



New hydrogen facility opens possibilities for Hawaii

Imagine creating electricity not by burning oil or coal or even trash, but by combining hydrogen and oxygen. That is what hydrogen fuel cells can do. And that is what caused the excitement recently at the official opening of the Hawai'i Fuel Cell Test Facility, a joint project with partners Hawaiian Electric Company (HECO), the UH Manoa's Hawai'i Natural Energy Institute (HNEI), UTC Fuel Cells and the Office of Naval Research.



The Hawai'i Fuel Cell Test Facility recently dedicated at HECO's Ward Avenue location will evaluate the performance of hydrogen fuel cell technology.

This is a state-of-the-art facility to test hydrogen fuel cells located in a 4,000 square foot warehouse at HECO's Ward Avenue property. Fuel cells are put through a battery of tests to check performance, reliability and sensitivity to impurities in the hydrogen gas fuel source.

While hydrogen is usually extracted from natural gas or other fossil fuels, researchers are focusing on new technology to extract hydrogen from renewable sources such as biomass and water (remember, it's H2O).

"This is another example of Hawaii's increasing role as a leader in the development and demonstration of renewable technologies," said Rick Rocheleau, HNEI Director.

Though now five to ten times more expensive than using natural gas, hydrogen fuel cell costs are expected to drop in the future, with the added benefit of lower emissions compared to traditional cars or power generation. According to UTC Fuel Cells' Vice President Brian McDonald, "The testing performed in this facility will help us develop reliable, cost effective fuel cells that will move us one step closer to the hydrogen economy and reducing our dependence on fossil fuels."

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Hawaii's 20,000th solar water heater

Hawaii passed an amazing milestone recently when the 20,000th solar water heater since 1996 was installed in a local home with the help of rebates from HELCO and our affiliated companies, Hawaiian Electric Company and Maui Electric Company.



The Memmers - Joy, Don, Luke and Mirage - are among the Hilo families saving with solar. The system was installed through HELCO's Residential Solar Water Heating Program.

Installing a solar water heater can be a terrific deal since, in addition to HELCO's \$1000 rebate to help cover out-of-pocket costs, many customers qualify for a 35% Hawaii State Energy Tax Credit.

For most households, hot water from a conventional heater is the largest part of their monthly electric bill. Using a solar system instead, the heat of the sun will replace most of the electricity needed to make hot water. A well-designed and properly sized solar water heater can reduce these costs by 90 percent for an average family. Today, almost one in four single-family homes in Hawaii uses solar power as the primary water heating system.

Hawaii customers will save nearly \$90 million on electricity bills and 1.35 million barrels of imported oil - enough to power Honolulu for two months - over the life of the solar systems. In addition, 20,000 customers have already received more than \$15 million in rebates.

Thanks to support from our solar water heating program, the largest and most successful in the nation, Hawaii residents have installed more solar water heating systems in support of the U.S. Department of Energy's Million Solar Roofs Initiative than any other state. Here's to 20,000 more systems to come!

To find out more about HELCO's **Residential Solar Water Heating Program**, call **969-0127**.



TIPS TO COOL YOUR HOME

It's summer time and the living is easy - but it sure does get hot! Here are some tips that can help keep your home cool and comfortable all year-round.



WINDOWS The Solar Heat Gain Coefficient (SHGC) number indicates how well a material or product blocks the sun's heat. In Hawaii, look for an SHGC of .40 or less on windows. Low-e (low-emittance) glass or window tinting can block heat and still maintain acceptable light levels.

CEILING FANS *Energy Star* fans move more cubic feet of air with less energy. And if you need to add lights to your fan, be sure to purchase an *Energy Star* qualified light kit. These kits come with either pin or screw based compact fluorescent lamps. Hang your fan so that its blades are at least one foot below the ceiling, seven feet above the floor, and two feet from the nearest wall.

LIGHTING Standard incandescent bulbs expend over 90% of their energy making heat, not light. Switch to cooler burning compact fluorescents for greater comfort and energy savings.

AIR CONDITIONING If you opt for air conditioning, choose an *Energy Star* air conditioner. Remember, an air conditioner's operating efficiency is measured by its Energy Efficiency Ratio (EER) or Seasonal Energy Efficiency (SEER). The higher the EER or SEER the more energy efficient the air conditioner is. Be sure to select the correct size needed to cool a given space. An oversized air conditioner wastes energy.



Bill payment help available in June

During June, the State's Low Income Energy Assistance Program will be offering customers with household incomes and assets below a certain threshold a **one-time annual credit** against their electric bill.

To apply, **take your current original electric bill** to one of these Hawaii County Economic Opportunity Council (HCEOC) offices **between June 2 and June 30**, to see if you might qualify.

Hilo	935-5219
Pahoa	965-6440
Pahoa (Immigrant line)	965-9480
Pahala	928-8335
Honokaa	775-7207
Kona	322-3428



RECIPE OF THE MONTH

Limu Kohu Ahi Poke



- 4 cups diced Ahi (diced in 1/2-inch cubes)
- 2 teaspoons chopped limu kohu (red seaweed)
- 2 teaspoons inamona (roasted, crushed kukui nut)
- 2 teaspoons sesame oil
- 1 teaspoon minced fresh ginger
- 1 teaspoon chopped green onion
- 4 teaspoons diced Maui onion
- 1/3 teaspoon chopped chili pepper (seeded)
- 1 teaspoon Hawaiian salt
- 1/2 teaspoon thinly sliced garlic

Combine all ingredients. Chill before serving. Makes 6-8 servings.

