Market Transformation RFI

Topic 6: Analysis of Excess and/or Waste Hydrogen Sources

Issue: DOE seeks to study the viability of using excess and/or waste hydrogen as a cost-effective and environmentally-clean means for producing the fuel needed as increasing numbers of hydrogen vehicles enter the market. Approximately 90% of hydrogen in the United States is currently produced from natural gas via steam methane reforming. For fuel cell vehicle applications, both near- and long-term hydrogen production options are being explored. One of the options that DOE has examined is the potential for hydrogen production from coke oven gas (COG), which results from the coking process in steel mills. DOE seeks information on other sources of excess and/or waste hydrogen, including hydrogen-containing waste gases. Capturing hydrogen that is currently vented, burned, or otherwise not used could have benefits such as cost-effective hydrogen production for the emerging hydrogen vehicle market, increased industrial energy efficiency, and reduction of greenhouse gas emissions.

Response Content: DOE seeks the best options for analysis projects that evaluate opportunities for using excess and/or waste hydrogen sources to fuel hydrogen vehicles as they enter the marketplace. Respondents should comment on the following issues:

- Identification of industries or industrial processes that produce hydrogen as either a waste product or in a quantity that exceeds the amount needed for the described processes (including hydrogen-containing waste gases);
- Cost-effectiveness of capturing, processing, storing, and delivering hydrogen for use at fueling stations;
- General economic benefits and job creation impact from capture and use of waste or excess hydrogen;

- Environmental benefits, such as greenhouse gas reductions, local air pollution reduction, or others, from using excess and/or waste hydrogen sources;
- Proximity of excess and/or waste hydrogen sources to U.S. population centers; and
- Feasibility of increasing production of hydrogen from the excess and/or waste source.

Responses due March 31, 2009

News Posting:
http://www1.eere.energy.gov/hydrogenandfuelcells/news_detail.html?news_id=12225

Actual Document Link:
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