Status Update for HTAC Infrastructure Report

Joan Ogden Presented December 6, 2016 HTAC Meeting

Current Status

HTAC Infrastructure Report finalized (Fall 2013)

- Sent to Secretary Moniz November 2013.
- Cover letter states key developments and needs for infrastructure
- 2013 Report Developed Strong Baseline for Tracking Status of H2 Infrastructure
- New subcommittee forms to develop 2nd Infrastructure Report.
- Near term infrastructure subcommittee forms

What are Key Issues for next report? Some ideas

- Follow technical advances in infrastructure technologies
 - Technical and cost status, barriers
- Track progress of worldwide H2 FCV rollout (metrics?)
 - Vehicle deployments
 - Station numbers/technologies
 - Public/private partnerships (Incl. H2USA)
 - Public and private funding
 - International comparisons
- Examine evolving business case for H2 and FCVs
 - When will infrastructure investments "break even"? Timing, support?
- Examine role of policies
- Make recommendations

Proposal: Combine with Sub committee on Near-term fueling infrastructure

 Combine sub-committees under leadership of Hal Koyama and Joan Ogden

extras

Thoughts?

What are the most important issues?

Volunteers for Committee

Timeline for next committee meeting

Hydrogen Infrastructure Subcommittee Report: (2013)

ACCELERATING THE HYDROGEN INFRASTRUCTURE

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Summary

U.S. Infrastructure Activities Targeted to Automotive Programs

- <u>The Early Deployment Challenge</u>
- Deployment Status
- <u>California</u>
- <u>Hawaii</u>

Other States

U.S. Infrastructure Activities Targeted to Non-Automotive Consumption

International Hydrogen Infrastructure Activities

- Europe and European Union
- <u>HyER</u>
- <u>Germany</u>
- <u>Asia</u>

Safety Codes, Standards, Regulations, and Permitting Infrastructure for Industrial Hydrogen Production and Delivery

- <u>Production</u>
- Other Delivery

Renewable Hydrogen

APPENDIX A: Subcommittee Members

Drafting

Automotive Applications

International

Non-Automotive Hydrogen/Fuel Cell Infrastructure Initiatives

Safety Codes, Standards, Regulations, and Permitting

Hydrogen Infrastructure for Industrial Hydrogen

APPENDIX B: Organizations Supporting Infrastructure Development

Additional Reading

Objective (2013 Infrastructure Report)

This document identifies hydrogen infrastructure opportunities for the U.S. Department of Energy (DOE), to support the use of hydrogen in the United States. In undertaking this task, the Hydrogen Infrastructure Subcommittee assembled information on worldwide hydrogen infrastructure development and the growing use of hydrogen as an energy carrier, energy storage media, and fuel.

Recommendations (2013 HTAC Infrastructure Report)

1. Emphatic public support by the U.S. government for fuel cell electric vehicle (FCEV) deployment will give public and private stakeholders confidence and attract much-needed private investment in the U.S. and around the globe.

2 The U.S. government has an opportunity to work collaboratively with infrastructure initiatives in Germany, Japan, Korea, the United Kingdom) and elsewhere to coordinate rollout plans; doing so would reduce costs and accelerate deployment..

3. DOE support for state level hydrogen infrastructure initiatives would accelerate deployment in California, Hawaii, and, to a lesser extent, other states and would yield valuable experience in developing a national rollout plan.

4. These efforts would be most effective if integrated with a well though-out strategy to support both 2016 and 2025 corporate average fuel economy mileage standards recognizing that battery electric vehicles, biofuels, and hybrids will not alone address the requirements.

5. H2 fueling infrastructure build-out should be part of comprehensive National Energy Policy.

6. DOE's hydrogen and fuel cell research budget has shrunk by about 50% since FY 2009; a strong commitment to research and development would ensure U.S. technology leadership and to build on the impressive current U.S. knowledge base.