

Overview of State Support and Policies for Fuel Cells and Hydrogen

Fuel Cell and Hydrogen Energy Association 1211 Connecticut Avenue, NW, Suite 600 Washington, D.C. 20036

Date: August 2014

Summary

This document provides information on policies and incentives throughout the states that enable the commercialization of fuel cell and hydrogen energy technologies.

On the following page, please click on the respective state that you would like information on and you will be directed to the appropriate section. States labeled None Available do not have any currently active policies that directly impact the fuel cell and hydrogen energy industry.

Should you have any questions on these current policies, or wish to inform us of any missing information, please contact our office by email at info@fchea.org or by phone at 202-261-1331.

Table of Contents

Executive Summa	ary
Alabama	4
Alaska	4
Arizona	4
Arkansas	5
California	5
Colorado	6
Connecticut	6
Delaware	
Florida	
Georgia	
Hawaii	8
Idaho	8
Illinois	8
Indiana	
lowa	None Available
Kansas	g
Kentucky	
Louisiana	
Maine	
Maryland	
Massachusetts	
Michigan	
Minnesota	
Mississippi	
Missouri	
Montana	
Nebraska	
Nevada	
New Hampshire	
New Jersey	
New Mexico	
New York	
North Carolina	
North Dakota	
Ohio	
Oklahoma	
Oregon	
Pennsylvania	
Rhode Island	
South Carolina	21
South Dakota	None Available
Tennessee	None Available
Texas	None Available
Utah	21
Vermont	21
Virginia	
Washington	23
West Virginia	23
Wisconsin	24
W/voming	None Available



Alabama

The Alabama Department of Economic and Community Affairs (ADECA) offers an energy efficiency and renewable energy revolving loan fund called AlabamaSAVES. Loans between \$50,000 and \$4 million are available to businesses and industries located in Alabama for retrofitting existing facilities. Fuel cells using renewable fuels are included as an eligible technology. <u>Link</u>

A full list of Alabama's clean energy programs is available here.



Alaska

The state's Renewable Energy Grant Program offers funding to renewable energy projects, including those that feature fuel cells using hydrogen generated from a renewable source or natural gas. The program aims to provide a total of \$50 million in funding each fiscal year. Link

A full list of Alaska's clean energy programs is available here.



Arizona

Arizona has a Renewable Energy Business Tax Incentives program in place that includes fuel cells using renewable fuels as an eligible technology. The program provides a tax credit of up to 10 percent of the investment, with the program totaling \$70 million per year through 2019. <u>Link</u>

Fuel cells are a qualifying technology under Arizona's Renewable Energy Standard (RES). Fifteen percent of utilities' energy load must come from approved renewable sources by 2025, with 30 percent of the renewable energy to be derived from distributed energy technology. <u>Link</u>

Fuel cells using renewable fuels are a qualifying technology under Arizona's net metering guidelines. There is no firm kilowatt-based limit on system size capacity. Rather, systems must be sized to not exceed 125 percent of the customer's total connected load. Link

A full list of Arizona's clean energy program is available here.



Arkansas

Fuel cells using renewable fuels are a qualifying renewable energy resource under Arkansas' net metering guidelines, with residential renewable energy systems of up to 25kW in capacity and commercial renewable energy systems of up to 300kW eligible for the metering. <u>Link</u>

A full list of Arkansas' clean energy programs is available here.



California

As stipulated by the California Air Resources Board, the Zero Emissions Vehicle Program requires automakers to integrate zero-emission vehicles into their fleets. Only electric and fuel cell electric vehicles qualify as zero-emission vehicles. <u>Link</u>

The California state legislature has established guidelines for the retail sale of hydrogen fuel and funding to fulfill the California Hydrogen Highway Blueprint Plan. Link

Fuel cells running on renewable fuels are covered under the provisions of California's renewable energy feed-in tariff. <u>Link</u>

Fuel cells using renewable fuels are included under the state's Renewable Auction Mechanism (RAM). RAM is a reverse auction that occurs twice annually for each of the three investor-owned utilities. Each utility procures generation projects, screening each project bid for viability and choosing the lowest-cost projects first. Link

Programs in Los Angeles and Sonoma counties, as well as the Western Riverside Council of Governments, allow businesses to finance fuel cell projects through a special assessment of their property tax bills. <u>Link</u>

Fuel cells can receive funding of \$2.03/W under the Self-Generation Incentive Program (SGIP). Link

Fuel cells using renewable fuels are a qualifying renewable energy resource under California's net metering guidelines. Fuel cells are eligible for net metering until the generating capacity reaches 45MW within the service territory of a utility with a peak demand of at least 10,000MW, or until the capacity reaches 22.5MW within the service territory of a utility with a peak demand of 10,000MW or less. Link

The California Fuel Cell Partnership is a public-private partnership working to promote the adoption of fuel cell vehicles. <u>Link</u>

A full list of California clean energy programs is available here.



Colorado

Property-Assessed Clean Energy (PACE) financing allows property owners to borrow money to pay for energy improvements following a special assessment on their property. Fuel cells using renewable fuels qualify as an eligible technology. <u>Link</u>

Fuel cells are a qualifying technology under Colorado's Renewable Portfolio Standards. The RPS establishes varying requirements for percentages of renewable energy provided by 2020. The requirements shift based on the ownership of the utility in question. Link

Fuel cells using renewable fuels are a qualifying renewable energy resource under Colorado's net metering guidelines. Systems sized to up to 120 percent of the customer's annual electricity consumption qualify for metering under IOU areas. <u>Link</u>

A full list of Colorado's clean energy programs is available here.



Connecticut

The Combined Heat and Power (CHP) Pilot Grant Program provides up to \$450/kW for CHP/Cogeneration systems including fuel cell CHP systems. Link

Fuel cells are a qualifying renewable energy resource under Connecticut's net metering guidelines. The state's two IOU are required to provide net metering for customers generating electricity from renewable resources of up to 2MW in capacity. Link

The Connecticut Hydrogen-Fuel Cell Coalition comprises representatives from Connecticut's fuel cell and hydrogen energy industry, labor, academia, government, and other stakeholders. Administered by the Connecticut Center for Advanced Technology, the coalition looks to enhance economic growth through the development, manufacture, and deployment of fuel cell and hydrogen energy technologies. <u>Link</u>

Connecticut Hydrogen and Fuel Cell Deployment Transportation Strategy: 2011-2050 advocates for the deployment of fuel cell vehicles within the state fleet and outlines the structuring of a network of hydrogen stations. Link

Fuel cells using renewable fuels are a qualifying renewable energy resource under Connecticut's net metering guidelines. Fuel cells are eligible for up to 2mw for investor-owned utilities. Link

A full list of Connecticut's clean energy programs is available <u>here.</u>



Delaware

Legislation expanded Delaware's net metering program, requiring the Delaware Public Service Commission to adopt rules for metering fuel cells using non-renewable fuels. <u>Link</u>

Renewable Portfolio Standards allow Renewable Energy Credits (RECs) for fuel cells capable of running on renewable fuels. RECs are tradable commodities allotted in proportion to units of energy generated by eligible renewable energy resources, with certified generators awarded one REC for every MWh of energy they generate. Additionally, RPS allows a 300 percent compliance multiplier for in state customer sited fuel cells using renewable fuels. Link

A full list of Delaware's clean energy programs is available here.



Florida

Florida has implemented a state tax refund program for Qualified Target Industries (QTI). Financial incentives are available to companies that create jobs in the hydrogen supply chain. Link

A full list of Florida's clean energy programs is available here.



Georgia

Fuel cells are a qualifying renewable energy resource under Georgia's net metering guidelines. Metering must be provided for systems with a capacity of up to 10kW for residential customers and 100kW for commercial customers. The metering may be either bi-directional or single directional. Link

A full list of Georgia's clean energy programs is available <u>here</u>.



Hawaii

Fuel cells using renewable fuels are a qualifying technology under Hawaii's Renewable Portfolio Standards. The standards establish a series of five-year goals culminating with a 40 percent net renewable energy sales requirement by the year 2030. <u>Link</u>

The Hawaii Hydrogen Initiative (H2I), a partnership between government agencies at the state and federal level, companies, and universities, includes the planned installation of 20-25 hydrogen fueling stations to support a FCEV fleet. H2I has set a goal of having 70 percent clean energy by 2030. Link

A full list of Hawaii's clean energy programs is available here.



Idaho

The Idaho Renewable Energy Bond Program allows non-utility developers to apply for financing of electricity generation projects powered by renewable energy. Fuel cell technology qualifies for the program. <u>Link</u>

Idaho does not have a statewide net metering policy, although each of its three utilities has developed a tariff approved by Idaho Public Utilities Commission. Fuel cells using renewable fuels qualify for the tariff, and individual systems may not exceed 100kw of capacity. Link

A full list of Idaho's clean energy programs is available here.



Illinois

The Illinois Clean Energy Community Foundation (ICECF) is a nonprofit that provides competitive grants to programs and projects that improve energy efficiency and develop renewable-energy resources. Fuel cells are included as eligible technologies. Since 2001, the foundation has awarded approximately 3,900 grants totaling \$191 million. Link

Fuel cells are a qualifying renewable energy source under Illinois' net metering guidelines. A 2011 expansion of the policy increased the maximum capacity for a generating system from 40kW to 2MW. Additionally all net metering customers hold rights to all Renewable Energy Credits (RECS). Link

A full list of Illinois' clean energy programs is available here.



Indiana

In May 2011, Indiana enacted the Clean Energy Portfolio Standard (CPS), which sets a voluntary goal for state utilities of 10 percent electricity from clean energy technology by 2025, based on 2010 levels. Utilities meeting the incremental goals receive incentives that cover the cost of compliance projects. Fuel cell and hydrogen technologies are eligible. <u>Link</u>

Fuel cells are a qualifying technology under Indiana's Renewable Portfolio Standards. Incremental increases in renewable energy percentage culminate with a 10 percent goal by 2025. <u>Link</u>

Fuel cells qualify as a renewable energy resource project under the Indiana Utility Regulatory Commission guidelines, making the technology eligible for state net metering program. The net metering capacity must be 40 percent residential customers, and the individual production capacity is not to exceed 1mw Link

The Bloomington Unified Development Ordinance offers fee waivers and incentives to developers who comply with the city's sustainability goals. Fuel cells using renewable fuels are an eligible technology Link

Fuel cells using renewable fuels are a qualifying renewable energy resource under Indiana's net metering guidelines. Fuel cells are eligible for up to 1mw for investor-owned utilities. <u>Link</u>

A full list of Indiana's clean energy programs is available here



Kansas

Fuel cells using renewable fuels are a qualifying renewable energy source under Kansas' net metering guidelines. Residential systems are allotted a 25kW load capacity, while non-residential systems may carry a 200kW load. The generating capacity under the net metering program may count toward the state's capacity requirements under the Renewable Portfolio Standard (RPS). Link

Fuel cells using renewable fuels are a qualifying technology under Kansas' Renewable Portfolio Standards. The stated goal is to have 20 percent of peak demand capacity generated from renewable energy sources by the year 2020. <u>Link</u>

A full list of Kansas' clean energy programs is available here.



Louisiana

Fuel cells using renewable fuels are a qualifying renewable energy source under Louisiana's net metering guidelines. Residential systems are allotted up to 25kW in capacity, while commercial and agricultural systems may carry 300kW. For systems exceeding 300kW, pricing will be carried out on a case-by-case basis. The policy also requires that metering systems apply for and be entitled to state and federal funding to cover project costs. Link

A full list of Louisiana's clean energy programs is available here.



Maine

Fuel cells are a qualifying renewable energy source under Maine's Renewable Portfolio Standards (RPS). Facilities with a capacity of up to 100MW must generate 30 percent of their electricity load from eligible renewable sources. <u>Link</u>

Fuel cells are a qualifying renewable energy source under Maine's net metering guidelines. Investor-owned utilities must offer net metering services to generating systems with a capacity of up to 660kW, while consumer-owned utilities must offer net metering to systems with a capacity of up to 100kW. A "shared ownership" clause in the policy allows for "community net metering," where several people to invest in an eligible system and receive net metering services from utilities. Link

The Maine Hydrogen and Fuel Cell Deployment Plan, published in 2012, was developed by the Northeast Electrochemical Energy Storage Cluster (NEESC), with funding provided by DOE and the Small Business Administration (SBA). The plan outlines in detail the potential applications and dividends of fuel cell technologies in the state. <u>Link</u>

A full list of Maine's clean energy programs is available here.



Maryland

An expansion of net metering policy in 2010 included fuel cells as a qualifying renewable energy source. Generating systems of up to 2MW in capacity are eligible for metering. Systems must be intended to generate all or a portion of the customer's energy requirement. Link

Fuel cells using renewable fuels are a qualifying renewable energy source under Maryland's Renewable Portfolio Standards. Legislation, amended frequently throughout the years, stipulates that 20 percent of electricity generated by suppliers in the state must come from an eligible renewable source by the year 2020. <u>Link</u>

A full list of Maryland's clean energy programs is available here.



Massachusetts

Massachusetts offers a corporate excise tax deduction for income received from the sale or lease of a U.S. patent deemed beneficial for energy conservation or alternative energy development. Fuel cells using renewable fuels are valid for receipt of the deduction. <u>Link</u>

The state also offers a personal income tax deduction for income received from the sale of a U.S. patent deemed beneficial for energy conservation or alternative energy development. Fuel cells using renewable fuels are valid for receipt of the deduction. <u>Link</u>

Executive order 484 establishes energy targets and mandates for state government buildings under executive control. The order directs state government agencies to procure 30 percent of electricity consumption from renewable sources by 2030, with fuel cells as an eligible technology. <u>Link</u>

Fuel cells using renewable fuels are a qualifying renewable energy source under Massachusetts' Renewable Portfolio Standards. By 2020, all retail electricity suppliers must provide 15 percent of their total kWh from eligible renewable sources. Beyond that year, the suppliers must increase by 1 percent annually, with no stated expiration date. Link

Fuel cells are a qualifying renewable energy source under Massachusetts' net metering guidelines. All investor-owned utilities must offer net metering services for customers with generating systems of up to 2MW in capacity. The net metering facilities are divided into categories according to load capacity <u>Link</u>

The Massachusetts Hydrogen and Fuel Cell Deployment Plan, published in 2012, was developed by the Northeast Electrochemical Energy Storage Cluster (NEESC), with funding provided by DOE and the Small Business Administration (SBA). The plan outlines in detail the potential applications and dividends of fuel cell technologies in the state. <u>Link</u>

A full list of Massachusetts' clean energy programs is available here.



Michigan

Fuel cell technology is eligible under a statewide personal property tax exemption designed to promote the development, commercialization, and manufacturing of alternative energy technologies. Michigan Next Energy Authority certifies the tax exemptions. Link

A full list of Michigan's clean energy programs is available here.



Minnesota

Hydrogen production and fuel cell are eligible technologies under the Xcel Energy Renewable Development Fund (RDF), a utility grant program pursuant to state legislation. The RDF grants funds to renewable R&D projects, as well as energy production projects. The RDF awarded \$1.1 million for an R&D project at the Colorado School of Mines to develop a low cost prototype fuel cell that could be used in a direct ethanol fuel cell. The RDF also awarded \$900,000 to Energy Conversion Devices, in Rochester, Michigan for a project researching new processes for reforming renewable fuels, such as bio-ethanol and bio- methanol, to produce hydrogen gas. Fuel cell technology is included under Minnesota's Interconnection Standards. Link

A full list of Minnesota's clean energy programs is available <u>here.</u>



Missouri

As part of the Enhanced Enterprise Zone Program, local governments may offer select businesses property tax abatement on lands designated Renewable Energy Generation Zones, which are described as lands unutilized or underutilized for "production, generation, conversion, and conveyance" of electrical energy from renewable resources. Fuel cells using renewable fuels are an eligible technology. <u>Link</u>

Fuel cells using renewable fuels are a qualifying renewable energy source under Missouri's Renewable Portfolio Standards. All investor-owned utilities in the state must reach a 15 percent renewable energy benchmark by 2021, with .3 percent of that mandated to be from solar energy. Link

Fuel cells using renewable fuels are a qualifying renewable energy source under Missouri's net metering guidelines. All electric utilities must offer net metering services to any customer with systems up to 100kW in capacity. A 2009 revision removed liability insurance fees for systems up to 10kW in capacity and lowered the minimum insurance fee for systems over 10kW from \$1 million to \$100,000. Link

A full list of Missouri's clean energy programs is available here.



Montana

A corporate tax credit of up to 35 percent against income generated on the return of the investment is in place for commercial and net metering alternative energy investments of more than \$5,000. Fuel cells are an eligible technology. <u>Link</u>

A personal tax credit is available to taxpayers who install an energy system that uses non-fossil fuels in their home. Fuel cells using renewable fuels are an eligible technology. A personal tax credit is available to taxpayers who install an energy system that uses non-fossil fuels in their home. Fuel cells using renewable fuels are an eligible technology. Link

Property tax abatement is offered for new renewable energy production facilities, new renewable energy manufacturing facilities, and renewable energy research and development equipment. Fuel cells using renewable fuels are eligible. <u>Link</u>

Generating plants producing one MW or more with an alternative renewable energy source are eligible for the new or expanded industry property tax reductions. <u>Link</u>

The Alternative Energy Revolving Loan Program provides loans to individuals, small businesses, local government agencies, units of the university system, and nonprofit organizations to install alternative energy systems that generate energy for their own use. Fuel cells using renewable fuels are eligible. <u>Link</u>

Fuel cells using renewable fuels are a qualifying renewable energy source under Montana's Renewable Portfolio Standards. By the year 2015, 15 percent of all public utility retail electricity sales must come from an eligible renewable source. Link

Montana currently has a state policy regarding net metering, but fuel cells are not included; however, fuel cells are a qualifying technology under the Montana Electric Cooperatives Association adopted guidelines applicable to most of the states 26 electric cooperatives that provide net metering for customers with systems of up to 10kW load capacity. Link

A full list of Montana's clean energy programs can be found here.



Nebraska

Nebraska offers both personal and corporate tax credits to producers of electricity generated by a renewable source. The credit extends to producers who utilize fuel cells using renewable fuel. Link

A full list of Nebraska's clean energy programs is available here.



Nevada

New or expanded businesses may apply for property tax, for real and personal property used to generate electricity from renewable energy resources, including fuel cell technology. <u>Link</u>

New or expanded businesses may likewise apply for sales and use tax abatement on purchases of renewable energy technologies, including fuel cells. <u>Link</u>

A full list of Nevada's clean energy programs is available here.



New Hampshire

The New Hampshire Public Utilities Commission (PUC) offers grant funding to renewable-energy projects installed at commercial, industrial, public, nonprofit, municipal or school facilities, or multifamily residences with at least three units. Fuel cells and hydrogen derived from biomass are eligible. Link

Fuel cells are a qualifying renewable energy source under New Hampshire's Renewable Portfolio Standards. By 2025, all electricity suppliers, except for municipal suppliers, must provide 24.8 percent of their total electricity supply from eligible renewables. The RPS requires the utilities to acquire Renewable Energy Certificates (RECs) equivalent to the 24.8 percent, to be sold to end-use customers. Link

The state requires that all utilities selling electricity to in-state customers provide net metering for generating systems up to 1MW in capacity. Link

The New Hampshire Hydrogen and Fuel Cell Deployment Plan, published in 2012, was developed by the Northeast Electrochemical Energy Storage Cluster (NEESC), with funding provided by DOE and the

Small Business Administration (SBA). The plan outlines in detail the potential applications and dividends of fuel cell technologies in the state. Link

A full list of New Hampshire's clean energy programs are available here.



New Jersey

The New Jersey Economic Development Authority (EDA) and the New Jersey Board of Public Utilities (BPU) launched the Large Scale Combined Heat and Power (CHP) and Fuel Cell Grant Program. The state will be providing up to \$55 million in grants to encourage CHP and fuel cell installations to encourage energy savings. Link

Fuel cells using renewable fuels are a qualifying renewable energy source under New Jersey's Renewable Portfolio Standards. By the year 2021, 22.5 percent of the electricity sold by state utilities must be generated from eligible renewable energy sources. <u>Link</u>

Fuel cells using renewable fuels are a qualifying renewable energy source under New Jersey's net metering guidelines. Investor-owned utilities and energy programs must provide net metering services to all residential, industrial, and commercial customers for system load capacity that equals the site's annual electric demand. Link

The New Jersey Hydrogen and Fuel Cell Deployment Plan was published in 2012 and developed by the Northeast Electrochemical Energy Storage Cluster (NEESC), with funding provided by DOE and the Small Business Administration (SBA). The plan estimates a figure of 1,524 potential locations for fuel cell technology to provide heat and power and approximates 726-974 fuel cell units could be deployed, for a total fuel cell capacity of 305-390 MWs. Link

A full list of New Jersey's clean energy programs is available here.



New Mexico

An Alternative Energy Product Manufacturers tax credit may be claimed for manufacturing alternative energy products and components, including fuel cell systems. <u>Link</u>

Energy Efficiency and Renewable Energy Bonding Act authorizes up to \$20 million in bonds to finance energy efficiency and renewable energy improvements in state government and school district buildings. Systems utilizing fuel cell technology are eligible. <u>Link</u>

The Mandatory Utility Green Power option stipulates that investor-owned utilities must offer a renewable energy purchasing plan to its customers. Fuel cells using renewable fuels are eligible. <u>Link</u>

Fuel cells using renewable fuels are a qualifying renewable energy source under New Mexico's Renewable Portfolio Standards. By the year 2020, all investor-owned utilities must generate 20 percent of its total retail sales from eligible renewable sources. A separate Renewable Portfolio Standard stipulates that rural-electric cooperatives must generate 10 percent of its retail sales from renewables. Link

Fuel cells are a qualifying renewable energy source under New Mexico's net metering guidelines. Net metering is available to all customers of state utilities under jurisdiction of the Public Utility Regulatory Policies Act. Systems with load capacities of up to 80MW are eligible. Link

A full list of New Mexico's clean energy programs is available here.



New York

New York State Energy Research and Development Authority (NYSERDA) offers financial incentives to support the installation and operation of continuous duty fuel cell systems in New York (NY) with up to \$1 million available for fuel cell systems rated larger than 25kW and \$50,000 available for fuel cell systems rated at 25kW or less. Approved systems that provide secure power/standalone capability at sites of Essential Public Services (i.e. fire and police stations, hospitals, etc.) are eligible for an additional incentive of \$500 per kW. Link

Fuel cells are a qualifying renewable energy source under New York's Renewable Portfolio Standards. The standards adopted and implemented by the New York Public Service Commission (PSC) order 30 percent of electricity consumption within the state to come from renewable energy sources by the year 2015. Municipal utilities are not obligated to fulfill the RPS requirements, but some have opted to establish parallel self-imposed goals. The Long Island Power Authority (LIPA) has adopted the state RPS measures, targeting 30 percent electricity from renewables by the year 2015. Link

Fuel cells are a qualifying renewable energy source under New York's net metering guidelines. Investor-owned utilities are required to offer net metering on a first-come, first-serve basis to customers for up to a 10kW residential load system and 1.5MW non-residential system. Public utilities are not obligated to provide net metering; however, Long Island Power Authority offers net metering on similar terms as the state law. Link

The New York Hydrogen and Fuel Cell Deployment Plan reached publication in 2012. Developed by the Northeast Electrochemical Energy Storage Cluster (NEESC), with funding provided by DOE and the Small Business Administration (SBA), the plan outlines in detail the potential applications and dividends of fuel cell technologies in the state. <u>Link</u>

A full list of New York's clean energy programs is available here.



North Carolina

Fuel cells using renewable energy are a qualifying renewable energy source under North Carolina's net metering guidelines. The state requires the three major investor-owned utilities, Duke Energy, Progress Energy, and Dominion North Carolina Power, to provide net metering for customers owning a generating system powered by one of the eligible technologies. For both residential and non-residential customers, the load limit is 1MW. Link

Durham County adopted a resolution that mandates new non-school public facilities to meet high-performance standards. Fuel cells are mentioned as an eligible technology for use in meeting the standards. Link

A full list of North Carolina's clean energy programs is available <u>here.</u>



North Dakota

The sale of hydrogen used to power an internal combustion engine or fuel cell system qualifies for sales tax exemption. <u>Link</u>

North Dakota offers a corporate tax credit for the cost of acquiring and installing a renewable energy system. Fuel cell technology systems are eligible. <u>Link</u>

Electrical generating facilities qualify for sales and use tax exemption in North Dakota. Link

A full list of North Dakota's clean energy programs is available <u>here.</u>



Ohio

The Qualified Energy Project Tax Exemption provides owners of qualified renewable energy projects, including fuel cell technology, with an exemption from the public utility tangible personal property tax. For projects of more than 250kW in capacity, a payment must be made in lieu of the tax to the county in which the project resides. Link

Fuel cells are a qualifying renewable energy source under Ohio's Alternative Energy Portfolio Standards. By 2025, all utilities, except for municipal utilities and cooperatives, must provide 25 percent of their electricity supply from approved alternative energy sources. Link

Fuel cells are a qualifying renewable energy source under Ohio's net metering guidelines. Legislation requires electric utilities to provide net metering to customers who generate electricity from a number of renewable energy sources, including fuel cells. There is no explicit capacity limitation. <u>Link</u>

The Ohio Third Frontier Fuel Cell Program provides funding opportunities for fuel cell and hydrogen research and commercial development. <u>Link</u>

The Ohio Fuel Cell Coalition is comprises industry, academic, and government leaders and aims to elevate the region to global leadership in fuel cell technology. The coalition works to promote public awareness, encourage federal funding, expand networking and information sharing, and advance the integration of a coordinated fuel cell infrastructure and supply chain. Link

A full list of Ohio's clean energy programs is available here.



Oklahoma

Oklahoma includes fuel cell technology under its eligible technologies for meeting renewable energy targets for electric utilities. Fifteen percent of the total electricity generated must come from renewable sources by 2015. Fuel cells are a qualifying renewable energy source under Oklahoma's Renewable Portfolio Standards. Legislation calls for a 2015 target date for 15 percent of the total installed generation capacity in the state to be derived from renewable energy sources. Link

A full list of Oklahoma's clean energy programs is available here.



Oregon

Any change in real market value to property due to the installation of a renewable energy system is exempt from assessment of the property's value for property tax purposes. Fuel cell systems are eligible. <u>Link</u>

Energy Trust of Oregon offers cash incentives and development assistance for renewable energy projects that are 20MW or less in capacity. Projects using fuel cell technology are eligible. The Residential Energy Tax Credit extends to homeowners, renters, and third-party owners who install a

premium efficiency system. Fuel cells are eligible for a credit of \$0.60 per kWh saved during the first year, up to \$6,000 or 50 percent of total costs. Link

Fuel cells are a qualifying renewable energy source under Oregon's net metering guidelines. Legislation requires the investor-owned utilities, PGE and PacifiCore, to provide net metering of up to 25kW for residential customers, and 2MW for non-residential customers. Municipal utilities, electric cooperatives, and people's utility districts must offer net-metering services for a capacity of up to an aggregated .5 percent of the utility's single hour peak load. Link

A full list of Oregon's clean energy programs are available <u>here.</u>



Pennsylvania

The Pennsylvania Public Utility Commission created the Sustainable Development Fund, administered by the Reinvestment Fund, Inc. The SDF provides financial assistance to eligible projects in the form of commercial loans, subordinated debt, royalty financing, and equity financing. The assistance is available to both generators and end-users, as well as manufacturers, distributors, and installers of clean technology. Fuel cells are an eligible technology. Link

Administered by the Berks County Community Foundation, the Metropolitan Edison Company Sustainable Energy Fund (SEF) provides grants and loans to projects that pursue one or more of the fund's objectives. Fuel cells are an eligible technology under the program. Information on the grant program is available here while information on the loan program is available here

Administered by The Berks County Community Foundation, The Penelec Sustainable Energy Fund of the Community Foundation for the Alleghenies provides grants and loans according to similar specification as the Met-Ed SEF described above. Fuel cells are an eligible technology. Link

The West Penn Power Sustainable Energy Fund promotes the use of renewable and sustainable energy among industrial, institutional, commercial, and residential within the West Penn market region through its loan program. Loans are available to manufacturers, distributors, retailers and service companies, as well as energy efficiency and conservation products and services to end-user companies and community-based organizations. Fuel cells are an eligible technology. Link

The Alternative and Clean Energy Program provides loans and grants to selected alternative and clean energy projects. Fuel cell technology is an eligible energy production source under the program. Loans are offered at a fixed interest rate that varies based on project type. Grants also vary according to project type, with manufacturing grants maxing out at \$10,000 per job created and \$2 million for alternative energy, clean energy, and high-performance building projects. Link

Fuel cells are a qualifying alternative energy source under Pennsylvania's Alternative Energy Portfolio Standards. By the year 2020, each electric distribution company and electric generation supplier must provide 18 percent of its electricity from eligible alternative sources. <u>Link</u>

Fuel cells are a qualifying renewable energy source under Pennsylvania's net metering program. The Pennsylvania Public Utilities Commission (PUC) has adopted standards that require all investor-owned utilities to provide net metering for residential customers of up to 50kW capacity and non-residential customers of up to 3MW capacity. <u>Link</u>

A full list of Pennsylvania's clean energy programs is available here.



Rhode Island

Rhode Island established a feed-in tariff for distributed renewable energy generation, for which fuel cells are eligible. Power companies must purchase an aggregate 40MW or more of clean power generation by the end of 2014. <u>Link</u>

The Rhode Island Economic Development Corporation (RIEDC) provides grants, loans and other forms of financing for renewable energy projects, including those using fuel cell technologies. These financial incentives are funded by the Rhode Island Renewable Energy Fund (RIREF). Link

\$6.5 million in federal American Recovery and Reinvestment Act funding has been directed toward state agencies to support energy efficiency programs to help businesses operate more cost effectively. The state Office of Energy Resources has partnered with RIEDC to form the Business Energy Assistance Program (BEAP), which will award funding in support of emergent renewable energy projects, including those using fuel cell technologies. Link

Fuel cells using renewable fuels are a qualifying renewable energy source under Rhode Island's Renewable Energy Standards. By the year 2019, the state's retail electricity providers must generate 16 percent of their sales from renewable energy sources. <u>Link</u>

Fuel cells using renewable energy are a qualifying renewable energy source under Rhode Island's net metering guidelines. Legislation requires all electric distribution centers to provide net metering for customers with electricity-generating systems of up to 5MW in capacity, as long as the system uses one of the eligible renewable energy sources. <u>Link</u>

A full list of Rhode Island's clean energy programs is available here.



South Carolina

The South Carolina Hydrogen Permitting Act made South Carolina the first state to uniformly permit hydrogen and fuel cells at the state level using international codes and standards. <u>Link</u>

South Carolina offers a sales tax exemption specifically targeting hydrogen and fuel cell technology. <u>Link</u>

The South Carolina Hydrogen and Fuel Cell Economic Development Strategy 2011 established a blueprint to strategize the production and use of hydrogen and fuel cells within the South Carolina Hydrogen and Fuel Cell Economic Cluster. <u>Link</u>

The South Carolina and Hydrogen Fuel Cell Alliance is a public-private collaboration among businesses, academia, and government aimed at a coordinated utilization of South Carolina's local resources toward commercializing fuel cell and hydrogen technologies. Link

A full list of South Carolina's clean energy programs is available <u>here.</u>



Utah

Fuel cells are a qualifying renewable energy source under Utah's net metering guidelines. Legislation requires Rocky Mountain Power and most electric cooperatives to provide net metering to its customers who use renewable energy to generate electricity. Eligibility extends to residential customers for up to 25kW in capacity and to 2MW in capacity for non-residential customers. Link

A full list of Utah's clean energy programs is available here.



Vermont

Vermont offers a corporate investment tax credit for installations of renewable energy equipment on business properties. Fuel cell is included as an eligible technology. <u>Link</u>

Vermont allows municipalities the option of offering an exemption from the municipal real and personal property taxes for certain renewable energy systems, including systems using fuel cell technology. <u>Link</u>

Fuel cells are an eligible technology under Vermont's sales tax exemption for renewable energy systems up to 250kW in capacity. Link

Clean Energy Development Fund (CEDF) promotes the development and deployment of cost-effective and environmentally sustainable electric power and thermal energy resources. The fund supports fuel cells under its eligible technologies. <u>Link</u>

Fuel cells using renewable fuels are a qualifying technology under Vermont's Sustainably Priced Energy Enterprise Development (SPEED) program. The program establishes a goal that 20 percent of retail electricity sales should come from renewable energy sources by the year 2017. The program does not require utilities to procure the attributes. Rather, they may sell Renewable Energy Credits (RECs) to other states' RPS markets. Link

Fuel cells using renewable fuels are a qualifying technology under Vermont's net metering standards. Net metering is available for systems using eligible renewable sources, up to a capacity of 500kW. For military property, that limit is expanded to 2.2MW. The customer may net meter after applying for and obtaining a Certificate of Public Good for Interconnected Net Metered Power System from the Public Service Board. Link

Vermont's Comprehensive Energy Plan includes recommendations to assess, introduce, and utilize fuel cells in vehicles and stationary power. <u>Link</u>

A full list of Vermont's clean energy programs is available <u>here</u>.



Virginia

The Clean Energy Manufacturing Incentives Program offers six-year grants to manufactures of clean energy products, including fuel cells. Link

The hydrogen and fuel cell industries are eligible for a green jobs tax credit enacted in 2010, which is good for \$500 per job created and a \$175,000 maximum. Link

Virginia offers a personal income tax deduction for the purchase of fuel cells. Individuals may claim a deduction of 20 percent, up to \$500, on their state income tax return for sales tax paid to purchase the system. Link

A full list of Virginia's clean energy programs is available here.



Washington

Washington offers a 75 percent exemption from tax for the sales of equipment used to generate electricity using fuel cells. <u>Link</u>

Fuel cells are a qualifying technology under Washington's net metering guidelines. All utilities in the state must provide net metering for systems up to 100kW in capacity. Grays Harbor Power differs from the other utilities in that it allows customers with net excess generation (NEG) to sell excess electricity back to the utility at a 50 percent reimbursement of the retail price. Link

A full list of Washington's clean energy programs are available here.



West Virginia

West Virginia offers Alternative Fuel Vehicle (AFV) and AFV Infrastructure tax credits. The AFV credit is available to taxpayers who convert a vehicle to operate exclusively on an alternative fuel, including those vehicles operating on hydrogen. The AFV Infrastructure credit applies to those taxpayers who own property used for storing and dispensing AFV fuels. <u>Link</u>

Fuel cells are a qualifying technology under West Virginia's Alternative and Renewable Energy Portfolio. Based on annual electricity sales, investor-owned utilities must supply 25 percent of their electricity from renewable and alternative energy sources by the year 2025. <u>Link</u>

Fuel cells are a qualifying technology under West Virginia's net metering guidelines. The capacity limits vary based on customer type and utility type. All residential customers may net meter for up to a 25kW capacity. For commercial customers, the maximum capacity is 50kW for customers of utilities with 30,000 or fewer total customers and 500kW for customers of utilities with greater than 30,000 total customers. Industrial customers see the maximal load capacity jump from 50kW all the way to 2MW when their utility serves more than 30,000 customers. Link

A full list of West Virginia's clean energy programs is available here.



Wisconsin

Fuel cells using renewable fuels are a qualifying technology under Wisconsin's Renewable Portfolio Standards. By 2015, the state's utilities must generate 10 percent of their total electricity supply from renewable energy sources. <u>Link</u>

A full list of Wisconsin's clean energy programs is available <u>here.</u>