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# Photovoltaics

The Hawaii Natural Energy Institute (HNEI) has been involved for many years in research aimed at utilization of solar energy for the production of electricity and for the direct conversion of solar energy for production of hydrogen. Using the sun for electricity generation and subsequent production of hydrogen is one possibility under HNEI?s Hawai?i Hydrogen Power Park [1]. With respect to solar hydrogen production work, HNEI has two patents covering photoelectrochemical production of hydrogen; these efforts have been carried out in HNEI?s Thin Films Laboratory [2]. For more information on direct production of hydrogen, see the Photoelectrochemical Hydrogen Production (overview) [3] section of our website.

More recently, the Institute has been the lead agency for specialized projects involving photovoltaic (PV) arrays and projects with a number of PV system installations or for the instrumentation of such facilities, with subsequent monitoring and analysis work. There are two specialized projects with PV systems as important elements. One of these involves energy efficiency research with a PV array as a renewable energy source and the other addresses use of smart grid inverters for mitigating impacts on grids from high penetration of PV systems.

For activity details concerning the above research arenas, click on the following items:

- Solar Hydrogen Production [4]
- Photovoltaic (PV) Installations [5]
- Energy Efficiency Research Using a School Classroom [6]
- Smart Grid Inverters for High-Penetration Photovoltaic Applications [7]

Last Updated: Tuesday, March 12, 2013
Tags: Hawai?i Hydrogen Power Park [8] photovoltaics [9]

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**Source URL:** http://www.hnei.hawaii.edu/research/photovoltaics

**Links:**
[1] http://www.hnei.hawaii.edu/research/hawaii-hydrogen-power-park
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[4] http://www.hnei.hawaii.edu/research/photovoltaics/solar-hydrogen-production
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