

VA-MD-DC Hydrogen Education for Decision Makers

Virginia Department of Mines, Minerals, and Energy

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Virginia Clean Cities

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Project ID #

ED011

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OVERVIEW

Timeline

- September 30, 2008
- September 30, 2010
- Percent Complete: 70%

Partners

- Project Lead: Virginia Clean Cities / DMME, Division of Energy
- Strategic Partners:
 - Los Alamos National Laboratory
 - NEED & GM
 - MotorWeek
 - University of Maryland-College Park, Virginia Tech, JMU
 - Local government Clean Cities stakeholders & many others

Barriers

- Barriers (Ed. Plan Related)
 - Mixed Messaging
 - Regional Differences
 - Difficulty Measuring Success
- Barriers (Findings)
 - Lack of available/relevant demonstrations
 - Information overload / Decision maker and expert time demand

Budget

- FY08: \$106,500
- FY09: \$83,500
- Contractor Share: \$63,000
- *Cost share to date \$95,522*

OBJECTIVES

The goal of the project is to increase a targeted audience's understanding of hydrogen and fuel cells, including early market applications, and to provide specific examples of actions that the targeted audience - state and local government leaders - can take to support the development and use of hydrogen and fuel cell technology leading to better understanding of the community benefits that can result.

- Conduct up to a dozen in-person workshops by technical experts and professional educators
- Produce video resources for public television, seminar use, and DOE/general public
- Use hardware demonstrations when possible and provide real-world examples of technology
- Produce electronic “magazine” articles on hydrogen technology demonstrations and other instructional project deliverables

APPROACH

- Use strategy in selecting hosts, marketing seminars
- Team with local government and select appropriate demonstration hardware
- Have technical expert and professional educator instructors
- Use NEED instructors and high school students for “table talk” demo sessions
- Have ride-n-drive
- Shoot a wide variety of H2/FC research and demonstrations for video segments
- Utilize media and ensure sound talking points are provided
- Utilize “new media” approaches (Facebook, Twitter, YouTube)
- Foster communication with policy makers

MILESTONES

#	Milestone
1	Finalize seminar venues, dates, instructors, tours, demonstrations, and outreach partnerships (Task 2)
2	Produce articles on hydrogen or fuel cell demonstrations (Task 4)
3	Web products released (Task 3)
4	Produce and update curriculum (Task 1)
5	Conduct seminar (Task 2)
6	Conduct materials review and feedback sessions (Task 5)
7	Produce newsletter (Task 5)
8	Report to DOE (Task 6)
9	Produce MotorWeek video segment (Task 4)
10	Conduct electronic and telephone follow-up surveys (Task 5)

Task	Subtask	Year 1 (2008-2009)								Year 2 (2009-2010)																			
		Q1			Q2			Q3		Q4			Q5			Q6		Q7			Q8								
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Febr	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Febr	Mar	Apr	May	Jun				
1. Curriculum and Resource Development	Research hydrogen or fuel cell technology demonstrations	[Shaded]																											
	Develop Hydrogen 101 instructional resources	[Shaded]			4	[Shaded]			4	[Shaded]			4	[Shaded]			[Shaded]												
	Develop demonstration instructional resources	[Shaded]			4	[Shaded]			4	[Shaded]			4	[Shaded]			[Shaded]												
	Develop decision maker empowerment instructional resources	[Shaded]			4	[Shaded]			4	[Shaded]			4	[Shaded]			[Shaded]												
2. Decision-Maker Training	Form relationships with organizations hosting complimentary meetings	[Shaded]			1	[Shaded]																							
	Develop event planning workshop template and detailed planning guidelines	[Shaded]			[Shaded]																								
	Research feasible venues, dates and partnerships	[Shaded]																											
	Confirm demonstration site access and possible tour dates	[Shaded]			1	1	1	1	1	1	1	[Shaded]																	
	Determine instructor scheduling	[Shaded]			1	1	1	1	1	1	[Shaded]																		
	Develop seminar schedule	[Shaded]			1	1	1	1	1	1	[Shaded]																		
	Plan seminars	[Shaded]			[Shaded]																								
	Purchase inexpensive portable demonstrations for seminars	[Shaded]			1	[Shaded]																							
	Conduct seminar	[Shaded]			5			5	5			5	5			5	5		5	5			5	5					

MILESTONES Cont.

Task	Subtask	Year 1 (2008-2009)												Year 2 (2009-2010)											
		Q1			Q2			Q3			Q4			Q5			Q6			Q7			Q8		
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
3. Website Development and Outreach	Web page development and updating				3																				
	Develop plan for webcasting seminars																								
	Podcast seminar and post to webpage																								
	Post newsletter to website and monitor blog posts																								
	Produce expanded resource section with companions to seminar content																								
4. Video Resource Development	Research and produce articles on hydrogen or fuel cell technology demonstrations																								
	Work with demonstration site managers on possible MotorWeek content				2				2						2						2				
	Produce MotorWeek video segment									9			9												
5. Evaluation and Follow-up	Develop surveys																								
	Administer before and after surveys																								
	Input survey data into database																								
	Assess results and fine-tune seminar content																								
	Follow-up phone and electronic survey of seminar attendees																								
	Produce newsletter					6		6		6		6		6		6		6		6		6		6	
	Conduct materials review and feedback sessions with DOE																								
	Gather information from partners for reports																								
6. Management and Reporting	Complete routine quarterly reports																								
	Management																								
	Complete final report																								8

TECHNICAL SUCCESS/PROGRESS/RESULTS

Milestones:

1. Seminar and other logistics: Developed key partnerships, working to develop more in DC/MD
2. Articles: Produced 4 of 4 articles
3. Web Products: Website up and updated, Facebook, YouTube, Twitter established
4. Curriculum: 2 sets of curriculum produced and well received, third set under development for live webcast series
5. Seminars: Conducted five seminars, and have 7 more on schedule, including webinars

TECHNICAL SUCCESS/PROGRESS/RESULTS

Milestones:

6. Materials Review and Feedback: Conducted materials review sessions with partners
7. Newsletters: Published quarterly
8. Reporting: Reports submitted via DMME quarterly
9. MotorWeek segments: Shot first segment footage at 2009 NHA conference/DDSP/UMD - 2 segments produced (TV and DVD)
10. Follow-up and Evaluation: Surveys indicated audience understanding increased

MOTORWEEK

Hydrogen Market Snapshot

<http://www.youtube.com/watch?v=HhEXlCkqUkY>

DVD handouts at events

Year 2 Clip in progress

Footage recorded in May

FUTURE WORK

- Seminars: 7 more in 2010-2011 - incorporate more innovative approaches to reach audience
- Articles: 2 more in 2010 (beyond the 4 planned)
- Video Resource: 2 in 2010 (1 short for TV, 1 for seminars)
- Follow-up & Evaluation: Admin pre- and post-workshop surveys; Conduct follow-up surveys after events
- Demonstration: Student thesis project underway; GM continued partnership

COLLABORATIONS TO-DATE

- Virginia Department of Mines, Minerals, and Energy (Prime)
- Virginia Clean Cities at JMU (Sub, Project Manager)
- Los Alamos National Laboratory
- MotorWeek
- Universities: University of Maryland, Virginia Tech, JMU
- National Energy Education Development Program
- DDSP/DLA/LMI
- NHA
- DOE Clean Cities
- State Agencies: VA Dept of Environmental Quality, Science Museum of Virginia, Maryland Energy Administration, Wash Metro Council of Governments, etc.
- Orgs representing local govts: VML, VaCo, ICLEI, Climate Communities
- Other industry organizations: Virginia Transit Association, Petroleum Marketing and Grocers Associations
- Mid-Atlantic Diesel Collaborative
- OEMs: GM, Honda, Mercedes, Proterra, etc.
- Local governments
- Other non-profits
- Private Business: Hampton Roads Hydrogen, Marz Industries
- Policy makers (legislative input)
- Even more!

SUMMARY

- Barriers
 - Difficult to demonstrate to decision makers how they can support emerging markets when there aren't many local examples - We have partnered with JMU on student fuel cell vehicle build demo to address
 - Economic recession limited decision makers travel budgets
 - The few technical expert partners AND our audience are in HIGH demand and overloaded now (ARRA!)
- Seminars proved to increase audience understanding of hydrogen/fuel cells as proven by surveys/quizzes
- Video segments have been very useful
- Plan to incorporate more content and innovative strategies to reach target audience
- JMU partnership proving very valuable

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