills enacted in 2020 include the following:

1. Compared to previous years, the number of bills related to natural gas development enacted in 2020 was significantly lower. There are a handful of likely explanations for this observation. First, North Dakota and Texas, consistently the top two states for enacted natural gas legislation in odd years, do not hold even year legislative sessions. Second, many state officials were likely focused on the 2020 elections and responding to the COVID-19 pandemic. Third, Louisiana, typically in the top two states for frequency of natural gas development-related legislation enacted in even years, was also beset by yet another busy hurricane season.
2. States continue to enact bills to address the environmental and human health impacts of natural gas development. Among these concerns, there are at least [2.1 million unplugged abandoned oil and gas wells](#) and hundreds of thousands of orphaned wells across the United States.⁷ Interestingly, the number of site remediation bills enacted in 2020 (eight bills) equals that enacted in 2019. Of the remediation bills enacted in 2020, six address well-plugging specifically and five of these, enacted by South Dakota ([HB 1025](#) and [SB 17](#)) and West Virginia ([HB 4088](#), [HB 4090](#), and [SB 120](#)), provide funding for such efforts.
3. Other natural gas development-related legislation enacted in 2020 include Virginia's ban ([HB 706](#)) on leases, easements, or permits in the Commonwealth's coastal waters that would allow the construction of infrastructure (e.g. pipelines, processing facilities) used to convey offshore oil and gas resources onshore. West Virginia's [House Bill 4091](#) amended existing statute to allow, upon payment of a fee, expedited permitting of horizontal wells. A portion of these fees will be contributed to a fund for plugging orphaned wells. Wyoming's [House Bill 243](#) reduced severance taxes for new oil and gas production for the first year of production under certain price points (\$50/barrel for crude oil and \$2.95/thousand cubic feet for natural gas).

2020 Enacted State Natural Gas Development Legislation (26 bills)



⁷ Abandoned wells are unplugged wells that have not been operated and maintained for some time. Orphaned wells are abandoned wells for which no owner can be located ([New York Department of Environmental Conservation](#)).

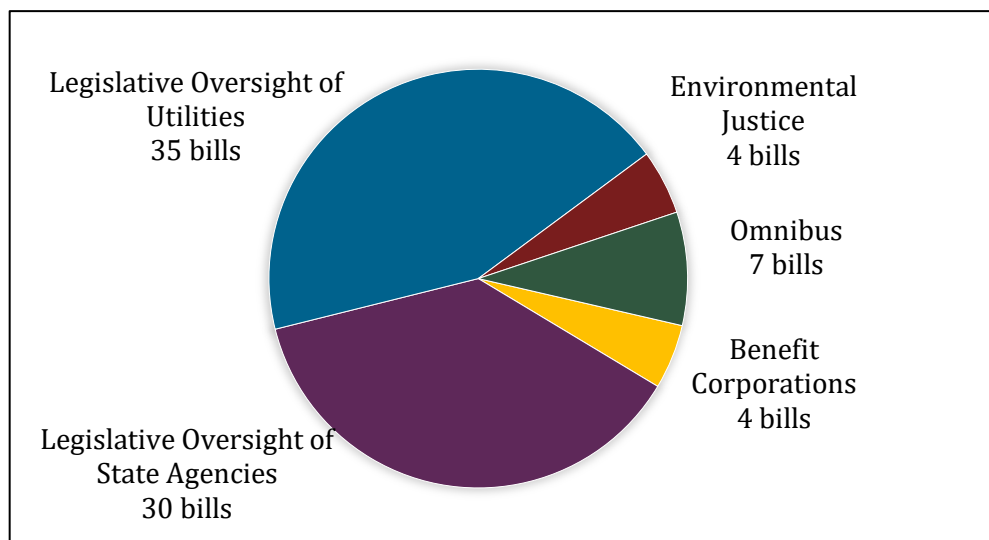


Regulatory

AEL Tracker’s regulatory category covers a broad range of bill types, including those related to utility business models, legislative oversight of state agencies, environmental justice, and omnibus energy legislation. Key findings related to the regulatory bills enacted in 2020 include the following:

1. State legislatures continue to be active in the oversight of utilities and state agencies, enacting a combined 65 bills in 2020. Examples include California’s [Senate Bill 350](#), which authorized the Governor to incorporate Golden State Energy as a non-profit public benefit corporation with the ability to commence an eminent domain proceeding against Pacific Gas and Electric (PG&E) in the event that the company “fails to emerge from bankruptcy as a transformed utility.” Colorado’s [House Bill 1225](#) clarified certain areas relating to the jurisdiction of the public utilities commission over Tri-State Generation and Transmission Association and required that the rates imposed by Tri-State on its members for the installation, interconnection, and use of energy storage be just and reasonable. Virginia’s [Senate Bill 998](#) declared certain offshore wind projects to be in the public interest and required that utilities undertaking such projects submit workforce development and environmental and fisheries mitigation plans as part of the approval process for new projects. In Utah, [Senate Bill 154](#) allowed local governments to enter into agreements to jointly create “interlocal energy hubs” to facilitate the coordination of resources and participants in a multi-county or interstate region for the generation, transmission, or storage of energy.
2. States also enacted legislation focused on environmental justice. For instance, New York’s [Assembly Bill 8960](#) clarified the role and composition of the Environmental Justice Advisory Group established in 2019 by [Senate Bill 2385](#). In Virginia, [Senate Bill 883](#) established the Virginia Council on Environmental Justice to “advise and provide recommendations to the Governor regarding the development of policies and procedures...to ensure that environmental justice issues are heard and addressed as the Commonwealth evolves, as impacts of climate change increase, and as new environmental justice issues emerge.”
3. Connecticut, New Mexico, and Virginia enacted notable omnibus bills. Connecticut’s [House Bill 7006](#) amended provisions related to performance-based regulation and electric reliability and expanded a grant and loan program for microgrids sited in vulnerable communities to improve resilience. New Mexico’s [House Bill 233](#) addressed the goals of the [New Mexico Energy Transition Act](#) by requiring the development of a grid modernization plan that supports New Mexico’s integration with regional electricity markets, improves access to clean energy, reduces GHG emissions, supports the development of a skilled workforce, and protects consumers. Also discussed above, Virginia’s Clean Economy Act ([SB 851](#)) established a mandatory renewable portfolio standard (RPS), an energy efficiency standard, an energy storage deployment target, and carbon reduction goals for the power sector. The bill also amended provisions related to offshore wind, environmental justice, and workforce development.

2020 Enacted State Regulatory Legislation (80 bills)



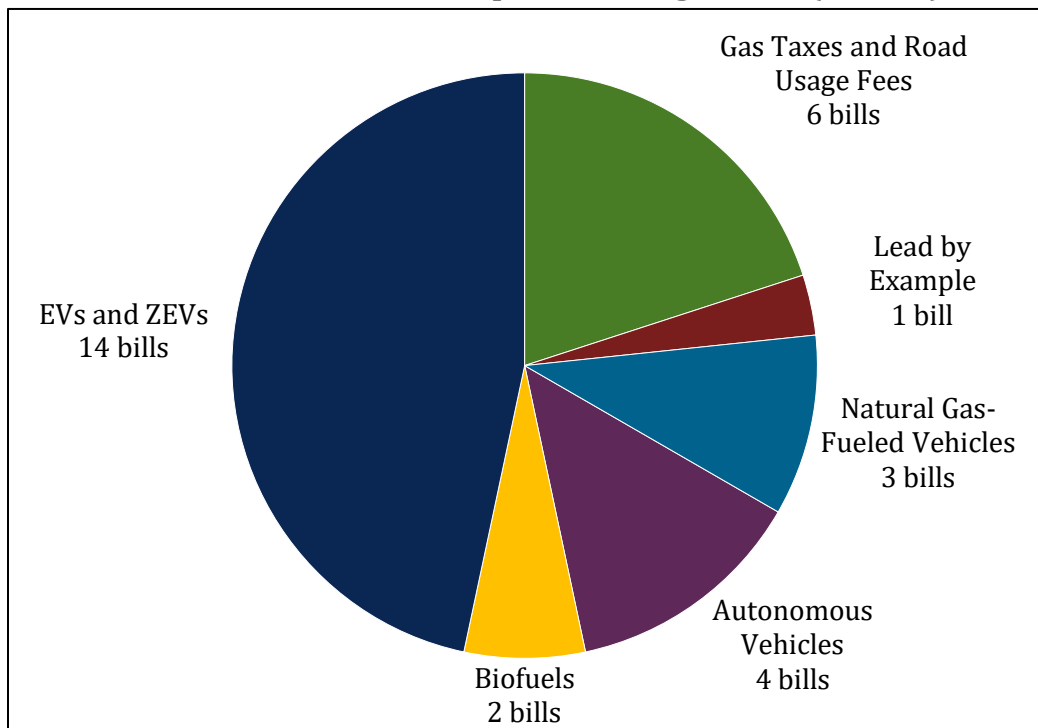


Transportation

In 2016, the transportation sector surpassed the electric sector as the largest source of carbon dioxide emissions in the U.S. Because of this, the transportation sector offers some of the greatest policy opportunities for achieving emissions reductions and improving air quality. State policy action in this area will also have reverberating impacts on the clean energy transition as a whole. Key highlights of the transportation bills enacted in 2020 include the following:

1. In 2020, 15 states and the District of Columbia enacted 30 bills related to the transportation sector. Virginia accounted for five of these bills, leading the category for most active state.
2. Bills related to electric vehicles (EVs) and zero-emission vehicles (ZEVs)⁸ were once again the most frequently enacted type of legislation in the transportation category in 2020. Of the 14 bills enacted, 10 related to installing or expanding access to EV charging infrastructure. Examples of legislation in this set include New Jersey's [Senate Bill 349](#), which required developers to offer to install charging infrastructure in new home construction. Utah's [House Bill 396](#) allowed for cost recovery of utility-owned vehicle charging infrastructure. Virginia's [Senate Bill 630](#) prohibited community associations from banning charging infrastructure on members' property.
3. As advances in self-driving vehicles continue, states also continue to enact legislation aimed at addressing the challenges associated with regulating the use of autonomous vehicles on public roads. In 2020, three states and the District of Columbia enacted bills related to autonomous vehicles. Legislation enacted in the District of Columbia ([B23-0232](#)), Hawaii ([HB 2590](#)), and Washington ([HB 2676](#)) set minimum requirements for autonomous vehicle testing programs. Pennsylvania's [Senate Bill 1199](#) established rules for the operation of autonomous personal delivery devices, defined as autonomous "ground delivery devices" manufactured for transporting cargo or goods.

2020 Enacted State Transportation Legislation (30 bills)



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⁸ Under California's ZEV program, ZEVs are defined as plug-in hybrid EVs, battery EVs, and hydrogen fuel cell vehicles.