Guyana energy storage for resilience

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Climate change mitigation, adaptation and finance couldn’t be more pressing in Latin America and the Caribbean. In late November, the United Nations released the 10th edition of its Emissions Gap Report, which paints a bleak picture as it outlines the disparity between “where we are likely to be and where we need to be” in meeting out greenhouse gas emissions reduction targets.

The message from the UN is clear: signatories to the Paris Climate Agreement have failed to stop the growth in global greenhouse gas emissions, which means even greater and faster cuts are now necessary to limit rising temperatures to less than 2 degrees above pre-industrial levels and avert environmental and economic catastrophe in the years ahead.

On 15 December, the COP25 UN Climate Change Summit concluded in Madrid amid deep divisions between countries most vulnerable to warming temperatures and those emitting most greenhouse gases. The EU"s commitment to carbon neutrality by 2050 was the most substantive outcome from the latest round of climate talks, and an example others need to follow. Unfortunately, the largest emitters are resisting calls to take action. Regions like the Caribbean that bear the brunt of the impacts of climate change need to continue leading the charge by setting the right example and advocating for survival.

Notwithstanding the grim outlook for the planet, and especially for small-island developing states and densely populated coastal regions, there are signs of hope. Climate change has become the major political issue in many countries, and young people, especially, are voicing their commitment to a change of course. At the same time, clean technologies that enable a transformation of the energy sector are more accessible than ever, and financing is widely available from multilateral financial institutions and even commercial banks, both eager to lend in an environment of high liquidity and low interest rates.

We need to seize the opportunity to revolutionize the way we produce and consume energy and put this money to work quickly. It’s not just an existential imperative to take action; it also makes economic sense. The investments needed to make the energy sector in the Caribbean more efficient and less dependent on fossil fuels creates jobs, spurs economic growth and improves the trade balance for countries in the region, the vast majority net importers of energy and goods.

The modular nature of renewable energy systems supports a trend towards distributed generation, whereby centralized, vertically integrated utilities are making way for an increasing number of independent power producers and the large commercial and industrial consumers generating their own power to meet their needs. For small businesses and homeowners, grid-tied renewable energy systems are the most affordable way to reduce energy bills once efficiency measures have been adopted, and where feed-in tariffs are offered, the payback period on solar installations is drastically reduced.

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When Hurricane Dorian struck The Bahamas on September 1st 2019, it dumped 36 inches of rain in under 72 hours and decimated the Abaco Islands and East Grand Bahama with winds blasting up to 185 MPH and sea swells that exceeded 20 feet. It was the worst natural disaster in the country"s history, killing more than sixty, leaving tens of thousands homeless and causing an estimated USD 3.8bn in damage, representing nearly 1% of GDP. Months later, hundreds were still unaccounted for.

In the immediate aftermath of the storm, rescue workers searched for bodies and relief workers delivered water and food to a desperate population, while the destruction of homes, businesses and critical infrastructure was assessed with horror. Governments of the Caribbean once again responded with solidarity, sending reconnaissance and security teams, drinking water, food and temporary shelters for the immediate stabilization of a population still in shock. Over 90% of the buildings in Marsh Harbour and East Grand Bahama were destroyed. Water, transport and power infrastructure was obliterated. Hurricane Dorian had left its indelible mark.

In 2017, the costliest hurricane season on record, it was Harvey, Irma and Maria. Governments of the Caribbean can"t afford to wait for disasters like this to strike to take action on climate change. Despite a robust effort from neighboring countries and multilateral financial institutions like the IDB to provide funds and logistical support for relief, recovery and reconstruction, the lives of thousands of inhabitants of Grand Bahama and the Abacos will be disrupted for years, with a long road ahead to restore basic services.

Attempting to incorporate elements of resilience amid hasty rapid response efforts is challenging and inefficient at best. The vitally important exercise of assessing risks, reinforcing critical infrastructure and preparing for the inevitable is best approached when seas are calm, skies are clear and funding is readily available. The time is now.

The increasing frequency and severity of catastrophic hurricanes in the Caribbean makes the region an apt, albeit involuntary, laboratory for climate change mitigation and adaptation measures. Building resiliency in the region will require a comprehensive strategy that layers contingency planning on a robust infrastructure development plan and innovative financing from governments, multilaterals, the private sector and citizens themselves.

According the World Bank, which released its Lifelines: The Resilient Infrastructure Opportunity report in July, building resiliency into new infrastructure projects costs as little as 3% more. Castalia Advisors estimates resilient energy infrastructure in the Caribbean will cost as much as 30% more, depending on the type of asset, but in either case, the cost of relief and rebuilding after a major hurricane typically dwarfs the additional expense. This makes resilient infrastructure a good long-term investment, and investors of all kinds are demonstrating appetite for the stable returns and impact these assets represent.

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Web: https://kary.com.pl/contact-us/

Email: energystorage2000@gmail.com
WhatsApp: 8613816583346