



Currents



Newsletter of the Virgin Islands Energy Office

May, 2006



Photo by Don Buchanan

On your mark, get set, learn

Fifty-two students from eighteen junior high schools participated in the 11th Annual Junior Solar Sprint Competition at Sunny Isles on St. Croix. Students from all three islands had fun as they raced their solar powered cars on March 30. For photos and more, see Page 4.

Director tours V.I. solar sites

Bevan Smith Jr., Director of the V.I. Energy Office and other VIEO staff members, toured in February three residential photovoltaic power systems sites which will soon have the capacity to sell back power to the Water and Power Authority.

The systems were funded to a large extent by the VIEO's Innovative Renewable Grant Program. Ten sites in the Virgin Islands have received \$20,000 grants.

The program, which began in 1999, should reach fruition this year. Participants in the grant program began by attending workshops conducted by the Florida Solar Energy Center in March 1999. At the workshops, which were three full days long, participants learned about photovoltaic systems' design and installation.

The V.I. Energy Office awarded grants to those qualified with the

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Residents can benefit from tax breaks

President George W. Bush made developing energy efficiency technology a major goal in his State of the Union speech.

He highlighted items in the 1,724-page Energy Act of 2005.

Many of those items have the potential to affect Virgin Islanders.

The tax credits made allowable this year under the Act could be very beneficial for residents. The V.I. Energy Office started an advertising

campaign in March to make community members aware of them.

The U.S. Internal Revenue Service issued guidance in March on the credits for new energy efficient homes and for energy efficiency improvements to existing homes. A credit of up to \$2,000 is available for eligible contractors who build a qualified new energy efficient home and sell it either this year or next. The credit is available for all new homes, including manufac-

tured homes.

For existing homes, the law provides a 10 percent credit for buying qualified energy efficiency improvements, including insulation, reflective metal roofs, insulated exterior doors, and, most important to Virgin Islanders, energy efficient exterior windows and skylights. The law also provides residential tax credits of \$50 for each advanced main air

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Tour Continued From Page 1

stipulation that the participants agree to provide information on system performance to the VIEO and offer public awareness opportunities for residents.

The sites visited last quarter on St. Thomas were the residences of Edwin Hatchette, Estate Pearl; Lloyd Williams, Raphune Hill, and Werner Wernicke, Estate Fortuna.

Ira Francis, of NR Electric on St. Croix, is in charge of installation at the three sites and was also on the tour.

At that time he reported that Lloyd Williams' project was about 95 percent complete. He added that the other two projects were also coming along right behind Williams.

Technology has been improving even during the process of the project making solar power more competitive with fossil fuel.

Joseph Daniel, of the VIEO's St. Thomas office, also participated in the tour. He said he was surprised to learn how the life of the batteries has lengthened. These three grant recipients partnered and ordered their batteries as a group. The four-volt batteries have a 15 year warranty could last 20 years.

Seven projects in the program are scheduled to be inspected the last week of May. Three systems are on St. Croix and four on St. Thomas.

After the projects are inspected and cleared for grid connection, Smith will detail the benefits of that connection before a meeting of the Public Service Commission.

Tax credits

circulation fan and \$150 for qualified water heaters fueled with natural gas, propane, or oil. That credit increases to \$300 for qualified heat pump water heaters; high-efficiency water heaters, boilers, and central air conditioners; and geothermal heat pumps. To earn the credit, the improvements must be made this



Bevan Smith Jr., director of the Energy Office, checks solar panels.

Four energy grants awarded

The Energy Office awarded more than \$80,000 in discretionary grants for energy efficiency projects in March.

Receiving major grants in the amount of \$20,000 were the Government Employees Retirement System, St. Croix Central High School, St. Croix Country Day School, and St. Croix Foundation for Community Development.

The GERS and St. Croix Foundation grants are for building retrofits. Central High will use its grant for energy education and research. St. Croix Country Day is going to install solar outdoor lighting.

Potential measures eligible for grants under the energy efficient building retrofit include changing windows, changing magnetic ballast lamps to electronic ballast and energy efficient fluorescent lamps, changing air-conditioners to Energy Star energy efficient ones and outdoor lighting. The grants are awarded to nonprofits, government institutions, and schools.

The Kingshill School was awarded a mini grant of \$1,500 for a solar powered battery charger.

The deadline for submission for the next cycle of discretionary grants is May 1.

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year or next year. The maximum credit for both years is \$500, of which expenses for windows can provide no more than \$200. Manufacturers must certify products as eligible for the tax credits.

Residents can earn more than \$3,000 in tax credits if they buy a

hybrid vehicle this year.

Bush wrote in February as he touted his **Advanced Energy Initiative**, "America's energy challenges require continued action. For the sake of our economic and national security, we must reduce our dependence on foreign sources of energy."

UVI continues its energy efficient ways

New windows will save electricity and money

The University of the Virgin Islands is continuing its progressive policy of energy efficiency and using sustainable energy technology when available.

In mid March the university announced the completion of its project giving energy-efficient treatment to 14 windows in the library and administrative offices in the Melvin H. Evans Center for Learning on the St. Croix campus. The treatment with “Veralux 2000R,” a double glazed, insulated and reflexive glass, allows the light in, but cuts down on the heat.

Arthur Joseph, supervisor of maintenance at UVI, said, “This is a very good investment.” The windows, look like mirrors from the outside. The windows treated were ones exposed to direct sunlight for much of the day. Joseph said the areas where the windows are, used to heat up during the day, but now, “They stay nice and cool.”

The university expects energy savings in the first year to cover all the costs of the project

The project was possible because of a \$20,000 grant from the V.I. Energy Office’s Discretionary Grant Program. The grants are awarded for energy research and education, energy efficient/solar outdoor lighting and building retrofit projects. A grant recipient must pay at least 20 percent of a project.

This grant was awarded to the UVI in June 2004. The grant included funds also for installing sensors in bathrooms and classrooms at the center so lights in use the rooms would be reduced. The university cal-



Arthur Joseph, supervisor of maintenance at UVI, is reflected in the new windows.

culated that the energy savings within a year would amount to the total cost of the project of \$24,000.

However, the payback period might be sooner than that. When the UVI made its calculations electricity cost 17 cents per kilowatt. It now cost about a quarter a kilowatt.

In 2003 the university completed its solar-powered outdoor lighting system which was also made available by a grant through the V.I. Energy Office. Joseph said, “We really appreciate what the Energy Office does.”

The 72 self-sustaining outdoor lights require no outside wiring or energy source other than the sun — and is saving UVI thousands of dollars in electricity costs.

Spice Up Your E-mail Up With Animation

Want to juice up your e-mails and also send a message about energy savings? Just go to the Department of Energy Web site

http://www.eere.energy.gov/femp/services/yhttp/campaign_materials.cfm

Scroll down to the Animated Energy Awareness Reminders and pick one out. There are 12 different ones and each has a special meaning for those concerned about the future of our earth.

Right click on the Energy Awareness Reminder you want.

Go to Save Target as...and click again.

You will then have the option to save it to whatever file folder you want to save it to.

Then whenever you are sending an e-mail you

can click insert and picture and go to that file and click on it.

Don't worry if on the send screen it does not look like all the graphic is there. Once some one receives it, the graphic gets animated and good things begin to happen.

If you want to check the action check the e-mail in your sent folder.





Ezra Boyce and Ernel Edmond of John H. Woodson Jr. High School

Sts. Peter and Paul, Woodson Shine at V.I. Solar Sprint

Students from 18 junior high schools participated in the 11th annual Junior Solar Sprint at Sunny Isle on St. Croix.

Winners were picked in two categories.

The winners in Best Design were:

First Place — Sts. Peter and Paul School,

Arsenio Watlington and Jake Heileman mentored by Philip Nelthropp

Second Place — Sts. Peter and Paul School, Makia Demming and Rick Carter mentored by Philip Nelthropp

Third Place — Sts. Peter and Paul School Lisa Smith and Jordan Forney mentored by Philip Nelthropp

Fourth Place — John H. Woodson Jr. High School, Ernel Edmond and Ezra Boyce mentored by Akkido Lindquist

Fifth Place — Bertha C. Boschulte, Clifton Corum mentored by Eduardo Corneiro

Winners in the fastest car competition were:

First Place — John H. Woodson Jr. High School, Ezra Boyce and Ernel Edmond mentored by Akkido Lindquist



From left are winners from Moravian School, Shantel Webster and Justin Smith and from Sts. Peter and Paul School, Jordan Forney and Lisa Smith

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The event attracted community attention. Front page photographs featured it in both V.I. daily newspapers.

Net Metering on the Horizon in the VI

Net metering is all about helping the environment, the Water and Power Authority, and the rate payer at the same time.

A lot has been said about allowing small residential power producers, with their windmills and their solar panels, to essentially bank their excess power with WAPA.

One thing is certain these small power generators are not going to put WAPA out of business. This year, if the Virgin Islands is lucky, maybe a dozen residents will have systems capable of banking power they produce and don't use.

Also certain is that net metering will make it more attractive for enterprising residents to take responsibility for producing part of the power they consume.

What net metering means in a general sense is that when a residents system is generating more power, than the family is using, as when they are at work and school, the power goes back to the grid. It is deducted from the power that the customer consumes later that night when the computer, TV and air conditioner are

Solar Sprint

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Second Place — Sts. Peter and Paul School, Lisa Smith and Jordan Forney mentored by Philip Nelthropp

Third Place — Moravian School, Shantel Webster and Justin Smith mentored by Joleen Hendricks

Fourth Place — Sts. Peter and Paul School, Makida Demming and Rick Carter mentored by Philip Nelthropp

Fifth Place — The Good Shepherd School, Juanita Almesstica and Myra Applequist mentored by Ms. Henry and Ms. Eugene.

Winners received trophies, plaques, medals and \$25 to \$50 checks to the top five winners in both categories from Sen. Louis Hill's office.

Bevan R. Smith, Di-

rector of the V.I. Energy Office, said, "The Solar Sprint is always an exciting event, but this year the level of intensity was even higher than usual. It is great seeing students have fun and learning about the sun as a potential source of energy at the same time."

The Energy Office provided seventh and eighth grade students with a kit that includes a motor and solar panel.

Sponsors included HOVENSA, The West Indian Company Limited, West Indies Solair, Quality Electric Supply Inc., Hendricks International, Bates Trucking & Trash Removal, Oscar Refrigeration, Wendy's, Paradise Waste Inc., Le Bleu and Sustainable Systems & Design International.



Net metering will cut down the need for batteries all on.

Even though there may never be a large number of residents doing net metering their net effect will be to lessen the amount of oil WAPA burns.

The V.I. Energy Office has been doing its best to educate residents and WAPA of the benefits of net metering. What follows comes from the Department of Energy's Web page.

"Many states have gone beyond the minimum requirements of the federal law by allowing net metering for customers with PV systems. With net metering, the customer's electric meter will run backward when the solar electric system produces more power than is needed to operate the home or business at that time. An approved, utility-grade inverter converts the DC power from the PV modules into AC power that exactly matches the voltage and frequency of the electricity flowing in the utility line; the system must also meet the utility's safety and power-quality requirements. The excess electricity is then fed into the utility grid and sold to the utility at the retail rate.

"In the event of a power outage, safety switches in the inverter automatically disconnect the PV system from the line. This safety disconnect protects utility repair personnel from being shocked by electricity flowing from the PV array into what they would expect to be a 'dead' utility line.

"At the end of the month, if the customer has generated more electricity than that used, the utility credits the net kilowatt-hours produced at the wholesale power rate. But if the customer uses more electricity than the PV system generates, the customer pays the difference.

"Net metering allows homeowners who are not

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Net metering

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home when their systems are producing electricity to still receive the full value of that electricity without having to install a battery storage system. Essentially, the power grid acts as the customer's battery backup, which saves the customer the added expense of purchasing and maintaining a battery system.

"Generally, the preferred method of accounting for the electricity under net metering is with a single, reversible meter. An alternative is dual metering, in which customers or their utility purchase and install two non-reversing meters that measure electrical flow in each direction. This adds significant expense to a PV system, however. The current trend around the country is toward a single, reversible meter.

"Some utilities are opposed to net metering because they believe it may have a negative financial im-

pact on them. However, a number of studies have shown that net metering can benefit utilities. These benefits include reductions in meter hardware and interconnection costs, as well as in meter reading and billing costs. Grid-connected PV systems can also help utilities avoid the cost of additional power generation, increase the reliability and quality of electricity in the grid, and produce power at times of peak usage, when utility generation costs are higher and they often need the extra power

In the third fiscal quarter, the Energy Office will be meeting with officials from the Public Services Commission, WAPA, and other government officials to produce legislation that will give guides for metering in the Virgin Islands.

Rebates help thousands of Virgin Islanders

The V.I. Energy Office, in a program unique to the Virgin Islands, has given more than a half million dollars to residents since 2001. In the most recent cycle that ended in July of last year, the office gave rebates for renewable energy systems and energy-efficient appliances in the amount of \$289,354.20. In fiscal year 2001-2002 the office gave out \$231,723.45 in rebates.

According to Bevan R. Smith Jr., director of the V.I. Energy Office, the office paid \$35,814 in rebates from April 18 through July 31 to 127 people who bought 134 Energy Star appliances. Refrigerators led the way, with residents buying 86 of them. They bought 32 clothes washers, 14 air conditioners and two ceiling fans.

More than 70 people participated in the rebate program for renewable energy systems. They purchased 391 photovoltaic

panels. A total of 52 residents bought solar water heaters in the same time period. Smith said, "Purchasing a solar water heater is a no-brainer. Yes, you have to make an investment upfront, but from then on, through the long life of the heater, you receive substantial savings on your monthly WAPA bill."

The V.I. Energy Office advertised for new vendors last October. There are now five certified vendors on St. Thomas and five on St. Croix. Another cycle of rebates began in January. The office has given out \$22,000 thus far this year.

The rebate program was initiated in 1990 to offset initial costs of energy efficient and renewable energy technology products. The office estimates it has given millions of dollars in rebates to more than 10,000 Virgin Islanders during the course of the program.

In February, the U.S.

Department of Energy set a schedule for new appliance efficiency standards. The five-year plan will comply with requirements established in the Energy Policy Act of 2005. "Improved efficiency saves Americans money and energy," said Acting Assistant Secretary for Energy Efficiency and Renewable Energy, Douglas L. Faulkner.

According to a press release from the DOE, standards already in place for residential products are expected to save consumers nearly \$93 billion, by 2020; and enough energy to operate all U.S. homes for approximately two years.

The V.I. rebate program has not operated every year. The most recent year it was shutdown was fiscal year 2003-2004. Staff in the Energy Office that year noticed trends in the market and saw a need to restructure the project offerings. It was restructured and be-

gan operating again in fiscal year 2004-2005. This is the year when rebates for Energy Star appliances really started to kick in. In previous years some rebates were offered, but few residents took advantage of them.

The present cycle of rebates is expected to last to May 31.

Leila Muller, who monitors the program, says that when she talks to stateside energy offices, they always questioned her how the Virgin Islands manages to do it.

The rebate program will pay \$3.50 per watt on photovoltaic panels up to one kilowatt or ten 100-watt panels per residence. Solar water heaters holding from 81 to 120 gallons generate a rebate of \$1,000. Those holding from 40 to 80 gallons get a \$700 rebate, and those 39 gallons or less have a rebate of \$500. Wind turbine generators have a rebate of 20 percent off retail cost.

New VIEO employees

The V.I. Energy Office has hired three employees in recent months.

Joseph E. Daniel was hired in December as the new Energy Operations Coordinator at the St. Thomas office.

He received his bachelor of science degree from the University of the West Indies in 1976. He majored in physics and mathematics.

In 1981 he studied in Italy. Besides attending the International Centre for Advanced Technical and Vocational Training, he made a name for himself as a ping-pong player.

Before devoting his career to energy management, he was a teacher for 10 years and school principal for three.

His experience in the field of energy is extensive. He ran an energy awareness publicity campaign on his home island of Montserrat. He has also designed an advanced charcoal cook stove and charcoal minikiln with the highest known conversion efficiency. He initiated the Monserrat Wind Energy Program.

Don Buchanan, former editor of the St. Croix Source, an internet newspaper, joined the Energy Office in February as the media information specialist.

Buchanan owned a newspaper with his wife in Ohio for 10 years before moving to St. Croix early in 2004. Besides many years of writing experience with various magazines and newspapers, he also worked as a public relations specialist in Eugene, Oregon.

Buchanan said he sought the job at the VIEO because he believes passionately that the United States has to cure its addiction to oil. He said he believed if the oil addiction is not cured generations of children will suffer from pollution, more severe storms from global warming and economic compromise as people will no longer be able to afford electric power.

He added that he is pleased to be part of the effort to conserve energy and move to alternative energy sources on the Virgin Islands.

He will be responsible for internal publications such as *Currents*. He will also work to inform the public through all media -- Internet, radio, TV, newspapers, brochures -- about programs at the Energy Office.

Kinesha Sylvester was hired as the Administrative Aid on St. Croix in June.

A native of St. Croix, she graduated from Manor School in 1999. She is the mother of two children -- Ava and Alonzo.

Her duties include financial and travel documents. She provides clerical support to the staff and also maintains the office supply inventory.

St. Croix Environmental Association Recycling Directory

ALUMINUM CANS

EZ Recycling LLC
Gallows Bay Frame Shop
Gallows Bay Hardwar

BATTERIES

HH Tire & Battery

BLANKETS, TOWELS, SHEETS

Animal Shelter
Duke Deller, Vet
Island Animal Clinic
Progressive Veterinary
Progressive Veterinary

BOOKS

Animal Shelter Flea Market
Bethlehem Homeless Shelter
Project Help
Sunny Isle

BUILDING MATERIALS

Project Help
Trading Post

CARDBOARD

G&T Trucking

CARTRIDGES

printer/copier

Ink Drop

Police Stations

CHILDREN'S BOOKS

Animal Shelter Flea Market
Boys & Girls Club
Public Library
Women's Coalition

CLOTHING

Animal Shelter Flea Market
Bethlehem Homeless Shelter
Boys & Girls Club
Grigg Home for the Aged
Project Help
Salvation Army
Women's Coalition

HOUSEHOLD ITEMS

working appliances, pots, furniture, etc.

Animal Shelter Flea Market
Bethlehem Homeless Shelter
Consignment Shop
Grigg Home for the Aged
Project Help
Salvation Army
Trading Post

Uniquities

Women's Coalition

MAGAZINES

Bamboula Haven
Grigg Home for the Aged

MOTOR OIL

V.I. Waste Management
Authority

NEWSPAPERS

Animal Shelter
Country Day School
Duke Deller, Vet
G&T Trucking
Island Animal Clinic
Progressive Veterinary
Progressive Veterinary

OFFICE PAPER,

CATALOGUES

Art teachers
Bamboula Haven
PACKING MATERIALS
bubble wrap, peanuts,
popcorn
Jan Mitchell
Mail Boxes Etc.

PLANT POTS

- Botanical Garden
- Cruzan Gardens
- Gallows Bay Garden Center
- Garden Spot
- CRAP METAL**
- EZ Recycling LLC
- G&T Trucking
- Trading Post

TOYS

Animal Shelter Flea Market
Salvation Army
Women's Coalition
WIRE COAT HANGERS
O'Henry's Dry Cleaners
Sion Farm Cleaners
Tropical Cleaners

Compiled by Catherine Childs for the St. Croix Environmental Association. Please call Sue @ SEA 340-773-1989 with changes, additions or corrections.

Melting Ice Sheets Could Spur Oceans' Rise

[*Environmental News Network web site, March 24*] Washington, D.C. - **Miami would be a memory, Bangkok a soggy shadow of its former self and the Maldiv Islands would vanish if melting polar ice keeps fueling a faster-than-expected rise in sea levels, scientists reported [on March 23].** In an issue of the journal *Science* focusing on global warming, climate scientist Jonathan Overpeck of the University of Arizona reported that if global trends continue, Earth could ultimately see sea levels 20 feet higher than they are now. By the end of this century, earth would be at

least four degrees F warmer than now, or about as hot as it was nearly 130,000 years ago.

Back then, significant portions of the Greenland and Antarctic ice sheets melted, pushing the global sea levels to about 20 feet higher than current levels. A similarly dramatic, and in some cases catastrophic, rise in ocean levels could happen by the year 2500, Overpeck said in a telephone interview, but he noted it could come sooner.

"We know when the sea level was that high in the past, and we know how much warming is necessary to get that amount of sea level rise from both Greenland and Antarctica," Overpeck said. T

he Earth will get that hot sometime early in the second half of this century, he said, and once it does, the big ice sheets will start melting "in a more dramatic manner" than they currently are.

A conservative estimate would call for sea level rises of three feet per century, he said. He cautioned, however, that this estimate assumes the Earth will get only as hot as it did 130,000 years ago when the ice sheets melted. "If we decide to keep on the track we're on now and just keep on warming, because of greenhouse gas pollution, then we could easily cook those ice sheets more rapidly," Overpeck said.

The earlier ice melt was concentrated in the Northern Hemisphere in the summer months, and was due largely to changes in Earth's orbit, he said. "The climate warming we're in now is global and it's year-round and it's due to human influences on the climate system," he said. "That will be more damaging to the ice sheets than the warming we had 130,000 years ago."

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