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Grid Management Using Hydrogen

This is an ongoing Hawai?i Natural Energy Institute (HNEI) project sponsored by the Naval Research Laboratory with funding via the US Department of Energy. In addition to HNEI, project partners include Puna Geothermal Venture and the County of Hawai?i Mass Transit Agency. The project objective is to assess the use of a hydrogen production and storage system as a grid management tool to mitigate adverse impacts of renewable energy sources on the electric grid system of the Big Island. The stored hydrogen could be used to run fuel cells and generate electricity as needed. Details for this aspect can be seen in the Fuel Cells for Grid Support [1] section of our website. The hydrogen produced could also be used for transportation fuel by the Mass Transit Agency buses, fuel for stationary fuel cells, and chemical feedstock for producing ammonia.

The primary HNEI contact for this project is Mitch Ewan [2], Hydrogen Systems Program Manager. For more information concerning the project, see the Grid Management Using Hydrogen [3] pdf document.

Another approach for grid management is an option utilizing batteries for energy storage. Details on this option can be seen in the Batteries for Grid Management [4] section of our website. For general information about our hydrogen and grid systems research activities, see the Hydrogen [5] and Grid Systems [6] research areas of our website.

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Source URL: http://www.hnei.hawaii.edu/projects/grid-management-using-hydrogen

Links:
[1] http://www.hnei.hawaii.edu/research/fuel-cells/fuel-cells-grid-support
[2] http://www.hnei.hawaii.edu/staff/james-mitch-ewan
[3] http://web41.its.hawaii.edu/www.hnei.hawaii.edu/sites/web41.its.hawaii.edu.www.hnei.hawaii.edu/files/page/2011/09/One_p
[4] http://www.hnei.hawaii.edu/projects/batteries-grid-management
[5] http://www.hnei.hawaii.edu/research/hydrogen
[6] http://www.hnei.hawaii.edu/research/grid-systems