Department of Energy
Washington, DC 20585

Mr. John Hofmeister
Chairman, Hydrogen and Fuel Cell
Technical Advisory Committee
1302 Waugh Dr., #940
Houston, Texas 77019

Dear Mr. Hofmeister:

Thank you for your December 2013 letter to Secretary Moniz and accompanying summary report from the Hydrogen Enabling Renewables Working Group. The Working Group's expertise and recommendations are valued by the Department and have provided useful insight on the role that hydrogen might play in enabling penetration of renewable energy in the United States.

Increasing penetration of renewable technologies is a key feature in both the recommendations of the Working Group, and in national policies. To address the Working Group's first recommendation: renewables feature strongly in President Obama's Climate Action Plan (CAP). During the President's first term, the United States more than doubled its electricity generation from wind, solar and geothermal technologies, and the President has set a goal to double this number again by 2020. CAP's first of three pillars, "Cutting Carbon Pollution in America," presents "Promoting American Leadership in Renewable Energy" as a key solution pathway. This plan is bolstered by policies to increase permitting for renewable power plants, encourage renewable deployment in the military and federally subsidized housing stock, and improve the permitting process for transmission projects. These policies indicate a long-term plan for increased penetration of renewables in the United States.

The Hydrogen and Fuel Cell Technical Advisory Committee's emphasis on hydrogen energy storage for grid management has provided valuable feedback to the Department's assessment of this technology. In 2014, the Department's Fuel Cell Technologies Office plans to hold a workshop on Hydrogen Energy Storage for Variable Electricity Generation. The recommendations in the Working Group's report, as well as in previous HTAC deliverables, will be reviewed as part of a discussion panel to establish the current status of the technology and lessons learned from past efforts.

The Department agrees that energy storage plays an important role in enabling renewables, and has taken steps to investigate the potential of hydrogen energy storage to manage the impacts of intermittent renewable energy on the grid. The Hawaii Natural Energy Institute (HNEI) has received over $1.8 million from the Department to evaluate hydrogen energy systems as a grid management tool. Among its objectives, this project will compare electrolyzer and battery energy storage systems in their ability to address frequency regulation. The Working Group's recommendations may provide ways to expand on the work done so far to establish the conditions at which hydrogen competes with other energy storage systems. For example, the HNEI project may provide the basis for an economic study to evaluate the integrative benefits of

hydrogen storage, as recommended by the Working Group. In addition, the Department has invested $135 million to establish a state-of-the-art Energy Systems Integration Facility at NREL to focus on research, development, and demonstration of integrated energy systems. The facility has unique capabilities to overcome challenges related to integration of renewable energy technologies into the electricity grid and to advance energy storage technologies, including hydrogen.

The Committee's recommendations play a critical role in guiding the Department's activities in support of hydrogen and fuel cell technologies. Please convey my appreciation to the Hydrogen Enabling Renewables Working Group for their valuable recommendations to the Department.

Sincerely,

Reuben Sarkar

Reuben Sarkar
Deputy Assistant Secretary for Transportation
Energy Efficiency and Renewable Energy