
U.S. Department of Energy Hydrogen Program

Manufacturing R&D

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**2008 DOE Hydrogen Program
Merit Review and Peer Evaluation Meeting**

June 13, 2008





Manufacturing R&D

Goal and Objectives

Goal: Develop and demonstrate technologies and processes that will:

- ***Reduce cost of components and systems for fuel cells, storage, and hydrogen production***
- ***Grow domestic supplier basenetwork***

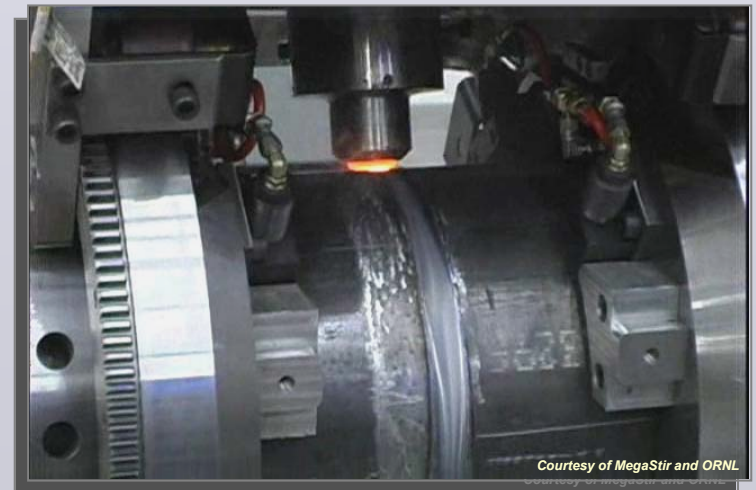
- Lower fuel cell stack manufacturing cost by a factor of 50 to 90
- Reduce cost of carbon composite high pressure storage tanks by a factor of 60





Manufacturing R&D Milestones

- **2010:** Complete development of standards for metrology of PEM fuel cells.
- **2011:** Demonstrate pilot scale, high volume manufacturing processes for high-pressure composite tanks.
- **2012:** Develop continuous in-line measurement for MEA fabrication.
- **2012:** Demonstrate pilot scale processes for manufacturing bipolar plates.
- **2013:** Establish models to predict the effect of manufacturing variations on MEA performance.
- **2013:** Demonstrate pilot scale processes for assembling stacks.
- **2015:** Develop fabrication and assembly processes for high-pressure hydrogen storage technologies that can achieve a cost of \$2/kWh.





Role of Manufacturing Readiness Levels (MRL)

MRL Evaluation Methods

Industry Cost Share Manufacturing Projects

Federal Co-funded Market Transformation Projects

Program Assessments

Emerging Needs and Requirements

***NEW
Manufacturing
R&D Projects***



Session Instructions

- Presentations will begin precisely at the scheduled times.
- If a review presentation ends early, there will be a short break before the next review.
- Talks will be <20 minutes, Q&A <10 minutes.



Session Instructions

- Reviewers have priority for questions over the general audience.
- Reviewers should be seated in front of the room for convenient access by the microphone attendants during the Q&A.



Reviewer Reminders

- Reviews should be submitted at the end of the day.
- Reviews must be submitted before departure from the Annual Merit Review & Peer Evaluation meeting.



Reviewer Reminders

- On Thursday, there will be a brief (5-15 minutes) reviewer feedback session following the last presentation.



For More Information

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