

Fuel Cells in the States

Ohio Fuel Cell Symposium
May 24, 2006

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Executive Director
US Fuel Cell Council

Fuel Cells 2000 / BTI

- ◆ U.S. nonprofit organization
- ◆ Established in 1993
- ◆ Promotes fuel cells from public interest perspective.
- ◆ Supported by foundations, grants and contracts
- ◆ www.fuelcells.org



U.S. Fuel Cell Council

- ◆ Trade Association of the Fuel Cell Industry
- ◆ Supports commercialization for all applications
- ◆ 120 Members
- ◆ International membership
- ◆ Eight Working Groups

State and Regional Activism

- ◆ Critical support for industry
- ◆ Financing demonstrations and innovation
- ◆ Addressing planning and installation requirements
- ◆ Educating decision makers & public
- ◆ Leading where federal government can't, hasn't, won't

Where the action is!

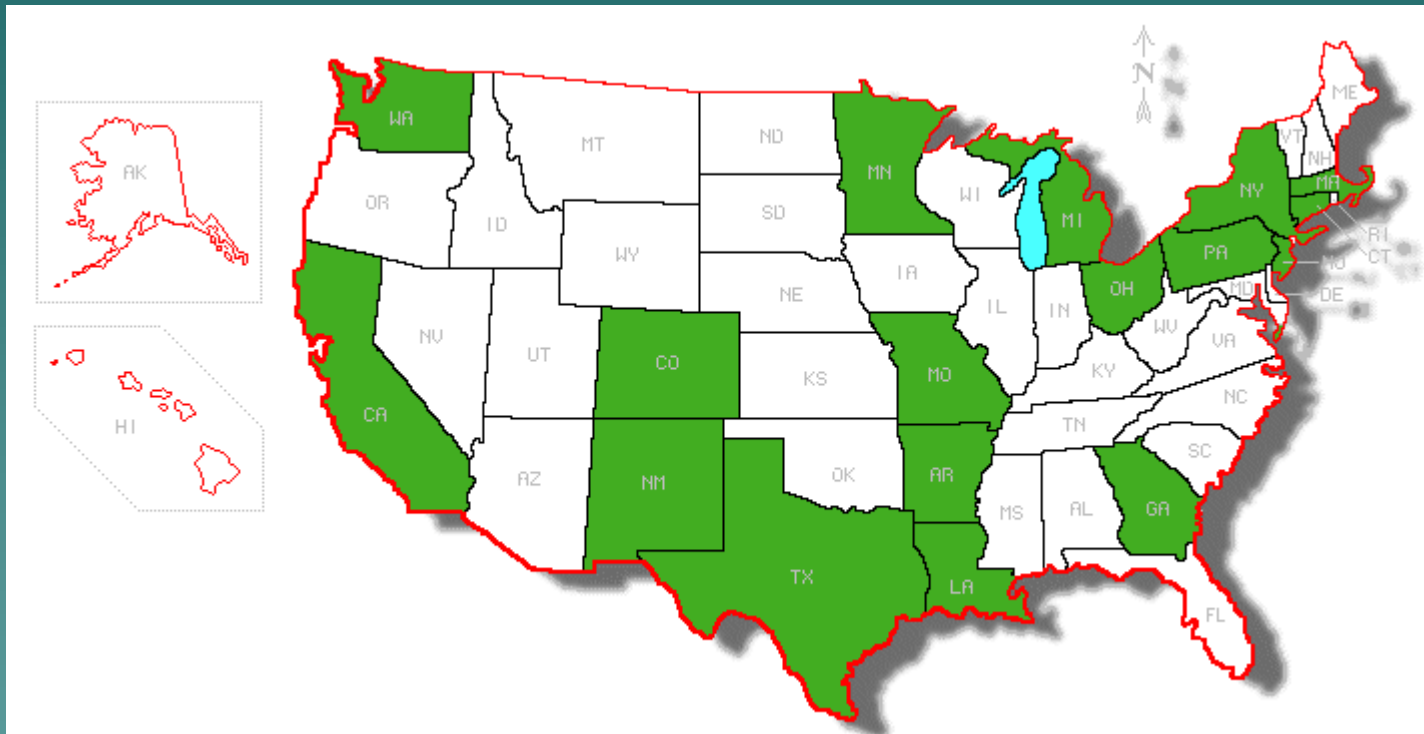
State Activities Report

- ◆ Activities in 47 states
- ◆ 230 pages
- ◆ Available on-line at www.fuelcells.org
- ◆ Searchable database in development

State Activities
That Promote Fuel Cells
and
Hydrogen Infrastructure
Development

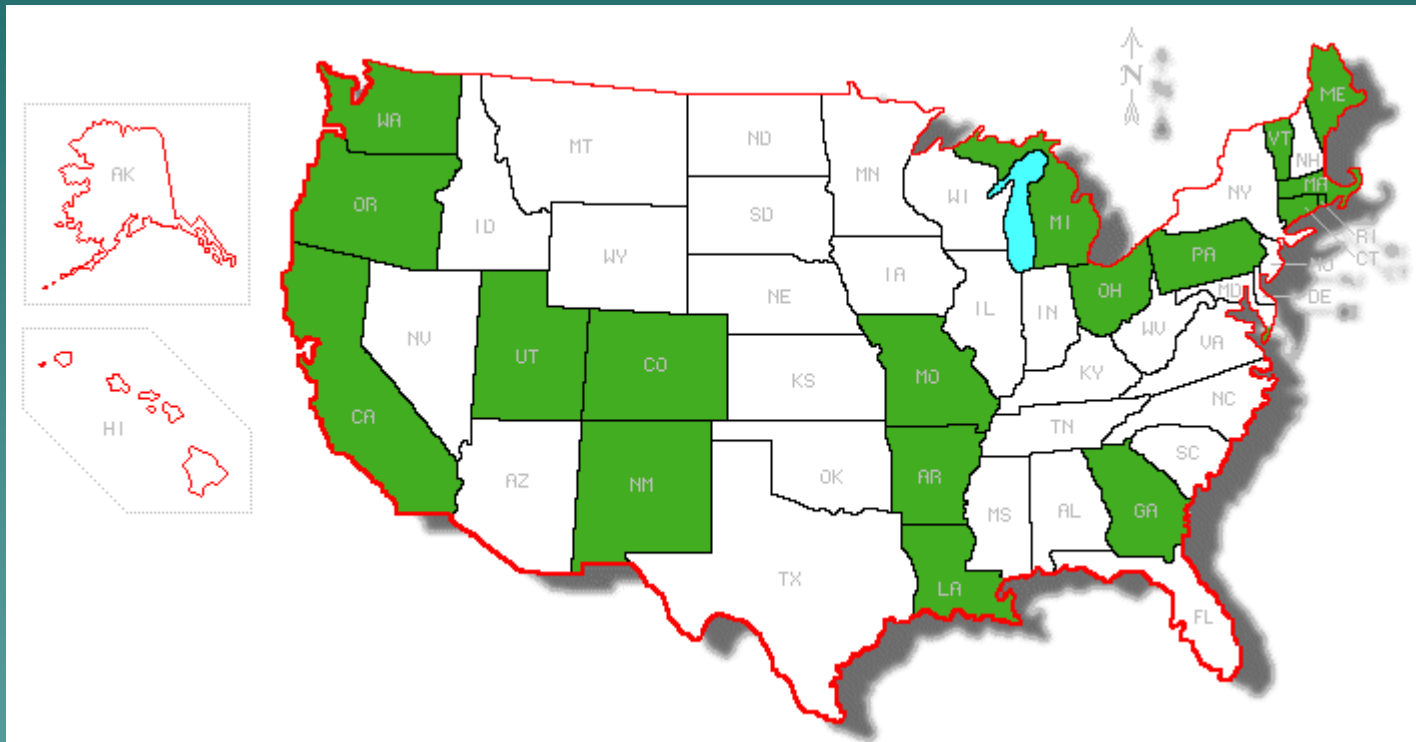
Breakthrough Technologies Institute, Inc.
Washington, DC
April 2006

Fuel Cell Interconnection Standards



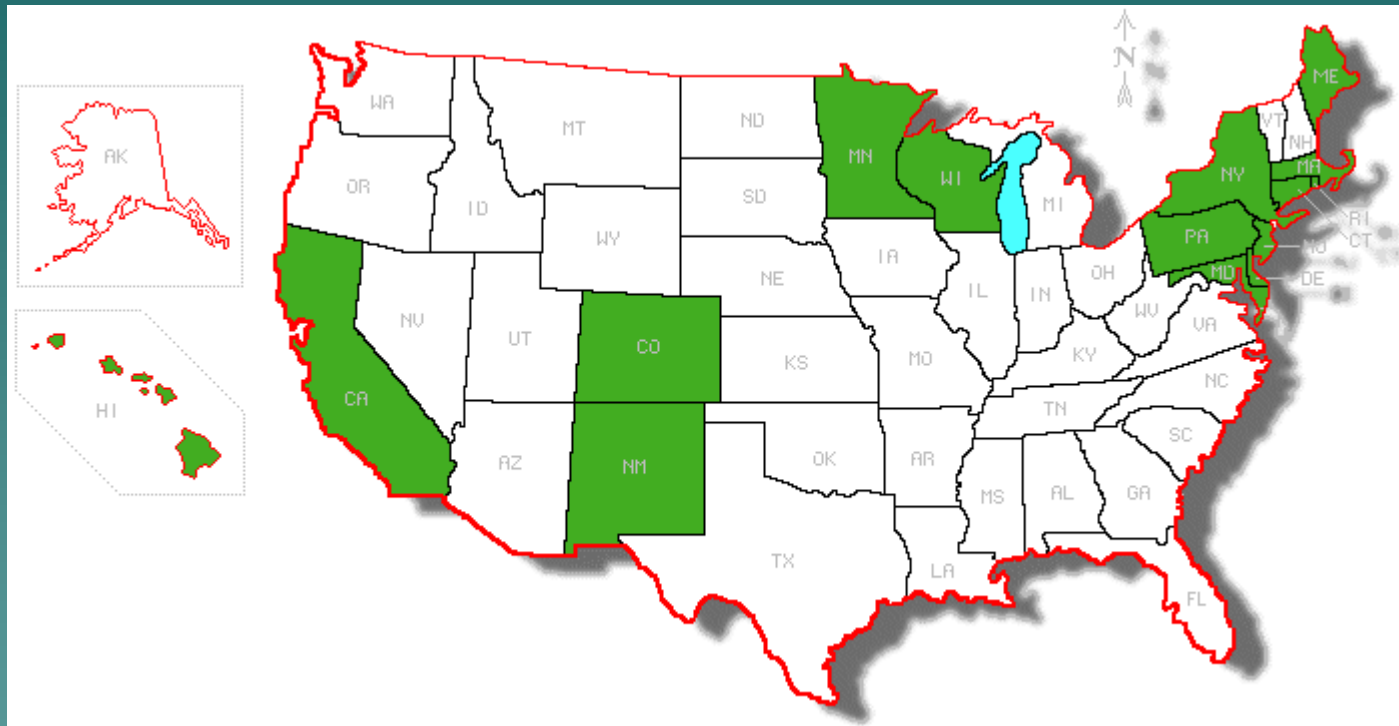
18 states and DC have established standards for interconnection of fuel cells to the power grid.

Net Metering of Fuel Cells



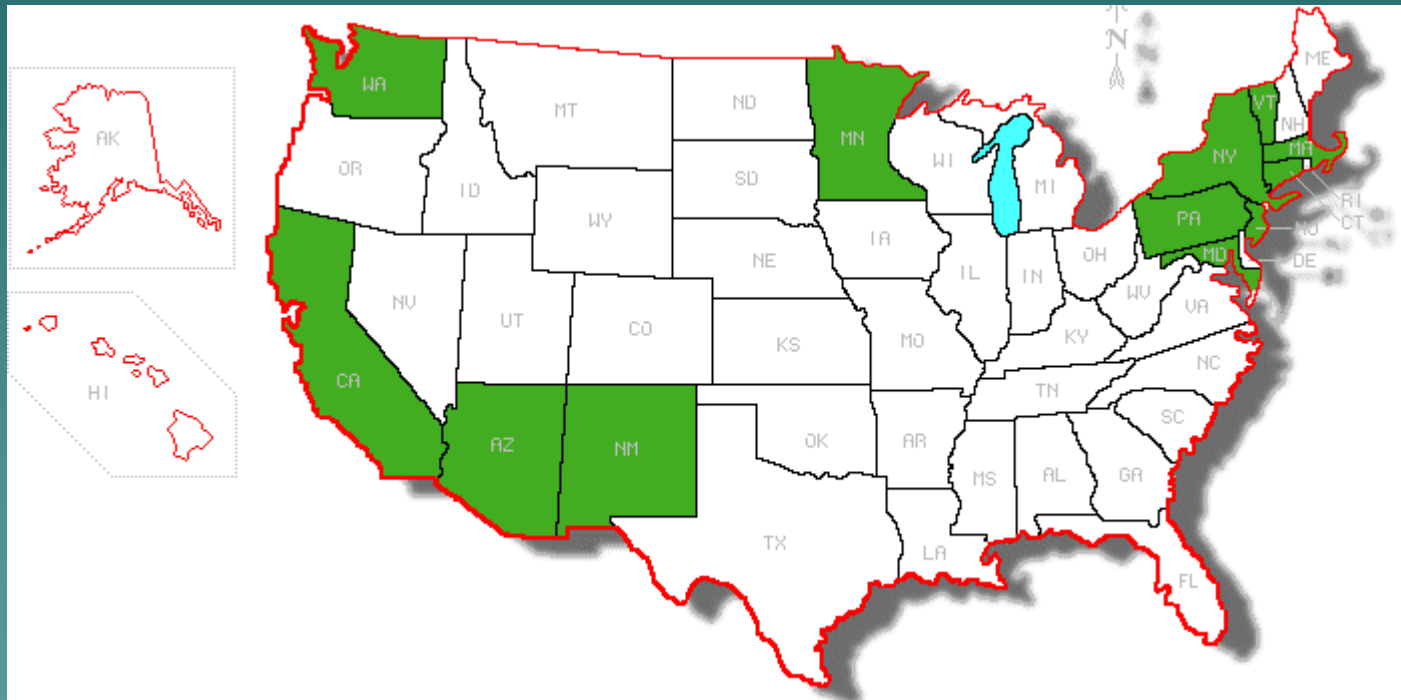
18 states and DC allow net metering of fuel cells connected to the power grid.

Renewable Portfolio Standards



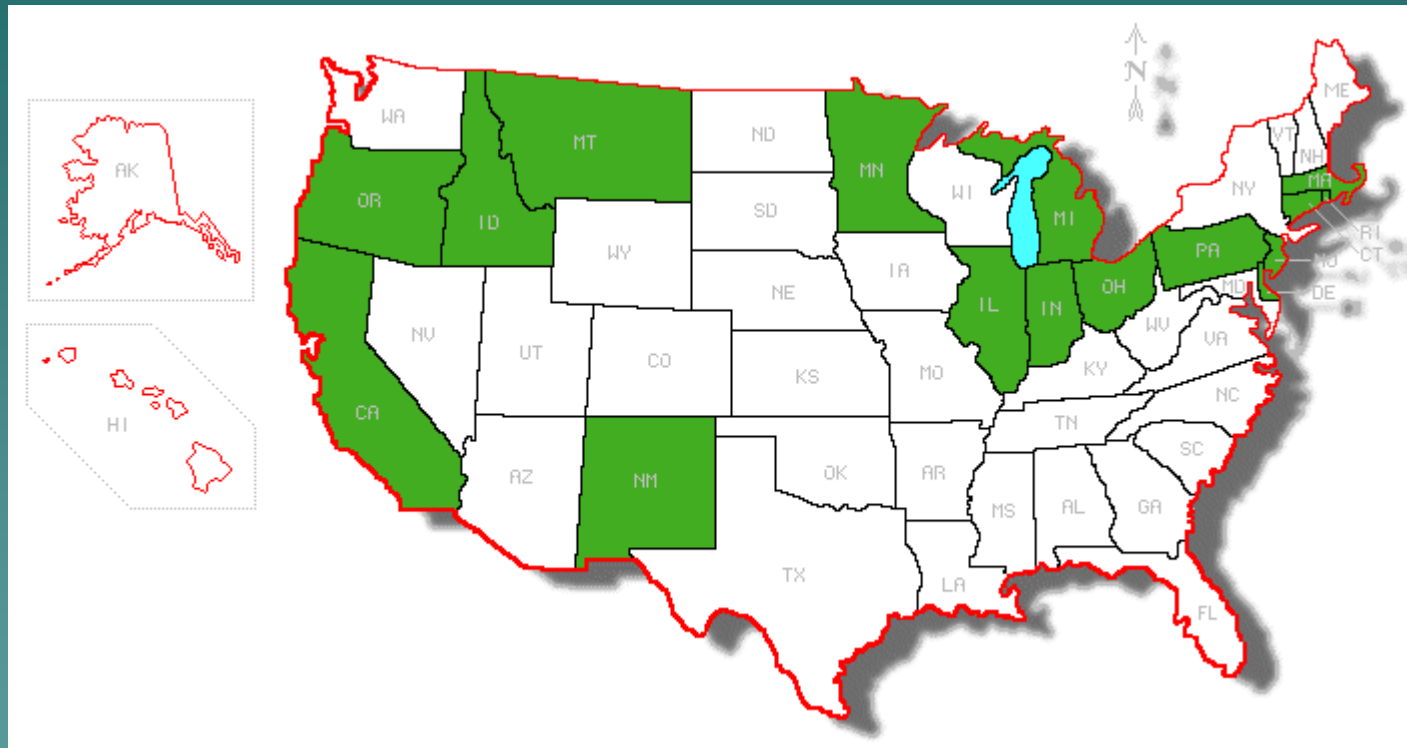
15 states and D.C. allow the use of H₂/fuel cells in meeting RPS requirement.

Public Agency Policies To Promote H2 Vehicles/Fuel Cells



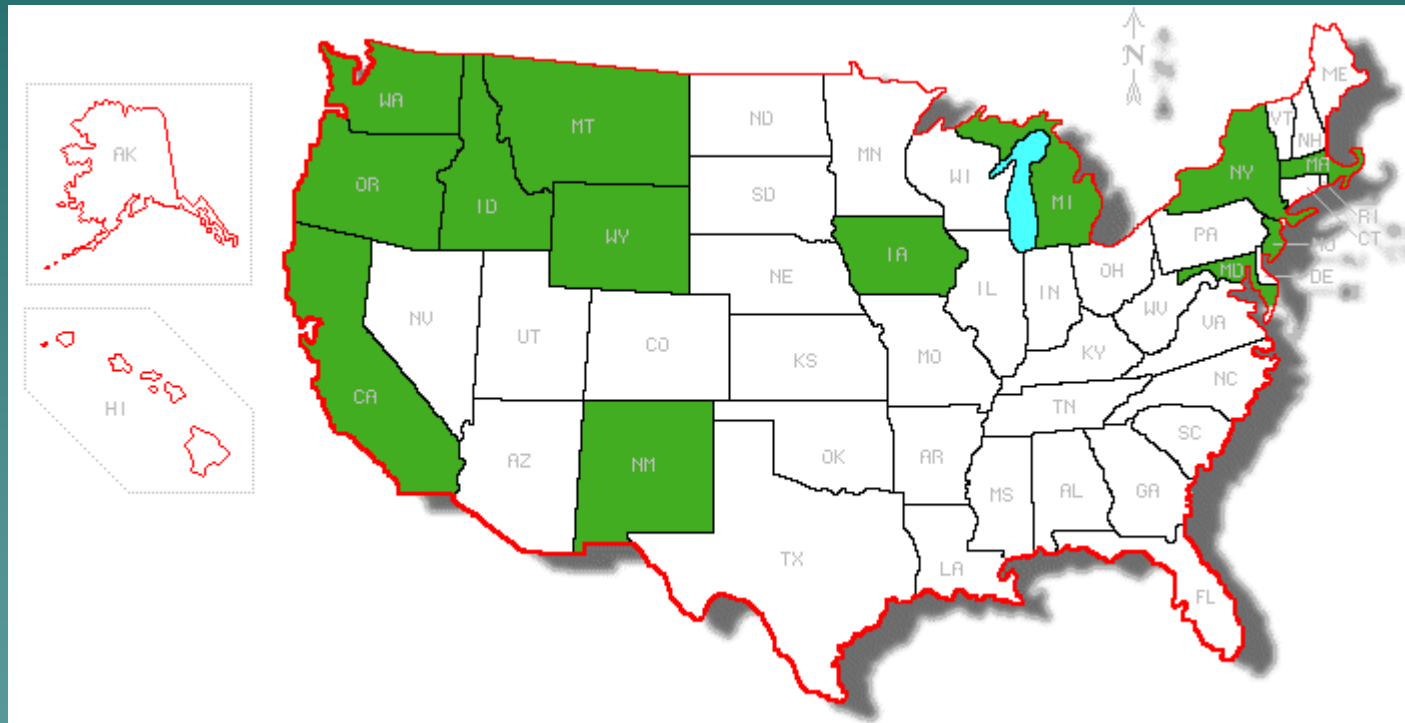
13 states have rules that promote the use of government H2/fuel cell fleet vehicles or fuel cell power generation at state/municipal facilities.

Grants and Loans for Power Generation



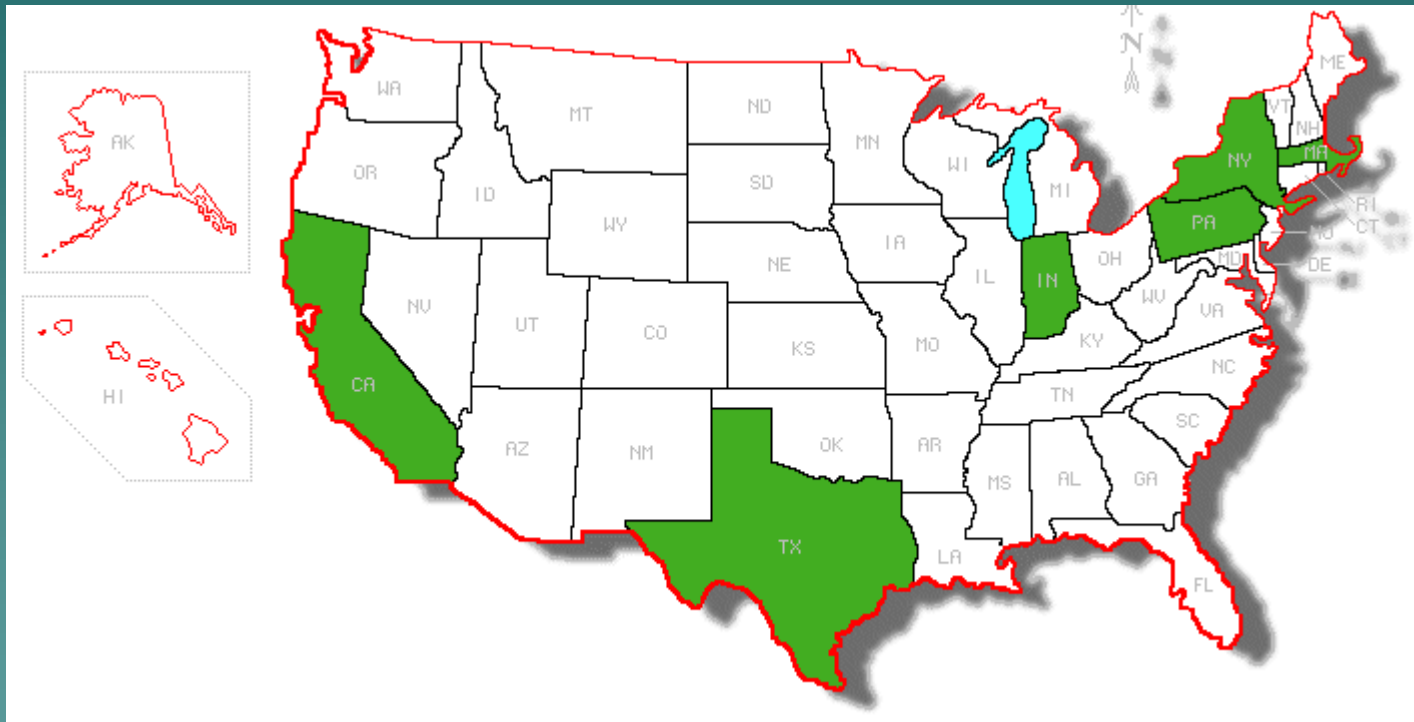
16 states provide grants or loans for stationary fuel cells.

Tax Incentives and Rebates for Power Generation



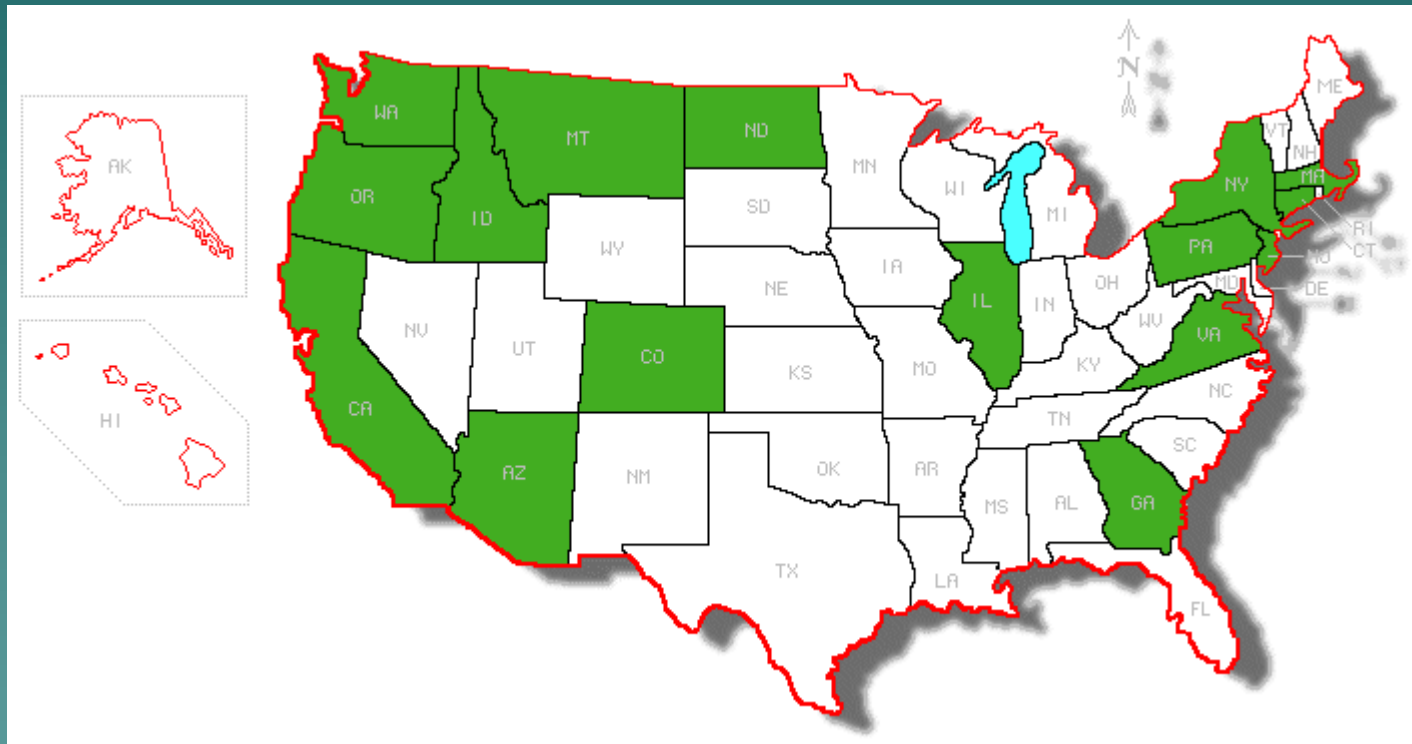
13 states provide tax incentives or rebates for stationary fuel cells.

Grants and Loans for Vehicles and Infrastructure



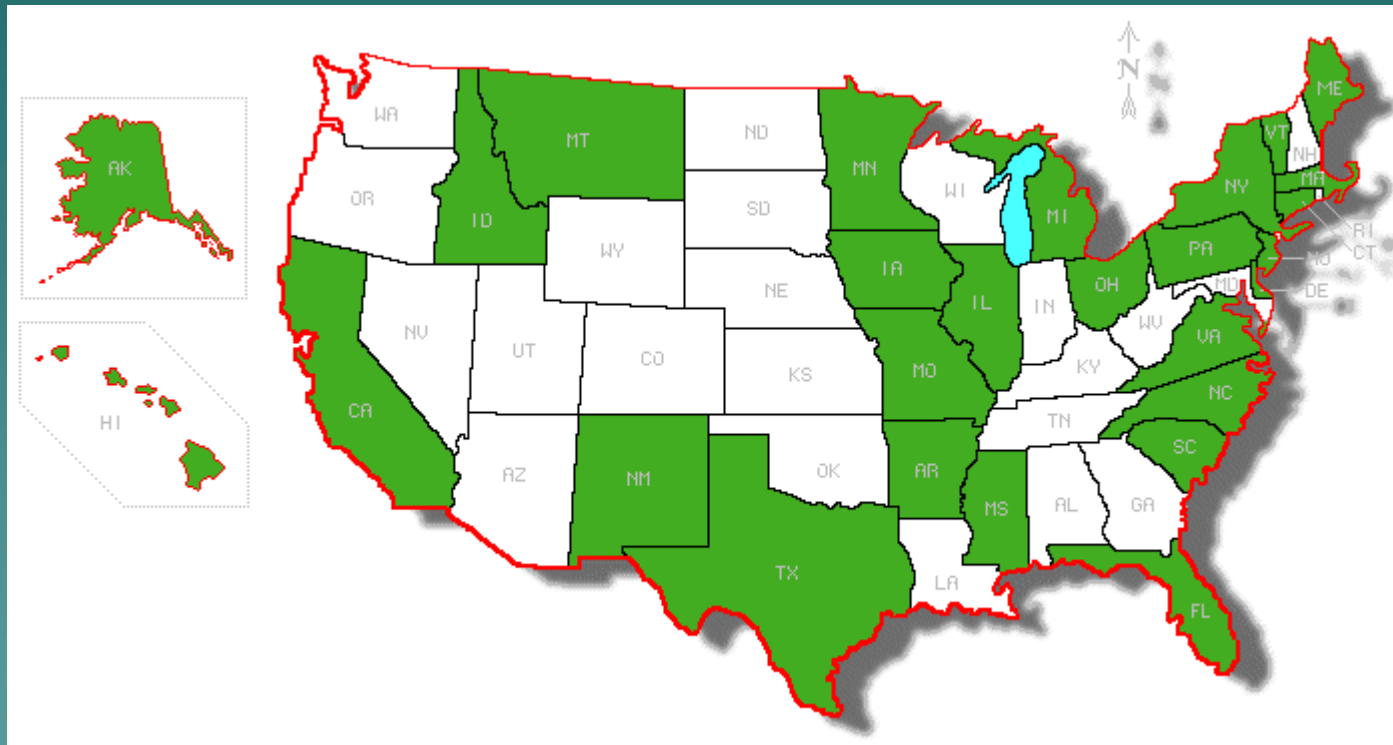
6 states offer grants/loans for H2 and fuel cell vehicles, 3 (NY, PA, MA) for H2 infrastructure.

Tax Incentives and Rebates for Vehicles and Infrastructure



15 states offer tax incentives for H2 and fuel cell vehicles,
5 (CO, CT, NJ, ND, VA) for H2 infrastructure.

RD&D and Emerging Business Support for H2/Fuel Cell



27 states and D.C. support research parks/institutes, provide incubators/business assistance (marketing, legal, etc.), or offer grants/loans/tax incentives.

Regional Partnerships

ARRC/H2 Alliance

- ◆ Objective is to design and build the first viable prototype Hydrogen Fueling Station/Information Center in key locations worldwide.

FuelCell South

- ◆ Formed as an outgrowth of collaborative work between industry and researchers. Goal is to foster awareness and create a marketplace for fuel cells in the southeastern U.S.

Hydrogen Energy Center

- ◆ All-volunteer nonprofit working for renewable H2 economy through public education, advocacy, technology demonstration and job creation. Members primarily from New England area.

Regional Partnerships

H2TEC

- ◆ Effort to establish/expand H2 education (grade school through graduate level) and develop presentations/demonstrations for professional/non-technical audiences. Members include state agencies and universities from MD and VA.

H2USA Centers

- ◆ 4 H2USA Centers will be located in 3 states to educate students/govt. officials/public about H2 and fuel cells. Project partners are California Energy Commission, NYSERDA and University of Central Fla.

HyTEC

- ◆ Formed by the U of SC, U of Fla, U of Ga and NC A&T State University to produce curriculum materials/offer technology demonstrations about H2 and fuel cells.

Regional Partnerships

Mid-Atlantic Hydrogen Coalition

- ◆ Formed to promote deployment of H2 energy/fuel cell technologies in the Mid-Atlantic region. Facilitating network of H2 refueling stations along highway I-95 between Richmond and NYC.

Northeast Hydrogen Alliance

- ◆ Project of the Center for Economic and Environmental Partnership. Mission to advance collaborative development and deployment of H2 energy infrastructure in the northeast U.S.

Public Fuel Cell Alliance

- ◆ Project of Clean Energy States Alliance. Mission to accelerate widespread adoption/ commercialization of fuel cells/H2 infrastructure through cooperation among North American/ European public funding agencies.

Regional Partnerships

Southern Fuel Cell Coalition

- ◆ Nonprofit, member-based consortium formed to supplement individual southern states' initiatives to develop H₂/fuel cell technologies.

Upper Midwest Hydrogen Initiative

- ◆ Regional, public-private H₂ partnership serving IA, Manitoba, MN, ND, SD and WI. Emphasis on renewable and carbon-neutral hydrogen production and delivery, including development of Upper Midwest H₂ refueling network.