



# Raising H<sub>2</sub> and Fuel Cell Awareness in Ohio

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# Overview

## Timeline

- Start-March 2009
- Finish-Dec 2010
- 0% Complete

## Budget

- Total project funding
  - DOE-\$200,000
  - Funding received in FY 09
    - \$0
  - Funding to be received in FY09
    - \$100,000

## Barriers

- Lack of education of targeted audience
- Misperception of fuel cells
- Competition of messaging from other alternative energy industries

## Partners

- The Ohio Department of Development
- Edison Materials Technology Center (EMTEC)

# Objectives

The overall objective of proposed program is to increase the awareness and understanding of state and local government officials in Ohio concerning hydrogen and fuel cell technology; thereby, accelerating the deployment of clean energy solutions, which will improve our environment, decrease our dependence on foreign energy, and bolster the manufacturing sector.

# Objectives

This increase in the awareness and understanding will directly contribute to the following Hydrogen Education Subprogram objectives:

- By 2009, increase understanding of hydrogen and fuel cell technologies among state and local governments by 10 percent compared to 2004 baseline
- By 2012, increase knowledge of hydrogen and fuel cell technologies among key target populations (state and local governments) by 20 percent compared to 2004 baseline

# Objectives

The specific objectives of the proposed program are to:

- Compile a succinct set of educational materials that will educate the target audience, state and local government officials, about the benefits and economic development opportunities associated with hydrogen and fuel cell technologies.
- Prepare an informative and engaging agenda for the forums and market the forum appropriately.
- Conduct approximately nine forums around the state that will raise the awareness of government stakeholders as to the environmental, economic and other benefits of hydrogen and fuel cells.

# Objectives

- Include in the nine regional forums, statewide and region specific information about fuel cell companies, research entities and community colleges concerning fuel cell activities and give examples of early market deployment and manufacturing operations.
- Publish a bi-annual newsletter that will keep the target audience informed about technical, legislative and business developments related to hydrogen and fuel cell technologies.
- Measure the increased awareness of state and local government officials using the metrics from the DOE Hydrogen Education Subprogram 2004 Baseline Study and additional instruments to determine knowledge of financial incentives, university and college workforce development programs, and awareness of specific local company activities.

# Future Milestones

<b>Month/Year</b>	<b>Tasks</b>
March/April 2009	Tasks 1: We will review and compile regional and educational materials with stakeholders
April/May 2009	Tasks 2: We will prepare the forums materials, marketing the forums and select the regional venues with the proper logistics.
May/July/August 2009	Tasks 3: Conduct first forum at The Ohio Fuel Cell Symposium May 27 <sup>th</sup> , 2009 with the rest of forums being conducted in the July and August 2009 timeframe.
August 2009	Tasks 4: Follow up the forums by disseminating a newsletter—a bi-annual newsletter will be published specifically to provide timely, accurate, hydrogen and fuel cell information to government stakeholders.

# Future Milestones

<b>Month/Year</b>	<b>Tasks</b>
August 2009	Task 5: Follow up the forums with matchmaking services – Linking of government agencies, fuel cell companies and end users to facilitate demonstrations and early market adoption

# Target Audience and Approach

The target audience members for the proposed program are state and local government officials that will be affected by the deployment of fuel cell technologies in their regions. Included in this group will be economic development, transit, and public utilities individuals. These represent the key decision makers framing the future of Ohio's fuel cell industry and early deployment of fuel cell applications for stationary power generation, niche transport, and public transit. Table 1 (see page 10) shows these target segments, the number of individuals in each segment and their important drivers.

# Target Audience and Approach

## Segment Count Drivers (in order of importance)

### Elected Officials ~550

- Retaining or increasing employment
- Need for less expensive, clean alternative energy sources
- Need for accurate, current information
- Demonstration opportunities

### Economic Development ~100

- Retaining or increasing employment
- Business matchmaking opportunities
- Demonstration opportunities
- Need for accurate, current information

### Transit ~50

- Efficient fleet vehicles
- Demonstration opportunities
- Need for less expensive, clean alternative energy sources
- Need for accurate, current information

### Utilities & Public Safety ~500

- Need for accurate, current information;
- Need for less expensive, clean alternative energy sources
- Demonstration opportunities

**Total 1,200**

# Collaboration

- Partners
  - Ohio Dept of Development
  - Edison Materials Technology Center (EMTEC)

# Future Work

- Draw audience to 2010 OFCC Symposium
  - One of the most effective and cost effective means of following up with government stakeholders is drawing them to the annual Ohio Fuel Cell Symposium. At the 2010 edition of the symposium, a special breakfast or lunch will be held for government officials. This meeting will detail the matchmaking and other follow-up services OFCC provides as part of this program and on its own.
- Reporting
  - The project team will prepare and submit all of the reports required by DOE, including quarterly and annual reports. EMTEC will provide these basic metrics and reporting requirements, as they have existing infrastructure built from their current business model and as a former federal grantee or manager of DOE-funded research and commercialization funds. OFCC as team leader will have final approval and responsibility for reporting content and meeting deadline requirements.

# Project Summary

- **Relevance:**
  - The proposed program demonstrates a strong fit with the objectives of the Hydrogen Education subprogram by targeting state and local government decision makers; thereby, acting as a conduit for the DOE and raising the awareness of this important stakeholder group.
- **Approach:**
  - The education of the targeted audience with the result being support of the fuel cell industry and the adoption of fuel cells as an energy source.
- **Collaborations:**
  - Ohio Department of Development and Edison Materials Technology Center (EMTEC)
- **Future Work:**
  - Draw audience to annual Ohio Fuel Cell Symposium, matchmaking, and deployment of fuel cells



# Supplemental Slides

# Ohio Competitive Advantages- Support for Industry Growth

Ohio is competitively advantaged to participate in the fuel cell/hydrogen economy growth, and developing this industry is critical to Ohio interests

- builds on Ohio's manufacturing infrastructure and can help reverse the decline in manufacturing jobs
- returns Ohio as the driver in a critical segment of industry, and acts as economic lever for additional technology development
- creates high skill/high income jobs

# Ohio Competitive Advantages- Support for Industry Growth

- **Technical support**
  - University R&D/collaboration
    - Research entities
    - Federal labs– NASA GRC, Air Force Research Lab
  - Community and Technical Colleges
  - Industrial manufacturing and advance materials expertise
- **Business support**
  - EMTEC, NorTech, ODOD, other development support
  - Ohio Fuel Cell Coalition
- **Financial support**
  - Third Frontier Fuel Cell initiative
  - Strategic and supply chain partners
- **Central logistics and manufacturing location**
  - Within 500 miles of 60% of US markets
  - Proximity to auto manufacturers; access to entire state manufacturing sector

# Ohio: Growing Activity and Visibility in Fuel Cell Industry

## Company investments or projects

- Rolls-Royce NA HQ located in Canton
- UltraCell manufacturing plant near Dayton
- NexTech Materials (Columbus)
- Plug Power/Cellex/ Crown
- GrafTech (Parma)
- Catacel-Fuel Cell Processing
- Battelle-GPU/APU

# Ohio Accomplishments

- Commitment - over \$74 million in state support since 2003
- Global recognition
- Research and commercialization
- Supply chain leadership
- Educational initiatives
- New entrants and private investment



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