



# The Fuel Cell State: Hydrogen and Fuel Cell Policies and Initiatives in the United States

Fuel Cell Seminar  
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**Jennifer Gangi  
Program Director  
Breakthrough Technologies  
Institute/Fuel Cells 2000**



# Fuel Cells 2000 / BTI

- U.S. nonprofit organization
- Established in 1993
- Promotes fuel cells from public interest perspective
- Leading non-aligned source of fuel cell information
- [www.fuelcells.org](http://www.fuelcells.org)





# State Fuel Cell and Hydrogen Policy and Demonstration Database

Find Activity :: Fuel Cell States Web - Microsoft Internet Explorer

Address <http://www.fuelcells.org/dbs/>

## State Fuel Cell and Hydrogen Policy and Demonstration Database


**FUEL CELLS 2000**  
Brought to you by: [www.fuelcells.org](http://www.fuelcells.org) DOE Hydrogen Program

Oct. 25, 2006

Find   Activities   View

**Activity Search:**


Step 1. Select a State:



**Instructions**  
Make a selection by clicking the state on the map (selected states will turn yellow).  
You can select more than one state for a search.  
To de-select a state, click the state a second time.  
If you do not select any states, search will include all of the United States.

Find Activity :: Fuel Cell States Web - Microsoft Internet Explorer

Address <http://www.fuelcells.org/dbs/>



Select All

Step 2. I want to view information on:

Demonstrations    Policies (to search for both, leave blank)

For

H2/FC Vehicles  
 Stationary Fuel Cells/Power Generation  
 H2 Fueling Stations

Search   Clear

**Advanced Search Options**

Title:

Project:

Total Power:

Fuel Source:

Fuel Cell Type:

Fuel Cell Manufacturer:

Text Search:

Search   Clear



# State Fuel Cell and Hydrogen Policy and Demonstration Database

Includes:

- All state policy - incentives, tax credits, grants, RPS, interconnection standards, initiatives, roadmaps, partnerships
- Stationary fuel cell installations
- Hydrogen fueling stations
- Vehicle demonstrations
- Searchable
- Continually updated as new information comes available or legislation passes

Available at [www.fuelcells.org](http://www.fuelcells.org)



# Goals for Database

- Tool for government (all levels) and policymakers (If they can do it, so can we!)
- Guide to media, governments and state residents (Are there fuel cells where I live? What is my government doing?)
- Education for everyone



# States Have it Going On

- 47 states plus D.C. have some activity in fuel cell/hydrogen arena
- 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
- Provides economic as well as environmental benefits to state



# The Fuel Cell State

States are vying to emerge as leader – there are several areas of competition

- Funding
- Research
- Academia
- Industry/Business Incubation
- Vehicle Demonstrations
- Stationary Installations



# Honor Roll

- Research – Ohio, SC
- Vehicles/Infrastructure – CA (24 H2 stations, 13 planned for near future)
- Stationary Installations – NY (more than 50 installations, more than 136 fuel cells)
- Industry – CT (several major fuel cell manufacturers located there)
- Academia – CA (Irvine, Davis, etc.), SC (USC, Clemson, etc.), MI (Kettering)



# Federal Government + States = Competitive U.S.

U.S = 1.2 billion over 5 years

Ohio = Third Frontier Fuel Cell Initiative: \$103 million for Ohio companies

California = \$6 million for the Hydrogen Highway program

Connecticut = Connecticut Clean Energy Fund –almost \$11 million in subsidies to help 11 installations (9 more in process)

South Carolina – Recently established Hydrogen Infrastructure Fund - \$15 million for grants



# States are Moving Forward with Regulation

Facilitates installation of stationary fuel cells

- Interconnection Standards (16 states, 4 pending)
- Renewable Portfolio Standards (21 – 5 states recently passing RPS, even as federal government is balking)
- Net Metering (18 states and DC, pending in PA)



# Easing the Financial Burden

- 12 states offer grants or loans for purchasing or demonstration of stationary fuel cells
- 13 states offer tax credits, exemptions or rebates
- Innovative incentives or tax exemptions – alternative energy patents (MA), anaerobic digestion incentive (MN)
- Most recent – CCEF (CT) provided \$3.5 million to Pepperidge Farm Bakery, NYPA providing funding for 22 telecom sites



# Putting Cars on Road

- 15 states offer tax incentives for H2 and fuel cell vehicles, 6 states offer grants/loans
- 10 states and DC have fuel cell cars and/or buses on the road in testing and demonstration
- FedEx and UPS demonstrations
- Honda leasing two vehicles in CA to regular people
- GM to lease 100 vehicles in CA, NY and DC





# Buses, Too

Recently on route in:

- Hartford, CT
- Orlando, FL (hydrogen ICE, not fuel cell)
- Arizona



Hartford, CT bus

Already on road in several  
areas in CA



# Filling Them Up

- 14 states and DC have H2 refueling stations (CA has 24)
- Recent openings in CA, IL and FL
- 3 states offer grants/loans for H2 infrastructure
- 5 states offer tax incentives for H2 infrastructure
- More planned!



**Shell H2 station in DC**



# Fuel Cells = Good Business

- 27 states and D.C. provide business assistance (marketing, legal, etc.) to research parks/institutes, or offer grants/loans/tax incentives.
- 14 states have H<sub>2</sub>/FC roadmaps, plans, reports or legislation – 3 more are developing.
- Great Plains Institute (Iowa, Manitoba, Minnesota, North and South Dakota and Wisconsin) recently published roadmap
- 8 other states and DC have alt. energy plans that include H<sub>2</sub>.



# Regional Partnerships

ARRC/H2 Alliance

FuelCell South

Hydrogen Energy Center

H2TEC

H2USA Centers

HyTEC

Mid-Atlantic Hydrogen Coalition

Northeast Hydrogen Alliance

Public Fuel Cell Alliance

Southern Fuel Cell Coalition

Upper Midwest Hydrogen Initiative

Gulf Coast Hydrogen Alliance

More sprouting up all the time!



# The Fight Goes On...

- State activity is helping move the industry forward
- A lot more is going on than most might think
- Laying the ground work now helps later
- Use what has been accomplished as a guide for your state or region
- Network



Thank you

Fuel Cells 2000  
1100 H Street, NW  
Washington, DC 20005

[www.fuelcells.org](http://www.fuelcells.org)

[jennifer@fuelcells.org](mailto:jennifer@fuelcells.org)