

**ENERGIZING THE TERRITORIES:  
PROMOTING AFFORDABLE AND  
RELIABLE ENERGY SOURCES FOR  
THE U.S. INSULAR AREAS**

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**OVERSIGHT HEARING**

BEFORE THE

SUBCOMMITTEE ON INDIAN AND INSULAR AFFAIRS

OF THE

COMMITTEE ON NATURAL RESOURCES

U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

Thursday, April 11, 2024

**Serial No. 118–110**

Printed for the use of the Committee on Natural Resources



Available via the World Wide Web: <http://www.govinfo.gov>  
or

Committee address: <http://naturalresources.house.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

55–382 PDF

WASHINGTON : 2024

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**OVERSIGHT HEARING ON ENERGIZING THE  
TERRITORIES: PROMOTING AFFORDABLE  
AND RELIABLE ENERGY SOURCES FOR THE  
U.S. INSULAR AREAS**

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**Thursday, April 11, 2024  
U.S. House of Representatives  
Subcommittee on Indian and Insular Affairs  
Committee on Natural Resources  
Washington, DC**

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The Subcommittee met, pursuant to notice, at 2 p.m., in Room 1324 Longworth House Office Building, Hon. Harriet M. Hageman [Chairwoman of the Subcommittee] presiding.

Present: Representatives Hageman, LaMalfa; Leger Fernández, Sablan, and Velázquez.

Ms. HAGEMAN. The Subcommittee on Indian and Insular Affairs will come to order. Without objection, the Chair is authorized to declare a recess of the Subcommittee at any time.

The Subcommittee is meeting today to hear testimony on Energizing the Territories: Promoting Affordable and Reliable Energy Sources for the U.S. Insular Areas. Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman and the Ranking Minority Member. I therefore ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted in accordance with Committee Rule 3(o).

Without objection, so ordered.

I will now recognize myself for an opening statement.

**STATEMENT OF THE HON. HARRIET M. HAGEMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WYOMING**

Ms. HAGEMAN. Today's hearing is entitled "Energizing the Territories: Promoting Affordable and Reliable Energy Sources for the U.S. Insular Areas." We will hear from leaders and stakeholders about how Congress can ensure that the territories are able to utilize the energy resources that best suit their specific needs and desires, not just the energy resources that the Biden administration believes should be used. It is not Washington, DC's job to pick winners and losers. Energy sources should not be deemed less than due to the ebbs and flows of an administration.

Furthermore, the territories have adopted aggressive goals for transitioning to wind and solar energy, even though it is unclear whether these goals can be met and despite limited assurances that these energy sources can even meet baseload power demands. This hearing will be an opportunity to get an update on the status of these goals and the impact they have had on the utility costs for residents in the territories and their access to reliable energy.

The available data suggests that these goals have not been met and are among the reasons why the territories have some of the highest utility costs in the United States while having frequent outages. American Samoa, the Northern Mariana Islands, or CNMI, Guam, and the U.S. Virgin Islands need reliable and cost-efficient energy resources. Yet, the Biden administration has continued to prioritize so-called renewable energy only and grid infrastructure, such as solar and wind, over the more reliable and affordable liquified natural gas, coal, and baseload power options.

Several Federal grants and loan programs showcase this preference. OIA's Energizing Insular Communities, or EIC, Program was created to "provide grant funding for energy strategies that reduce the cost of electricity and reduce dependence on foreign fuels." Utilizing natural resources while ensuring American energy is readily available for economic and security needs is not limited to so-called renewable energy, yet the Biden administration seems to believe so.

IEC grants have been provided to American Samoa Power Authority for electric vehicles, to Guam for a 100 percent renewable energy study, to CNMI for solar photo voltaic systems, and to the U.S. Virgin Islands for battery electric vehicles. The snapshot shows the hyper fixation on so-called renewables by the Biden administration, a hyper fixation that comes at a higher price and also sacrifices reliability.

The U.S. territories are often subject to severe weather incidents which pose a threat to infrastructure reliant on solar and wind energy. In Guam, the 2023 Typhoon Mawar ripped solar panels from rooftops leading to thousands of people being without power for over a week. With U.S. military bases in Guam and the planned reopening of the U.S. Air Force airfield in Tinian, reliable energy sources are necessary for our military capabilities.

Reliable energy sources are necessary for those that reside in these territories and the well-being of those who reside in the territories should not be decided on by bureaucrats in Washington, DC. The insular areas deserve self-determination of Federal policies that do not promote energy poverty.

Thank you to the witnesses for being with us today. I look forward to today's discussion in seeing how we can promote affordable and reliable energy sources for the territories.

The Chair now recognizes the Ranking Minority Member for any statement.

**STATEMENT OF THE HON. TERESA LEGER FERNÁNDEZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW MEXICO**

Ms. LEGER FERNÁNDEZ. Thank you, Madam Chair, and as always, thank you very much for the witnesses for being here. I am delighted to be here once again to discuss some of the challenges facing Americans residing in the territories, in particular the exceedingly high cost of electricity generation and what opportunities we can pursue to overcome these challenges.

Guam, the Northern Mariana Islands, American Samoa, and the U.S. Virgin Islands face a number of barriers to access to reliable and affordable energy. The islands lack interconnection to larger

electrical grids and there are no Indigenous sources of fossil fuels. To my knowledge, there is no coal being mined on any of the islands, there is no oil and gas being pumped, which means that all of this fuel has to be imported, shipped in.

So-called renewable energy is actually there. The wind blows every day. I come from New Mexico and the wind blows every day in our plains and we have lots of windmills that are popping up, and we know that that might be one of the sources. Maybe not something that you will always rely on, but that you will be able to rely on to diversify what you rely on. The sun comes up every day and that may be a source that you will be able to rely on, diversify, because it does already exist in the territories.

Guam has some of the lowest residential electricity rates in the Pacific Islands, yet those prices are still twice as high as the average in the United States. Part of those prices include surcharges to cover petroleum costs. The Guam Power 30 recently increased residential utility rates from 23 cents to 26.4 cents per kilowatt hour. In New Mexico, in contrast, where we have a mix of energy sources, we pay less than half of that and our wind and solar prices are way below that amount.

American Samoa residents face average prices of 45 cents per kilowatt hour, U.S. Virgin Islands residents, 42 cents per kilowatt hour, and Northern Mariana Islands residents, 43 cents per kilowatt hour. These are prices three to four times as high as those in the mainland. Unacceptable. So, we want to find the solutions to bring those costs down. Why don't we always want to be looking for the kinds of solutions that bring those costs down?

Last Congress, the Offshore Wind for Territories Act was signed into law opening the offshore waters around Guam, American Samoa, Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands to wind power development. The U.S. Department of the Interior will hold wind lease sales in the territories by September 2025, depending on interest from energy companies.

However, each island has their own unique opportunities and challenges when it comes to implementing wind power. For instance, Guam has substantial wind power potential but also unique wind turbine siting issues. CNMI also has installed several small-scale wind projects. But wind turbines must withstand typhoons and not interfere with airstrip and material facilities. We must recognize both the opportunities for energy development, their unique situations, and their unique obstacles.

Geothermal may be an option. Hawaii we can look to as an example where they have made great efforts to diversify the energy portfolio and create a more reliable grid. In 2022, Hawaii generated 29 percent of their energy with renewable sources including solar, wind, geothermal, biomass, and hydropower. The state has a goal of generating 100 percent of electricity from renewable sources by 2045. On the big island of Hawaii, the Puna Geothermal Venture Plant provides about 30 percent of the island's electricity demand, 30 percent is provided by a single renewable energy plant.

There are so many different opportunities to pursue to overcome the serious challenges our sisters and brothers on the other islands face, from energy development, to grid security and strength, to weatherization of homes. If you care about communities, you work

to make them resilient, you work to lower their costs. It is our solemn responsibility to care. Not to care about one particular industry, not to care about what an industry's talking points may be, but to care about improving the lives of the people living on these beautiful islands.

I look forward to hearing from our witnesses about both the challenges and the opportunities, how we can work together to bring reliable energy, renewable energy, and lower costs to all the U.S. territories.

Ms. HAGEMAN. I will now introduce our witnesses. Mr. John Brewer, Director of Office of Insular and International Affairs, U.S. Department of the Interior, Washington, DC; Mr. Kyle Fleming, Chairman, U.S. Virgin Islands Water and Power Authority, St. Croix, U.S. Virgin Islands; Mr. Kenny Stein, Vice President of Policy, Institute for Energy Research, Washington, DC; Dr. Gregory Guannel, Director, Caribbean Green Technology Center, St. Thomas, U.S. Virgin Islands; and Mr. Travis Fisher, Director of Energy and Environmental Policy Studies at the Cato Institute in Washington, DC.

Welcome to all of you. We thank you for being here today. Let me remind the witnesses that under Committee Rules, they must limit their oral statements to 5 minutes, but your entire statement will appear in the hearing record. To begin your testimony, please press the "talk" button on the microphone. And we use timing lights. When you begin, the light will turn green. When you have 1 minute left, the light will turn yellow. And at the end of 5 minutes, the light will turn red, and I will ask you to please complete your statement. I will also allow all of the witnesses on the panel to testify before we begin our Member questioning.

The Chair now recognizes Mr. Brewer for 5 minutes.

**STATEMENT OF JOHN D. BREWER, JR., DIRECTOR, OFFICE OF INSULAR AFFAIRS, U.S. DEPARTMENT OF THE INTERIOR, WASHINGTON, DC**

Mr. BREWER. Madam Chair, Ranking Member, and members of the Subcommittee on Indian and Insular Affairs, thank you for the opportunity to testify on affordable and reliable energy sources in the insular areas. I am the Director of the Office of Insular Affairs at the U.S. Department of the Interior, the office responsible for administering the Federal Government's relationship with the territories of American Samoa, the CNMI, Guam, and USVI. You have my written testimony, so I would like to reiterate a few key points.

The territories face unique energy challenges due to their remote locations. Residents and businesses in the territories pay an average of 2.4 times more per kilowatt hour than the U.S. average. This is largely due to the cost of importing fuels and the territories' inability to achieve economies of scale by participating in larger interconnected grids.

The high cost of energy poses challenges for the private sector to maintain operations in the territories. Utilities in the territories are affected by fluctuations in fuel prices resulting in significant impacts on the provisions of goods and services to businesses and residents in the territories. Over the last decade, the territories



have made strides to improve their energy security. With Federal partners, they have worked to harden energy infrastructure, especially in the wake of destructive hurricanes and typhoons.

Additionally, the territories have diversified their energy generation by adopting renewable technologies to supplement baseload energy infrastructure and thereby decrease reliance on shipments of imported fossil fuels. A little over a decade ago, virtually all energy production in the territories was dependent on fossil fuels.

OIA has a long history of supporting the territories with increasing access to reliable and affordable energy. The Energizing Insular Communities, or EIC, Grant Program began in 2011 to assist territories as they implement energy strategies to reduce the cost of electricity which was three times the national average at the time. While the program funding available is small relative to the energy needs of the territories, its targeted investments do help move the territories toward meeting their energy goals.

OIA requires EIC grant proposals to be tied to each territory's energy plan which reflects their self-determined energy goals. With \$15.5 million available for the four territories in Fiscal Year 2023, the EIC program received \$33.7 million in applications. The EIC program is open to proposals involving all forms of power generation, including improvements related to conventional sources of power generation, such as oil and natural gas as identified in local energy plans.

While replacement of old inefficient diesel fuel generators from the 1970s and 1980s would improve territorial energy efficiency and security, these replacements are often not within the scope of the current EIC program funding level. For example, one new 80-megawatt generator would cost approximately \$94 million, while the EIC's funding level is approximately \$15 million. Additionally, more efficient conventional generators may not always provide the cheapest electricity rates, as rates for imported fuel would be subject to global fluctuations in price and supply.

The Administration is committed to energy projects that promote energy security in the territories as well as projects that support a sustainable energy future through investments in renewable energy development. Madam Chair, Ranking Member, it is a pleasure to appear before your Subcommittee to discuss affordable and reliable energy in the territories. Thank you.

[The prepared statement of Mr. Brewer follows:]

PREPARED STATEMENT OF JOHN D. BREWER, JR., DIRECTOR, OFFICE OF INSULAR AFFAIRS, U.S. DEPARTMENT OF THE INTERIOR

Chair Hageman, Ranking Member Leger Fernández, and members of the Subcommittee on Indian and Insular Affairs, thank you for the opportunity to testify on affordable and reliable energy sources in the U.S. Insular Areas. I am the Director of the Office of Insular Affairs (OIA) at the U.S. Department of the Interior, the office responsible for administering the Federal government's relationship with the territories of American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, and the United States Virgin Islands (USVI) (collectively, the territories). Access to affordable and reliable energy is of the utmost importance to the territories as it directly impacts their economic development and quality of life.

## Overview of Energy Needs in the U.S. Territories

The territories face unique energy challenges due to their remote geographies. Residents and businesses in the territories pay an average of 2.4 times more per kilowatt hour than the U.S. average. This disparity is largely due to the cost of importing fuels to support baseload generation capacity and the territories' inability to achieve economies of scale by participating in larger interconnected grids. The territories are heavily dependent on imported fossil fuels to support baseload energy generation. For the three Pacific territories, refined petroleum fuel is imported from Asia (primarily Singapore, South Korea, Japan, Malaysia) and for the USVI, petroleum and liquid petroleum gas (LPG) is provided from sources abroad.

When considering median household incomes, residents in the territories spend a higher proportion of their income on energy costs, resulting in more than double the energy burden compared to the average U.S. household.

Access to reliable and affordable energy in the territories not only impacts residents directly today but also has a significant impact on future economic growth and development opportunities. The high cost of energy poses challenges for the private sector to maintain operations in the territories.

Utilities in the territories are affected by fluctuations in fuel prices resulting in significant impacts on the provision of goods and services to businesses and residents in the territories.

Energy reliability impacts every sector in the territories—from healthcare to education and private industry to transportation. Antiquated and vulnerable infrastructure is consistently tested by the energy demands of local communities and adverse weather events, which are becoming more severe and more frequent. Unfortunately, the result is that power disruptions are now considered a regular part of life in many communities in our territories.

While utility providers work to upgrade their infrastructure to meet these challenges, they often lack the resources necessary to make the large-scale investments required to modernize and harden their infrastructure. To improve energy reliability, the territorial utilities have used Power Purchase Agreements (PPAs) with private companies to expand generation capacity. While PPAs can be a useful tool, they do not solve underlying generation capacity and operational issues.

Over the last decade, the territories have made some strides to improve their energy security. With Federal partners, they have worked to harden energy infrastructure, especially in the wake of destructive hurricanes and typhoons. Additionally, the territories have diversified their energy generation by adopting renewable technologies (mostly solar and net metering) to supplement baseload energy infrastructure and thereby decrease reliance on shipments of imported fossil fuels. Renewable power generation now accounts for 3 percent of total power generated in both American Samoa and the USVI, 11 percent in the CNMI, and 17 percent in Guam. A little over a decade ago, virtually all energy production in the territories was dependent on fossil fuels.

## OIA Support for Energy Needs in the U.S. Territories

OIA has a long-standing history of supporting the territories with increasing access to reliable and affordable energy. Public Law 109-58, enacted in 2005, directed the Secretary of the Interior to draft long-term energy plans for the insular areas, with the objectives of reducing their reliance on energy imports, increasing energy conservation and energy efficiency, and using native energy sources. In 2010, OIA entered into an interagency agreement with the Department of Energy's National Renewable Energy Lab (NREL) to help the Pacific territories increase energy independence and security. This agreement led to an in-depth analysis of the energy situation in each territory and culminated in the creation of energy plans that included both short-term energy action plans and long-term strategic energy plans published in 2013.

Public Law 113-235 directs the Department of the Interior to establish a team of experts to develop energy action plans for the territories and assist with their implementation. In 2022, OIA entered into a new interagency agreement with NREL to provide technical support to OIA and the territories to continue efforts to improve energy security and resiliency, reduce energy costs, and diversify energy sources.

OIA provides funding to the territories to support energy security through the Energizing Insular Communities (EIC) grant program. The EIC program began in 2011 to assist territories as they implement energy strategies to reduce the cost of electricity, which was three times the national average at the time. The EIC program funding averaged \$3.7 million a year between fiscal years (FY) 2011 and 2020. Since then, this Administration has requested, and Congress has appropriated, increases to the funding level to its current level at around \$15 million in

FY 2024. While the program funding available is small relative to the energy infrastructure needs of the territories, its targeted investments do help move the territories towards meeting their energy goals.

OIA requires EIC grant proposals to be tied to each territory's energy plan, which reflects their self-determined energy goals. Local government entities, independent public authorities, and educational institutions in the territories are all eligible to apply for funds under this competitive program. With \$15.5 million available for the four territories in FY 2023, the EIC program received \$33.7 million in applications. Of the applications received, \$3.2 million proposed grid studies and planning projects; \$18.5 million proposed renewable power generation, storage, and transmission projects; and \$12 million proposed demand side management projects. Of that, OIA awarded \$3 million for grid studies and planning projects, \$5.1 million for solar power generation and storage projects, and \$7.4 million for demand side management projects.

The EIC program is open to proposals involving all forms of power generation, including improvements related to conventional sources of power generation such as oil or natural gas as identified in local energy plans. While replacement of old, inefficient diesel fuel generators from the 1970s and 1980s would improve territorial energy efficiency and security, these replacements are often not within the scope of the current EIC program funding level. For example, one new 80-megawatt generator would cost approximately \$94 million, while the program funding level is approximately \$15 million. Additionally, more efficient conventional generators may not always provide the cheapest electricity rates, as rates for imported fuel would be subject to global fluctuations in price and supply.

Beyond the EIC program, OIA also coordinates with our interagency partners to help identify and provide support to the territories for energy-related projects and plans. For example, the Inflation Reduction Act revised the Outer Continental Shelf Lands Act to allow for offshore wind energy leasing of the submerged lands within the U.S. exclusive economic zone adjacent to American Samoa, CNMI, Guam, the USVI, and the Commonwealth of Puerto Rico. Further, the Act directed the Secretary of the Interior to investigate the feasibility of offshore wind leasing in the territories. The Bureau of Ocean Energy Management has started to engage with territorial governors regarding potential offshore wind energy development for Puerto Rico, Guam, and the USVI.

The Administration is committed to energy projects that promote energy security in the territories as well as projects that support a sustainable energy future through investments in renewable energy development. Chair Hageman, Ranking Member Leger Fernández, it is a pleasure to appear before your Subcommittee to discuss affordable and reliable energy in the territories. Thank you.

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QUESTIONS SUBMITTED FOR THE RECORD TO MR. JOHN BREWER, JR., DIRECTOR,  
OFFICE OF INSULAR AFFAIRS, U.S. DEPARTMENT OF THE INTERIOR

**Mr. Brewer did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.**

#### **Questions Submitted by Representative Westerman**

*Question 1. Several of the territories have set aggressive goals for their transition to renewable energy. American Samoa adopted a goal to obtain 50% of its energy from renewable sources by 2025 and 100% by 2040. Guam is also targeting 50% renewable energy by 2035 and 100% by 2040. The CNMI targeted 20% by 2016. The USVI has a goal for 25% by 2020, 30% by 2025, and 50% by 2044.*

*Are these goals being met or are on track to being met? If not, why? Please provide us what the current percentage of each territory's energy use is from solar and wind energy in your response.*

*Question 2. What is the selection process by which Energizing Insular Communities (EIC) grant program awards are granted?*

**Questions Submitted by Representative Leger Fernández**

*Question 1. Insular Areas need affordable and reliable energy options, and it's clear that the status quo does not provide that. Island reliance on foreign imports of diesel fuel is expensive and unsustainable, and the climate impacts of continued reliance on fossil fuels will be felt first in vulnerable island communities. A transition to more sustainable renewable energy is critical. How is the Biden administration, through the EIC grant program and others, helping island communities address this energy transition in ways that work best for each island community, ensuring island self-determination?*

*Question 2. The EIC program currently provides about \$15 million (as of FY 2024) to help the territories implement their energy plans, however you note in your written testimony that at times DOI receives more than double that amount in applications. How does OIA address that gap and what additional support can the Federal Government provide to help the territories meet their energy goals?*

*Question 3. The Inflation Reduction Act included \$15 million for the Office of Insular Affairs to provide technical assistance to the U.S. Territories for climate change planning, mitigation, adaptation, and resilience. Could you share how OIA has been utilizing this funding, especially for energy projects in the territories?*

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Ms. HAGEMAN. Thank you, Mr. Brewer, for your testimony.  
The Chair now recognizes Mr. Fleming for 5 minutes.

**STATEMENT OF KYLE D. FLEMING, CHAIRMAN, U.S. VIRGIN ISLANDS WATER & POWER AUTHORITY, ST. CROIX, U.S. VIRGIN ISLANDS**

Mr. FLEMING. Thank you, and good afternoon, Madam Chair, and other members of the Subcommittee. Thank you for the opportunity to testify on behalf of the U.S. Virgin Islands relative to the ongoing and future impacts the Biden-Harris administration's energy policy is having on the territory.

My name is Kyle Fleming, Director of the Virgin Islands Energy Office and Chairman of the Governing Board of the Virgin Islands Water & Power Authority. Despite the territory's small footprint, the reliable and affordable energy supply has proven to be a complicated endeavor. In summary, the challenges the territory's energy landscape faces are as follows:

1. The U.S. Virgin Islands' heavy reliance on imported fossil fuels for electricity generation, which not only contributes to high energy costs but also leaves the Virgin Islands vulnerable to supply disruptions and price fluctuations of global fuel markets.

2. Geographical constraints, such as complex and heavily vegetated topography, sub-sea transmission cables, and limited land availability, present logistical challenges to centralized generation and distribution of energy at scale.

3. The need for holistic energy transition planning and modeling rather than reactionary energy investments aimed to mitigate immediate energy emergencies.

4. Finally, the high upfront costs of the energy transition within an island network that requires a significant investment in infrastructure and grid modernization to fully realize the positive impacts of the transition.

Despite these challenges, the Virgin Islands have access to extensive renewable energy resources that can be managed by energy storage innovations to mitigate intermittency issues. Pairing these

renewable resources with efficient thermal generation and affordable fuel supply could fast-track the diversification of our energy mix away from exclusively imported fossil fuels. Reducing fossil fuel dependence for electricity generation and transportation needs will have the most immediate effect on managing the territories' exposure to the volatile commodity markets.

The Biden-Harris energy policy resonates with the Virgin Islands and Governor Albert Bryan's strategy to alleviate the energy burdens of the territory through innovative energy solutions. The alignment of these visions underscores a shared territorial and Federal commitment to a sustainable and resilient future.

A couple examples include the State Energy Program which is a formula-based funding opportunity that the Virgin Islands has historically leveraged to support small-scale energy programs historically limited by funding allotments which were budgeted at approximately \$300,000 annually. Under the Bipartisan Infrastructure Law, the Virgin Islands received a bolstered allocation of \$2.59 million to support our energy programs. This funding augmentation has enabled an expanded portfolio of locally available energy incentives to include an equitable e-mobility rebate program designed to lower the costs of electric vehicle adoption as well as a battery energy storage rebate program designed to bolster energy resilience through home-based energy storage.

Additionally, the Department of the Interior's Office of Insular Affairs has served as a steadfast advocate for the insular territories. The Virgin Islands have leveraged competitive grant awards under OIA's Energizing Insular Communities Program to support the development of microgrids, a critical infrastructure across the territory. Under the Biden-Harris administration, the territory has seen funding augmentations here as well.

For reference, the Virgin Islands received approximately \$625,000 in 2019 under the EIC. By comparison, in 2023, the territory was awarded \$3.93 million under that funding cycle. These funds will support the development of additional microgrids and critical infrastructure, the procurement of electric vehicle within the government fleet, and deployment of renewably-powered DC fast-charging stations to support the growing penetrations of electric vehicles within the territory.

Of the many funding opportunities made available to the territory under the Inflation Reduction Act, the impact potential of EPA's Solar for All grant stands above them all. And in October 2023, the Virgin Islands submitted a proposal requesting \$100 million in funding to support the deployment of residential rooftop solar, community solar, and associated battery storage. When aggregated, these technologies could be leveraged to create virtual power plants and provide both direct and distributed energy savings and overall grid resilience.

Additionally, the Virgin Islands has been actively pursuing the expanded program eligibility and loan authority of the U.S. Department of Energy's Loan Program under the Biden-Harris administration. This has provided an opportunity for the Virgin Islands to approach holistic energy solutions with an affordable and sustainable financing mechanism that did not exist before. Coupling comprehensive energy transition strategy with financing mechanisms

such as the LPO would unlock the territorial benefits that have historically been limited to the pages within planning reports.

In closing, transcending the geographical challenges inherent to sustaining energy within a remote insular territory requires a custom-tailored approach to the energy transition planning and implementation. While the territories' challenges are uniquely nuanced, the Biden-Harris energy policy has provided augmented funding, technical support, and insular prioritization that enables the Virgin Islands to define and implement our energy future through a modern-day lens. Thank you.

[The prepared statement of Mr. Fleming follows:]

PREPARED STATEMENT OF KYLE D. FLEMING, DIRECTOR, VIRGIN ISLANDS  
ENERGY OFFICE AND CHAIRMAN,  
GOVERNING BOARD, VIRGIN ISLANDS WATER & POWER AUTHORITY

### **Introduction & Background**

Good afternoon, Chairman Hageman and other members of the Subcommittee on Indian and Insular Affairs. Thank you for the opportunity to testify on behalf of the United States Virgin Islands relative to the ongoing and future impacts the Biden-Harris administration's energy policy is having on the territory. My name is Kyle Fleming, Director of the Virgin Islands Energy Office (VIEO) and Chairman of the Governing Board of the Virgin Islands Water & Power Authority (VIWAPA).

The USVI comprises of three main islands in the Caribbean, with a total area of 133 square miles, about twice the size of Washington D.C. The islands of St. Croix, St. John, and St. Thomas house nearly all the territory's 90,000 residents. And while the VI is truly an American paradise, we are also positioned on the front-line of climate change which has been highlighted by the deterioration of our fragile marine ecosystems and the growing intensity of the annual hurricane season. For reference, USVI was struck by two Category 5 hurricanes in 2017, Hurricanes Irma and Maria, and these back-to-back storms caused significant damage to most of USVI's electric distribution system, power-generation, and transmission substations. Although Hurricanes Irma and Maria arrived more than six (6) years ago, high electricity costs and power instability from these storms continue to hamper the Virgin Islands economic recovery. Energy remains the single most comprehensive and critical factor to be addressed for our territory's future. Systemic energy instability has direct and indirect negative impacts on sustainable economic development. Additionally, it has been proven that disruptions to the electrical system may magnify existing societal vulnerabilities and tensions for families and in the delivery of government services.

Despite the USVI's small footprint, reliable and affordable energy supply has proven to be a complicated endeavor. The Virgin Islands Water and Power Authority (WAPA) has the sole responsibility of producing electricity, primarily through imported petroleum products, and distributing electricity to approximately 55,000 residential and commercial customers. In summary, the challenges of the territory's energy landscape faces are as followed:

1. USVI's heavy reliance on imported fossil fuels for electricity generation, which not only contributes to high energy costs but also leaves the USVI vulnerable to supply disruptions and price fluctuations in global fuel markets.
2. Geographical constraints such as complex and heavily vegetated topography, subsea transmission cables, and limited land availability, present logistical challenges to centralized generation and distribution of energy at scale.
3. The need for holistic energy transition planning and modeling rather than reactionary energy investments aimed to mitigate immediate energy emergencies.
4. The high upfront costs of the energy transition within an island network that requires a significant investment in infrastructure and grid modernization to fully realize the positive impacts of the transition.
5. Finally, regulatory and policy barriers that hinder the adoption of alternative energy, including outdated regulations, permitting processes, and limited access to traditional financing.

Despite these challenges, there is an ever-growing recognition of the urgent need to transition to a cleaner, more resilient distributed energy system in the U.S. Virgin Islands, driven by both the potential for long-term economic sustainability and territorial transformational growth. The U.S. Virgin Islands are well-positioned to leverage the high impact potential of a comprehensive energy transition. The Virgin Islands have access to extensive renewable energy resources that when paired with efficient thermal generation and managed by energy storage innovations will fast-track the reduction of costly imported fossil fuel. Limiting fossil fuel dependence, for both electricity generation and transportation needs, will have the most immediate effect on providing energy burden relief within our community.

Reducing the price of America's Paradise by creatively deploying innovative and disruptive solution sets that address the unique realities of attaining sustainability within a remote island nation is at the core of the Virgin Islands energy strategy. The Biden-Harris energy policy has played an integral role in providing the USVI with a once in a generation opportunity to convert this strategy into implementable near-term shovel ready projects that will redefine the energy landscape of the Virgin Islands.

#### **Territory Impact from Biden Administration Energy Policy:**

The Inflation Reduction Act, signed by President Biden on August 16, 2022, marked a historic moment in U.S. clean energy and climate policy. The IRA built on the foundational climate and clean energy investments in President Biden's Bipartisan Infrastructure Law. The passage of these landmark federal laws could not have come at a more crucial time in the U.S. Virgin Islands history. As we find ourselves six years removed from the 2017 hurricanes, which highlighted the vulnerability of our island's energy system. The IRA has been heralded as the most significant climate legislation in U.S. history, offering funding, programs, and incentives to accelerate the transition to a clean energy economy and will drive significant deployment of new clean electricity resources. These federal initiatives resonate with the Virgin Islands and Governor Albert Bryan's strategy to alleviate the energy burdens of the territory through innovative energy solutions. The alignment of these visions underscores a shared Territorial and Federal commitment to a sustainable and resilient future.

The Virgin Islands are focused on the development and implementation of sustainable energy policies, programs, and projects. The windfall of clean energy funding, under the IRA & BIL, facilitates the fulfilment of the territory's mission and more importantly, ensures that meaningful and tangible impacts are realized across our territory. The territory's impact potential because of the Biden-Harris Energy Policy spans a range of policy areas and to date, many have already come to fruition.

#### **State Energy Program (DOE)**

The State Energy Program (SEP) is a formula-based funding opportunity that the Virgin Islands has historically leveraged to support small-scale energy programs, limited by funding allotments which were budgeted at approximately \$300,000 annually. Under the Bipartisan Infrastructure Law, the Virgin Islands received a bolstered allocation of \$2.59 Million to support our state energy programs. The SEP funding augmentation has enabled an expanded portfolio of locally available energy incentive programs. To include an Equitable E-Mobility Rebate Program designed to lower the cost of electric vehicle adoption as well as a Battery Energy Storage Rebate Program designed to bolster energy resilience through home-based battery adoption.

#### **Energizing Insular Communities (DOI)**

The Department of Interior's Office of Insular Affairs (OIA) serves as a steadfast advocate for all insular territories. The Virgin Islands have leveraged competitive grant awards under the OIA's Energizing Insular Communities (EIC) Program to support the development of micro-grids at critical infrastructure across the territory. The true impact of this funding source has been limited by funding allotments, but fortunately under the Biden-Harris Administration, the territory has seen funding augmentations here as well. For reference the Virgin Islands received \$625,000 in 2019 under the EIC; by comparison in 2023 the territory was awarded \$3.93 Million. These funds will support the development of additional micro-grids at critical infrastructure, procurement of electric vehicles within the government fleet, and deployment of renewably powered DC fast-charging stations to support the growing penetration of electric vehicles within the territory.

### **Solar For All & Loan Program Office**

Of the many funding opportunities made available to the territory under the IRA, the impact potential of EPA's "Solar for All" (SFA) grant stands above them all. On June 28th, 2023, EPA launched a \$7 billion grant competition through President Biden's Investing in America agenda to increase access to affordable, resilient, and clean solar energy for low-income households. In October 2023, the VIEO submitted a proposal requesting \$100 Million in SFA funding to support the deployment of Residential Rooftop Solar, Community Solar Programs, and associated Battery Energy Storage. When aggregated, these technologies will be leveraged to create Virtual Power Plants (VPP) that provide both direct and distributed energy savings and grid resilience to the territory's grid. These solutions have the power to reshape the energy market of the US Virgin Islands and expeditiously propel the territory towards a sustainably powered future.

The Virgin Islands has been actively pursuing the expanded program eligibility and loan authority of the U.S. Department of Energy's Loan Program Office under the Biden-Harris administration. This has provided an opportunity for the Virgin Islands to approach holistic energy solutions with an affordable and sustainable financing mechanism that did not exist before. Coupling comprehensive energy transition strategy with financing mechanisms such as the LPO would unlock territorial benefits that have historically been limited to pages within planning reports.

### **Conclusion**

In closing, transcending the geographical challenges inherent in sustaining energy access to the remote insular territories requires a custom-tailored approach to energy transition planning and implementation. While the challenges of territory are uniquely nuanced, The Biden-Harris energy policy provides augmented funding, technical support, and insular prioritization that enables the Virgin Islands to define and implement our energy future through a modern-day lens.

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QUESTIONS SUBMITTED FOR THE RECORD TO MR. KYLE FLEMING, CHAIRMAN,  
U.S. VIRGIN ISLANDS WATER AND POWER AUTHORITY

**Mr. Fleming did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.**

### **Questions Submitted by Representative Westerman**

*Question 1. In your written testimony, you state that there are high upfront costs to energy transition. You state that this is due to the need for significant investment in infrastructure and grid modernization in order to fully realize the positive impacts of the transition.*

*In your estimate, how much is the cost for this transition?*

*Question 2. In your written testimony, you pointed to the destruction that the hurricanes have had on the solar grids and the fact that the power instability from these storms continue to hamper USVI's economic recovery.*

*Can you elaborate for us what those economic impacts are?*

*Question 3. How does the policy of energy self-determination benefit the U.S. Virgin Islands?*

*Question 4. In 2012, the Hovensa oil refinery on St. Croix was shut down. In 2021, the refinery was sold to two new companies, who plan on restarting the refinery. There have been multiple delays in this process due to restrictive actions and policies from the federal government.*

*What impacts did the closing of the oil refinery have on the overall cost of energy in the USVI?*



**Questions Submitted by Representative Leger Fernández**

*Question 1. The St. Croix refinery has a long history of polluting the surrounding community and environment, which has been well documented by the local community and the national news, yet there are some who want to continue to pour resources into reopening and continuing that status quo. How could the investments being made in reopening the refinery be better used to support energy technology innovation that will provide St. Croix communities with cleaner, more sustainable energy in the future?*

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Ms. HAGEMAN. Thank you, Mr. Fleming, for your testimony.  
The Chair now recognizes Mr. Stein for 5 minutes.

**STATEMENT OF KENNETH STEIN, VICE PRESIDENT FOR POLICY, INSTITUTE FOR ENERGY RESEARCH, WASHINGTON, DC**

Mr. STEIN. Madam Chair, thank you for the opportunity to testify at this hearing.

The goal of energy policy in a modern society should be ensuring affordable, reliable, and abundant energy supplies. These three eminently achievable goals should be the entire focus of policy-making as they provide the firm foundation on which modern life depends. Ideological preferences, such as picking certain energy sources for support and subsidy, should have no place in an energy policy focused on human flourishing.

When it comes to the U.S. insular areas, which are already economically disadvantaged, it is even more crucial that energy policy should be driven by what works best for the populations of these islands, not the ideological preferences of Administration officials. Insular areas should not be used for experimental energy policy just because they are subject to more Federal control and coercion than states. In these communities, energy is already often expensive and unreliable due both to remoteness as well as existing poor policy choices.

The Federal Government should not be exacerbating these existing deficiencies with ideological meddling, such as aggressively pushing expensive and unreliable electricity sources. If a rich state like California votes to raise costs and wreck its electricity grid with regulations and mandates, that is at least their choice. Washington, DC imposing these destructive policies on less than rich islands, knowing the negative consequences, is frankly immoral.

The simple fact is, especially when it comes to island territories, that wind and solar fail all three energy policy tests. They are expensive, unreliable, and only intermittently abundant.

First, neither wind nor solar are a particularly cheap way to produce energy. Claims of the cheapness of these sources usually rely on inappropriate use of levelized cost of electricity measures or noting that once constructed there are no input costs for fuel. But while wind and solar certainly are cheap when the wind happens to be blowing or the sun is shining, there are grid level costs to wind and solar that are not included in most LCOE calculations.

Wind and solar require more transmission spending than concentrated generation sources as well as needing expensive backup capacity. Batteries alone are not sufficient for backup as capacity because, beyond a few hours, batteries become prohibitively

expensive. Therefore gas, diesel, coal, or hydro backup generation is also needed.

A wind and solar grid thus effectively requires building the same capacity at least three times. That is before considering that wind and solar alone typically have to overbuild capacity because of their intermittency and that wind and solar facilities don't last nearly as long as other generation options. For islands specifically, there is an additional non-monetary cost in land use demands. As islands, land is by its nature limited, so grid scale wind and solar simply require too much land to be practical for a small island. Put simply, a wind and solar grid is a recipe for spiraling costs.

Second, wind and solar by their nature are intermittent and thus unreliable. The wind does not always blow and even in sunny places the sun doesn't shine at night. As mentioned above, some of this intermittency can be expensively accounted for by battery backup, but to fully address intermittency, full gas, coal, diesel, or hydro backup capacity must be maintained. If you must build and maintain full conventional capacity anyway, why are we spending the extra money and consuming the extra land required to build wind and solar generation.

Here again, islands face unique challenges in dealing with wind and solar intermittency. The way that California, who is often touted as a leader in renewable electricity generation, gets away with leaning heavily on wind and solar is that the state imports electricity from its neighbors. Indeed, imports through cross-continental grids are integral to every model that attempts to show that wind and solar can be relied upon to power a modern society. Obviously, that is not an option for a remote island.

Hurricanes and typhoons are another unique issue that makes wind and solar suboptimal for U.S. insular territories. Solar arrays are fragile and exposed to storms, and wind turbines can't operate in high winds and are subject to damage because they are also out in the elements. At the time that electrical reliability becomes most crucial for a remote island, during a natural disaster, is when wind and solar are subject not just to being knocked off-line by a downed power line, but being rendered fully inoperable.

Third, wind and solar fail the standard of abundance, by which I mean readily available at whatever amount is needed. Wind and solar, as intermittent sources, are not always available and, as previously mentioned, battery storage becomes prohibitively expensive beyond a few hours of backup. Now, to be fair on this count, other generation sources can be lacking as well since physical resources must be imported from long distances to power conventional plants. But physical resources are easily stockpiled for emergencies, in a way that wind and solar electrons cannot be.

When considering the best energy supplies for U.S. territories, on the basis of affordability, reliability and abundance, wind and solar are substantially deficient. Solar generation has at least some role to play, given that generation peaks during the hottest part of the day when consumption of air conditioning is at its peak, but it is not practical or desirable to have a grid that is primarily on solar. A mix of energy sources, with the large majority provided by stable supply, should be the near-term goal and long-term, LNG is probably the best solution.

It is only in recent years that global LNG supplies have reached the levels that spot markets have developed. This increased supply, combined with U.S. territories' geographic location near to large LNG suppliers such as Trinidad and Australia, makes LNG a real option for U.S. territories in a way it has not historically been.

Finally, there are also actions that Congress or the Administration could take to ease the shipping costs that contribute to high energy prices in the territories.

I look forward to responding to any of your questions. Thank you very much.

[The prepared statement of Mr. Stein follows:]

PREPARED STATEMENT OF KENNETH STEIN, VICE PRESIDENT FOR POLICY,  
INSTITUTE FOR ENERGY RESEARCH

My name is Kenny Stein, I am the Vice President for Policy for the Institute for Energy Research, a free-market organization that conducts research and analysis on the function, operation, and regulation of energy markets.

The goal of energy policy in a modern society should be ensuring affordable, reliable and abundant energy supplies. Especially in a wealthy society like the United States, these three eminently achievable goals should be the entire focus of policy making as they provide the firm foundation on which a comfortable modern life depends. Ideological preferences, such as picking certain energy sources for support and subsidy, should have no place in an energy policy focused on human flourishing.

When it comes to U.S. insular areas, which are already economically disadvantaged compared to the mainland, it is even more crucial that energy policy should be driven by what works best for the populations of these islands, not the ideological preferences of administration officials. Insular areas should not be used for experimental energy policy just because they are subject to more federal control and coercion than states. In these communities energy is already often expensive and unreliable, due both to remoteness as well as existing poor policy choices. The federal government should not be exacerbating these existing deficiencies with ideological meddling such as aggressively pushing expensive and unreliable electricity sources. If a rich state like California votes to raise costs and wreck its electricity grid with regulations and mandates, that's at least their choice. Washington, DC imposing these destructive policies on less than rich island communities, knowing the negative consequences, is frankly immoral.

The simple fact is that, especially when it comes to island territories, wind and solar fail all three energy policy tests: they are expensive, unreliable and only intermittently abundant.

Firstly, neither wind nor solar are a particularly cheap way to produce energy. Claims of the cheapness of these sources usually rely on the inappropriate use of Levelized Cost of Electricity (LCOE) measures or noting that once constructed there are no input costs for fuel. But while wind and solar certainly are cheap when the wind happens to be blowing or the sun is shining, there are grid level costs of wind and solar that are not included in most LCOE calculations. Wind and solar require more transmission spending than concentrated generation sources as well as needing expensive backup capacity. Batteries alone are not sufficient for backup as capacity beyond a few hours becomes prohibitively expensive. Therefore gas, diesel, coal, or hydro backup generation is also needed. A wind and solar grid thus effectively requires building the same capacity at least three times. That is before considering that wind and solar alone typically have to overbuild capacity because of their intermittency and that wind and solar facilities don't last nearly as long as other generation options. For islands specifically, there is an additional non-monetary cost in land use demands. As islands, land is by its nature limited, grid scale wind and solar simply require too much land to be practical for a small island. Put simply, a wind and solar grid is a recipe for spiraling costs.

Second, wind and solar are by their nature intermittent and thus unreliable: the wind does not always blow and even in sunny places the sun does not shine at night. As mentioned above, some of this intermittency can be expensively accounted for by battery backup, but to fully address intermittency, as a wealthy developed society must provide as a bare baseline, full gas, coal, diesel, or hydro backup capacity must be maintained. If you must build and maintain full conventional capacity anyway, why spend the extra money and consume the extra land required to build

up wind and solar generation. Here again, islands face unique challenges in dealing with wind and solar intermittency. The way that California, often touted as a leader in renewable electricity generation, gets away with leaning heavily on wind and solar is that the state imports electricity from its neighbors at night or when the wind is not blowing. Indeed, imports through cross-continental grids are integral to every model that attempts to show that wind and solar can be relied upon to power a modern society. That's not an option for a remote island. Hurricanes and typhoons are another unique issue that makes wind and solar suboptimal for U.S. insular territories: solar arrays are fragile and exposed to these storms, wind turbines cannot operate in high winds and are subject to damage. At the time that electrical reliability is most crucial for a remote island, during a natural disaster, is when wind and solar are subject not just to being knock offline by a downed power line, but being rendered fully inoperable.

Third, wind and solar fail the standard of abundance, by which I mean readily available at whatever amount is needed. Wind and solar, as intermittent sources, are not always available, and as previously mentioned battery storage becomes prohibitively expensive beyond a few hours of backup. Now to be fair on this count, other generation sources can be lacking as well since physical resources must be imported from long distances to power conventional plants. But physical resources are easily stockpiled for emergencies, in a way that wind and solar electrons cannot be.

When considering the best energy supply options for U.S. territories, on the basis of affordability, reliability and abundance wind and solar are substantially deficient. Solar generation has at least some role to play, given that generation peaks during the hottest part of the day when consumption for air conditioning is highest, but it is not practical or desirable to have a grid that is reliant primarily on solar. A mix of energy sources, with the large majority provided by stable supply, should be the near term goal and long-term, LNG is probably the best solution. It is only in recent years that global LNG supplies have reached the levels that spot markets have developed. This increased supply, combined with U.S. territories' geographic location near to large LNG suppliers like Trinidad and Australia, makes LNG a real option for U.S. territories in a way that has not historical been. Finally, there are also actions Congress or the administration could take to ease the shipping costs that contribute to high energy prices in the territories.

U.S. insular territories face unique challenges in supplying the energy needed to support modern life. While wind and solar may superficially look like a way around those challenges, beyond a possible small percentage contribution, both are insufficient for supporting an entire grid, especially for a remote island. Pushing these suboptimal resources will be an expensive and unnecessary detour on the way to actual long term solutions.

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QUESTIONS SUBMITTED FOR THE RECORD TO MR. KENNY STEIN, VICE-PRESIDENT OF  
POLICY, INSTITUTE FOR ENERGY RESEARCH

### **Questions Submitted by Representative Westerman**

*Question 1. How much does it generally cost for a state or a territory to transition to renewables?*

Answer. It is hard to estimate a firm number for a variety of reasons. One, no state or territory has come anywhere close to actually transitioning to renewables if we mean wind and solar (if hydroelectric generation is included, there are a few states that get close). Two, every states' electricity situation is different: some states are members of cross-state markets, some states rely heavily on imports, some states allow natural gas to be used to backup wind and solar, and so on.

What we can say generally is that the states with the most aggressive pro-W+S mandates, regulations, and subsidies also tend to have the highest electricity rates in the country. California consistently has been at or near the top of highest electricity prices in the continental U.S., followed by all the states in the northeast. This pattern can be seen in other parts of the world like Europe, Canada and Australia where higher W+S reliance correlates with higher than average electricity rates.

*Question 2. The territories pay on average two to three times what states pay for their utilities. There are concerns that prioritizing renewable energy would cause utility prices to go up even higher in the territories.*

*Do you have an estimate on the impact of renewable energy transition has on utility prices here in the U.S.?*

Answer. As described in the previous response, estimating a firm number is difficult for a variety of reasons, there are many factors that impact utility rates, everything from the rate setting process, consumer demand, state regulations, market design, and many more.

What we can say generally is that the states with the most aggressive pro-W+S mandates, regulations, and subsidies also tend to have the highest electricity rates in the country. California consistently has been at or near the top of highest electricity prices in the continental U.S., followed by all the states in the northeast. This pattern can be seen in other parts of the world like Europe, Canada and Australia where higher W+S reliance correlates with higher that average electricity rates.

It is very clear that W+S at the grid level are very expensive. At the individual turbine, electricity appears cheap when the wind is blowing. However, the extra cost to the grid of building transmission, backup capacity, and balancing intermittency makes solar and especially wind extremely expensive at the grid level. This means higher electric rates, and these costs only increase as the percentage of renewable generation increases.

*Question 3. Why are baseload options such as natural gas and coal much more reliable and cheaper than renewables?*

Answer. On reliability, both coal and natural gas are dispatchable, they can be turned on and off, and generation can be increased or decreased, in relatively short periods of time. This means that they are ideal for responding to electric load that fluctuates throughout the day. This responsiveness makes for a more reliable electricity supply in contrast to W+S which operate on their own schedule subject to the weather. It is notable that even in states and countries that have high percentages of electricity coming from W+S, these countries mostly maintain natural gas generation capacity to backup W+S intermittency.

This intermittency is also why coal and natural gas are almost always cheaper to run at a grid level. In order for W+S heavy grids to provide reliable electricity, huge additional spending on transmission, backup, and balancing are required, spending that is largely unnecessary for a coal or natural gas based grid. In order to have a heavily W+S grid, you essentially have to overbuild, replicating the grid several times: extra W+S, extra transmission, battery or natural gas backup supply. There has to be a lot of duplication to try to account for weather unreliability, and that is expensive to build and maintain.

*Question 4. The solar panels needed for solar energy, the primary source of renewable energy for the territories, are made from critical minerals.*

*Where are the minerals being used to make the solar panels used in the U.S. coming from? Are they from the U.S.? Allied or partner countries? Our adversaries?*

Answer. It of course depends on the specific minerals needed, but the supply chains for most mineral inputs to solar panels are dominated by China, as is the supply of finished panels. Even when the mining of a mineral happens elsewhere (e.g. cobalt from Congo, or nickel from Indonesia), the processing of those minerals happens in China or are processed in other countries by Chinese companies. This dominance is similar in the supply chains of batteries, which are the posited backup for most solar projects. While some mineral input processing, for example for copper and aluminum, are relatively well distributed around the world (though China is usually the largest single processor), other minerals are heavily Chinese controlled. For example, silicon is around 80% Chinese processed, and rare earths, several of which are used in solar panels, are around 85% Chinese processed. Dominance in some battery minerals is even more significant: China controls over 90% of manganese processing and around 100% of graphite processing.

Even when the U.S. mines a mineral domestically, it is often still processed through Chinese supply chains. For example, the rare earth minerals produced at the Mountain Pass mine in California have to be shipped to China for processing.

*4a) Would it be fair to say that the Biden administration's restrictions on deep-sea mining and natural gas, coupled with the prioritization on renewables, are severely limiting our energy generation potential and pushing us to rely more on the People's Republic of China?*

Answer. Certainly. The Biden administration's mining restrictions eliminate any possibility of breaking Chinese supply dominance mentioned in the previous response. And restricting supply of natural gas, of which the U.S. has hundreds of years-worth of reserves, would mean that our energy needs have to be served by

imports. China has heavily subsidized the development of batteries and renewables because it does not have the domestic energy reserves (other than coal) that the U.S. is blessed with. Hampering domestic mineral and energy production means relying on foreign sources of those resources.

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Ms. HAGEMAN. Thank you, Mr. Stein, for your testimony.  
The Chair now recognizes Mr. Guannel for 5 minutes.

**STATEMENT OF DR. GREGORY GUANNEL, DIRECTOR,  
CARIBBEAN GREEN TECHNOLOGY CENTER, ST. THOMAS,  
U.S. VIRGIN ISLANDS**

Dr. GUANNEL. Good afternoon, Chair Hageman, Vice Chair González-Colón, and members of the Subcommittee. Thank you for the opportunity to testify today regarding the need for affordable and reliable energy sources in the insular areas. My name is Gregory Guannel, and I am the Director for the Caribbean Green Technology Center at the University of the Virgin Islands.

The U.S. territories, which are important for national security and identity, are small islands far from the mainland, with limited natural resources. We are small markets who must import fuel at high costs. Territories must operate their electricity system without the ability to tap into larger electricity markets when problems arise. As a result, we have the highest energy costs in the nation and any generation or distribution issue turns into an outage or a blackout that can last hours, days, sometimes weeks.

This situation makes access to electricity a struggle for many and a drag on the economy. Electricity and the technology that it powers is critical to conduct business, to communicate, to access water, to keep food and medicine cold. It is critical, especially for older people, breathing machines, wheelchairs, fridges for medicine, safety, lighting, all these depend on a dependable and sustained supply of electricity. In my written testimony, I provide a few examples of how residents describe reliable access to electricity as a matter of survival.

Be sure, we in the territories have adapted to living with frequent disruption and high costs. Most people, including me, own gas stoves instead of electric ones. Gas dryers and gas water heaters are common and many, including me, have their own generators. Nevertheless, our quality of life, economic competitiveness, and security is compromised by our fragile electrical infrastructure and unreliable and affordable access to fuel.

Given the critical importance that electricity plays in our lives, it is imperative that we change the way we think about power production, power delivery, and power management. We must adopt technologies that make adaptation to disruptions easier and simpler. Decentralized power production facilitated by solar power generation and batteries, and even electric cars, actually allow us to do so.

Investment and grants from Federal agencies to assist island, rural, and isolated communities to access technologies like solar power and batteries are actually critical to our survival. They allow us to modernize electricity and transportation infrastructure, build microgrid, and make sure that we have access to affordable and reliable power so that businesses can finalize the transactions,

schools can keep the AC on, military facilities and families can lead normal lives, and hospitals can continue to serve patients.

I would like to note that the case for rapid investment in alternative decentralized sources of power applies beyond the territories. Since the early 2000s, a number of severe electrical outages has been steadily increasing around the country. Last week, more than a half million people in the Northeast lost power after a series of storms. I am sure that a few of them are now considering investing in alternate sources of power and decentralized sources of power.

Also, it is important to note that in the Pacific and in the Caribbean these programs are a way to showcase American engineering technology and innovation in regions where foreign entities are aggressively offering their energy services and building large solar power plants in other nations.

Americans in the U.S. territories provide critical cultural, economic, and security services to our country. We need to ensure that programs from Federal agencies that provide assistance to diversify the energy portfolio by investing in solar power and alternative decentralized solutions continue to exist. Thank you.

[The prepared statement of Dr. Guannel follows:]

PREPARED STATEMENT OF GREGORY GUANNEL, PH.D., DIRECTOR, CARIBBEAN GREEN TECHNOLOGY CENTER, UNIVERSITY OF THE VIRGIN ISLANDS

Chair Hageman, Vice-Chair González-Colón and Members of the Subcommittee, thank you for the opportunity to testify today regarding the need for affordable and reliable energy sources in the U.S. Insular Areas. My name is Gregory Guannel, and I am the Director of the Caribbean Green Technology Center at the University of the Virgin Islands (cgtc.org).

The U.S. territories of the U.S. Virgin Islands (USVI), Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (CNMI) are small islands, far from the mainland, who experience a host of natural disasters on a regular basis. These islands, which are important for national security and identity, are also small markets, who depend on dedicated and complex supply chains to bring most of the resources they need to function. They must import their fuel sources at a relatively high cost, and operate their electricity generation, transmission and distribution systems without the ability to tap into larger electricity markets or extra human capacity when issues arise. As a result, any generation or distribution issue (mechanical failure, computer failure, natural hazards, etc.) turns into an outage or blackout for residents. Moreover, they have some of the highest electricity costs in the nation, ranging between \$0.35 to \$0.47 per kWh, compared to a U.S. average of around \$0.15 per kWh. Calculations from the Caribbean Green Technology Center at the University of the Virgin Islands, nearly 50% of the population of the USVI has a high energy burden, paying more than 6% of their annual income on electricity costs.<sup>1</sup> The other pacific territories also have a high proportion of their population with similar high energy burden. Access to affordable power is a struggle for many and a drag on the economy.

Living with and adapting to disruptions is a normal part of life in the territories. Like in rural parts of the U.S. mainland, many residents of the territory must manage and maintain services that are taken for granted in many other places such as mail delivery, road maintenance, or wastewater and water management. For example, in the U.S. Virgin Islands, the public water system only serves 38% of the population, which means that 62% of residents depend on rainwater harvesting or wells, and must operate and maintain water pumps, pressure tanks and filtration systems to meet their household water needs. Residents have also adapted to electricity disruptions, which, according to the calculations of the Caribbean Green Technology Center, happen almost every other day in the USVI and that can last a few hours,

<sup>1</sup>Statistics computed from USVI Water and Power Authority and from 2020 Census data (<https://www.census.gov/newsroom/press-releases/2023/2020-dhc-summary-file-usvi.html>)

a few days, or weeks. Most people own gas stoves instead of electric ones; gas dryers and water heaters are common; and many also own electric generators.

However, living and adapting to frequent loss of power is becoming a bigger challenge. Access to power is becoming essential for many to function, and it is for some a matter of life and death. Electricity, and the technology it powers, is critical to conduct business; to communicate and receive information as we depend on cell phones and internet; to pump water out of cisterns and wells and access water; to keep food and medicine cold; etc. Last year, CNMI declared a state of emergency as they struggled to provide power for days to their residents after the failure of some of their generating capacity. Earlier this year, commerce almost came to a standstill in American Samoa after a long blackout. Cash machines, cash registers, supply management, credit card transactions: all economic activity depends on having electricity. After hurricanes Irma and Maria, hospitals and clinics in Puerto Rico and the Virgin Islands struggled to provide care to patients without access to power. Last year, many members of the military and their families stayed in the dark without power for days in Guam after typhoon Mawar hit them. And last summer, Puerto Rico experienced blackouts for many days because demand for power was so high during their heat wave. Access to electricity is critical especially older populations whose number is rising in the territories: breathing machines, wheelchairs, fridges for medicine, safety lightning. All these depend on a dependable and sustained supply of electricity.

Ensuring that all residents of the U.S. territories have access to reliable power is critical and essential. Following hurricane Irma and Maria that hit the U.S. Virgin Islands in 2017, Dr. Alison Bates, Mr. Pagan Quinones and I conducted a series of surveys and interviews on energy issues with residents. The results of this study, which are currently under review in an academic publication, showed that reliable access to electricity is discussed as a matter of survival. Below are some excerpts from our interviews:

*"We have finally learned the importance of having a secure grid. Without a grid that can handle these enormous storms that we know will come, without being able to survive a storm and get back up immediately after a storm, there's no future for this island."*

*"The most important thing is—reliability [laughs]. We have an issue with constant power on the islands. For instance, yesterday St. Thomas—once St. Thomas loses power—St. John loses power. Automatically. It's one system. Um, so you could have times during the month, at least once or twice a month guaranteed we're going to lose power. So you have people who have health issues, medicine . . . food, and that's just during a month to month basis where you are going to lose power. So I feel we need to have something more sustainable and reliable."*

*"What is important to me is actually to have power all the time. Uh, I would gladly pay another 5, 10 cents a kilowatt if I could be guaranteed that we had power all that time, 24/7, no interruption. Because it—it is the interruptions that are ruining the economy, it's not the price of power as far as I'm concerned."*

And as the Caribbean territories are facing another summer of extreme heat, it is imperative that we change the way we think about power production, delivery and management. Given the critical importance that electricity plays in our lives, we must adopt technologies that make adaptation to disruptions easier and simpler. Diesel or gasoline generators are useful, but can be dangerous if not properly operated, and are prone to malfunction: in the USVI, the waiting list for generator maintenance is many months. This is why access to solar power generation and batteries and even electric cars are so critical to residents and other stakeholders. From interviews conducted by Dr. Bates, Mr. Pagan Quinones and I, people mentioned how critical it was for them to have access to solar generated power after the 2017 hurricanes.

*"Those who were not prepared paid the price. They either had to live and wait for [the USVI Water and Power Authority] to come back . . . people who had spent the money, and prepared, were so much better off than the people that, well first of all didn't have the inclination, but also didn't have the funds, to secure their houses and secure their power, and their backup in case [the utility] fails. They had a terrible time, but the ones that we know, that were ready, and they were—they're precious few, like us, who can get back up the next day."*



But many cannot afford the upfront cost of investing in these new technologies.

*“I think for me the main issue would be what would be the startup cost for a normal working class family to be able to switch over to renewable energy [solar] . . . it might be cheaper in the long run, but almost always starting up is a big investment and the regular working-class people can’t afford to give that lump sum at first but then we also can’t afford to live, to pay three hundred dollar bills of electricity a month.”*

Programs from Federal Agencies (USDA, DOE, DOI, etc.) to assist island communities, rural communities, and isolated communities to access technologies like solar power and batteries, to modernize their electricity and transportation infrastructure, to build microgrids, and to ensure that all have access to affordable and reliable power especially in times of crisis are critical to their survival. These programs ensure, as one interviewee quoted above mentioned, that territories have a future. Accessing affordable and reliable energy sources means that businesses can finalize transactions, internet and conference calls are not interrupted, schools do not lose AC or lights, or hospitals can continue to serve patients.

The case of rapid investment in alternate, decentralized sources of power in the United States goes beyond what we have observed or lived in the U.S. Territories. In the United States, the number of severe electrical outages has been steadily increasing since the early 2000s, as shown in Figure 1 from data published by the Office of Cybersecurity, Energy Security and Emergency Response of the Department of Energy and compiled by the Caribbean Green Technology Center at the University of the Virgin Islands. Last week, more than half a million people in the Northeast lost power after a series of storms. Many of these people probably share the same sentiments as those expressed in the territories when power goes out. And I’m sure that a few of them are now considering investing in alternate source of power to protect themselves in the future and ensure they have a reliable source of power.

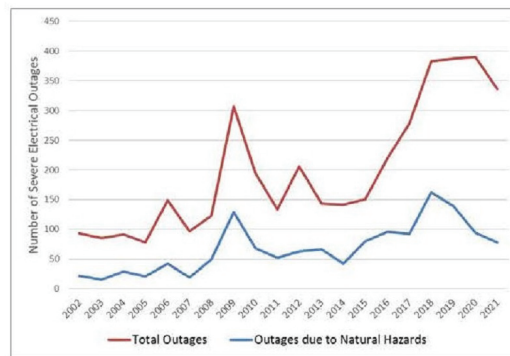


Figure 1: Total number of severe electrical outages and number of outages due to natural hazards in the U.S. Causes of outages vary from equipment malfunction, operation issues, vandalism, cyber attacks or storms. Data Source: CERES (2024).<sup>2</sup>

Access to electricity is critical to life as we live it now. The U.S. Territories, where Americans who provide critical cultural, economic and security services to our country live, have and will continue to thrive in an environment where disruptions and adaptation are a way of life. Nevertheless, investments and grants from Federal Agencies to increase the portfolio of energy sources and solar in particular make a difference and increase our overall resilience: they make access to electricity affordable and reliable. These programs are also a way to showcase American engineering and technologies in regions where foreign entities like China are aggressively making investments and offering their energy services.

<sup>2</sup>Office of Cybersecurity, Energy Security and Emergency Response of the Department of Energy (CERES) [https://www.oe.netl.doe.gov/OE417\\_annual\\_summary.aspx](https://www.oe.netl.doe.gov/OE417_annual_summary.aspx); Accessed April 9, 2024.

In order to ensure our most distant territories do not become our weakest national security and economic links we need to:

- ensure like programs like Energizing Insular Communities continue to fund resilience activities in the U.S. Territories, such as increasing the construction of microgrids or purchasing large solar systems for critical infrastructure systems,
- provide opportunities for residents to invest in their own electricity generation and storage technologies like solar modules and batteries,
- increase the presence, technical assistance of Federal Agencies and the Department of Energy in particular to insular areas in the wider Pacific and Caribbean regions.

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QUESTIONS SUBMITTED FOR THE RECORD TO DR. GUANNEL, DIRECTOR, CARIBBEAN GREEN TECHNOLOGY CENTER

**Dr. Guannel did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.**

**Questions Submitted by Representative Westerman**

*Question 1. Power outages and the lack of reliable energy is a concerning reality felt by residents of the U.S. territories. Hurricanes Irma and Maria tore apart solar panels and left residents without power for weeks.*

*Would you agree that it is important for the Insular Areas to have access to reliable and cost-effective energy?*

*Question 2. In your testimony, you said that solar energy would make electricity affordable, however solar energy requires more transmission spending than traditional energy sources such as oil and gas. Solar often comes at the price of needing backup capacity such as gas or hydro. How then, do you rationalize solar energy being affordable?*

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Ms. HAGEMAN. Thank you, Mr. Guannel, for your testimony.  
The Chair now recognizes Mr. Fisher for 5 minutes.

**STATEMENT OF TRAVIS FISHER, DIRECTOR, ENERGY AND ENVIRONMENTAL POLICY STUDIES, CATO INSTITUTE, WASHINGTON, DC**

Mr. FISHER. Thank you, Chairman Hageman, Ranking Member Leger Fernández, and distinguished members of the Subcommittee. I am Travis Fisher. I am the Director of Energy and Environmental Policy Studies at the Cato Institute, a non-partisan public policy research organization in Washington, DC. It is an honor to be invited to speak with you today about the reliability and affordability of electricity in the United States.

In every part of the country, the power grid should be an asset to American prosperity, but policymakers have wounded our grids with subsidies, regulations, and mandates. Across the United States, the power grid is straining under two significant pressures: decades of unwise policy on the one hand, and the resurgence of electricity demand growth on the other. We must keep all energy resources on the table, including fossil fuels, if we want our grids to be affordable and reliable.

The Biden administration has said it wants the United States to use 100 percent CO<sub>2</sub>-free electricity by 2035 to tackle the climate crisis, which it views as an existential threat. In my opinion, the

bigger threat to Americans comes not from climate change but from overzealous central planners who will cause an energy crisis.

For example, forcing the U.S. insular areas to abandon fossil fuels would put these areas at risk of price spikes and blackouts. Getting rid of fuels like coal, oil, propane, and natural gas means relying more heavily on intermittent resources, like wind and solar, and building large battery systems to back them up. Increasing costs should be a non-starter in low-income areas. Using batteries to convert solar energy into a reliable resource increases its cost by more than three-fold.

All technologies have a role to play, but forcing a transition to weather-dependent resources is especially unwise in the face of climate change. Think about it, if we expect extreme weather to be a growing problem going forward, then why should we make our electricity systems weather dependent? Along those lines, I want to highlight three major Federal policies that hurt grid reliability and affordability. Although most of my work covers the mainland, these concerns apply to the insular areas, too.

First is a set of production tax credits in the Inflation Reduction Act, or IRA. These could cost American taxpayers \$3 trillion by 2050. These tax credits reward electricity production from unreliable resources and speed up the retirement of reliable power plants. The result is a weaker and more expensive grid over time, not to mention a deepening fiscal crisis for the country.

Second is the tailpipe emissions rule from the Environmental Protection Agency, or EPA. This is a defective mandate for electric vehicles. The final rule seeks to ensure that by 2032 about two-thirds of new vehicles sold will be electric. This rule not only limits American's choice of vehicles but it also places immense stress on the power grid.

Third is the proposed power plant rule from the EPA. This proposed rule mandates two technologies that are not adequately demonstrated as the statute says, which are carbon capture and green hydrogen. The EPA says carbon capture and green hydrogen are adequately demonstrated because they are adequately subsidized by the IRA.

If you take these together, these policies mean more demand on the grid and less reliable supply. The predictable result is higher power bills and increased risk of blackouts for electricity customers everywhere.

Hawaii offers a stark reminder of the dangers of a forced energy transition in an island setting. In Hawaii, anti-coal public policies drove the closure of the state's last coal-fired power plant. In practice, the replacement energy has come from more expensive oil-fired power plants along with solar and battery systems. Grid reliability suffered.

In January of this year, over 100,000 Hawaiians faced rolling blackouts because the energy system was not resilient to bad weather. The immediate cause was a severe rainstorm, but the underlying lack of energy security came from policymakers. It was policymakers who decided that Hawaii's energy resources should be dependent on the weather.

The American people want reliable and affordable electricity and policymakers should listen. The energy crisis can be stopped

because it is being driven by unwise policies and we can reform them. If we keep all energy options on the table, we can ensure reliable and affordable energy for the U.S. insular areas.

[The prepared statement of Mr. Fisher follows:]

PREPARED STATEMENT OF TRAVIS FISHER, DIRECTOR OF ENERGY AND  
ENVIRONMENTAL POLICY STUDIES, CATO INSTITUTE

Chairman Hageman, Ranking Member Fernández, and distinguished members of the subcommittee:

Thank you for the opportunity to testify on the reliability and affordability of America's electrical grid. The Cato Institute is a nonpartisan public policy research organization dedicated to the principles of individual liberty, limited government, free markets, and peace. I am the Director of Energy and Environmental Policy Studies at Cato, and my research focuses on the economics and reliability of electricity, the role of free markets in improving the availability and affordability of energy and natural resources, and environmental regulations that impact the energy sector.

I commend you for examining the impacts of public policy on the reliability and affordability of America's power grids, especially in the U.S. Insular Areas.

#### **Executive Summary**

Americans depend on a strong energy infrastructure for our health and well-being, and the electrical grid is the most important—and fragile—piece of energy infrastructure we have. Unfortunately, power grids across the country are damaged by public policies at nearly every level of government.

The stakes for policymakers are high, and the impacts of flawed energy policies are coming into starker focus every day. For example, Hawaii's forced energy transition began to show signs of strain in January of this year when the local utility was unable to meet demand for several hours during a rainstorm.

During extreme weather, Americans need reliable electricity to survive. Day to day, we need reliable and affordable electricity to thrive and grow.

The power grid should be an asset to American prosperity, but policymakers—through a multitude of subsidies, regulations, and mandates—have wounded it to the point that it is now becoming a dangerous liability.

#### **I. Reliable and Low-Cost Electricity is Essential**

At the turn of the millennium, the National Academies of Engineering ranked the electric grid the greatest engineering achievement of the twentieth century.<sup>1</sup> The main criterion for selection was how much an achievement improved people's quality of life. Access to reliable electricity improves the quality of life of every American.

There is a clear nexus between the affordability of electricity and energy security at the household level. A recent Congressional Research Service (CRS) report on electric utility disconnections highlighted the hardships and threats to energy security faced by many American families:

“Researchers estimate that approximately 1% of households are disconnected each year. Broader measures of energy insecurity (e.g., foregoing other necessary expenses like food or medicine) are higher, with approximately 30% of American households experiencing some form of energy insecurity. Black and Hispanic households appear more likely to be disconnected than non-Hispanic White households. For many American families, electric utility disconnections are the most significant threat to energy security.”<sup>2</sup>

Data compiled by CRS highlight the affordability challenge: “The share of Black households experiencing energy insecurity is about twice as high as that for White households (52% compared to 27% in 2020). Similarly, the share of Hispanic or Latino households experiencing energy insecurity is about twice as high as that for households that are not Hispanic or Latino (47% compared to 25% in 2020).”

<sup>1</sup>Wm. A. Wulf, *Great Achievements and Grand Challenges*, National Academy of Engineering, Sept. 1, 2000, <https://www.nae.edu/7461/GreatAchievementsandGrandChallenges>

<sup>2</sup>U.S. Congressional Research Service, *Electric Utility Disconnections*, January 31, 2023, <https://crsreports.congress.gov/product/pdf/R/R47417>

In the U.S. Insular Areas—which have electricity rates<sup>3</sup> and poverty levels<sup>4</sup> that are well above the mainland U.S. average—access to affordable energy is an even greater challenge. Grants seeking to move Insular Areas away from fossil fuels will: 1) not meaningfully impact the global climate given their small greenhouse gas footprints and 2) exacerbate the energy insecurity of these areas by limiting their primary energy sources to intermittent, weather-based resources like solar and wind.

## II. Energy Policies Are Undermining Reliability and Affordability

Under a reasonable set of regulations, electricity suppliers will rise to meet challenges and deliver low-cost, reliable electricity to consumers across the United States. However, energy and environmental policies are creating predictable problems with grid reliability and affordability.

Last year, for the first time ever, NERC identified energy policy as a leading risk factor for electric reliability.<sup>5</sup> In NERC’s *2023 ERO Reliability Risk Priorities Report*, the energy transition—specifically the changing resource mix—tops the risk rankings.



Figure 3: 2023 Risk Ranking

The reliability impacts on island systems could be more profound than the impacts on mainland systems. That is because smaller, islanded systems already face much lower levels of system inertia. In other words, energy policies that force the shutdown of high-inertia generators (such as large thermal plants fueled by hydrocarbons) place an outsized risk on island systems. Observers have been aware of the problems associated with inertia-less solar power for quite some time.

“Especially in island grids which already have a lower inertia than large interconnected systems, the frequency response will be highly deteriorated when conventional generation is replaced by solar or wind power.”<sup>6</sup>

In addition to minute-by-minute grid frequency challenges, forced retirements of thermal generation can also cause problems with aggregate electricity supply, commonly called resource adequacy. A lack of resilient supply caused more than 100,000

<sup>3</sup> U.S. Energy Information Administration, *American Samoa Territory Energy Profile*, (stating that “Electricity prices in American Samoa vary with world petroleum prices. In 2022, the territory’s average electricity price was almost 45 cents per kilowatthour, about 3.6 times higher than the U.S. average”), accessed on April 9, 2024, <https://www.eia.gov/state/print.php?sid=AQ>

<sup>4</sup> U.S. Census Bureau, *2020 Island Areas Censuses: American Samoa* (showing that over 50 percent of families in American Samoa live below the poverty line), accessed on April 9, 2024, <https://data.census.gov/table/DECENNIALDPAS2020.DP3?g=040XX00US60&d=DECIA%20American%20Samoa%20Demographic%20Profile&tid=DECENNIALDPAS2020.DP3>

<sup>5</sup> Robert Walton, *NERC Assessment Identifies New Risk to Grid Reliability: Energy Policy*, Utility Dive, Aug. 23, 2023, <https://www.utilitydive.com/news/nerc-assessment-new-risk-grid-reliability-energy-policy/691590/>

<sup>6</sup> Pieter Tielens and Dirk Van Hertem, *Grid Inertia and Frequency Control in Power Systems with High Penetration of Renewables*, January 2012, [https://lirias.kuleuven.be/bitstream/123456789/345286/1/Grid\\_Inertia\\_and\\_Frequency\\_Control\\_in\\_Power\\_Systems\\_with\\_High\\_Penetration\\_of\\_Renewables.pdf](https://lirias.kuleuven.be/bitstream/123456789/345286/1/Grid_Inertia_and_Frequency_Control_in_Power_Systems_with_High_Penetration_of_Renewables.pdf)

Hawaiians to lose electric service during a rainstorm in January of this year.<sup>7</sup> Blackouts and cost increases should not be the norm in America, yet policymakers continue to set the stage for both.

Regarding cost increases, utility officials warned that the closure of Hawaii's last coal-fired power plant would increase electricity rates because "oil-generated power costs as much as five times more than coal."<sup>8</sup> Oil-generated electricity may not always be so much more expensive than coal-generated electricity, but it is well known that oil markets are significantly more volatile than coal markets. Closing the door on coal and forcing island communities to get by on other resources clearly cuts against the goal of ensuring a reliable and affordable grid.

Below is a snapshot of three public policies that pose a significant risk to reliable, secure, and affordable electricity on the mainland and in the U.S. Insular Areas.

#### A. *The Inflation Reduction Act Weakens the Grid with Subsidies*

The Inflation Reduction Act (IRA) threatens to undermine the well-functioning of the power grid by flooding it with subsidized, intermittent energy. One inescapable fact of the electricity industry is that dispatchable resources are necessary to match supply with demand and keep the grid energized at all times.<sup>9</sup> By providing unlimited amounts of subsidies to intermittent resources like wind and solar energy, the IRA erodes the economics of dispatchable resources.

If we look beyond the 10-year budget window, the cost of the IRA credits could increase and remain high for years, perhaps indefinitely. That is because the "applicable year" when the production tax credit (PTC) in the IRA is supposed to phase down is triggered by an impossible-to-meet greenhouse gas (GHG) reduction target. Specifically, GHG emissions in the electricity sector must fall to 25 percent of their 2022 level for the PTC to begin to phase down.

The total cost of energy credits in the IRA is an unstable number with no reasonable cap. Note that the target in the IRA is a GHG emissions *level* rather than a GHG *intensity*. The U.S. Energy Information Administration (EIA) analyzed electricity sector GHG emissions in the IRA reference case (and in the no-IRA case) and found neither case to hit the "applicable year" target by 2050. Hence, the IRA subsidies are set to pile up for decades, potentially reaching \$3 trillion in just the PTC alone.<sup>10</sup>

The distinction between a level-based and intensity-based target matters because electricity demand is growing, making the IRA targets even harder to hit. The chart below assumes GHG emissions targets will be hit around the year 2050.<sup>11</sup> It is an illustrative example of how large the IRA subsidies could be. To be clear, I do not believe the GHG emissions targets in the IRA will be met by 2050.

<sup>7</sup>Keli'i Akina, Ph.D., Are rolling blackouts the price Hawaii must pay for clean energy?, Grassroot Institute of Hawaii, January 13, 2024, <https://www.grassrootinstitute.org/2024/01/are-rolling-blackouts-the-price-hawaii-must-pay-for-clean-energy/>

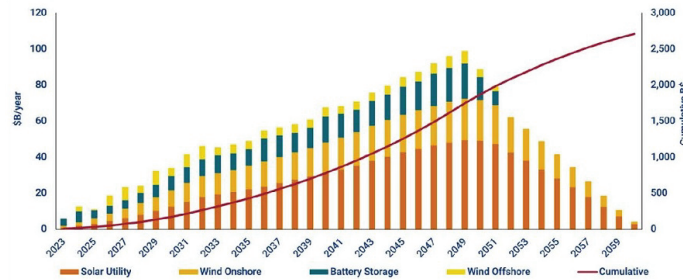
<sup>8</sup>Gina Mangieri, *Power cost hike, supply crunch ahead as last Hawaii coal plant closes*, KHON2, June 24, 2022, <https://www.khon2.com/always-investigating/power-cost-hike-supply-crunch-ahead-as-last-hawaii-coal-plant-closes/>

<sup>9</sup>Jeff Turcotte, *An Electrified Economy Needs Dispatchable Generation: EPSA's Takeaways From the White House Electrification Summit*, Electric Power Supply Association, Dec. 21, 2022, <https://epsa.org/an-electrified-economy-needs-dispatchable-generation-epsas-takeaways-from-the-white-house-electrification-summit/>

<sup>10</sup>Travis Fisher, *The Inflation Reduction Act's Energy Subsidies Are More Expensive Than You Think*, Cato Institute, Sep. 5, 2023, <https://www.cato.org/blog/iras-energy-subsidies-are-more-expensive-you-think>

<sup>11</sup>Ryan Sweezey, *The Indefinite Inflation Reduction Act: Will Tax Credits for Renewables Be Around for Decades?*, Wood Mackenzie, Mar. 8, 2023, <https://www.woodmac.com/news/opinion/IRA-tax-credits-for-renewables/>

Estimated IRA-enabled new PTC/ITC value for utility-scale renewables and storage



Source: Wood Mackenzie North America Power Service 2022 Base Case Update. Note that this only includes the value of tax credits for utility-scale wind, solar and storage. This assumes utility scale solar elects the PTC.

As discussed below, the IRA also enables the Environmental Protection Agency (EPA) to claim certain unproven technologies are *adequately demonstrated* when, in fact, they are merely *adequately subsidized*. Thus, the IRA forms the basis of the EPA's Best System of Emission Reduction (BSER). Basing permanent rulemakings on temporary budget reconciliation measures like the IRA is inappropriate.

#### B. EPA Regulations Hurt Reliability and Affordability

The EPA's regulatory regime is laden with legal infirmities, conflicts of interest, and technical and economic problems. The proposed power plant GHG regulation—sometimes referred to as CPP 2.0 because it's the second attempt at a Clean Power Plan—relies on technologies that have not been “adequately demonstrated” by any stretch of the meaning of that term.<sup>12</sup> The proposal is so legally dubious that I am concerned the goal of the policy is to inject uncertainty in the planning and financing of hydrocarbon-based electricity generation rather than to enact a durable regulation.

As mentioned above, the energy subsidies in the IRA enable the EPA's overreach because they allow the EPA to set standards based on hypothetical deployment of highly subsidized resources. In the CPP 2.0 proposal, EPA relied explicitly on the subsidies in the IRA to claim that the BSER technologies—carbon capture and storage (CCS) and low-GHG hydrogen—are “adequately demonstrated.”<sup>13</sup> A corollary of EPA's reliance on IRA subsidies is that, when fiscal realities demand a claw-back of IRA subsidies, the CPP 2.0 will have to be clawed back as well.

Assuming CPP 2.0 does not receive an immediate stay from the courts, its practical impact will be to greatly reduce the supply of electricity. Given that CCS is not commercially available at any useful scale, the only compliance option for owners of coal-fired power plants is to shut down. The same goes for natural gas-fired generators—low-GHG hydrogen is at best very expensive and at worst unavailable. The inevitable result of the rule is the shutdown of a significant amount of reliable generation.

The proposed tailpipe emissions standard, if found to be legal, will of course limit the choices Americans have in our vehicles, but it will also greatly increase the demand for electricity. That is because a significant amount of the energy needed for transportation will have to shift from being supplied by petroleum (gasoline and diesel) to being supplied by the power grid. In other words, the tailpipe rule will further increase demand growth, which is already accelerating.

The result of reduced supply and increased demand is straightforward to predict: increased prices and, unfortunately, energy shortfalls. What that means for a typical electricity consumer is a higher power bill and an increased risk of blackouts.<sup>14</sup> According to NERC, we are already in an elevated risk scenario. Hence any EPA

<sup>12</sup> Editorial Board, *EPA and Its Biden Administration Critics*, Wall Street Journal, Feb. 21, 2024, <https://www.wsj.com/articles/epa-and-its-biden-administration-critics-fossil-fuel-carbon-tech-931eb26e>

<sup>13</sup> Travis Fisher, *How the Inflation Reduction Act Bankrolls EPA Overreach*, Cato Institute, Oct. 9, 2023, <https://www.cato.org/blog/how-inflation-reduction-act-bankrolls-epa-overreach>

<sup>14</sup> Travis Fisher, *Public Comment Re: New Source Performance Standards for GHG Emissions from New and Reconstructed EGUs*, Docket ID No. EPA-HQ-OAR-2023-0072; FRL-8536-04-OAR; RIN 2060-AV09, Cato Institute, Dec. 20, 2023, <https://www.cato.org/sites/cato.org/files/2024-01/fisher-public-comment-12-20-23.pdf>

proposal to force an increase in demand or a decrease in supply—including the tailpipe rule and CPP 2.0—will further weaken an already fragile grid.

### III. EPA's Regulatory Impact Assessments Are Inadequate

In the case of both the tailpipe rule and CPP 2.0, the EPA used a proprietary model developed by an outside consulting firm to estimate the impacts of the rules on the retail price of electricity. Although the price estimates are something of a black box, there are indications that the process is deeply flawed.

The draft regulatory impact assessment for the tailpipe rule states that “[r]egional average retail electricity price differences showed small increases or decreases (less than approximately 1 to 2 percent),” meaning that EPA’s price model violates the law of supply. In no case should a rule that forces the rapid electrification of the transportation fleet—which represents a large increase in the demand for electricity—cause a reduction in prices.

Regarding the price impacts of CPP 2.0, EPA finds that vastly reducing the supply of electricity generation would only increase retail electricity prices by 0.2% in 2035 on average.<sup>15</sup> This is an implausible estimate made possible by a proprietary model. Why would the EPA not rely on the Energy Information Administration, an independent wing of the U.S. Department of Energy? The EIA is more than capable of modeling the cost impacts of CPP 2.0, as it showed when it modeled the cost impacts of the original Clean Power Plan using the National Energy Modeling System.<sup>16</sup>

The EPA could also inflate the estimated benefits of its own regulations. In both the tailpipe rule and CPP 2.0, the EPA is poised to use a greatly increased estimate of the Social Cost of Carbon Dioxide (SC-CO<sub>2</sub>) to justify its proposals. One fundamental problem (among others) is that the EPA is moving ahead of the Interagency Working Group process to update the SC-CO<sub>2</sub> and instead using its own estimate. In other words, the EPA can print its own regulatory currency—the SC-CO<sub>2</sub>—to be used in justifying its own rules under the required cost-benefit analyses.

As I wrote in formal comments to the EPA regarding CPP 2.0, the EPA should improve its rulemaking by offering an objective, unbiased assessment of the reliability and cost impacts.<sup>17</sup> To that end, the EPA should issue a new supplemental notice seeking comment on the impact of the rule on the cost of electricity.

### IV. A Reliable and Affordable Grid Requires Less Government Intervention

As I see it, there are two starkly different paths forward regarding electricity policy. The first, which I endorse, is to embrace American values and foster an electricity industry that is built on fierce competition to serve consumers. The second, which I fear is taking hold presently through the IRA and EPA rules discussed above, is to force an unwise transition to politically favored, intermittent resources.

Intermittent resources such as wind and solar energy should be allowed to take their rightful place in electricity systems. Congress should remove the IRA subsidies (along with all energy subsidies, including subsidies for hydrocarbons and nuclear energy) to encourage right-sized investments in energy resources that leave electricity customers and federal taxpayers better off. The IRA will force significant amounts of intermittent energy onto the grid—far more than would be consistent with the goal of ensuring a reliable grid at least cost to consumers and taxpayers. At the same time, the EPA is recklessly shutting down reliable generation.

Rather than allowing an energy crisis of their own making to unfold, policymakers should foster a reliable, low-cost grid that provides a solid foundation upon which to build a strong and growing American economy. The way to ensure a robust grid is simply to remove the harm inflicted by unwise energy policy.

Finally, I urge policymakers to show restraint and humility when interfering with the electric power sector. Policymakers have important decisions to make about America’s energy future, and it is vital that members of Congress and other policymakers first do no harm. As NERC has noted, “[e]ducation for policymakers and

<sup>15</sup> Ethan Howland, *EPA proposes power plant greenhouse gas limits with carbon capture, ‘green’ hydrogen main compliance options*, Utility Dive, May 11, 2023, <https://www.utilitydive.com/news/epa-ghg-carbon-emission-limits-power-plants-carbon-capture-hydrogen/650039/>

<sup>16</sup> U.S. Energy Information Administration, *Analysis of the Impacts of the Clean Power Plan*, May 2015, <https://www.eia.gov/analysis/requests/powerplants/cleanplan/pdf/powerplant.pdf>

<sup>17</sup> Travis Fisher, *Public Comment Re: New Source Performance Standards for GHG Emissions from New and Reconstructed EGUs*, Docket ID No. EPA-HQ-OAR-2023-0072; FRL-8536-04-OAR; RIN 2060-AV09, Cato Institute, Dec. 20, 2023, <https://www.cato.org/sites/cato.org/files/2024-01/fisher-public-comment-12-20-23.pdf>



regulators to increase awareness of the reliability implications of policy decisions is a critical need.”<sup>18</sup>

Thank you for the opportunity to provide testimony on the critical issue of the reliability and affordability of America’s electric grids.

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QUESTIONS SUBMITTED FOR THE RECORD TO MR. TRAVIS FISHER, DIRECTOR OF  
ENERGY AND ENVIRONMENTAL POLICY STUDIES, CATO INSTITUTE

**Mr. Fisher did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.**

**Questions Submitted by Representative Westerman**

*Question 1. The territories pay on average two to three times what states pay for their utilities. There are concerns that prioritizing renewable energy would cause utility prices to go up even higher in the territories.*

*Do you have an estimate on the impact of renewable energy transition has on utility prices here in the U.S.?*

*Question 2. Why does the transition to renewables drive up the utility costs for Americans?*

*2a) Would it be fair to say that the transition to renewables would further increase utility costs for the territories?*

*2b) Would it also be fair to say that allowing for the territories to have self-determination through an all-of-the-above energy approach would help drive down energy costs?*

*Question 3. Do you believe there are economic drawbacks of prioritizing renewable energy in the territories? And if so, what do you think those are?*

**Questions Submitted by Representative Leger Fernández**

*Question 1. California recently achieved an historic milestone of producing enough energy from renewable sources to meet 100% of consumer demand for 31 days (and counting, as of April 16, 2024). If such an achievement is possible in California, which has significantly higher energy demand than any of the U.S. Territories, why should we not invest in helping the territories reach their renewable energy generation targets?*

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Ms. HAGEMAN. Thank you, Mr. Fisher, for your testimony.

I am now going to recognize the Members for 5 minutes of questioning, and I am going to begin with Mr. LaMalfa.

Mr. LAMALFA. Thank you, Madam Chairman, for convening the hearing, thanks for being recognized, and panelists for your time with us here today.

I am going to start right at the top. Panelists, each one of you please, what is your estimate of the percentage of carbon dioxide in our atmosphere? What percent of our atmosphere is made up of carbon dioxide? Please just run down the line at your best estimate.

Mr. FISHER. I will start with 0.42 percent, 420 parts per million.

Mr. LAMALFA. OK. Anybody else? Three others. I want answers, please. What do you think it is?

Mr. FISHER. So, .042 percent. I got the decimal wrong.

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<sup>18</sup> North American Electric Reliability Corp., *2023 ERO Reliability Risk Priorities Report*, Aug. 2023, p. 21, [https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC\\_ERO\\_Priorities\\_Report\\_2023\\_Board\\_Approved\\_Aug\\_17\\_2023.pdf](https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC_ERO_Priorities_Report_2023_Board_Approved_Aug_17_2023.pdf)

Mr. STEIN. Yes, .04 percent.

Mr. LAMALFA. Is that a consensus of all five of you, .042?

Mr. FLEMING. I don't have a counter statement to that, so I would align.

Mr. BREWER. No idea, Congressman.

Dr. GUANNEL. That is fine.

Mr. LAMALFA. OK. All right. Well, thank you. I always like to start out these climate change and CO<sub>2</sub> greenhouse gas conversations with where are we starting, so I got two actually very correct answers. I appreciate that. A typical response is somewhere between 20 and 50 percent by the person on the street who is busy with their lives and such. So, that is our baseline, .04 percent of our atmosphere is CO<sub>2</sub>, yet we are hellbent in this country and other western countries to somehow get rid of our energy grid and our way of life to accomplish trying to bend that number just a little bit lower when you can hardly even find it on a chart.

As this applies to our Committee work and our insular affairs here, I did have a chance to visit Puerto Rico and look at their generating plant there. It is antiquated, an old diesel set up there. I am sure they gladly have it rather than nothing. But upgrading and moving in a different direction would be forward thinking for all these entities, all the island areas that have unique challenges with keeping a grid going and up to speed.

Interestingly, I saw a piece by Toyota today, and Mr. Toyota with quotes in the past when he was talking about the way forward is not electric vehicles. And they had an equation, the 1:6:90 rule, maybe you have heard of that. But for every one electric car, fully electric car that you can build, the amount of minerals and special metals needed to do that, you can make six plug-in hybrid electric cars or 90 regular hybrid cars.

So, we are hellbent on forcing people into electric cars with minerals and metals that aren't even available, and we don't even permit mines in this country in order to get the materials we need, they all have to be imported. Yet, you hear you could build 90 hybrid vehicles for what it takes to build one, and that is from Toyota. So, we are applying this same kind of thinking towards forcing ourselves into the type of power plants that would put us in a similar vein.

And I love the analogy on weather dependent because we just saw that in Texas, where a weather dependent grid there got knocked out by a hail storm. And the eclipse might be a fun example, all of our solar technology was diminished for a few minutes there amongst all the other crises that came out during the hysteria over an eclipse.

Let me throw a couple questions here quick to Mr. Fisher and Mr. Stein. Can you highlight some more of the advantages of non-renewable sources like liquified natural gas from the United States, which we produce abundantly, or when you are talking the island regions way down there in the South Pacific that maybe even are a regional ally and shipping advantage would have in supplying gas to the islands there versus weather dependent and unreliable sources like wind and solar? Let me throw that first to Mr. Fisher and then Mr. Stein on deck.

Mr. FISHER. It is a great question. The short answer is you have more portability in liquid fuels for sure and LNG as well, you have more ability to store the fuel, and probably the main advantage is it is controllable. In the sense of the eclipse, we had no control over where the moon was in that moment. We do have control over a unit that you can simply fire up or turn off.

Mr. LAMALFA. A stationary fuel source that you can control 24/7. Mr. Fisher?

Mr. FISHER. Yes. And as I said in my testimony, I think that LNG, it is only just today, within the last year or two, where LNG has even theoretically become an option because of the growth in LNG exports around the world. So, it is something that in the past has never even been considered because it wasn't really a realistic option, and I think that is why it is very important to not reject that for ideological reasons. As I said, Australia is one of the largest producers of LNG for export in the world and the South Pacific territories are actually located in an excellent location to take advantage of that.

Mr. LAMALFA. So, low cost 24/7 available power sources that you can control yourself. Yep. All right.

Madam Chair, let's not forget small modular nuclear reactors could be ideal in the right setting, too. I will yield back, Madam Chair. Thank you.

Ms. HAGEMAN. Thank you. The Chair now recognizes Ms. Leger Fernández, the Ranking Member.

Ms. LEGER FERNÁNDEZ. Thank you so much. And I would point out that it strikes me that we have two witnesses on the panel, leaving aside the government, who actually live in the islands, who actually have lived through the typhoons or hurricanes that you have described in your testimonies as suffering at more disastrous impacts because of climate change. I find that testimony incredibly valuable.

I also find incredibly valuable the fact that two witnesses who actually are on the ground running utilities, running the energy companies that your communities rely on are advocating for diversifying the energy sources. And I am hearing from you that you want to see diversification. You are not saying we want to eliminate anything altogether, but you want to see some diversity.

And, Dr. Guannel and Mr. Fleming, you point out the importance of microgrids, the importance of bringing solar and perhaps wind in to bring down the cost. Am I understanding that correctly that you see this as important to both the economic prosperity of your islands but also very important with regards to health and everything that you rely on? Can you just describe real quickly why you think that that diversification, those microgrids are important? I will go first to Dr. Guannel.

Dr. GUANNEL. Yes. We believe that it is actually very important, and I can speak for myself and many of the residents of the Virgin Islands. Diversification is critical because most islands in the territories only have one power plant. If the power plant goes down, nobody has power regardless of what is going on. If the distribution system has a problem, sometimes they turn off the entire system just to protect it.

So, the ability for people to have access to electricity is critical. It is not a question of do I think this, do I think that, it is a question of can I have the light on, can I live my life, and access to electricity is the issue. The advantage of solar is that it allows houses, communities to have access to this electricity without really thinking too hard about the intricacy of running a power plant.

Many people purchase solar and make the investment because they know that, first of all, after 10 years or so, sometimes 5 years, they no longer have to pay anything at all, and they continue to receive the benefit of the electricity being produced. When there is a problem, they have access to electricity.

Ms. LEGER FERNÁNDEZ. Thank you.

Dr. GUANNEL. Et cetera, et cetera. The issue is really access.

Ms. LEGER FERNÁNDEZ. Thank you. So, the price actually then stabilizes for them so they are not subject to the fluctuations that we incur. I have a couple of more questions, but thank you.

Mr. Fleming, if you could quickly answer the question with regards to the benefits of having the diversification, the solar and the wind.

Mr. FLEMING. Yes, so diversification is really at the core of everything that we look at from an energy standpoint in the territory. I think the term was used earlier, abandoning, and we are by no stretch abandoning our current need for thermal generation that is driven by fossil fuels. We are currently in the process of commissioning new, more efficient thermal generation on the island of St. Thomas. We are paving a path for establishing efficient generation on St. Croix as well, because we are currently operating antiquated, legacy, inefficient generation, so realizing our dependence on fossil fuels in parallel with our growing penetration of renewables, we still need to have an efficient baseload because that is how we actually maximize the diversification with the additional renewables.

And I will highlight one project specifically tied directly to the OIA. We recently commissioned a microgrid at an emergency shelter on St. Croix. This was the largest emergency shelter on St. Croix which was funded through Energizing Insular Communities Grant which incorporates solar, battery, and a diesel gen set on site.

Ms. LEGER FERNÁNDEZ. Thank you very much.

I just want ask Mr. Brewer, do you pick winners and losers?

Mr. BREWER. Thank you, Congresswoman. No, ma'am, we don't. The EIC program follows the priorities set by the territories. They are in the lead. They set their priorities and then they share those priorities with us, and then we are able to, based on our criteria, see how they qualify for the EIC program, and those that qualify for the program receive the grants.

Ms. LEGER FERNÁNDEZ. Right. My time is up, but I like the fact that the answers have actually told us that the people in the territories, at least what we are hearing today, they are asking for this and you are responding to that.

With that, Madam Chair, I yield back.

Ms. HAGEMAN. The Chair now recognizes Mr. Sablan for 5 minutes of questioning.

Mr. SABLAN. Thank you, Madam Chair, and welcome to all the witnesses. I am trying to figure out how differences with the Biden administration energy plans, which I support, have become a subject of the territories.

Mr. Brewer, welcome, and I want to thank your office and the Department of the Interior for your support of the Energizing Insular Communities Program that helps the insular areas reduce our reliance on expenditures on imported fuels and move towards developing and utilizing domestic energy sources.

As you note in your testimony, residents in the territories face steep challenges to meet energy needs due to remote geographies that need to import fuel and the constant threat of natural disasters, particularly powerful storms that are becoming more damaging and more frequent. This leads to energy rates in the insular areas that are an average of two-and-a-half times greater than rates in the mainland, and electricity rates for residential customers in my district, the Northern Mariana Islands, is regularly over 40 cents per kilowatt hour. The Majority claims that the Biden administration through the Department of the Interior is pushing the insular areas toward solar, wind, and other sources of clean renewable energy. Biden's One Energy they are calling it.

Mr. Brewer, please know that if you were going to issue grants that don't support renewable energy, you are going to be violating the law, won't you?

The law is intended to assist the insular areas in developing and implementing plans to move the insular areas away from their reliance on costly imported fuels to cheaper domestic sources of energy. That is the law, Public Law 109-59 and 113-235. I don't know what we are arguing here. I don't think you violated the law.

Mr. BREWER. Congressman, thank you. A couple of points. Let me be clear, there is no language in the EIC that precludes a territory from applying for funding from any source.

Mr. SABLAN. Right. No, I understand that.

Mr. BREWER. There is no source that is—

Mr. SABLAN. But it moves the insular, the territories, it moves them, assists them to develop and implement plans to move away from fossil fuels because I don't have fossil fuels in the Northern Marianas, but we have the sun.

Mr. BREWER. If the CNMI energy plan has given priority for solar energy, wind, whatever form of energy that it has seen as a priority for its energy plan, and it provides that to our office as what it wants to possibly fund through the EIC, that is what we would use our criteria to evaluate.

Mr. SABLAN. OK. Maybe you are not an expert, but we have today's readily available technology. What is the most efficient way to produce electricity? The most efficient way to produce electricity is solar.

Mr. BREWER. I am afraid, sir, that that is outside of my area of expertise.

Mr. SABLAN. Oh, all right. Well, it is solar, if not for the nation, then I know for the Northern Marianas. I live there, I pay my utility bills every month. No one else does it for me. And it is expensive for me. I can just imagine those other people, those who fall at or below the \$17,000 GDP.

Please, you have an issue with the Biden administration energy plans, take it to the Biden administration energy plans. This program is helping the people in the insular areas move to something that they can afford. \$15 million a year, you guys want to bitch about that?

I yield back.

Ms. HAGEMAN. The Chair now recognizes Ms. Velázquez for 5 minutes of questioning.

Ms. VELÁZQUEZ. Thank you, Madam Chair.

Mr. Brewer, when it comes to asserting its military presence, the United States does not hesitate to invest in the territories. For decades, Guam has been almost entirely dominated by the Department of Defense. Further, only two decades ago, Puerto Ricans, including myself, were fighting to stop the military from using Vieques as a bomb testing ground.

I have seen how our communities have been occupied, contaminated, and become sicker. In fact, Madam Chairman, I request that today's front page article of El Nuevo Día, Puerto Rico's largest newspaper, which states that 4 out of 10 Puerto Ricans will get diagnosed with cancer at least once during their lifetime. I ask unanimous consent for that to be submitted for the record.

Ms. HAGEMAN. Without objection.

[The information follows:]

**Cuatro de cada 10 personas en Puerto Rico padecerán de cáncer en algún momento de sus vidas**

La mediana de edad de los diagnósticos es a los 67 años, pero cada vez hay más casos en jóvenes

*elnuevodia.com*, 10 de abril de 2024, Por Marga Parés Arroyo

<https://www.elnuevodia.com/noticias/locales/notas/cuatro-de-cada-10-personas-en-puerto-rico-padecera-de-cancer-en-algun-momento/>

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Pese a que los adultos mayores son los más vulnerables a un diagnóstico de cáncer, toda la población en Puerto Rico está en riesgo, ya que se estima que el 41.5% de las personas en la isla sufrirá de esta enfermedad en algún momento de sus vidas.

Sin embargo, personas que estudian la enfermedad consultadas por El Nuevo Día coinciden en que, a pesar de que aún es la segunda causa de fallecimientos en el país, la detección y la atención en una etapa temprana aumentan el nivel de supervivencia.

“Asusta un diagnóstico de cáncer, pero hay esperanza también porque cada vez más personas lo sobreviven”, enfatizó la demógrafa Vivianna de Jesús Monge, investigadora científica de la División de Control de Cáncer y Ciencias de la Población del Centro Comprensivo de Cáncer (CCC) de la Universidad de Puerto Rico (UPR).

“Muchos conocemos a alguien que ha sobrevivido al cáncer (tiempo después del diagnóstico), y eso hace que haya esperanza en la gente, que esa noticia de cáncer no sea tan devastadora como antes”, añadió.

Datos del Registro Central de Cáncer de Puerto Rico indican que la sobrevida de hombres con cáncer de próstata, de 2012 a 2016, fue de 99.7% a los cinco años del diagnóstico, mientras que, en cáncer de tiroides, la supervivencia fue de 100% y, en mujeres con cáncer de mama, de 86.8%.

“La supervivencia varía por el tipo de cáncer y su estadio al momento del diagnóstico. Si se coge en un estadio I y II, es mucho mayor (la sobrevida) que cogerlo, por ejemplo, en estadio IV, que, muchas veces, ya está en metástasis (propagación de las células cancerosas más allá del tumor original)”, explicó, por su

parte, María Cristy, vicepresidenta de Servicios al Paciente de la Sociedad Americana Contra el Cáncer de Puerto Rico.

Según el Instituto Nacional del Cáncer (NCI, en inglés), en Estados Unidos, el índice de supervivencia a cinco años de todos los cánceres combinados es de 68%.

La sobrevida o supervivencia en cáncer es definida por el NCI como el tiempo que pasa desde la fecha del diagnóstico o el comienzo del tratamiento en el cual los pacientes siguen vivos hasta que ha transcurrido un período que, habitualmente, se establece en cinco años.

14,168 casos nuevos de cáncer en agnoscados el de próstata emás, es prevenible en muchos reducción de tabaquismo como factores determinantes.

Otros elementos clave para un paciente son si tiene o no un seguro médico, qué incluye la cubierta de su póliza, el tiempo de espera para acceder a los servicios, la distancia hasta la instalación médica donde recibe atención y si tiene transportación o no, puntualizó De Jesús Monge.

### **Riesgo en edades vulnerables**

Durante los últimos 66 años, el cáncer ha sido la segunda causa de muerte en Puerto Rico (1957–2023), siendo los adultos mayores los más afectados, con una mediana de edad de 67 años en los diagnósticos de esta enfermedad, según la información más reciente disponible en el Registro Central (2016–2020).

“La población ha envejecido más, y esta es una enfermedad mayormente de edad avanzada, aunque también se ven casos en más jóvenes, donde ha habido un aumento”, declaró el doctor Fernando Cabanillas, director médico del Centro de Cáncer del Hospital Auxilio Mutuo.

Al hacer referencia a los datos en el Registro Central, que incluyen una proyección de los diagnósticos realizados entre 2017 y 2019, Cristy dijo que “aproximadamente cuatro de cada 10 personas (41.5%, según el reporte) serán diagnosticadas con algún tipo de cáncer”, y consideró que este panorama es común en países desarrollados como Puerto Rico. “Estilos de vida donde abunda el sedentarismo (falta de ejercicio o actividad física) y una mala nutrición contribuyen a eso”, puntualizó.

Hace dos años, los Centros para el Control y Prevención de Enfermedades clasificaron a Puerto Rico con la mayor prevalencia de sedentarismo (49.4%) a nivel de Estados Unidos. Según datos del Departamento de Salud, al 2021, el 72.4% de la población estaba en sobrepeso o padecía de obesidad.

### **“El diagnóstico de cáncer ya no es una sentencia de muerte. Además, es prevenible en muchos casos”—María Cristy**

De acuerdo con Cristy, especialista en política pública de cáncer, las cerca de 5,000 muertes por cáncer reportadas al año en Puerto Rico obligan mirar la enfermedad como un problema de salud pública multidimensional, mientras que Cabanillas advirtió que hay otros tipos de cáncer que surgen por ciertos virus o exposiciones a herbicidas, entre otros factores.

“En la mayoría (de los casos), no se conoce bien (su causa). Podría ser por el factor genético o ciertos síndromes”, señaló Cabanillas.

### **Más enfermedades crónicas y degenerativas**

De Jesús Monge abundó que “el desarrollo económico ha llevado a cambios en los estilos de vida.” “Antes, las enfermedades eran más infecciosas y transmisibles, ahora predominan las crónicas y degenerativas”, apuntó.

La edad y el sexo también son factores de vida a considerar en el desarrollo de cáncer, sostuvo De Jesús Monge. “Las mujeres hacen más prevención, visitan más al médico para la atención temprana de una posible enfermedad. El hombre tiene un estilo de vida más arriesgado.

Por eso, aunque a nivel mundial nacen más niños que niñas, a los 29 años hay más mujeres que hombres”, expuso.

Mejores medidas de higiene, disponibilidad de agua potable, un mayor entendimiento y educación sobre las enfermedades, esfuerzos de prevención y tratamientos más efectivos han ayudado a que las personas vivan más, destacó la demógrafa. La expectativa de vida en Puerto Rico es de 81 años, en ambos sexos,

al 2021, según datos del Programa de Demografía del Recinto de Ciencias Médicas de la UPR.

**“Aunque la vejez no es una enfermedad, ese deterioro progresivo lo expone a otras condiciones de salud”—Vivianna de Jesús Monge**

Pero, con una mediana de edad de 67 años en los diagnósticos de cáncer, De Jesús Monge expresó gran preocupación ante la vulnerabilidad que ya reviste esa población. “Preocupa mucho, porque esas edades tienen ya de por sí una salud frágil, posiblemente con otras comorbilidades y limitaciones. Aunque la vejez no es una enfermedad, ese deterioro progresivo lo expone a otras condiciones de salud”, alertó.

Agregó que con familias más pequeñas debido a la baja en natalidad y el aumento de la migración, entre otros factores, muchos adultos mayores viven solos y enfrentan ese diagnóstico de cáncer con poco o ningún apoyo para ayudarlos a tomar decisiones sobre su tratamiento y cómo cuidar de su salud.

“El cáncer se atiende de forma agresiva, con operaciones, quimioterapias y citas periódicas. Preocupa las condiciones con que enfrentan esto (el cáncer) y las posibilidades de que sobrevivan”, sostuvo.

Aunque la mayor parte de los casos de cáncer ocurren a partir de los 60 o 65 años, Cristy advirtió que se ha notado una estabilización de pacientes de esas edades, pero un aumento en personas de 55 años o menos.

**Crisis en la salud afecta a pacientes**

Todo lo que afecte a la industria de la salud incidirá directamente en el servicio a pacientes, estableció De Jesús Monge, quien este jueves presentará una ponencia en el Centro Comprensivo de Cáncer, en Centro Médico de Río Piedras, sobre cómo la demografía puede contribuir y ayudar al estudio e investigación de esta enfermedad.

Explicó, por ejemplo, que con el cierre de hospitales o áreas hospitalarias se reducen las camas disponibles, lo que limita o demora la atención a los enfermos. Y los que están en más riesgo son aquellos que padecen condiciones complicadas—como el cáncer—y requieren múltiples servicios.

De igual forma, dijo, es importante conocer la proporción de médicos por paciente, en este caso, los oncólogos, ya que esto podría provocar demoras en las citas médicas.

Cristy, al citar datos de la Asociación de Hematología y Oncología Médica de Puerto Rico, informó que hay 114 hematólogos oncólogos activos en la isla. El mayor reto, planteó, es que solo hay cuatro o cinco ginecólogos oncólogos.

“No creo que haga falta muchos más médicos a nivel de oncología. No hay escasez, como la hay de cirujanos cardiovasculares. Y ya hay oncólogos en prácticamente toda la isla, no solo concentrados en el área metro”, puntualizó, por su parte, Cabanillas.

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Ms. VELÁZQUEZ. Yet, Congress moves quickly to eliminate funding for the Energizing Insular Communities Grant Program in Fiscal Year 2024, one of the few resources available to advance energy resilience and protect those that suffer from terrible diagnoses like this. Can you please explain how much funding the Federal Government allocates on average annually to advance its military presence in the territories and how it compares to its investment in energy-related grants?

Mr. BREWER. Congresswoman, thank you for your question. Having visited Guam myself, you are certainly correct, there is a significant military presence on the island of Guam. Unfortunately, I have no area of expertise in that, I will have to defer that part of your question to the Department of Defense.

Regarding the EIC funding, let me just say a couple of things. One, since 2011, the EIC program actually has had an increase in



funding starting in 2011 from about under \$2 million to now going to about \$15.5 million, so we have seen a steady increase in EIC funding. That is the program that my office oversees, so that is really the one that I can speak mainly about. We have had that increase in funding and are very appreciative of that.

Ms. VELÁZQUEZ. And do you support for Congress to continue to allocate money, resources for the territories?

Mr. BREWER. We certainly hope that the support Congress has shown will be there.

Ms. VELÁZQUEZ. Dr. Guannel, island territories are often accused of not having the capacity to identify, apply, and administer Federal grants, yet we know this does not have anything to do with being a territory, but rather it is closely related to the level of support the islands receive. How could the Federal Government better support capacity building and its investment to expand renewable energy?

Dr. GUANNEL. I think that the programs that you mentioned and some of the examples that Mr. Fleming gave earlier of the type of grants that are received are examples of how the Federal Government can help the territories increase capacity. Mr. Fleming can speak more about this, but he has received a fair amount of funding for increasing workforce capacity to deal with the new technologies. We are also receiving funding to increase offerings at the university level to diversify the workforce and meet the demands because there is a very strong demand from a workforce point of view in terms of jobs for people to not only install, because energy companies which are privately owned are extremely busy and there is a surge in demand for jobs in that field, but there is also a large demand for energy conservation-type jobs.

So, I think that the programs like EIC and others from the USDA and EPA go a very, very long way to increase the capacity of the territories.

Ms. VELÁZQUEZ. Thank you.

Madam Chair, I yield back.

Ms. HAGEMAN. Thank you. I know recognize myself for 5 minutes of questioning.

Mr. Brewer, several of the territories have set aggressive goals for their transition to renewable energy. For example, American Samoa adopted a goal to obtain 50 percent of its energy from renewable sources by 2025 and 100 percent by 2040. Guam is also targeting 50 percent so-called renewable energy by 2035 and 100 percent by 2040. CNMI 20 percent by 2016, and the U.S. Virgin Islands has a goal for 25 percent by 2020, 30 percent by 2025, and 50 percent by 2044.

Mr. Brewer, are these goals being met for transitioning to these so-called renewable energy resources? Have the territories been meeting their goals in terms of using 25 percent, 50 percent, or 100 percent of so-called renewables by a particular date?

Mr. BREWER. Thank you for your question, ma'am. I believe at this point, I don't have the numbers exactly in front of me, but I do know that, as you noted in your question, a percentage of their energy needs are being met through—

Ms. HAGEMAN. A percentage, but you don't know what percentage?

Mr. BREWER. I would have to get back to you about the exact percentage at this time, what exactly they do——

Ms. HAGEMAN. OK. And you don't know if they are on track to meet their goals?

Mr. BREWER. I would need to get back to you on that.

Ms. HAGEMAN. OK. Mr. Stein, as we see from both Mr. Fleming's and Dr. Guannel's written testimonies, the cost of this transitioning to wind and solar is extremely high, and at the same time the territories have set these extremely aggressive goals to transition in some cases to 100 percent wind and solar within the next 20 years. My first question for you is, why aren't they just doing it now, why do they have to wait 20 years if this is such a great thing and they are going to be able to meet all of their needs and demands, why wait until 2040, why not just do it right now?

Mr. STEIN. Well, there are a lot of factors that go into it. And first of all, the actual construction phase of both wind and solar is quite expensive and it takes a certain amount of time. There are environmental restrictions on things, for the islands in particular, the shipping costs are huge for getting some of these, like if you want to build a wind turbine, that is a very large piece of machinery.

So, the timelines for this, even with unlimited money, you have a very long timeline. And, obviously, I don't really think that even on a 2030-year time scale it is actually physically possible to achieve this, but to even try, it takes a very long time.

Ms. HAGEMAN. Have you ever seen any state or territory that has managed to transition to mostly or completely renewable energy?

Mr. STEIN. Well, the key is defining what we mean by renewable energy. If we are including hydro in that definition, there are quite a few states and quite a few countries that have achieved not truly 100 percent but near 80 to 90 percent.

Ms. HAGEMAN. But that includes hydro.

Mr. STEIN. Right, that is including hydro because that is doing the baseload work. If you are talking about just wind and solar, there are very few options. I know that Iowa and South Dakota have very high penetrations of wind. In Europe, Denmark I believe is the only country that has surpassed 50 percent with wind and solar. But in all three of those cases, they are connected into large continental grids. They have neighbors that have a lot of water or nuclear power generation, so they have the ability to import on days when the wind is not blowing.

Ms. HAGEMAN. So, one of the things that has always just puzzled me about this discussion that we have been having with renewables and the amount of money that is being spent on what I would consider an astonishing boondoggle, what I would really like to see is, I would like to see a community be a pilot project for us. Let's just pick Boulder, Colorado, for example. It is about 100,000 people. I know that a lot of people who are strong advocates and believe very strongly in this climate crisis and how we need to transition away from the use of coal, oil, and gas.

What I would love to do is have Boulder be our pilot project. Take out all of their gas stations, take out all of their gas-fired powered appliances, take away all of their internal combustion engines, require everybody to drive an electric vehicle, and then

ring that community, which has a lot of wind and a lot of sun, by the way, and just ring that community with wind turbines and solar facilities, solar plants, and have no backup, no backup whatsoever, no gas-fired power plants, no coal-fired power plants, no generators. I would love to see a community like Boulder with 100,000 people be our pilot project.

Mr. FISHER, do you think that that is something that is feasible in the next 10, 20, 30, 50, 75, or maybe 100 years where we would have a community like Boulder give up all access and use of fossil fuels and go solely to wind and solar as their energy supply?

Mr. FISHER. That is an excellent question. I would like to see that experiment play out myself. But I have to admit, the amount that you would have to overbuild solar and wind resources to have anywhere near 100 percent reliability would be astronomically expensive and, in fact, I am not sure what the geographic scope of your circle is there, but I don't think there is even geographically enough space to do that.

Ms. HAGEMAN. OK. Well, don't you think we ought to try something like that before we try to impose it upon 330 million people in this country?

Mr. FISHER. Yes, I think part of the problem is we don't have a very good experiment. We are sort of mandating our wish list instead of working through problems as they come up. I think one great example is it is true that the marginal cost of solar is very low, but when you consider integration costs, and balancing costs, and things like that, it is actually three or four times more expensive than you would expect if you just looked at the LCOE figures.

And the cost impact, too, is something that we have to consider, and there is also a trade-off with reliability. So, even if you have a very low cost system, is it reliable? It is incredibly hard to do both and then to add the extra layer of sustainability or environmental consciousness, all of that, it is incredibly difficult, so it does take some careful experimentation, as you have said.

Ms. HAGEMAN. Well, I want to—

Ms. LEGER FERNÁNDEZ. Madam Chair, would you yield?

Ms. HAGEMAN. Yes. I am actually out of time.

Ms. Leger Fernández. OK. We were talking earlier about Hawaii's goals, and Kauai's utility is at 100 percent renewable most days, island, and in 2022 they were at 60.2 percent. And I think the important point that was being made earlier is the idea of diversification because in many of these plans it is to not eliminate completely but it is actually creating a mix.

Anyway, in answer to your question, we were able to pull that up since you had that.

Ms. HAGEMAN. But nobody at 100 percent. 60 percent. So, 40 percent of the time, what you have pointed out is 40 percent of the time—yes, 40 percent of the time they don't have, so I guess I don't want to be in the hospital one of those days that is a 40 percent day.

I want to thank the witnesses for your valuable testimony and the Members for their questions. The members of the Committee may have some additional questions for the witnesses and we will ask you to respond to those in writing.

Mr. LAMALFA. I was wondering if there would be more rounds.

Ms. HAGEMAN. I have to go to another——

Mr. LAMALFA. I know. I always do that, too.

Ms. HAGEMAN. Under Committee Rule 3, members of the Committee must submit questions to the Committee Clerk by 5 p.m. on Tuesday, April 16, 2024, and the hearing record will be held open for 10 business days for these responses.

If there is no further business, without objection, the Committee stands adjourned.

[Whereupon, at 3:06 p.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

**Submission for the Record by Rep. Grijalva**

**Climate Strong Islands Network (CSIN)  
Washington, DC**

April 25, 2024

Hon. Harriet Hageman, Chair  
Hon. Teresa Leger Fernández, Ranking Member  
House Natural Resources Committee  
Subcommittee on Indian and Insular Affairs  
Washington, DC 20515

Chair Hageman, Ranking Member Leger Fernández, and Members of the Subcommittee:

Thank you for the opportunity to provide written testimony as part of the record for the Indian and Insular Affairs Subcommittee hearing entitled “Energizing the Territories: Promoting Affordable and Reliable Energy Sources for the U.S. Insular Areas.” U.S. islands and territories need sound energy policy to ensure a future that allows their communities to continue to thrive. Clean, affordable, renewable energy will be a key part of building the resiliency of island communities as they face increased impacts of climate change, including natural disasters, sea level rise, and extreme weather events. Key to ensuring that energy (and all other) federal policies work for island communities is to include island voices in policy discussions, and to truly listen as they voice their needs and present solutions that work for their unique communities.

The Climate Strong Islands Network (CSIN) was formed to help amplify the collective voice of island communities to drive more resources, supportive policies, and attention to U.S. islands. The CSIN Steering Committee includes community leaders from Guam, Northern Mariana Islands, Alaska, Hawai‘i, Puerto Rico, American Samoa, and St. Croix. CSIN’s mission is to build an effective coalition of island entities that work across sectors and geographies in the continental U.S. and the nation’s states and territories located in the Caribbean and Pacific with the goal of helping their communities become more climate resilient.

U.S. islands face a host of singular challenges exacerbated by climate change and natural hazards, geographic limitations, and varying degrees of political affiliation and representation within the U.S. Government. Island communities exist at the forefront of climate change, whether it be reoccurring disasters such as hurricanes and tsunamis or slow-onset issues such as extreme heat, ecosystem shifts, ocean warming, and sea level rise. These events have far-ranging impacts on human life and livelihoods, as well as on societal systems and supports. CSIN was established to bring island communities together to address these challenges and to establish their voice on national policy priorities and to build community resilience in the face of climate change. CSIN advocates for island-driven policy changes that address the unique challenges faced by island communities.

CSIN is particularly interested in the subject of this hearing because it presents the opportunity to highlight the ways in which island communities, including the U.S. territories, are taking active steps to diversify their energy grids and prepare for future climate-related energy disruptions and challenges.

After watching the “Energizing the Territories: Promoting Affordable and Reliable Energy Sources for the U.S. Insular Areas” hearing, CSIN wants to emphasize several important points:

**Island Communities Want Clean Energy**

In 2021, CSIN, led by its Steering Committee of island community leaders, released its National Islands Policy Framework, which outlines 7 Key Issue Areas along with policy priorities and recommendations CSIN supports that will help islands become more resilient to climate change. Clean Energy is one of these key priority issues for CSIN. The National Islands Policy Framework states:

*“In order to become climate resilient, U.S. islands need local, independent, reliable, and affordable energy generation and community based distribution systems that are locally informed and accountable to local needs. Islands are naturally more vulnerable to the effects of natural disasters so they need self-sufficient and reliable energy systems to ensure they can continue to serve their community even after a natural disaster. Because of their unique geography and populations, islands are the ideal place for renewable energy technologies and innovations. Islands will need continued investment, support, and technical training to transition to a clean energy future. Technical training allows for islands to develop their existing workforce with renewable energy expertise while meeting the unique needs of their community. Developing individual island capacity decreases islands’ reliance on fossil fuels and enables them to become energy independent. Energy systems that work on an island could be applied to other rural communities across the continental United States to help those rural communities become more climate resilient.”<sup>1</sup>*

The broad policy recommendations from CSIN related to Clean Energy are:

1. Federal government support for island communities in establishing and achieving clean energy or net zero goals.
2. Federal clean energy policies and recommendations that are locally and culturally relevant and consider local expertise.
3. Develop effective federal funding mechanisms to incentivize and support clean energy deployment and energy storage solutions on islands.
4. Expand DOE’s authority to finance clean energy projects in frontline communities, including island communities.
5. Establish programs to operate clean energy related pilot programs on U.S. islands to advance projects like microgrids and small scale power generation.

Island communities across the U.S. and the territories are demonstrating their interest in clean energy innovation. Programs like the Energizing Insular Communities (EIC) give islands the resources they need to launch their island-created and island-driven clean energy initiatives. The projects funded by the EIC program in FY2023, such as CNMI’s Energy Task Force and Guam’s “Guam100” project, demonstrate that island communities are leading the way to diversify and decarbonize their electric grids.<sup>2</sup> Islands are looking ahead and working hard to innovate and find sustainable energy solutions that will help their communities become more resilient to climate change.

### **Island Communities Need Diverse Energy Sources**

When natural disasters and extreme weather hits island communities, resilient power generation for electricity is imperative to ensure the safety of island residents and the operation of emergency response activities. That is why island communities need diverse energy sources that can ensure reliability when they need it the most. Renewable energy sources like solar and wind can continue to power homes and community services if a fossil fuel generated power plant is impacted by an earthquake, or if bad weather forces delays in the shipment of diesel fuel.

On April 12, 2024, the day after the Subcommittee hearing, the Virgin Islands Water and Power Authority (WAPA) announced scheduled power outages “. . . due to ‘inclement marine weather’ in St. Thomas and St. John and offline generating units on St. Croix.”<sup>3</sup> Throughout the scheduled outages, residents and businesses were impacted, and the stability of the electrical grid was dependent on island residents reducing their energy consumption. This is a significant burden and disruption on island communities, one which could be avoided if diverse energy sources could come online when needed to respond to disaster and weather related energy disruptions.

Island communities support the EIC program because it invests in island-driven initiatives that diversify island energy sources, expand clean energy generation, and reduce energy costs for island residents, which ultimately will help islands become more climate resilient.

<sup>1</sup> CSIN National Islands Policy Framework

<sup>2</sup> <https://www.doi.gov/media/document/eic-grants-territories-2023>

<sup>3</sup> <https://www.sottvi.news/p/wapa-shares-schedule-for-rolling-blackouts>

### **Island Communities Need Affordable and Reliable Energy**

Most islands do not produce their own petroleum or its derivatives like diesel, requiring islands to import fuel to operate their electricity generating power plants. This imported fossil fuel is not cheap, causing island communities to pay more than the average mainland U.S. community for their basic power needs. Further, fossil fuel energy is not immune to climate change disruptions. As demonstrated by the news of rolling blackouts in St. Croix, fossil fuel imports can be impacted by severe weather, and fossil fuel power plants can be damaged in natural disasters like floods and tsunamis. By diversifying their power sources and utilizing renewable energy sources that are available on islands, using technology to harness that energy that largely already exists, islands can reduce their energy costs and create a more reliable grid.

### **Island Communities Need Representation**

U.S. islands are politically under-represented by policymakers and elected officials in Washington, DC, which has resulted in under-investment and a lack of knowledge and understanding by policy makers of the challenges they face and the unique ways in which federal policies will impact their communities. CSIN advocates for stronger representation for U.S. islands, so their unique needs are taken into consideration during the federal decision making processes. Congress and federal agencies have a responsibility to engage more directly with island communities as they establish and implement policies that impact islands.

To address this issue, the federal government must make adjustments to ensure that a) island voices are heard during policy making processes, b) adequate consideration is given to the unique challenges of island communities, and c) island communities are directly engaged in the implementation of policies. Taking these steps will empower island communities to engage in the policy process and will ensure that future policies can be realistically deployed in island communities, which will go a long way to ensuring islands achieve long-term climate resiliency.

Thank you for the opportunity to contribute testimony for the hearing record. The Climate Strong Islands Network stands ready to assist the Subcommittee in the future by providing an island perspective on policies that impact island communities.

Sincerely,

*Lirio Marquez-D'Aconti,*  
Co-Chair, CSIN Steering Committee

*Dr. Austin Shelton, III,*  
Co-Chair, CSIN Steering Committee

