



2007 STATE POLICY ACTIVITY - FUEL CELLS & HYDROGEN

CALIFORNIA

- **Clean Vehicle Rebate Project** - Rebates of up to \$5,000 per light-duty vehicle are available for individuals and business owners who purchase or lease new eligible zero-emission (including fuel cell vehicles) or plug-in hybrid electric vehicles certified or approved by California's Air Resources Board. Certain zero-emission commercial vehicles are eligible for rebates up to \$20,000.

COLORADO

- **Optional Pricing Program for Emerging Renewable Energy Technologies** - In 2007, House Bill 128 was signed into law, strengthening the state's renewable energy targets and requiring municipal utilities to offer an optional pricing program that allows retail customers to support emerging renewable energy technologies through utility rates. A fuel cell using hydrogen derived from an eligible energy resource is an eligible electric generation technology.

CONNECTICUT

- **Developed a Fuel Cell Roadmap** - 2006 legislation created the Connecticut Hydrogen-Fuel Cell Coalition to advance the development, manufacture, and deployment of fuel cell and hydrogen technologies and fueling systems. The Coalition, in partnership with the Connecticut Center for Advanced Technology, issued the "Fuel Cell Economic Development Plan Hydrogen Roadmap" in 2007.

DELAWARE

- **Increased Renewable Portfolio Standard requirements** - Delaware's Renewable Portfolio Standard, enacted in 2005, required that renewable energy be used to generate at least 1% of electricity sold in Delaware by June 2007 and 10% by June 2019. In July 2007, the General Assembly passed legislation increasing the renewable energy requirement to 20% by 2019. Industrial customers with a peak load of more than 1.5 MW are exempt from the requirements. Electricity suppliers will receive a 300% credit towards compliance for energy generated by fuel cells using renewable fuels.

ILLINOIS

- **Alternative Fuel Taxis** - Effective July 1, 2007, each taxicab medallion holder, who as of April 1, 2006 or subsequent to that date, owns or controls at least 50 taxicab medallions, must license as a taxicab at least one "Alternative Fuel Vehicle". "Alternative Fuel Vehicle" means a cab where the vehicle is an alternative fuel vehicle, as defined by the Energy Policy Act of

1992 (EPA Act), including any dedicated, flexible-fuel, or dual-fuel vehicle designed to operate on at least one alternative fuel. The definition of alternative fuels includes hydrogen.

- **Green Rewards Rebate Program** - Illinois drivers are eligible for a \$1,000 program rebate with the purchase of a new hybrid or other fuel efficient vehicle. Participating banks and credit unions agree to accept a discounted deposit rate from the state for one year in exchange for providing the \$1,000 rebates. There are no income or price restrictions. Fuel cell vehicles are eligible.

IOWA, MINNESOTA, NORTH DAKOTA, SOUTH DAKOTA and MANITOBA

- **Developed an Energy Transition Roadmap** - This roadmap summarizes years of stakeholder negotiation about how the Upper Midwest can best position its energy and agriculture sectors to thrive in the future and represents a consensus among leaders from Iowa, Manitoba, Minnesota, North Dakota, and South Dakota on how best to meet this challenge. Hydrogen, fuel cells and related technologies were not included in the CO2 Scenario model that informed this roadmap cost and technology milestones specific to this region were not developed. The Roadmap instead recommends hydrogen targets and strategies that will help the region contribute to the measurable milestones already developed by industry in coordination with the federal government.

KENTUCKY

- **Passed House Bill 1** - House Bill 1, passed in August 2007, promotes the advancement of energy policy, science, technology, and innovation in Kentucky. Sections of the Act relating to hydrogen and fuel cells include replacing at least 50% of the state-owned passenger vehicles and light-duty trucks with alternative fuel vehicles, including new fuel cell motor vehicles, to reduce the state government's dependence on petroleum-based transportation fuels. The Act also makes tax incentives available for newly constructed, retrofitted or upgraded alternative fuel facilities that primarily produce for sale alternative transportation fuels. The Act's definition of alternative transportation fuels includes hydrogen derived from coal.

MARYLAND

- **CALEV Program** - Maryland has adopted the CALEV (California Low Emission Vehicle) Program. In addition to requiring lower vehicle emission standards for on-road vehicles, the CALEV Program includes a zero emissions vehicle (ZEV) requirement stipulating that auto manufacturers produce an increasing amount of ZEVs for sale. The ZEV requirement can be met by the introduction of plug-in hybrids, electric vehicles, or fuel cell vehicles. Maryland will begin implementing the program for the 2011 model year.

MICHIGAN

- **Refundable Payroll Tax Credit** – Businesses certified by the NextEnergy Authority that are located in the NextEnergy Zone to research, develop, or manufacture "alternative energy technologies," as defined by the Michigan

Next Energy Authority Act, may claim a credit equal to their qualified payroll amount multiplied by their income tax rate for that year. Originally set to expire at the end of 2007, the refundable payroll tax credit was renewed, as part of a larger tax policy initiative. Eligible alternative energy technologies include: fuel cells, PV, biomass, solar thermal heating and cooling, wind energy, CHP, microturbines, miniturbines, Stirling engines, electricity storage systems, and clean fuel energy systems powered by methane, natural gas, methanol, ethanol, or hydrogen.

MINNESOTA

- **Established a Renewable Energy Objective** - Minnesota's Renewable Energy Objective, signed into law in 2007, requires energy companies to deliver 25% of power from renewable resources, including hydrogen, by 2025. Xcel Energy, provider of about half the state's power, will need to provide 30 percent of its energy from renewable sources by 2020.

MISSOURI

- **Established Renewable Energy Targets** - Senate Bill 54 was signed into law in June 2007, modifying provisions relating to renewable energy, alternative fuel, and environmental regulation. The bill encourages an increase in the use of renewable energy from sources such as wind, hydroelectricity, solar power, hydrogen, and biomass by creating renewable energy targets for utilities: 4% renewable energy target by 2012, 8% by 2015 and 11% by 2020.

MONTANA

- **Property Tax Abatement for Production and Manufacturing Facilities** In 2007 Montana enacted legislation that allows property tax abatement for new renewable energy production facilities, new renewable energy manufacturing facilities, and renewable energy research and development equipment. Eligible facilities and equipment are assessed at 50% of their taxable value. Qualifying renewable energy manufacturing facilities are those that (1) produce materials, components or systems to convert solar, wind, geothermal, biomass, biogas or waste heat resources into useful energy, and (2) whose annual production of renewable energy equipment makes up at least half of the facility's total production. Fuel cells and components of fuel cells that generate energy using non-fossil fuels are also eligible. Qualifying renewable energy research and development equipment is considered to be equipment used primarily for research and development of the efficient use of renewable energy sources. To qualify for the tax abatement, facilities must begin construction after June 1, 2007. Additionally, all renewable energy research and development equipment up to \$1 million in value may qualify for a 50% property tax abatement if it is placed into service after June 30, 2007.

NEW HAMPSHIRE

- **Established a Renewable Portfolio Standard** - In 2007, minimum renewable standards were established for electric energy portfolios in New

Hampshire. Renewably-powered fuel cells, using hydrogen derived from biomass fuels or methane gas, qualify as a Class I resource. Class I resources must comprise 0.5% of a providers' electric power in 2009, 1% in 2010, and increases by 1% each year until the resources constitute 16% of electric energy provided by 2025.

NORTH CAROLINA

- **Established a Renewable Energy and Energy Efficiency Portfolio Standard** - In July 2007 a Renewable Energy and Energy Efficiency Portfolio Standard (REPS) was established for electric membership corporations and municipalities, requiring power sold to retail electric power customers to comprise 3% of North Carolina retail sales in 2012, 6% of retail sales in 2015, and 10% of retail sales in 2018 and thereafter. Hydrogen derived from a qualifying renewable energy resource is included in the REPS.

NORTH DAKOTA

- **Established a Renewable and Recycled Energy Objective** – North Dakota has established a voluntary objective that 10% of all electricity sold at retail within the state by the year 2015 be obtained from renewable energy and recycled energy sources. There is no penalty or sanction for a retail provider of electricity that fails to meet this objective. The objective applies to all retail providers of electricity in the state, regardless of the ownership status of the electricity retailer. Renewable electricity and recycled energy includes electricity generated from hydrogen, if the hydrogen was produced from eligible renewable resources.

OREGON

- **Established a Renewable Portfolio Standard** - Oregon's Renewable Portfolio Standard, enacted in May 2007, details compliance requirements for large electric utilities that supply 3% or more of all electricity sold to retail consumers, and small electric utilities that supply less than 3% of all electricity sold to retail customers. Electricity generated from hydrogen gas derived from other eligible renewables may be used to comply with a renewable portfolio standard.
- **Increased maximum system size for Net Metering** - The limit on non-residential net metered systems was increased in July 2007 from 25 kW to 2 MW. The generating capacity of residential net metered units remains at a maximum of 25 kW. Qualifying systems include fuel cells.

SOUTH CAROLINA

- **Established a Hydrogen Infrastructure Fund** - Senate Bill 243 established the Hydrogen Infrastructure Fund and authorized the South Carolina Research Authority to administer grants for the purpose of promoting the development of hydrogen production. The bill requires state agencies to consider purchasing equipment and machinery operated by hydrogen or fuel cells and allows a sales tax exemption for equipment or machinery operated by hydrogen or fuel cells or used to distribute hydrogen

and for equipment and machinery used predominantly for research and development involving hydrogen or fuel cell technologies.

TEXAS

- **Gulf Coast Hydrogen Alliance formed** - Industry, academia and government in Texas have formed the Gulf Coast Hydrogen Alliance to serve as a resource for expanding the economic base for hydrogen along the Gulf Coast. GCHA will act as a catalyst for hydrogen research and business expansion in the Gulf Coast including hydrogen fuel cells; hydrogen internal combustion engines; distributed generation; hydrogen production, storage, distribution and utilization; logistics and material-handling equipment. Founding members include Lamar University; Netzoic, Inc.; TesSol, Inc.; Infinitium Energy, Inc.; and Applied Nanotech, Inc.

VIRGINIA

- **Virginia Energy Plan released** - The Virginia Energy Plan, released in September 2007, sets out increase energy independence with an emphasis on conservation and clean fuel technologies, and reducing GHG emissions by 30% by 2025. Development of hydrogen energy technologies (along with several other technologies) is beyond the ten-year scope of the plan. However, the Plan does emphasize that, consistent with Virginia's hydrogen blueprint, the Commonwealth should monitor the potential for hydrogen technologies to serve Virginia's energy needs. The plan recommends supporting development of fueling infrastructure as the market develops for hydrogen fuel use and facilitating education about hydrogen fuels.