



**Hawai'i Green Business
Sixth Annual Recognition Program
April 19, 2010**

Hawai'i Volcanoes National Park



Policies

- HVNP has an admirable “green government” effort that has resulted in significant drops in electricity and water use, the development of a committed team of staff members, and plans for additional projects.
- Volcanoes is participating in the federal “Climate Friendly Parks” program, one of 12 in the National Park Service; it’s an effort to reduce their CO₂ footprint.
- The Volcanoes staff make an effort to print on both sides of paper. The staff also shreds office paper and encourages HVNP personnel to take the shredded paper home for mulch.
- Volcanoes National Park tries to donate old computers to schools, participates in the UH Hilo free recycling days, or pays \$0.65 per pound at the county’s authorized electronics recycling partners.
- Volcanoes National Park’s policy is to turn lights, heaters, computers and other equipment off when not in use.
- Staff is directed to shut off their vehicles’ engines if idling for more than three minutes. Tour bus operators are also encouraged to do this and most are cooperating. It is estimated that the generation of 3,000 pounds of CO₂ per year could be avoided by this action, which is part of their Climate Friendly Parks plan.
- Telecommuting is common during high SO₂ episodes. The park also has a “maxi-flex” policy for work hours.
- The Environmental Management System guides many of the conservation and efficiency efforts. This is a policy and management effort that involves periodic reviews of achievements and reprioritization of goals. The document records a number of the activities that relate to the Green Government program. There are 21 activities and impacts that are assessed, reviewed and re-ranked by Volcanoes’ Green Team and managers.

Energy Savings

- A 7.4 kW PV system was installed on a fence near the water catchment reservoir in 2008. It is metered for Net Energy Metering, but the agreement has not yet been finalized. They expect to save \$7-\$8,000 annually.
- They hope to have a second PV system installed by summer 2010 on the Visitor Center consisting of 136 modules which should offset 80% of the electric load of the Visitor Center and park headquarters, saving about \$40,000/yr.

Solar Power

- There will be PV on the new “visitor contact station,” which began construction in January 2010. This building, which is aiming for at least LEED Silver rating, will be the emergency operations center handling ranger dispatch, fire protection, and emergency operations.
- Volcanoes has also purchased solar parking lot lights. These LED lamps are to be installed mid-2010.
- Solar water heaters are being installed on housing, and there are at least two systems on park headquarters—one for the public restrooms and one for the staff kitchen.
- There will also be photovoltaic panels on two FROG (Flexible Response to Ongoing Growth) buildings. These will be “completely sustainable” and moveable buildings, 1,300 sq. ft. each. Excess electricity will be utilized for interpretation activities.

Water Conservation

- HVNP harvests rainwater for essentially 100% of its water needs. Only rarely do they need to purchase water. The extensive rooftops of two “rain sheds,” which double as garage and maintenance areas, collect rainwater that is stored in large holding tanks as well as in two lined, open-air reservoirs.
- Water consumption has dropped 13% since 2007, a reduction of a million gallons over the two years. HVNP is installing low-flow toilets, checking for leaks, and has either sensor-activated or spring-activated faucets in most restrooms. Fixtures are replaced when they break, or when a facility is renovated, or when money becomes available for the work. All the toilets in the park’s 30 housing units have been replaced, as well as all the toilets used by visitors. They are researching the use of waterless urinals.

Environmentally Preferable Purchasing and Resource Use

- HVNP maintains that all paper purchases are at least 30% post-consumer recycled, per federal guidelines.
- Other paper products, such as toilet paper and paper towels, are of recycled content.
- A locally-purchased, multipurpose cleaning product is labeled as a “green” product.
- All HVNP staff with purchasing authority take an online course in green purchasing.
- Equipment purchases are supposed to be all Energy Star or Green Star.
- Computer monitors were recently reconfigured to enter sleep mode more quickly when unused.
- Although each section of HVNP operations orders its own materials, they attempt to combine purchasing orders to reduce packaging.
- CFLs have replaced most lamps in housing, and T8 fluorescents are used in staff areas.

Recycling

- Paper for recycling is placed in bins at desks, the copier room, and other locations throughout the park. Glass, aluminum, plastic and cardboard are also recycled.
- HVNP recycles much of its material at Atlas Recycling in Hilo.
- Designated special recycling receptacles are placed around the park next to trash bins. They are clearly labeled and a different color (green) than the (brown) trash cans.
- Metal, such as road signs, is also palletized and recycled. Money received from recycling is invested in the purchase of new recycling bins and other materials.
- Electronics are recycled when possible. HVNP tries to donate old computers to schools, participates in the UH Hilo free recycling days, or pays \$0.65 per pound at the county’s authorized electronics recycling partners.
- Printer ink cartridges are recycled; there’s a special bin for the cartridges in the recycling center behind the headquarters.

Transportation

- HVNP has three hybrid Ford Escape vehicles, and are buying hybrids when new vehicles are purchased. They have reduced the size of their fleet by getting rid of old, inefficient vehicles.
- Carpooling is encouraged, including combining staff errands.
- A vanpool operates from Pahoa through Keaau to HVNP. The van was obtained through Vanpool Hawaii. There is a second vanpool at HVNP, and one also at one of the National Parks on the Kona side.
- HVNP hopes to have two hydrogen shuttle buses in operation by 2011; hydrogen will be used as a range extender for electric motors. These buses will transport visitors from site to site within the park, relieving crowded parking spots at various attractions.

Emissions Reduction

- The entire facility has saved 115,828 kWh since 2007, their baseline year. This represents a 7% annual drop.

Hawaii Volcanoes National Park Environment Statement

Our goal is to set high standards for conservation in demonstrating leadership in environmentally sustainable practices aimed at reducing the park's carbon footprint.

Therefore, Hawaii Volcanoes National Park commits that it will.

- Comply with all applicable Federal, State and local environmental laws, regulations, and Executive Orders.
- Integrate and implement environmentally sensitive Best Management Practices including pollution prevention into all of our operations.
- Consider the environmental impacts in planning, purchasing and operating decisions.
- Provide environmental training and educate our staff on how to comply with environmental laws and be environmentally responsible on and off the job.
- Assign clear responsibility to our staff for environmental activities and hold them accountable for their performance.
- Seek opportunities to promote environmental compliance and stewardship to the visitors and neighboring communities we serve.
- Monitor our environmental compliance performance regularly and seek and implement opportunities for environmental improvement in how we do business.

Actions & Accomplishments

As a participant in the Climate Friendly Parks program, Hawaii Volcanoes National Park, is putting climate friendly behavior and environmental leadership at the forefront of sustainability in the national parks. Since our last greenhouse assessment in 2007, we have reduced electricity by 17%, water 13%, and propane by 15%. These savings along with our recycling and solid waste programs have reduced our carbon footprint by approximately 107 metric tons of carbon dioxide.

Recycling and Energy Conservation Activities:

- Initiated a "**Three Minute Rule is Cool**" campaign, to get our commercial bus tour operators to shut down their idling engines after three minutes.
- Put stickers on our vehicles that say, "**No Idling Save Our Air**".
- Introducing an experimental hydrogen shuttle bus in 2010-11.
- Providing a commuter van through VanPool Hawaii.
- Use service providers that promote waste reductions and green business practices.
- Created a green newsletter, Ke Kupukupu, that goes to all employees once a month.
- HAVO Green team meets monthly to review, revise, reinvent operations to be climate friendly.
- Our new Visitor Emergency Operations Center will be Leed certified. In conjunction with the Office of Naval Research we will be installing a Smart Building at our end of Chain of Craters Road. This Smart building will be built out of

recycled and local materials, capable of being energy neutral and even net producing (50%-75% less energy consumption than a standard building, and leed certified

- Creating a water filling station that discourages the buying and use of plastic bottles. (See Attached)
- Recycle bins in every office
- Repeated use of previously used paper
- Eliminate fax cover sheets
- Recycle old computers and other electronics
- Recycle landscape waste
- Reuse shipping packaging
- Donate unwanted furniture
- Recycle wood pallets, aluminum, glass, plastic, scrap metal, paper, oil, tires, toner cartridges and batteries
- Continued use and new installation of solar hot water and photovoltaic systems
- Instituted a policy to monitor facility energy use and procurement policy for equipment with energy saving features
- Instituted a policy to turn off equipment and lights when not in use
- Installed low flow faucets and toilets
- Check for water leaks and maintain log on repairs
- Use low VOC paint only
- Use unbleached or chlorine free paper products with 30% post consumer content
- Print promotional material with soy or low VOC inks
- Replace all lighting to compact fluorescent lighting and recycle all used bulbs
- Purchase of hybrid vehicles
- Programmed all computers to sleep and then hibernate when not in use
- Employees bicycle and walk in the park short distances instead of driving
- Environmental preferred purchasing

Visitor Education on Global Climate Change

- Created an interpretive exhibit for the Kilauea Visitor Center that visitors use to calculate their personal household greenhouse gas emissions