

## Alternative fuel grows on trees - By **Gavin Evans** Bloomberg News - TUESDAY, JANUARY 3, 2006

**WELLINGTON** The South Pacific nations of Vanuatu and Samoa are turning coconuts into fuel to combat the soaring cost of importing diesel.

Unelco Vanuatu is diluting diesel for its biggest generator with 5 percent coconut oil, while Electric Power in Samoa is running a test using blends with as much as 20 percent.

Tony Deamer, Vanuatu's biggest retailer of coconut-kerosene motor fuel, is selling his 80 percent blend "Island Fuel" to truck drivers at prices 14 percent lower than diesel.

Energy consumers worldwide are trying to tap new fuel sources like wind-power or crops after economic growth in the United States and China strained crude oil supplies, pushing prices to records.

While the South Pacific's fuel-import bill jumped 20 percent last year to about \$700 million, the price of coconut oil fell 12 percent as global cooking-oil production rose.

"We're not doing this just to burn a bit of coconut oil," Jean Chaniel, general manager of Unelco Vanuatu, said in a telephone interview from Port Vila. "The objective here is to get an oil industry going."

Unelco, which supplies power to about half Vanuatu's 220,000 people, is burning about 8,000 liters, or 2,113 gallons, of coconut oil a week at a four-megawatt power plant. It may double the fuel mix to 10 percent this year as part of a strategy to reduce its 10 million liters of annual diesel imports.

Electric Power in Samoa is running the smallest generator at its Salelologa power station on the western island of Savaii on a 15 percent fuel mix.

"So far it's going good," said Tiafau Salevao, who runs the company's business on Savaii. Coconut oil in a proportion of "30 percent would probably be the maximum. You couldn't go to more than 30 percent without putting new fuel injectors in."

The conversion plans mirror projects in Europe and North America, where scale is key to making alternative fuels cheaply enough to be competitive.

In Britain, where the government wants 5 percent of all motor fuel to come from biofuels by 2010, Biofuels is spending £30 million, or \$53 million, to build a plant to make 250,000 tons of fuel a year from palm and rapeseed oil.

Cargill, the largest U.S. agricultural company, said in November that it planned to more than double the capacity of an 85 million gallon-a-year ethanol plant at its corn-processing site in Blair, Nebraska, to profit from rising prices and demand.

Coconut oil for delivery in January and February cost \$580 a metric ton in Rotterdam on Dec. 28, 12 percent less than a year earlier. In Chicago, prices of soybean oil, also used for cooking, fell 7.9 percent in the second half of 2005. Prices of crude oil, from which diesel is refined, rose 45 percent last year to \$61.04 a barrel on the New York Mercantile Exchange.

Still, large-scale production of coconut oil for fuel is beyond the means of Pacific states like Tonga, where 108,000 people live on 36 of the kingdom's 150 islands. Six to 10 large coconuts are needed to produce each liter of oil, according to Kokonut Pacific, which sells equipment to grate copra - the white meat of the nut - and press the oil.

"The economics are too difficult" for large-scale use of coconut oil fuel, said Jan Cloin, an advisor with the Fiji-based South Pacific Applied Geoscience Commission. "But for a very remote island it could still be a viable alternative."

The Fiji Electricity Authority makes about half its power from diesel. It will try coconut oil and four other biofuels in its smaller generators this year, and has sought bids for a monthly supply of 500 tons of refined vegetable oil for its bigger plants. It also plans wind and hydroelectric power projects with Pacific Hydro of Melbourne to cut its dependence on imported fuels.

Coconut oil's big advantage over wind or solar panels is that it can be used in existing generators, said Cloin at the geoscience commission.

"The idea really is to see how far we can go with this without having to modify the machines," said Chaniel at Unelco. "That is a cost we want to avoid."

Indonesia, the Philippines and India dominate the coconut industry. As much as two million metric tons of the oil, used in cosmetics, confectionary and health foods, are exported each year.

The high cost of freighting and storing the oil for export means profits are slim for Pacific growers. In addition, prices are volatile, ranging from \$320 and \$750 a ton in the past decade.

That makes domestic sales an attractive option for growers, Cloin said.

Fuel for the Samoa trial, supplied by the barrel, is about 15 percent cheaper than imported diesel, said Salevao at Electric Power. Importing large quantities from the main island of Upolo would almost double the cost after allowing for the booking of tankers, trucks and ferries, he said.

The power company is now considering building its own coconut oil mills on Savaii to eliminate that transport cost and give itself a hedge against movements in world oil prices.

"The government is pretty committed to having this happen," he said. "We never know whether the oil price is going down and is going to stay down or whether it's going to go up and stay up."