

State Policies and Rules to Enable Beneficial Electrification in Buildings through Fuel Switching

May 2020

To meet ambitious state goals to reduce greenhouse gas (GHG) emissions, policymakers and program administrators in several states are promoting electrification of space and water heating as an important building decarbonization tool. Electrification has the potential to reduce buildings-sector emissions by displacing direct fossil fuel use with electricity use, specifically when the electricity is generated by lower-carbon sources than those used onsite. Technological advancements continue to improve the performance and affordability of both air and ground source heat pumps, which has increased the feasibility of using these technologies to reduce participant costs and meet comfort expectations. A barrier to deployment is concern over ensuring that electrification efforts are beneficial; i.e., that they reduce emissions and energy costs and are harmonized with existing energy efficiency policies aimed at reducing demand.¹

Efficiency policies have typically considered fuel types in isolation without considering the net societal and participant benefits of fuel-switching technologies.² Fuel-switching programs are sometimes expressly prohibited by state rules; in other states, uncertainty or lack of state guidance has also impeded electrification efforts. Given the opportunity that fuel switching creates to reduce emissions in a cost-effective manner, a number of states are increasingly motivated to update policies to enable beneficial electrification, particularly as these policies relate to utility energy efficiency and demand-side management programs.

This policy brief provides information on existing state policies within this rapidly changing area to assist regulators and program administrators as they seek to design and deliver effective programs that enable fuel switching and meet their maximum potential to achieve net carbon reduction benefits. We gathered this information in part through data collection efforts associated with ACEEE's annual *State Energy Efficiency Scorecard* and supplemented by additional interviews and correspondence with state utility regulators in order to verify policy descriptions and cited rules and guidance. This policy area is dynamic and rapidly evolving,

¹ Efficiency and electrification are often aligned; i.e., ACEEE views electrification as a form of energy efficiency when it saves energy (in total Btus), saves money, and reduces emissions. When electrification meets these criteria, energy efficiency programs are an important policy mechanism. Moreover, building shell and behavioral efficiency measures that reduce overall participant energy demand can reduce the size of the heating and cooling equipment needed to serve the building, which lowers costs to electrify. There may be additional fuel switching offerings that reduce GHG emissions but do not yet reduce costs or total energy saved; in these cases, other policy mechanisms that are less focused on least-cost resource planning, such as GHG auction revenues or green bonds, may be more appropriate funding tools.

² Fuel switching refers to the practice of replacing a heating or cooling technology or appliance with one driven by a different energy source, e.g., displacing oil and propane through the installation of an electric air source heat pump. For the purposes of this policy brief, we researched the status of fuel switching rules for energy efficiency programs to understand where states are evolving their fuel switching rules to align with GHG reductions by encouraging beneficial electrification.

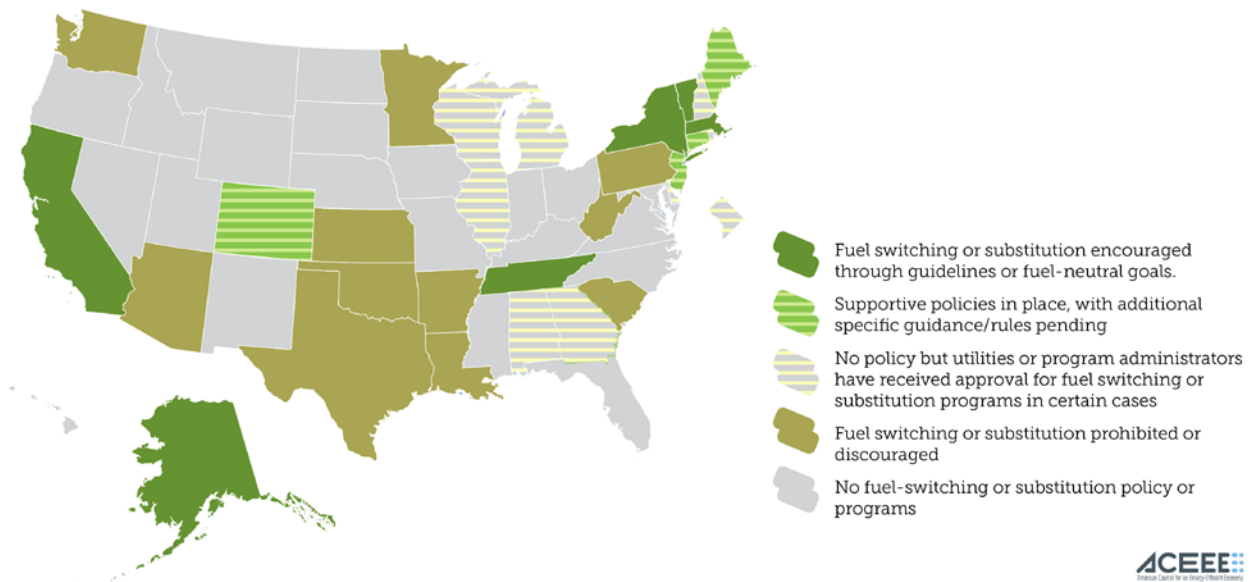
and the information provided here represents a snapshot of those policies in place as of early 2020.

Generally, we found that state policies fall into five categories:

- Fuel switching is addressed through guidelines or fuel-neutral goals. Note that a state in this category may have set goals but may not yet have adjusted other factors like cost-effectiveness testing and potential studies.
- Supportive policies are in place, with additional specific guidance/rules pending.
- There is no policy, but utilities or program administrators have received approval for fuel switching or substitution programs in certain cases.
- Fuel switching or substitution is prohibited or discouraged.
- No fuel-switching or substitution policies or programs are in place.

Our findings show that policies to enable and support fuel-neutral savings are for the most part still in their infancy across most of the U.S. More than half of states have no relevant policy in place, while at least another ten explicitly prohibit fuel-switching measures. Even among states at the leading edge, much of the guidance is still pending as policymakers refine savings estimates to better understand the full energy efficiency potential of such measures and design policies to match. These leading states, mostly located in the northeast, tend to also prioritize strong goals to advance clean energy and energy efficiency and are situated in climates where a high reliance on natural gas, fuel oil, and propane for home heating make electrification an increasingly opportune strategy for slashing emissions.

Figure 1. Fuel-switching policy status by state



It should be noted that for the purposes of this brief, per current naming conventions and for the sake of simplicity, we have chosen to apply the term “fuel switching” universally in describing programs and measures that may address multiple kinds of fuel replacements, including those replacing one regulated fuel with another regulated fuel, and those in which a

regulated fuel (electricity or natural gas) replaces an unregulated fuel like propane. However, while it is currently customary in some states to refer to these different types of measures broadly as fuel switching, we also understand that in California, regulators differentiate between these measures and refer to fuel replacements involving two fuels both regulated by the CPUC as “fuel substitution” and refer to replacement of non-utility fuels as “fuel switching.”

Also, while this policy brief is specifically interested in fuel-switching measures in the service of beneficial electrification, state fuel-switching efforts or policies may allow electric-to-gas measures in some cases (e.g., Oklahoma). We have sought to highlight this distinction in most cases; however, we plan to further clarify and distinguish among different types of allowed fuel replacements in future versions of this brief.

Table 1 summarizes the status and types of fuel-switching rules currently in place among states, including those with no policy or program.

Table 1. Fuel-switching policy status by state

State	Policy summary	Policy status
Alabama	Alabama does not have a policy on fuel switching. Alabama Power Company promotes gas-to-electric conversions and its energy efficiency program offers customer incentives for higher seasonal energy efficiency ratio (SEER) heat pumps. Alabama Power also offers incentives for heat pump water heaters. The Tennessee Valley Authority includes beneficial electrification programs for new and existing customers in the eScore platform offered to local distribution companies.	No policy but utilities have received approval for fuel substitution programs in certain cases
Alaska	HB 374, signed into law in 2018, enables utilities to offer customers on-bill financing agreements to finance measures such as renewable energy, energy efficiency, and energy storage devices. Also eligible are fuel-switching systems, which the legislation defines as “the replacement of existing fuel-consuming equipment using a particular fuel with equipment that uses another fuel that does not increase greenhouse gas emissions and that (A) is more fuel efficient; or (B) results in lower fuel expenses.” Implementation status of this legislation is unknown. References: HB 374	Provides guidelines for fuel substitution or fuel-neutral goals

State	Policy summary	Policy status
Arizona	<p>Arizona Administrative Code (ACC) requires ratepayer-funded demand-side management (DSM) to be developed and implemented in a “fuel-neutral manner,” meaning that a utility should not bias the customer’s fuel choice (such as electricity or gas) toward the fuel that the utility provides (RI4-2-2414/R14-2-2514). The order states that “an affected utility shall use DSM funds collected from electric customers for electric DSM programs unless otherwise ordered by the Commission.” It also allows a utility to use DSM funds collected from electric customers for thermal envelope improvements. Similar language is in place for natural gas utilities.</p> <p>An exception are gas efficiency rules in AAC R14-2-2504 (G), which allow natural gas utilities to propose renewable energy technology programs that displace gas. For example, as part of its efficiency programs, a natural gas utility could propose a solar water heater program as a renewable energy technology rather than a natural gas water heater program.</p> <p>References: Docket No. RE-00000C-9-0427: Rulemaking Adopting Energy Efficiency Standards; A.A.C. R14-2-2414. Fuel Neutrality; A.A.C. R14-2-2504: Energy Efficiency Standards</p>	Prohibits fuel switching
Arkansas	<p>Fuel-switching and load building programs not otherwise authorized under the <i>Commission Rules and Regulations Governing Promotional Practices of Electric and Gas Utilities</i> shall not be included as energy efficiency programs.</p> <p>References: Docket No. 10-101-R: Order No. 37 Rules for Conservation and Energy Efficiency Programs</p>	Prohibits fuel switching
California	<p>The California Public Utilities Commission (CPUC) established the Fuel Substitution Test (an updated version of the Three Prong Test) in August 2019 (Decision 19-08-009). The test clarifies how to demonstrate that an existing building measure does not 1) increase total source consumption or 2) adversely impact the environment when compared with the baseline measure using the original fuel. It applies cost-effectiveness at the portfolio level, like efficiency measures, and requires that the “new fuel” customers (typically electric) fund the programs. It does not address unregulated fuel switching from wood and propane.</p> <p>CPUC Decision 18-12-015 approves pilot projects in the San Joaquin Valley meant to replace propane and wood burning appliances with either electric or natural gas alternatives.</p> <p>References: Decision 19-08-009: Three Prong Test; D.18-12-015/R.15-03-010 San Joaquin Valley Disadvantaged Communities Pilot Projects</p>	Provides guidelines for fuel substitution or fuel-neutral goals

State	Policy summary	Policy status
Colorado	<p>Colorado state code C.C.R 723-3, 3600(e), governing least-cost resource planning, specifies that “energy efficiency measures can include fuel switching.” No further guidance is included within the state’s electric DSM statutes or regulatory orders.</p> <p>Natural gas DSM rules do prohibit fuel switching from natural gas to other fossil-fuel-derived energy sources. However, programs to save natural gas through switching to renewable energy sources (such as solar heating and ground source heat pumps) are allowed (4 CCR 723-4).</p> <p>As of early 2020, the Colorado Energy Office is conducting a study to assess the technical and economic potential of building electrification within the state and determine supportive policy options. A final report is anticipated for publication in Q2 of 2020.</p> <p>References: C.C.R 723-3, 3600(e); Xcel 2019/2020 Demand-Side Management Plan; Rules Regulating Electric Utilities (4 CCR 723-3); Rules Regulating Gas Utilities and Pipeline Operators (4 CCR 723-4)</p>	Supportive policies in place, with additional specific guidance/rules pending
Connecticut	<p>Public Act. 18-50, passed in October 2018, set a state energy savings goal for the years 2020–25 in MMBTus and revised section 16-245m of state statute to require energy utilities to be fuel blind in their delivery of energy efficiency services. It requires the state’s Energy Conservation Management Board to “examine opportunities to offer joint programs providing similar efficiency measures that save more than one fuel resource or otherwise to coordinate programs targeted at saving more than one fuel resource.” Costs for joint programs must be allocated equitably among the conservation programs.</p> <p>The state Department of Energy and Environmental Protection’s 2018 Comprehensive Energy Strategy also supports electrification of building heating and transportation and recommends strategic installation of ductless air source heat pumps to cost-effectively displace heating from oil, propane, or electric resistance units.</p> <p>Eversource and United Illuminating Company—both dual-fuel utilities—have not promoted but have allowed for fuel switching. However, efforts are underway to expand heat pump deployment and to measure both fossil fuel savings and increased electricity usage associated with such measures. Connecticut’s Conservation Load Management Plan for 2019–21 includes an explicit pilot outreach and incentive strategy to increase adoption of low-carbon heating technologies, including water and air source heat pumps and heat pump water heaters. The companies also plan to review the current Cost-Effectiveness Tool using the National Standard Practice Manual, which they note may support additional deployment of air- and ground-source heat pumps.</p> <p>References: Public Act 18-50; 2019-2021 Conservation & Load Management Plan; Connecticut’s 2019 Program Savings Document; CT DEEP Comprehensive Energy Strategy (2018)</p>	Supportive policies in place, with additional specific guidance/rules pending

State	Policy summary	Policy status
Delaware	<p>There are currently no explicit fuel-switching policies in Delaware’s enabling efficiency legislation (the Delaware Energy Act and the EERS Act of 2009). However, some programs are in place to enable fuel-switching measures to help reduce customer use of fossil fuels. For example, the State of Delaware offers grants for Delmarva Power customers who install geothermal heat pumps and solar thermal projects through the Green Energy Program. Some co-ops and localities also provide incentives for geothermal heat pumps. These programs are most popular with Delaware customers who currently use propane or fuel oil HVAC systems.</p> <p>References: Delaware Energy Act (29 Del.C. §8051); Energy Efficiency Resource Standards Act of 2009 (26 Del.C. §1500); Delaware Green Energy Program</p>	No policy but utilities have received approval for fuel substitution programs in certain cases
District of Columbia	<p>The Clean Energy DC Omnibus Amendment (CEDC) Act of 2018 amended the original law establishing the District of Columbia Sustainable Energy Utility (SEU) to remove restrictions on previous requirements for how funds are allocated between electric and gas measures in SEU-offered programs.</p> <p>A DOEE-led electrification roadmap study is also currently underway aimed at modeling the technical energy efficiency potential of DC’s buildings and transport, as well as non-wires alternatives to mitigate the impacts of electrification.</p> <p>A recent modification to the DCSEU contract allows the DCSEU to support projects that switch from fossil fuel to electricity but not those for the reverse conversion. The DCSEU incentivizes ductless mini-split and air-source heat pumps, but the effort is not targeted at fuel switching. The heat pump water heater rebate is only eligible when a customer is replacing existing electric hot water.</p> <p>References: Clean Energy DC Omnibus Amendment Act of 2018; Clean and Affordable Energy Act of 2008; DCSEU eligible water heaters</p>	No policy but utilities have received approval for fuel substitution programs in certain cases
Florida	<p>No fuel-switching policy established. The Florida Public Service Commission controlling statutory authority for energy efficiency programs, Section 366.82, F.S., does not address this issue.</p> <p>References: F.S. 366.82</p>	No policy in place
Georgia	<p>No fuel-switching policy in place. However, several utility programs offer measures that could replace equipment that uses non-electric fuel sources with high-efficiency electric equipment. These programs include the residential Home Energy Improvement program, Earth Cents New Home program, Commercial Custom program, and the Small Commercial Direct Install program.</p> <p>References: Docket #40162 (Georgia Power Company’s DSM Program); Georgia Power Company - First Quarter 2019 Programs Status Report Programs</p>	No policy but utilities have received approval for fuel substitution programs in certain cases

State	Policy summary	Policy status
Hawaii	<p>The state's Energy Efficiency Portfolio Standards statute does not explicitly address fuel switching. In general, fuel substitution is not included as an eligible DSM measure, except for a program targeting solar water heating.</p> <p>While the energy efficiency program rules do not recommend fuel switching as a means to reduce fossil fuel use, the overall efforts to achieve the Hawaii Renewable Energy Portfolio Standard of 100% by 2045 do address the reduction (elimination) of fossil fuel dependence, which is a source of electricity generation in the state, as a main objective of the target.</p> <p>References: Docket No. 2010-0037, Decision and Order No. 30089: Approving a Framework for Energy Efficiency Portfolio Standards</p>	No policy in place
Idaho	There is currently no fuel-switching policy in place.	No policy in place
Illinois	<p>No specific fuel-switching policy is currently in place. However, utilities provide incentives for fuel switching on a limited basis for certain measures.</p> <p>SB2814 (the Future Energy Jobs Act) updated the state's definition of energy efficiency to include "measures that reduce total Btus of electricity, natural gas, and other fuels needed to meet the end use or uses." A 2014 Illinois Commerce Commission ruling approving combined heat and power measures within utility energy efficiency portfolios has served as the primary enabling regulation under which fuel-switching measures have been deployed.</p> <p>The Illinois Technical Reference Manual (TRM) also includes guidance for apportioning credit for energy savings between gas and electric utilities related to three fuel-switching measures: geothermal heat pumps, ductless heat pumps, and CHP. However, it is unclear the extent to which these methods are applied in practice.</p> <p>References: Public Act 099-0906 (SB2814): Future Energy Jobs Act (2016); Illinois Statewide Technical Reference Manual</p>	No policy but utilities offer fuel substitution measures in certain cases
Indiana	No explicit utility commission rules regarding customer fuel switching.	No policy or programs
Iowa	<p>Iowa's existing policy establishing energy efficiency planning does not address fuel switching.</p> <p>References: 199 Iowa Administrative Code Chapter 35. Energy Efficiency Planning and Cost Review</p>	No policy or programs
Kansas	<p>Fuel switching is prohibited per state code. Demand-side programs may not include "any measures to incent fuel switching for residential heating systems..." (§ 66-1283)</p> <p>References: § 66-1283(3)</p>	Prohibits fuel switching
Kentucky	No fuel-switching policy in place.	No policy or programs

State	Policy summary	Policy status
Louisiana	<p>Fuel switching is prohibited per regulatory order:</p> <p>“During the Quick Start Phase, LPSC regulated utilities shall be prohibited from offering energy efficiency programs that encourage customers to switch from electric to natural gas or from natural gas to electric appliances and services. This shall be reexamined in Phase II as part of the Collaborative process...” (LPSC General Order R-31106, 2017)</p> <p>References: XI. LPSC General Order (R-31106). Attachment “A”</p>	Prohibits fuel switching
Maine	<p>LD 1766, signed in 2019, establishes the goal of installing 100,000 heat pumps in Maine by 2025. The state has recently started counting fuel-switching savings from unregulated fuels in 2020.</p> <p>Efficiency Maine has an objective to make energy efficiency programs available to users of all fuel types (HP1128). Funds are also made available through RGGI, which supports switching from fuel oil to air source heat pumps.</p> <p>References: H.P. 1128-L.D. 1559, A-3. 35-A MRSA §10103, sub-§1; Sec. A-15. 35-A MRSA §10109, sub-§4; Efficiency Maine Triennial Plan IV (Fiscal Years 2020-2022); LD 1766; MPUC Rules c. 380, 95-648</p>	Supportive policies in place, with additional specific guidance/rules pending
Maryland	No fuel-switching policy in place.	No policy or programs
Massachusetts	<p>In 2018, Massachusetts enacted An Act to Advance Clean Energy, which expanded the scope of electric energy efficiency to include measures designed to reduce greenhouse gas emissions through the use of expanded electricity consumption while minimizing ratepayer costs. It also includes programs that result in customers switching to renewable energy sources or other clean energy technologies. Fuel-switching savings have been negotiated for commercial and industrial customers, and starting in 2019, overall energy savings and emissions reductions from fuel-switching measures will be fully accounted for in program administrators’ efficiency plans.</p> <p>References: Massachusetts Joint Statewide Electric and Gas Three Year Energy Efficiency Plan; Acts of 2018, Ch 227: An Act to Advance Clean Energy §4</p>	Provides guidelines for fuel substitution or fuel-neutral goals
Michigan	There is no explicit rule prohibiting fuel switching.	No policy but utilities have received approval for fuel substitution programs in certain cases

State	Policy summary	Policy status
Minnesota	<p>Targeted fuel-switching projects are prohibited under Minnesota’s Conservation Improvement Program per a 2005 Commission Order. However, fuel-neutral projects for low-income customers are permitted pending a successful cost-benefit analysis.</p> <p>A legislative proposal that would enable “efficient fuel-switching” under certain conditions passed the Minnesota House but not the Senate in 2019. The state Department of Commerce has developed an introductory resource on fuel switching and electrification (<i>The Electrified Frontier</i>, 2018).</p> <p>References: March 7, 2005 Order in Docket. No. G008/CIP-00-864.07; MN Commerce Department: The Electrified Frontier (2018)</p>	Prohibits fuel switching (<i>exception for low-income programs</i>)
Mississippi	No fuel-switching policy in place.	No policy or programs
Missouri	No fuel-switching policy in place.	No policy or programs
Montana	No fuel-switching policy in place.	No policy or programs
Nebraska	No fuel-switching policy in place.	No policy or programs
Nevada	No fuel-switching policy in place.	No policy or programs
New Hampshire	<p>The New Hampshire Public Utilities Commission (PUC) has not approved fuel switching under its energy efficiency resource standard for 2018–20. As such, utilities can support heat pumps, but only claim electric savings from heat pump installations. While fuel neutral savings like oil, propane, kerosene and wood contribute to program cost effectiveness, they do not currently contribute to EERS savings goals.</p> <p>The NH PUC’s EM&V Working Group undertook an energy optimization through fuel switching study in 2019 to evaluate how energy optimization activities should be treated in cost-effectiveness practices.</p> <p>References: 2018-2020 New Hampshire Statewide Energy Efficiency Plan; NH PUC Order No. 25932, Docket DE 15-137 (Energy Efficiency Resource Standard); Energy Optimization through Fuel Switching Study - Navigant (2019)</p>	No policy but utilities have received approval for fuel substitution programs in certain cases

State	Policy summary	Policy status
New Jersey	<p>New Jersey's Clean Energy Program allows for fuel switching and accounts for oil/propane savings achieved.</p> <p>Approved updates in July 2019 for the Clean Energy Program include algorithms for calculating savings for ductless, mini-ducted, or hybrid heat pump systems; allowing for fuel switching to be incentivized; and accounting for displaced natural gas, fuel oil, or propane heat (FY 20 Protocols to Measure Resource Savings). The FY 2020 plan also calls for the review and consideration of a potential incentive for the conversion of homes heated with oil or electric resistance to high-efficiency cold-climate heat pumps.</p> <p>In addition, New Jersey is conducting a study of payback periods for electrification and on-site electric generation measures with the aim of incorporating cost-effective measures into building and energy codes. The state is also exploring how best to incentivize electric new construction and fuel switching from oil- and propane-heated buildings to electrification.</p> <p>References: Docket No. Q019050645; Docket No. Q019040471: Fiscal Year 2020 Protocols to Measure Resource Savings; New Jersey's Clean Energy Program Fiscal Year 2020 Program Descriptions and Budget; A3723/S2314; NJ Clean Energy Program – Heat Pumps</p>	Supportive policies in place, with additional specific guidance/rules pending
New Mexico	No fuel-switching policy in place.	No policy or programs
New York	<p>A January 2020 Public Service Commission order established a target to save 3.6 Tbtu by 2025 through a statewide heat pump initiative (in a collaboration between utilities and NYSERDA). There is no regulatory directive that existing equipment be a certain type. The order directed staff to finalize revisions to heat pump savings estimation approaches for inclusion in the state Technical Resource Manual, and also called for a statewide heat pump EM&V study to be completed by June 2022 in an effort to further refine savings estimation approaches.</p> <p>Fuel-switching policies and programs have been established through the adoption of fuel neutrality for NYSERDA's Clean Energy Fund, which administers programs statewide.</p> <p>In April 2018, NYSERDA's <i>New Efficiency: New York</i> white paper and subsequent December 2018 Commission order established a fuel-neutral 2025 energy efficiency target of 185 TBTus of cumulative, site energy savings, aggregating efficiency achievements across electricity, natural gas, and delivered fuels such as oil and propane. The order also called for a minimum Tbtu heat pump savings target and clarified that electric sales increases from heat pumps and other forms of beneficial electrification would be netted against electric efficiency achievements so that they do not count against the achievement of targets.</p> <p>A December 2018 PSC order also specified that in order to take full advantage of cost-effective opportunities and reduce program costs, utility programs may be extended to customers whose primary heating fuel is a delivered fuel with certain restrictions designed to ensure measurable savings (listed in p. 34 of the Order).</p> <p>References: New Efficiency: New York (April 2018); NY PSC, Order Adopting Accelerated Energy Efficiency Targets, Case 18-M-0084 (December 2018); NY PSC, Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (January 2020)</p>	Supportive policies in place, with additional specific guidance/rules pending

State	Policy summary	Policy status
North Carolina	<p>North Carolina has no specific rules approving or prohibiting fuel-switching measures. However, R8-68 of NCUC rules requires utilities to apply for Commission approval before implementing a measure or program that either “directly or indirectly alters or influences the decision to use the electric public utility’s or electric membership corporation’s service for a particular end use or that directly or indirectly encourages the installation of equipment that uses the electric public utility’s or electric membership corporation’s service.” Similar language is in place for natural gas utility programs.</p> <p>Per R8-68(e), the factors to be considered by the Commission in approving such a program include whether the proposed measure/programs are in the public interest and benefit the utility’s overall customer body, the impact of the proposed measure/programs on peak loads, and whether they encourage energy efficiency.</p> <p>It is unclear whether the NCUC has previously disapproved fuel-switching programs under the terms of the rulemaking.</p> <p>References: NCUC Rule R8-68</p>	No policy or programs
North Dakota	<p>No fuel-switching policy or program established.</p> <p>References: Empower North Dakota Comprehensive State Energy Policy 2010-2025</p>	No policy or programs
Ohio	<p>No fuel-switching policy or program established.</p> <p>References: S.B. 221, ORC 4928.66 et seq.</p>	No policy or programs
Oklahoma	<p>Under OAC 165:35-41-4, electric DSM portfolios are prohibited from including fuel switching to electricity. However, in its natural gas rules, OAC does allow the substitution of natural gas equipment for electric equipment.</p> <p>References: O.A.C. 165:35-41-4: Electric Rules; O.A.C. 165:45-23-4: Natural Gas Rules</p>	Prohibits fuel switching (<i>exception for electric to natural gas</i>)
Oregon	<p>According to Energy Trust of Oregon’s fuel-switching policy (4.03.000-P), fuel choice is a consumer decision, and though fuel-switching measures that improve efficiency are eligible for incentives, Energy Trust does not intend its incentives to affect fuel choice. Energy Trust will not advocate fuel switching to non-renewable options but provides fuel-neutral technical information on efficiency options.</p> <p>References: 4.03.000-P Fuel-switching Policy</p>	No policy or programs
Pennsylvania	<p>Act 129, the state’s energy efficiency law, requires efficiency programs to reduce electric consumption, such that electrification of fossil fuel end uses have not been permitted. In Phases I, II, and III of Act 129, utilities have been allowed to convert equipment from electricity to fossil fuel. However, no policies or guidance are in place to support replacement of propane, fuel oil, or natural gas with electrification measures.</p> <p>References: Energy 66 Pa C.S. § 2806.1. Energy efficiency and conservation program</p>	Prohibits fuel switching

State	Policy summary	Policy status
Rhode Island	<p>Rhode Island's Power Sector Transformation Initiative has produced high-level recommendations regarding beneficial electrification.</p> <p>National Grid's 2019 Annual Energy Efficiency Plan (Docket 4888) supported the conversion of electric resistance, oil, and propane customers to cold climate heat pumps (natural gas to electric conversions were not included). However, the PUC ruled in late 2019 that it was not proper to deploy a heat pump program to incentivize fuel switching using the electric efficiency systems benefit charge because it does not benefit the electric system (Docket 4979). The PUC disallowed the incentive for fuel switching but did allow it for non-fuel switching applications of heat pumps, e.g., customers who were using electric resistance heating.</p> <p>The state's Energy Efficiency Resources Management Council developed priorities for the triennial review of the Least Cost Procurement standards that include provisions that the PUC should consider programs that are explicitly designed to reduce emissions, along with complementary efforts like moving to MMbTu calculations.</p> <p>References: Rhode Island Power Sector Transformation Initiative; National Grid Annual Energy Efficiency Plan for 2019; National Grid's Motion for Clarification of and/or Relief, Feb. 14, 2020.</p>	No policy but utilities or program administrators have received approval for fuel-switching programs in certain cases
South Carolina	<p>South Carolina code does not allow efficiency programs to replace natural gas appliances with electric appliances, or vice versa, "...unless (1) the customer who seeks to install the energy efficiency or conservation measure is being provided electric and natural gas service by the same provider, or (2) an electric appliance used for home heating is being replaced by an appliance that operates primarily on electricity but which has the capability of also operating on a secondary fuel source." (§58-37-50)</p> <p>References: S.C. Law §58-37-50</p>	Prohibits fuel switching
South Dakota	<p>No fuel-switching policy or program.</p> <p>References: CHAPTER 49-34A</p>	No policy or programs
Tennessee	<p>The Tennessee Valley Authority, in partnership with local power companies, actively promotes electrification and fuel switching through its EnergyRight programs. Certain local power companies have the option to offer their customers additional incentives from the incentives provided by TVA.</p> <p>TVA's Commercial Energy Solutions organization, in partnership with DNV GL, has also created a measure level net carbon emissions calculator for the electrification portfolio that estimates the carbon impact of certain measures. In calculating agency CO2 emissions inventories, TVA uses the WRI corporate greenhouse gas accounting protocols to calculate agency CO2 emissions inventories. Generally, if the fuel switching results in actual, measurable efficiency improvements, TVA also claims energy savings.</p> <p>References: Tennessee Valley Authority 2019 Integrated Resource Plan; TVA: EnergyRight</p>	Provides guidelines for fuel substitution or fuel-neutral goals

State	Policy summary	Policy status
Texas	<p>Commission rules 25.181 call for programs to be neutral “with respect to specific technologies, equipment, or fuels. Energy efficiency projects may lead to switching from electricity to another energy source, provided that the ... project results in overall lower energy costs, lower energy consumption, and the installation of high efficiency equipment.</p> <p>Utilities may not pay incentives for a customer to switch from gas appliances to electric appliances except in connection with the installation of high efficiency combined heating and air conditioning systems.”</p> <p>References: Texas PUC c. 25 §25.181</p>	Prohibits fuel switching (<i>exception for high efficiency combined heating and air conditioning systems</i>)
Utah	<p>No fuel-switching policy or program established.</p> <p>References: Public Service Commission of Utah 2018 Annual Report</p>	No policy or programs
Vermont	<p>Fuel switching in Vermont has generally been led by individual electric distribution utilities (DUs) given restrictions on Efficiency Vermont’s use of system benefit charge funding on fuel-switching incentives.</p> <p>Fuel-switching efforts by DUs have been driven by the state’s 2015 Renewable Energy Standard (Act 56), which addresses building electrification and comprises three components or tiers. While Tier I and II of the RPS address renewable energy requirements, Tier III requires distribution utilities (DUs) to reduce customers’ fossil fuel use through either electrification, efficiency, fuel switching, or storage. This requirement is 2% of a DU’s annual sales starting in 2017 and increasing by 0.67% annually, reaching 12% in 2032. While Efficiency Vermont claims electric savings from heat pump installations, DUs claim the fossil fuel savings under Tier III.</p> <p>Additionally, Public Service Board Docket 8550 provides rules and eligibility criteria for allowable programs under Tier III. These include: 1) a net reduction in fossil fuel and GHG emissions; 2) lowest present value lifecycle cost; and 3) utility cost less than applicable RPS alternative compliance payment (see pg. 70 of the Order Implementing the RES, pursuant to Section 8005(a)(3)(C) of state code.)</p> <p>References: The Energy Transformation (Tier III) provision of Act 56; Docket 8550: Order Implementing the Renewable Energy Standard (6/28/2016)</p>	Provides guidelines for fuel substitution or fuel-neutral goals
Virginia	<p>In 2015 the Virginia Energy Efficiency Roadmap team specified terms and conditions under which the state’s energy efficiency savings goal should be measured. The state’s first Energy Plan, published in 2007, established a voluntary goal to reduce FY 2022 electricity consumption in commercial and residential buildings by an amount equal to 10% of 2006 consumption. It determined that no credit would be given for combined heat and power, demand reductions, or fuel switching.</p> <p>In March 2020 Virginia passed the Clean Economy Act, establishing a mandatory EERS for investor-owned utilities as part of the bill’s goal to reach 100% clean energy by 2050. The legislation includes combined heat and power as an eligible energy efficiency measure but does not address fuel switching.</p> <p>References: Virginia Energy Efficiency Roadmap, Dec. 31, 2017; Virginia Clean Economy Act</p>	No policy or programs

State	Policy summary	Policy status
Washington	<p>Article 8, Section 10 of the Washington State Constitution, addressing conservation assistance programs offered by county, city, and town governments, as well as municipal utilities, prohibits financing to be used for any purposes which result in “a conversion from one energy source to another.” In the Revised Code of Washington (RCW), state statute 35.92.360 further clarifies that this prohibition pertains specifically to “substitution of one commercial energy supplier for another commercial energy supplier;” i.e., incentives for renewable energy projects are not prohibited.</p> <p>While these prohibitions do not apply to co-ops and investor-owned utilities, fuel-switching programs are rare among these entities. One exception has been electric-to-natural gas fuel conversion programs, which have historically been permitted. However, in an April 2018 order, the Washington Utilities and Transportation Commission determined that it is not appropriate for electric ratepayers to subsidize conversion from electric to gas. The Commission ordered the funding obligation to be shifted to the natural gas conservation rider.</p> <p>References: UE-170485, et al. - Order 07 Final Order; Washington State Constitution; Revised Code of Washington (RCW) 35.92.360</p>	Prohibits fuel switching
West Virginia	<p>Fuel switching is prohibited.</p> <p>References: Case No. 94-0682-EG-GI: General Investigation into appropriate promotional practices of electric and gas utilities</p>	Prohibits fuel switching
Wisconsin	<p>Fuel switching is not explicitly addressed in energy efficiency rules. In practice, Focus on Energy may apply fuel-switching measures toward its MMBtu goal on a case-by-case basis.</p> <p>References: PSCW Decision, Docket 5-FE-101 (6/18): Quadrennial planning period goals for 2019-2022</p>	No policy but utilities have received approval for fuel substitution programs in certain cases
Wyoming	No fuel-switching policies or programs established.	No policy or programs