



## 2011 DOE Hydrogen and Fuel Cells Program Review

### Hydrogen Education State Partnership Program: Project ID ED015

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# Project Overview

## Timeline

- Project start date: Sept 2008
- Project end date: Aug 2011
- 85% complete

## Budget

- Project start date: Oct 2009
- Total project funding: \$300,000
  - DOE share: \$300,000
- Funding received in FY10: \$78,333
- Funding for FY11: \$0

## Barriers Addressed

- Lack of objective, technically accurate information
- Mixed messages
- Disconnect between hydrogen information and dissemination networks

## Partners

- National Conference of State Legislatures

# Project Context (Relevance)

## The State of the States

- The states play a crucial role in advancing clean energy technologies by implementing supportive policies and providing financial incentives
- The states therefore have the potential to do much to speed fuel cell commercialization
- Relatively few states are currently targeting fuel cells for support or active encouragement
- Many state policymakers are hesitant to support fuel cells because available funding is shrinking, they believe other technologies are bigger priorities, and they have either experienced problems with fuel cells or have heard about problems elsewhere

## The Role of CESA

- CESA has an in-depth understanding of the perspective of state clean energy agencies and other state energy policymakers
- CESA has had considerable success getting states to collaborate with each other and with DOE to advance clean energy technologies

# Project Objectives (Relevance)

- Identify state hydrogen program ***best practices*** and ***policies***.
- Develop ***strategies*** and information to ***overcome*** many state policymakers' ***resistance*** to providing support for fuel cells
- Provide ***information*** and ***technical assistance*** to state policymakers and state renewable energy programs to foster effective fuel cell programs.
- Promote strategic opportunities for states and DOE to advance fuel cell deployment through ***partnerships***, ***collaboration***, and ***targeted activities***.

# Better Understand State Policymakers' Perspectives (Approach)

- Interview key state policymakers from states that have provided financial support for fuel cells, as well as from those that have not
- Hold informal group discussion with state policymakers at semi-annual CESA meeting
- Identify the specific reasons why state policymakers have not been taking more aggressive action to promote fuel cells
- Craft messages, materials, and activities designed to encourage action

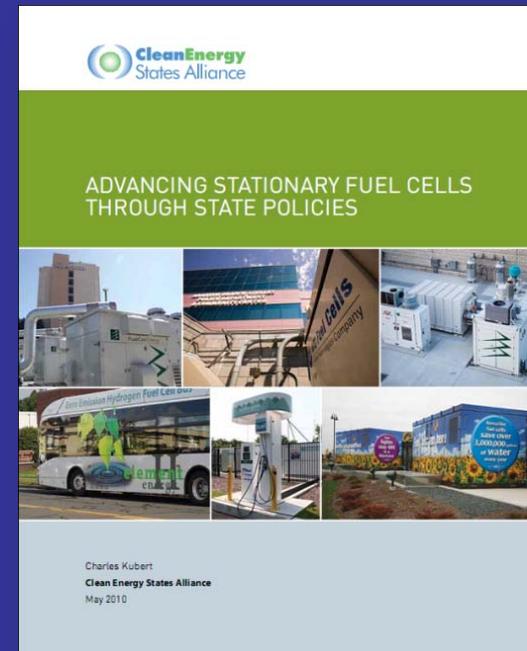
# Identification and Dissemination of Best Practices (Approach)

- Use conversations with and information from the states as a primary source
- Produce case studies of interesting projects
- Identify model policies and programs
- Identify areas for action
  - E.g., supermarkets, performance monitoring, RPS
- Use publications, webinars, and website to disseminate best practices

# Publications (Approach)

## Reports for State Policymakers:

- Address the specific needs and interests of state policymakers
- H2 production and storage added to three previous briefing papers
  - Stationary fuel cell technologies
  - State fuel cell policy and programs
  - Fuel cell applications for critical facilities
- Longer report on H2 production and storage technologies
- Fuel cells for supermarkets briefing paper (to be printed May 2011)
  - Includes two case studies plus advice for policymakers



# Outreach, Collaboration, and Communication (Approach)

- Workshops
- Bi-monthly webinars with DOE and TTC
- Facilitate monthly coordination conference calls among DOE hydrogen education grantees
  - Discuss audiences, messages, barriers
- Conference calls for selected state policymakers to identify possible coordinated activities
- Hydrogen and fuel cell listserve
  - Share state policies and projects, case studies, and relevant news with CESA members, state energy offices, NCSL members, state-based fuel cell organizations
- Fuel cell webpages on CESA website
  - [www.cleanenergystates.org/projects/hydrogen-and-fuel-cells](http://www.cleanenergystates.org/projects/hydrogen-and-fuel-cells)

# Publications Produced and Disseminated (Accomplishments and Progress)

1. Fourth overview briefing paper completed (hydrogen production and storage)
  - 3 or 4 briefing papers distributed at meetings of National Conference of State Legislatures, CESA semi-annual members meeting, Building Energy Conference, Fuel Cells Finance and Investment Summit, Ohio Fuel Cell Symposium, Northeast Commerce and Energy Association
2. Longer, more detailed hydrogen production and storage report by Timothy Lipman of UC Berkeley completed and to be distributed online in March 2011
3. Case study of California Energy Commission's waste-to-fuel-cell energy system at Gills Onions
  - Winner of 2010 CESA State Leadership in Clean Energy Award
4. "Hydrogen Fuel Cells: On-Site Energy Generation" in August-September 2010 *NCSL LegisBrief*
5. "Fuel Cells—Clean and Reliable Energy" on NCSL website (March 2011)
6. Briefing paper on fuel cells for supermarkets underway (to be printed in May 2011)

# Workshops, Presentations, Webinars, and Conference Calls

## (Progress and Accomplishments)

- Workshop at fall CESA national meeting with 5 speakers
- Presentations
  - NCSL Fall Forum
  - Northeast Energy and Commerce Association conference
  - Fuel Cells Finance and Investment Summit
- Conference calls
  - Facilitate monthly calls of DOE state-oriented hydrogen education grantees and use those calls to increase collaboration and common understanding
- Webinars
  - Increasing attendance (40+ based on additional outreach)
  - Topics since September:
    - Hydrogen production and storage for fuel cells
    - Hydrogen fuel cells—state policies and technology (joint webinar with NCSL)
    - Update on DOE's fuel cell program and upcoming activities
    - Fuel cells for supermarkets

# Collaborations

- **National Conference of State Legislatures**
  - Access to state legislators
  - Preparation of briefing materials
  - Hosted webcast and workshop
  - Distribute materials
- **Other DOE Education and Outreach awardees**
  - CESA facilitates monthly conference calls
  - Individual contacts, follow-up, and distribution of their materials
- **DOE and TTC**
  - Bi-monthly webinars
  - Jointly agree on topics of webinars
  - Cross-market the webinars to each organization's mailing lists

# Future Plans

## Expanded distribution of materials to state policymakers

- Packets of printed materials to be sent to more than 400 state policymakers late-Spring 2011, including about 150 to be distributed by NCSL to state legislators

## Webinars

- Including fuel cells in state RPS's (tentatively June 2011)
  - A joint webinar with the national State-Federal RPS Collaborative
- Monitoring and evaluating the performance of stationary fuel cells (tentatively July 2011)

## Publication

- Fuel cells and RPS's. How fuel cells currently fit into states' RPS's and why they should be considered by more states.

# Future Plans

- **Work with those states most interested in possible near-term joint activities**
  - Conference calls and information sharing among states currently or potentially active (e.g., CA, CT, MA, NY, OH, OR)
  - Topics to include coordinated actions to promote fuel cells for supermarkets and sharing of performance data
- **Fuel cells and economic development**
  - Through separate project with CT Center for Advanced Technology, documenting fuel cell supply chain in New England and will use that information to inform work on fuel cells and economic development
- **Ongoing**
  - Listserve and webpages
  - Monthly calls of hydrogen education grantees
  - Identify opportunities for collaboration among states and with DOE

# Summary

## ■ Relevance

- States can help advance fuel cells but it is difficult to get most of them to act
- Pro-active outreach to them continues to make sense, but progress will be slow

## ■ Approach

- We took steps to better understand the states' perspective and what it would take to get them to act
- This project's materials and outreach strategies continue to make sense
- Expanded outreach and efforts targeted at getting key states to collaborate are necessary, and this project is turning to those tasks

## ■ Progress & Accomplishments

- Useful publications have been produced and others are on the way
- Webinars and presentations have been successful
- Increased communication and collaboration with other organizations is beginning to bear fruit

## ■ Collaborations

- CESA has played a lead role in helping DOE education/outreach grantees share information and develop common perspectives

## ■ Future Plans

- Continue core activities (webinars, papers, website)
- Expanded outreach to state policymakers
- Emphasize joint activities by key states

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