

## European Solar and Energy Storage Solutions

# U S Virgin Islands isentropic energy storage



## Overview

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What is the Virgin Islands Energy Office?

The Virgin Islands Energy Office (VIEO) is focused on promoting sustainable energy policies in the Virgin Islands through clean energy production and distribution, energy efficiency, transportation, and energy consumption. It achieves this through outreach, financial incentives, training, and technical assistance.

Why should the US Virgin Islands own solar assets?

The US Virgin Islands should invest in solar assets for enhanced portfolio diversification and risk mitigation. WAPA ownership guarantees coverage by WAPA and FEMA during natural disasters, eliminating uncertainties (1. Enhanced Portfolio Diversity: WAPA diversifies its energy portfolio, ensuring a more resilient and sustainable future).

How does oil affect the cost of electricity in the USVI?

The USVI, like many island nations, is heavily reliant on fossil fuels for electricity generation. This reliance leaves the USVI vulnerable to global oil price fluctuations, which directly impact the cost of electricity. Assumes an average electricity price of \$0.50/kWh and consumption of 767.4 gigawatt-hours (GWh).

Do St Thomas and St Croix have electricity?

As of late 2014, both St. Thomas and St. John were served by one electrical grid run by the Virgin Island Water and Power Authority (WAPA). St. Croix, however, has a separate electrical grid in the WAPA service area. More than 1,000 distributed renewable energy systems were connected to the WAPA grid.

How much energy can St Croix generate from biomass?

St. Croix has a moderate potential to generate 3 MW to 5 MW of energy from

biomass due to the majority of the island being covered with forest. Landfill gas also has an expected capacity of about the same.

What is the cost of electricity in the USVI?

The electricity rates in the USVI are \$0.47 per kilowatt-hour (kWh). This is higher than the Caribbean regional average of \$0.33/kWh.

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### **Honeywell to Help Decarbonization of U.S. Virgin Islands ...**

HOUSTON, Dec. 5, 2023 /PRNewswire/ -- Honeywell today announced it will provide VIElectron, a CB Loranger Company, its first installment of battery energy storage solutions (BESS) to six solar parks strategically positioned across the U.S. Virgin Islands. When completed, the solar array and BESS will boost the islands' decarbonization efforts by fulfilling 30% of its energy ...

### **U.S. Virgin Islands cover 30% of electricity needs with six solar ...**

The solar-plus-storage system is expected to fulfill 30% of the islands' energy consumption needs. According to the Department of Energy (DOE), the U.S. Virgin Islands have heavily relied on fossil fuels to generate electricity in the past. This means residents accrued expensive electricity costs that fluctuated with global oil prices.



### **US Virgin Islands Embarks on a Resilient and Sustainable Energy**

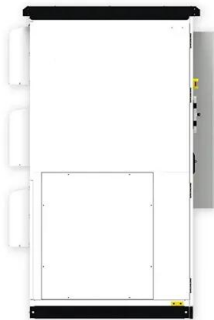
U.S. VIRGIN ISLANDS -- Governor Albert Bryan Jr. is leading the charge towards a greener and more resilient future with an unprecedented collaboration between global technology leader Honeywell and VIElectron, a CB Loranger



Company. This visionary partnership is set to transform the energy landscape of the US Virgin Islands through the deployment of cutting-edge Battery ...

## Isentropic

There are two primary storage problems. One is long term or seasonal storage. Perhaps storing energy during the summer when it's plentiful for use in the winter. The other one is the short term load levelling as you've just described for the local peaks and troughs in demand. Chris - So tell us about Isentropic's solution then.



## Honeywell to Help Decarbonization of U.S. Virgin Islands ...

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## US Virgin Islands Territory Energy Profile

The U.S. Virgin Islands (USVI), part of the Leeward Islands of the Lesser Antilles, became a U.S. territory in 1917 and is located in the Caribbean Sea, about 1,100 miles southeast of Miami, Florida. 1,2 The USVI has no fossil energy reserves, but does have some renewable resources, particularly solar energy. 3,4,5 The USVI imports petroleum products to ...

## U.S. Virgin Islands cover 30% of electricity needs with ...

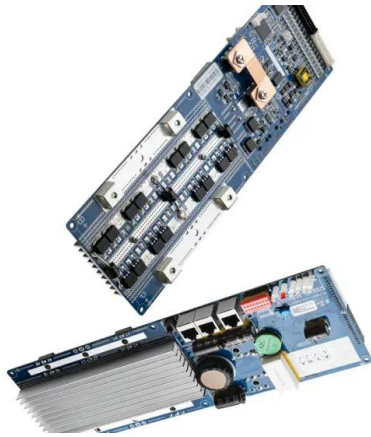
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## Virgin Islands Add Battery Storage

The installment of battery energy storage solutions (BESS) in six solar parks across the U.S. Virgin Islands has begun. The solar array and BESS will boost the islands' decarbonization efforts by fulfilling 30% of its energy

consumption through renewable sources.



## US Virgin Islands Embarks on a Resilient and Sustainable Energy

This visionary partnership is set to transform the energy landscape of the US Virgin Islands through the deployment of cutting-edge Battery Energy Storage Solutions (BESS) across six strategically positioned solar parks. The implications are monumental, with massive cost savings and a resounding commitment to decarbonization.



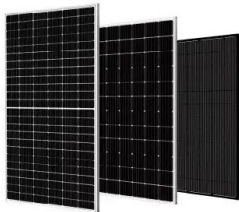
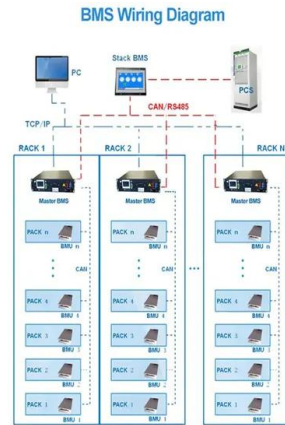
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## Honeywell to Help Decarbonization of the USVI ...

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## US Virgin Islands, St Kitts & Nevis get to 30%

"It propels us closer to our goal of achieving 30% renewable energy consumption in the US Virgin Islands, fostering a cleaner and greener energy ecosystem," US Virgin Islands Governor Albert Bryan Jr said. According to the EIA, about 80% of the solar that is installed on the islands is distributed rooftop PV, and only 20% utility-scale.

## U.S. Virgin Islands

The U.S. Virgin Islands (USVI) Energy Office is the managing agency for USVI's Weatherization Assistance Program spite geographic isolation, high retail electricity rates, and vulnerability to natural disasters that wreak havoc in island communities, USVI was able to weatherize 444 homes between 2010 and 2021 with annual formula funds from WAP.



## U.S. Virgin Islands

This document was developed by the National Renewable Energy Laboratory with support provided by the Caribbean Center for Renewable Energy and Energy Efficiency. The information included in this document is for general information purposes only.



## **Wärtsilä to deliver hybrid LPG/LFO fuelled power plant and energy**

Wärtsilä to deliver hybrid LPG/LFO fuelled power plant and energy storage system to US Virgin Islands. Wärtsilä Corporation, Press release 21 July 2020 at 15:00 UTC+2. The technology group Wärtsilä has been awarded a contract to deliver a state-of-the-art power plant and energy storage system to the US Virgin Islands Water and Power



## **US Virgin Islands Embarks on a Resilient and ...**

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## **Virgin Island Dual Fuel Power Plant**

The Virgin Island Dual Fuel Power Plant - Battery Energy Storage System is a 9,000kW energy storage project located in U.S. Virgin Islands. Free Report Battery energy storage will be the

key to energy transition - find out how



## Energy Snapshot U.S. Virgin Islands

This profile provides a snapshot of the energy landscape of the U.S. Virgin Islands (USVI) - St. Thomas, St. John, and St. Croix. The Virgin Islands archipelago makes up the northern portion of the Lesser Antilles and the western island group of the Lee ward Islands, forming the border between the Atlantic Ocean and the Caribbean Sea.

## US Virgin Islands battery-gas hybrid project nears ...

The US Virgin Islands Water and Power Authority (WAPA), the territory's public-power utility, said yesterday that the project it awarded to technology group Wärtsilä as an engineering, procurement and construction ...



## VI Electron and Honeywell Forge New Path in Energy Storage for ...

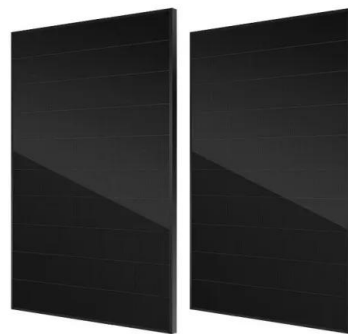
In a significant step forward for renewable energy in the U.S. Virgin Islands, Honeywell announced its collaboration with VI Electron on Tuesday. This partnership marks the beginning

of an ambitious plan to implement the first of several advanced battery energy storage solutions (BESS) in up to six strategically placed solar parks across the



## Governor Bryan Begins Solar+ Financing Program To Help ...

V.I. Energy Office taking applications this week for low-interest loans so homeowners can install solar power and battery storage systems. U.S. VIRGIN ISLANDS -- As part of his commitment to transitioning the U.S. Virgin Islands to renewable energy sources, Governor Albert Bryan Jr. and the Virgin Islands Energy Office (VIEO) will begin taking applications Wednesday, September ...



## Virgin Islands Energy Office

The Virgin Islands Energy Office (VIEO) develops and delivers policies and programs designed to support the growth and sustainability of clean, resilient, reliable energy production and distribution in the Virgin Islands in order to create an affordable energy future for all residents, businesses, communities, and institutions.

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