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ENERGY BLAST

Newsletter of the Virgin Islands Energy Office

What's Inside:

Director's Note

Virgin Islands Energy Office Director Kyle Fleming has helmed the agency since 2019.

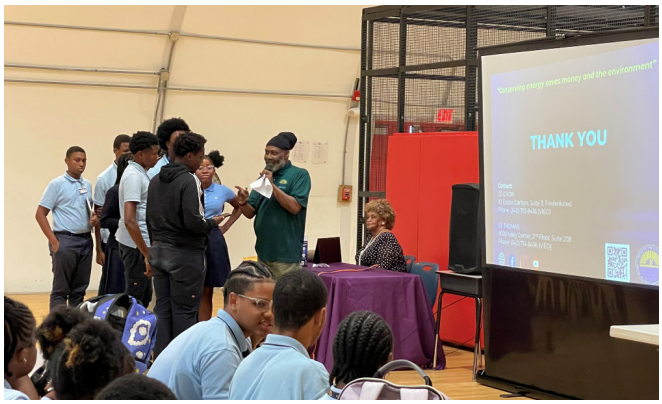
Everyone knows the tale of the Ant and the Grasshopper, that classic of classics from Aesop's Fables that teaches young and old alike the importance of laboring today to ensure a brighter tomorrow. At VIEO we have spent the last few years working like the titular Ant to lay the necessary groundwork to secure in 2024 over $136 million in federal grant obligations and formula funding[1]. And while a certain lazy Grasshopper might look at the sum VIEO has managed to amass and declare the work done, we know that our mission to usher in an age where Virgin Islanders from all walks of life will be able to benefit from clean power and technologies that reduce energy waste and lower utility bills has only just begun.

The shift from gathering the resources VIEO needs to construct programs towards creating the capacity to execute on our adopted 2024 mantra of *"Delivering Relief Now"* is well underway. This year VIEO relaunched legacy programs like the Weatherization Assistance Program (WAP) that have placed thousands of dollars' worth of energy saving appliance upgrades into the homes of needy Virgin Islanders and moved along others like the Solar Plus Financing program that is equipping folks with the cash they need to invest in money saving distributed energy generation technologies. As well as bringing online all new programs such as the Virgin Islands Battery Energy Storage (VIBES) program aimed at helping residents build resiliency into their homes, or the Equitable Electric Mobility (EEM) program which helps folks make the switch to cleaner running electric vehicles.

Sustaining our capacity growth will be a challenge, but one that VIEO stands ready to meet. This year we have augmented our staff, hiring a director to oversee the rollout of our latest distributed generation rebate, Solar For All (SFA), as well as bolstering our ranks with motivated, hardworking people who take the mission of Delivering Relief Now to heart. As VIEO looks ahead to 2025, the public can be assured that the agency's team is galvanized to capitalize on the success that we have already realized and driven to attain even greater heights of service.

1 *Formula grants are a type of federal funding that is awarded based on a set formula rather than through a competitive process. These grants are typically given out to state and local governments, and they're often used to fund things like transportation and public safety.*

Empowering Lives, One Step at a Time



Looking Ahead to 2025 with VIEO

The advent of the territory's energy sector transformation is dawning on the horizon for VIEO in 2025 as the agency strategically builds on the momentum it generated this past year. The community can look forward to major energy infrastructure projects that will transform transportation electrification, disrupt the energy efficiency landscape for residents, and bolster the deployment and utilization of distributed renewable energy systems across the territory's grid. In the 4th Quarter of 2024, VIEO worked in lockstep with our Federal Partners to ensure that critical funding resources were secured despite the change in federal administration. As a result, successful awards in federal funding from the following sources will prove to be the key drivers of the highly desired market transformation:

1. Solar For All Ah We
2. HOMES and HEAR Energy Efficiency Rebate Programs
3. Virtual Power Plant — Pilot Program

Solar For All Ah We

The Virgin Islands "Solar for All Ah We" Program will include residential rooftop and community solar projects with associated battery storage. Altogether, VIEO's "Solar for All Ah We" program has the power to transform the territory's residential energy landscape, addressing residents' high electricity costs while creating new opportunities for energy resilience and reliable, affordable, clean power for communities most in need. With Environmental Protection Agency (EPA) funding, VIEO will build upon the success of its former Solar Plus Financing Pilot, and further expand the accessibility of solar by providing another pathway — residential-serving community solar — for its most underserved residents to receive the benefits of affordable and reliable electricity.

VIEO was granted an amended award of $62.5 million under the EPA Solar for All (SFA) Grant on December 18, 2024. The EPA has made funds immediately available for expenditure to support the early administrative aspects of VIEO's One-Year Planning period. This includes hiring essential staff, such as the Solar for All Program Director, coordinating program design consulting engagements, and developing the technical designs that will leverage the program funding during the 5-year grant period of performance.

HOMES & HEAR Energy Efficiency Rebate Programs

The U.S. Department of Energy (DOE) Home Efficiency Rebates (HOMES) and Home Electrification and Appliances Rebate (HEAR) Program is a dedicated DOE incentive program to support Virgin Islands households to save money on energy bills, upgrade to clean energy equipment, improve energy efficiency and comfort, and support a stable power grid. Additionally, these rebates provide specific opportunities to increase the installation of efficient, clean energy equipment in underserved and underrepresented communities. In total, VIEO has been granted $51 million to develop and implement a broad-reaching program that will transform the residential energy efficiency and electrification landscape of the Virgin Islands. VIEO will kick off 2025 by leveraging early administrative funds to support hiring essential staff and coordinating program design and exploring consultant engagements.

The successful implementation of this HOMES & HEAR program will unlock widespread affordable access to the following eligible efficiency upgrades for the USVI:

a. Solar Thermal Water Heater plus lighting upgrades

b. Heat Pump Water Heaters plus high-efficiency appliance upgrades

c. Advanced Heat Pump for space cooling

d. Heat Pump Water Heater plus wiring upgrades by an electrician

e. ENERGY STAR®–rated appliances

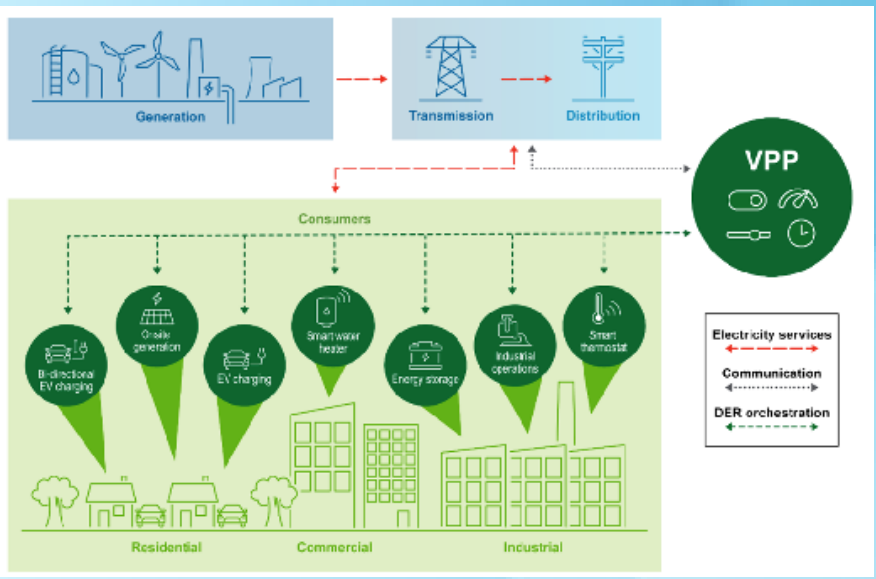
f. "Solar-Ready" Upgrades of electrical wiring and electric load center by an electrician

Virtual Power Plant Pilot Program

In December VIEO took a major step forward towards realizing one of its most ambitious goals, making a Virtual Power Plant (VPP) a reality in the territory. Through a partnership with the Department of Energy's (DOE) Grid Deployment Office and the Lawrence Berkeley National Lab, VIEO is working to develop a VPP Pilot Program that will one day revolutionize how the Water and Power Authority (WAPA) operates.

VPPs are not brick and mortar power plants of the kind that Virgin Islanders have become accustomed to. Rather, they consist of widely distributed assets like residential rooftop solar arrays and battery energy storage solutions (BESS), electric vehicle charging infrastructure, smart thermostats, and other systems that can remotely coordinate with a central command center that actively works to balance demand for energy against supply.

Because they are decentralized, VPPs are extremely flexible, enabling the electrical grid to better manage upsets like sudden spikes in demand; or instances that cause energy production to fluctuate like cloud cover dropping the production of a solar array. As well as providing vital voltage and frequency regulation for the entire electrical grid, which all together will greatly reduce the likelihood that these disruptions will lead to a power outage. But they don't only have an impact on reliability. Thanks to their ability to actively marry supply to demand, VPP's are able to greatly increase the efficiency of a traditional power plant. According to a study VIEO commissioned the Rocky Mountain Institute to undertake in September 2023, a robust territory-wide VPP could save WAPA as much as $22.5 million annually by strategically offsetting fossil fuel use.



As advances in consumer-oriented distributed generation and BESS systems have come to market, VIEO has been at the forefront of financial incentive and policy efforts to create pathways that give homeowners the financial leverage they need to adopt these technologies. Thanks in large part to these efforts, there is currently more than 30 MW of solar, and 52 MWh of BESS spread out between an estimated 2,928 distributed energy systems on St. Croix, St. Thomas, and St. John. Currently, these existing systems exclusively serve the WAPA customers' homes and businesses where they've been installed. However, as a VPP, the network of distributed solar and BESS could mimic the functionality of utility-scale assets and respond in real-time to the varying demands of the territory's electrical grids.

One essential aspect of VPPs is that they provide a financial benefit to the utility and ratepayers overall through reduced operating costs and utility bills. Additionally, VPPs provide a mechanism to compensate consumers who make their devices available for the VPP program. Homeowners enrolled in the program would be compensated for allowing WAPA to use their systems to provide power during peak demand periods, and ancillary services such as voltage and frequency regulation that would reduce stress on the grid. Since the launch of Net Energy Metering in 2009, the community has become familiar with WAPA assigning value to the random availability of excess rooftop solar production. Starting in 2025, the transition to the utility assigning value to controllable distributed energy storage assets, and compensating the community, accordingly, will become the new normal!

VIEO Leads the "Public" Charge

VIEO made history this December when it completed the installation of eight Level II electric vehicle (EV) chargers at four new charging stations on the island of St. Croix. The chargers, which are capable of rapid energy transfer, have been energized and are open to the public. The EV Charger Pilot project is just the first wave of VIEO's transformative push to make Virgin Islands roadways ideal thoroughfares for clean running EVs.

The procurement of 34 Level II Siemens VersiCharge™ EV chargers was made possible through a portion of a $1.1 million U.S. Department of the Interior Energizing Insular Communities (EIC) grant. In the coming months VIEO plans to install the remainder of the charging stations throughout St. Croix, St. Thomas, and St. John in public facing locations. VIEO expects that the next wave of installations will be completed before the close of the 3rd Quarter of 2025.

As residents and tourists alike reveled in the delights of the Crucian Festival Season this December, VIEO was hard at work augmenting the territory's critical EV infrastructure. Installing the four charging stations, located at the Christian "Shan" Hendricks Vegetable Market in Christiansted, VIEO's Estate Carlton office, adjacent to the Virgin Islands Economic Development Agency's Office in the William D. Roebuck Industrial Park, and at Ziggy's Island Market, required intensive intergovernmental cooperation as well as the coordination of multiple contractors. Lessons learned during the pilot program will translate to a smooth installation process for the remainder of the chargers.

Thanks to the EIC grant, VIEO will be able to initially offer free charging at its stations, a move that Director Fleming explained will help to promote the technology and could help further spur its wide adoption. The chargers are equipped with software that can track how much energy they dispense, and once the grant period of performance concludes, VIEO will implement a sensible rate structure.

Brian Boschen's excitement was evident on the morning of Dec. 10th, as he prepared to plug his Nissan Leaf into the Ziggy's charger and make history as the first private citizen to utilize VIEO's new infrastructure. Boschen, the senior chef at the Lighthouse Mission, had just left from finishing up preparing devilled eggs and other hearty fare for the charity's clients. An early adopter of EVs and rooftop solar, Boschen said that in all the years he's been driving electric on St. Croix, he's never worried about losing power midway through a trip. Adding that the island's small size meant that even the modest range of his aging vehicle was more than sufficient for town to town trips.

Later that morning Curtis Flemming, owner of Flemming's Tax and Bookkeeping Services, added his name to the history books when he became the first to use the Shan Market charger. Flemming was all smiles as he mounted an adapter to the Siemen's charger to make it

compatible with his Tesla vehicle. Flemming said that he was happy to see the chargers going up around the island.

The Virgin Islands Energy Office is continuing to implement the Mandates of legislative Act 7075 and guidance that was provided through the "USVI Transportation Electrification Roadmap" which the VIEO released in 2022. These critical infrastructure deployments represent a community facing milestone that effectively demonstrates the Electric Vehicle Market Transformation that is well underway in the territory.

Microgrid at WTJX

The Administration of Governor Albert Bryan Jr. has placed a keen emphasis on bolstering the resiliency and reliability of the territory's electrical grid as the islands continue their efforts to wholly recover and rebuild stronger in the aftermaths of hurricanes Irma and Maria. One way that VIEO is working to support the governor's vision is through the construction of microgrids like the one the agency unveiled at the St. Croix Educational Complex (SCEC) in April. That facility not only helps supply the energy that supports the daily education of nearly 900 students, but also stands ready to provide succor to the wider community in the event there is a need for emergency shelter. In 2025, VIEO plans to oversee the installation of a microgrid at Mountain Top on St. Thomas, home of the Virgin Islands Public Broadcast System (VIPBS) WTJX's critical television and radio transmitters.

Microgrids are small electrical grids that are tied into, but can act independently of, a larger municipal energy distribution grid. The Mountain Top microgrid, like the one at SCEC, will incorporate a solar farm as well as battery energy storage into its design. As the highest point in the Virgin Islands, Mountain Top not only offers commanding views of Magens Bay, but serves as a critically important link in the territory's emergency communication network. Radio stations serve as a vital source of emergency information in the communications void that exists during and immediately after a hurricane, connecting folks with important messages from civil leaders and first responders.

When Hurricane Irma caromed across the territory's northern district it undermined the only route into Mountain Top, hampering WTJX's ability to supply its backup generator with diesel fuel and delaying efforts to assess and eventually restore the extensive damages. It took over four months for utility power to be restored, during which time WTJX's radio broadcast was off air for nearly a month. And because of the heavy power demands of its television transmitter, the station was forced to go entirely dark during the extended service interruption.

Installing a microgrid at Mountain Top would help to mitigate many of the factors that resulted in WTJX's extended absence from the airwaves. The microgrid's planned solar array and battery energy storage solution (BESS) have been designed based on an energy profile study of Mountain Top's 24/7 operations conducted by the National Renewable Energy Laboratory (NREL) and will be sized to meet most of the facility's energy needs. These systems will allow WTJX to operate for extended periods even without any support from the municipal grid, and to maintain operations in the event the road to the site becomes impassable.

On top of the resiliency the microgrid will embed into WTJX's operations, the system is expected to save the broadcaster upwards of $7,000 in electrical bills a month, a slightly smaller sum than the $10,000 a month the SCEC microgrid is expected to generate. VIEO plans to utilize lessons learned during its first microgrid installation to create a certification workshop that will make sure that the institutional knowledge needed to set up microgrids will be transmitted to capable Virgin Islanders.

A Look Back at a Banner Year

VIEO delivered a wide range of services to Virgin Islanders in 2024, administrating tens of thousands of dollars worth of a diverse range of rebate, retrofit, and financing programs, as well as performing novel community outreach campaigns that sought to inform residents about energy best practices and emerging technologies. As you continue reading, you'll see highlights from some of VIEO's initiatives, like the servicing of the Government's fleet of electric vehicles by a certified technician and the successful completion of the St. Croix Educational Complex Microgrid. As well as testimonials demonstrating the impact the agency has had on its clients.

VIEO Closes on Solar Loans

The Energy Office passed a significant milestone in the implementation of the long-awaited Solar Plus Financing (SPF) Pilot Program this December when the agency, alongside its partner the Virgin Islands Economic Development Authority (VIEDA), conducted a closing ceremony for the first two loans offered under SPF. SPF is a Zero Money Down & 1% Interest loan program focused on providing homeowners access to affordable financing so that they can install photovoltaic (PV) and battery backup systems that once commissioned, will provide immediate utility bill savings.

SPF was launched as a pilot program aimed at providing approximately 80 homeowners with up to $30,000 in low-interest loans through a U.S. Department of Energy revolving loan fund. VIEO leveraged the pilot program to enable affordable solar solutions in the near term while seeking federal opportunities to bolster funding to expand the reach of accessible residential solar solutions across the community. In September, VIEO was awarded such an opportunity through the EPA's Solar For All (SFA)

competitive grant. VIEO's SFA funding of $62.5 million will build upon the lessons learned through the SPF Pilot Program and enable widespread deployment of residential rooftop & community solar systems across the territory. The implementation of the EPA-funded SFA program will not begin until the third quarter of 2025. However, deploying solar and battery systems under the current SPF pilot program is a clear glimpse into the distributed energy future of the Virgin Islands.

During the intimate closing ceremony hosted at the Public Service Commission's (PSC) Estate Carlton conference room VIEO Director Fleming reflected on the passing of this significant milestone. SPF closed its application window in October of 2022 after eliciting strong interest from the public and attracting a large pool of over 350 respondents. He explained that despite initial estimates, ironing out all the intricate administrative details that would allow VIEO's partner agency, VIEDA, to manage the loans over their 15-year life terms; and composing the legal framework required to enable the Virgin Islands

Water and Power Authority (WAPA) to bill the loanees directly on their utility bill, took longer than expected.

"Today we take a final, tangible step forward in our mission to deliver low to no-cost financing for green technology solutions to Virgin Islanders. These first loans closed under the Solar Plus Financing pilot program are the heralds of a new wave of financing options that VIEO will be able to offer to the public thanks to upcoming initiatives such as the Solar For All (SFA) program that will launch in the third quarter of 2025. As I reflect on all the hard work and intense coordination that was required to make SPF a program that will run for more than a decade, I want to extend my gratitude to the VIEO, WAPA, and VIEDA employees who devoted their best effort to bringing SPF to reality," Director Fleming said.

The average homeowners participating in the Solar Plus Financing program have submitted plans that call for 5 kW of PV and 13 kWh of battery energy storage solutions (BESS) to be installed. When fully charged these renewably powered systems will meet the home's energy demands, perfect for weathering the types of service interruptions most common in the territory. During the application process, applicants had their home's energy profiles analyzed to ensure that the installed systems would realize a minimum of 10% immediate savings on their utility bill during the life-cycle of the 1% interest loan term.

VIEO Electrifies Your Ride

Hundreds of folks had their pressing questions about the territory's readiness to embrace electric vehicles, answered during VIEO's 2024 Electric Vehicle Summit. Since the Virgin Islands government began augmenting its motor pool with fully electric vehicles two years ago, interest in the technology has grown exponentially in the territory. Sights like Water and Power (WAPA) messengers crisscrossing the islands in Teslas, and the recent addition of electric buses to the VITRAN fleet, have captured the public's imagination, even as it has spurred on numerous questions about the viability of the technology in our remote island jurisdiction. As the government agency with the only fully electric fleet of vehicles, and the catalyst behind the policies that have led to their wider adoption across the central government, VIEO has become a natural repository of concerns raised by citizens interested in the technology, but leery of taking on the risks associated with early adoption.

In order to answer questions about where these cars can be charged and purchased, what government support exists for their acquisition, and what's being done to ensure that properly trained technicians are available to service them, VIEO invited policymakers, electric vehicle owners, and subject matter experts to speak on four dynamic panels.

On St. Thomas, a lively and engaging consumer panel made up of Kristina Edwards, Director of the Division of Territorial Parks and Protected Areas, John Engerman, Chief Advisor at The Strategy Group, and resident Bill Loewy, shared their experiences with adopting electric vehicles for their personal use. Engerman has owned several Teslas over the years, saying that part of the reason why he recently purchased his fourth vehicle from the company was because he likes keeping his ride fresh. Loewy has also bought multiple electric vehicles, but his

Darwin Newton, Head of Operations for Electrical & E-Mobility Services, Siemens; Terry Travis, Managing Director & Co-Founder, EVNoire; and Michael Jaffurs, Deputy Director, VIEO at the Virgin Islands EV Summit kick-off on St. Thomas

purchases, he said, were generally motivated by finding a deal too good to pass up. As was the case when he purchased his own Tesla from a seller motivated to divest herself from any association with a failed marriage. An avid fan of renewable energy, Loewy has installed solar panels and a battery backup system at his home and is able to charge his vehicles virtually free of charge, he said.

In answer to a question posed by panel moderator Dr. Shelly Francis, E-Mobility consultant with summit co-organizer EVNoire, Edwards expressed how pleased she is to own a vehicle that aligns with her personal philosophies around sustainability, and reducing her impact on a changing climate. On top of the feel-good factor she gets from driving a car that has the ability to gain range as it harvests electricity to charge its batteries through regenerative breaking technology, Edwards said that she has been pleased with how little maintenance her vehicle requires.

Virgin Islands EV Summit attendee and EV owner at the University of the Virgin Islands Orville E. Kean Campus on St. Thomas

Andrew Ray, Energy Project Manager, VIEO, speaking at the Virgin Islands EV Summit event at the University of the Virgin Islands Albert A. Sheen Campus on St. Croix.

WAP: Working to Assist People in Need

VIEO has served over 150 Virgin Islanders through the Weatherization Assistance Program (WAP) in 2024, replacing hundreds of inefficient appliances with well over $300,000 worth of new efficient upgrades. WAP is a needs-based program that is focused on helping elderly, disabled, and low-income individuals save money on their utility bills by decreasing their energy usage by supplying them with best-in-class replacements. VIEO has overseen the installation of scores of heavy-duty appliances like refrigerators, air conditioners, and water heaters, as well as smaller ticket items like lightbulbs, showerheads, and much more.

Veronica Ephraim has lived at Genip Gardens, a housing development managed by the Lutheran Social Services of the Virgin Islands, for the last five years. The recipient of a new refrigerator and bevy of other brand new energy efficient solutions, Ephraim said that without WAP, she doesn't know how she would have been able to stretch her fixed income to cover the necessary appliance upgrades.

"The program is essential, especially for under privileged people. And I think it's a great privilege that we can get it for free. I am very grateful for that," Ephraim said. "It's a wonderful program, helping the people that are less privileged."

An avid tinkerer, Genip Garden resident Earl Charlery has filled his unit with all the tools and supplies he needs to pursue his passions of mechanical and electrical repair. If it's broke, Charlery can fix it, no matter if it's a brand new LED TV, high powered remote control car, or anything in between. Charlery said that he is appreciative of the new appliances WAP furnished him with, especially his bigger and more efficient refrigerator.

Luz Delgado has lived in her Mon Bijou home for 27 years, and said that she had her daughter to thank for signing her up for WAP, a favor that she has come to greatly appreciate. Going through the process of having her home assessed by a VIEO energy auditor, and finding out what appliances she was eligible to have upgraded, was exciting Delgado said. Especially when viewed through the lens that a new fridge, AC, ceiling fan, and other appliances would be nearly impossible to purchase all at once given she depends on her social security check for the bulk of her income.

Kathleen Cranston of Estate La Grange has been a VIEO client since the 1990s when the agency helped her install a solar water heater at her home. When she

"WAP is a needs-based program that is focused on helping elderly, disabled, and low-income individuals save money on their utility bills by decreasing their energy usage by supplying them with best-in-class replacements."

saw online that the agency was accepting applications for WAP, she didn't hesitate to sign herself up. Through the program Cranston was able to replace the ACs in her home with newer models. She noted that St. Croix has become much warmer in recent years, and that AC has become a necessity on days when the heat is unbearable. Cranston said that she derives some peace of mind knowing that everything from her fridge, ACs, lights, and other appliances are as energy efficient as possible, because that means her Water and Power Authority bill will be as low as it can be.

Spreading Da VIBES

VIEO processed its first Virgin Islands Battery Energy Storage (VIBES) program rebates at the close of 2024, ending the program's inaugural year on a high note. VIBES is all about keeping the lights on when the power goes out, coupling the utility of battery energy storage solutions (BESS) with automatic load transferring technologies.

VIBES offers a maximum rebate of up to $6,000 against the cost of installing residential scale battery backup storage solutions, and an automatic transfer switch or smart critical load panel. The rebate is valid for battery systems that do not exceed a maximum capacity of 20 kWh, and meet required safety and other standards. VIEO has expanded the purchase options applicable to the rebate, and will allow consumers to buy battery packs and other hardware from vendors outside of the territory. Please note, systems purchased from vendors outside of VIEO's network of vetted suppliers will be subject to additional technical review by VIEO staff and must have an approved Electrical Final Certificate from the Department of Planning and Natural Resources (DPNR) before an application can be submitted to VIBES.

Since installing their new battery backup system and automatic transfer switch, Chris and Renée have experienced the peace of mind that comes with having home-based energy resilience. Since the system went live, their home's feeder has encountered multiple outages, but the couple only noticed the disruptions when their lights flickered as the battery system automatically took over to meet their power needs. Chris emphasized the importance of continuous power for Renée's home business, explaining that without access to the internet or other essential appliances, her productivity could be significantly impacted.

OFFICE OF THE GOVERNOR
VIRGIN ISLANDS ENERGY OFFICE

CONTACT US:
ST. CROIX: (340) 713-8436 (VIEO)
ST. THOMAS—ST. JOHN: (340) 714-8436
E—MAIL: INFO@EO.VI.GOV

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