CCREEE
CARIBBEAN CENTRE FOR RENEWABLE ENERGY & ENERGY EFFICIENCY

AN INSTITUTION OF CARICOM

COVID-19 and the Energy Sector: Perspectives for Policymakers

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1. Challenges and Risks in the Energy Sector

Disruption of the Energy Supply Chain

COVID-19 presents short term supply chain risks for all sectors, including the energy sector. The unavailability of labour along the supply chain in lockdown situations, the loss of human resources, and the slowdown of work due to social distancing requirements, may cause delays in the importation, conversion and delivery of energy. Operations of power plants are challenged by the unavailability of backup crews. Schedules of new construction and planned and emergency maintenance may also be impacted by human resources constraints.

Utilities have already observed clear shifts in demand. There has been a lowering and flattening of system demand, as loading patterns have changed across the system. The new patterns are driven by a shift in demand away from loads in the industrial, commercial and tourism sectors, and toward domestic loads. In response to this new paradigm, utilities have adjusted their operations to maintain balance in their systems and quality of service to their customers.

Cash Flow Risks for Consumers and Utilities

The shift in demand to domestic customers and the increase in domestic consumption hits especially hard in a time when many customers are no longer earning regular salaries. The treatment of vulnerable groups' ability to pay for energy services is a pressing social concern. Some utilities across the Caribbean have placed moratoriums on payment for up to 2 or 3 months, and other utilities have extended discounts. Nevertheless, in most cases payments are only deferred to a later date, so the impact on vulnerable consumers is not yet fully resolved. The impact on the cashflow of utilities also depends on the overall duration of the pandemic and the response measures. The looming hurricane season, which is projected to be active, is also of great concern in this context.

Fossil fuel prices have been generally depressed, but also volatile. This is the result of much lower demand for fossil fuels in the transportation sector, the industrial sector, and for power generation. As fuel storage reaches capacity, fossil fuel index prices may even flip into the negative, as was recently seen in the West Texas Intermediate index. This price depression may provide some relief in terms of utility operational costs for consumers based on when the fuel adjustments were made. However, countries dependent on revenue from fossil fuel extraction are facing serious deficits in revenue. Similarly, revenue from fuel taxes – on which

most regional governments depend – will shrink significantly due to reduced demand for transportation fuels and the lower value of imports. Nevertheless, low prices now should not cause complacency, as they may cause shutdowns in production capacity that will create supply bottlenecks – and thus further price volatility – when economies recover.

Disruption of National Development Strategies

Over the medium to longer term, the procurement, construction, and commissioning of new power plants will be slowed. The unavailability of work crews and the restrictions on international travel will curtail the ability of entities to bid on and execute projects, particularly international bidders. The reduction in overall business activity may affect the cash flow of potential bidders, and thus restrict their ability to participate in procurements. The slowdown of procurement and construction may impact the availability and applicability of time-bound regulatory measures such as feed-in tariffs. Regulators and procuring entities may need to exercise some flexibility given these realities.

As governments and economies grapple with the pandemic and the recovery, there have been and will be unprecedented levels of public spending to respond to the economic disruption, coupled with massive disruption in demand and cashflow. This will undoubtedly affect planning and expenditure in profound ways. The demand for consumer and project financing for energy goods and services may lessen, and banks may become more conservative or shift their portfolios to other areas. International development partners may reconfigure their work programmes in response to COVID19, which may mean energy projects are given lower priority. Governments will have to prioritise their spending due to reduced revenue, while nonetheless trying to stimulate economic recovery by spending where they can. What this will mean for investments in energy infrastructure remains to be seen.

2. Recommendations and Opportunities to Strengthen Resilience

Short term: Social Protection

In the short term, governments must prioritise support to the most vulnerable groups and continuity of service for critical infrastructure. Moratoriums on power disconnection, concessional payment schedules, and the introduction or

expansion of social tariffs should be considered to ensure that citizens do not lose power at this time. The supply of power to essential services should also be prioritised; and operational steps should be taken to ensure continuity of supply to hospitals and first responders.

Short Term: Hedging

Opportunities may exist for states and utilities to leverage the lower prices of energy commodities today, where possible, to mitigate against future demand/price risks when the crisis ends. If available financial resources and storage capacities allow, utilities may consider the right fuel hedging strategies to lock in the currently historically low fuel prices in long-term supply agreements, if adjustments are possible under these agreements.

Short to Medium Term: Cost Savings through Energy Efficiency

Sustainable energy offers strategic opportunities for enduring the current crisis, driving economic recovery, and building resilience to future shocks. Policymakers should comprehensively consider the role that energy transitions can play in their response to the pandemic.

In the short term, the reduction in revenue and economic activity caused by the pandemic will create a strong incentive for households, the public sector, and the private sector to reduce their operating costs. Therefore, energy efficiency and conservation should be embraced and mainstreamed as a feature of any organised pandemic response. Domestic customers will benefit from conservation measures given the shift in demand to households. Public and private sector stakeholders can lay the foundations for long-term savings that make them more resilient to future price shocks and enhance their competitiveness. The electric utilities will re-invent how they operate, improving their efficiencies and reliable delivery of quality service. Stakeholders have an increased awareness on the importance of reliable, low cost, high quality electricity services, and people are also more aware of and sensitive to energy cost. It is a good time for public education on energy efficiency and conservation measures, and to lay the groundwork for future initiatives.

Medium Term: Renewable Energy for Resilience

In the current crisis, energy generation assets with low operating costs, low marginal costs and little exposure to external risks offer considerable value to owners. Local renewable resources, particularly distributed generation, allow for

continuity of energy services at a time when power grid management and fossil fuel supply chains are challenged. Policymakers and asset owners who have not yet secured these benefits should consider securing them before the next crisis. An explicit focus on and valuation of resilience in policies and corporate strategies will be critical for future-minded stakeholders. For example, the Barbados Water Authority began procurement of 6.5 megawatts of solar and microturbine capacity in early 2020, under the Green Climate Fund (GCF), initiated by the Caribbean Community Climate Change Centre (5Cs), and supported by the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE). This initiative was grant funded by the GCF in order to increase the resilience of water services in Barbados, with special consideration of the water supply to the main public hospital.

Medium Term: Partnering with the Private Sector for Economic Recovery

As policymakers look for ways to restart their economies, energy initiatives may be a sound basis for stimulus and recovery measures. When devising stimulus and recovery packages, governments can lock-in savings potentials through comprehensive energy efficiency improvements for the long-term transformation of the energy sector. By integrating energy efficiency and renewable energy solutions and deploying these stimulus packages rapidly and at scale, these packages can not only support industry and create jobs (primarily in installation and construction) but also accelerate the shift to sustainable and decarbonised economies. This would also include the incorporation of the Utility Service Model (IUS), where the electric utilities would provide innovative energy service packages through other private sector participants. The biggest impact of these support measures is expected in the buildings and construction sector, for technology replacement and infrastructure projects. In the building sector, these programmes could address new or existing buildings and cover high efficiency insulation or building materials, high efficiency cooling, water heating and lighting systems, rooftop solar PV and energy storage technologies. Technology replacement programmes could incentivise the replacement of old, inefficient consumer appliances, but could also address motors and heat pumps in industry or fleet transitions to electric vehicles. Options for investments in efficient infrastructure projects include smart grids, public transport infrastructure, EV charging stations or street lighting upgrades – all of which have a high job creation potential, support the local manufacturing and construction industries, and achieve long-term energy and cost savings.

However, while such stimulus activities are undoubtedly useful, Caribbean governments will be under immense fiscal pressure. Spending on public health and social security will have to be prioritised. Policymakers should therefore consider the role that the private sector might play in powering sustainable energy transitions. Policymakers should also give special consideration to digital infrastructure for the energy sector and related sectors, including measures that facilitate smart grid deployment, cybersecurity, remote work, digital upskilling of the workforce and online payments. Governments should seek to encourage the rapid deployment of private capital through enabling legislation and regulation. In cultivating these enabling environments, policymakers should seek creative public-private partnerships to unlock private sector finance. While governments may be unable to give financial guarantees or tax concessions at this time, unused real estate assets such as land may be made available.

Medium to Long Term: Multilateral Approaches

Multilateral approaches are especially important because of the nature and scale of the current crisis. Policymakers should therefore consider the role the multilateral institutions and the bilateral development partners can play in this endeavour. Caribbean nations should seek to learn from each other and collectively engage development partners to support mitigation strategies, given regional linkages, similarities and need for scale. Development finance institutions can help to play a facilitative and de-risking role, particularly if national governments cannot guarantee risk at this time. Countries may seek to leverage the processes under the Paris Agreement – including the coming updates to nationally determined contributions – and the Agenda 2030 for Sustainable Development to push for multilateral assistance in resilience building through sustainable energy deployment, capacity development, and concessional financing.

Medium to Long Term: A Focus on People

Social protection matters in the short term, but also in the medium and long terms. Countries are only as resilient as their people, particularly those citizens who live the most precarious lives. On the macroeconomic level, the structural weaknesses of economies that are overly dependent on resource extraction, tourism or remittances are being exposed and balance of payment issues are beginning to surface. On the microeconomic level, these challenges create great difficulty for workers and their dependents. In the microeconomic level, people are forced to make difficult choices to survive, which further threatens social systems. The

provision of many essential services requires citizens to put themselves and others in harm's way despite low pay. This is also true for many marginalised citizens, who have to hustle for subsistence daily. Citizens everywhere are acutely aware of the strain this paces on the social fabric. Addressing these matters will be critical for countries – it is the difference between recovering with strength and being permanently set back. Actions across government and in the energy sector must meet these challenges.

Citizens need to be empowered in several ways to mitigate these risks and build long term resilience. Digital literacy and internet connectivity are essential skills for workers and small businesses to continue to earn during and after this crisis. By leveraging communication technology and ensuring universal access to cost effective and reliable energy services, we can help more citizens shelter in place. The continued downtime is an opportunity to enhance the skills of the segment of the workforce that may not be otherwise working at this time due to the crisis. Education and workforce development should be tailored to the needs of the future, including the coming energy transition, electrification and digitalisation. This will help to foster economic diversification and employment opportunities that will enable greater social cohesion, economic resilience, and prosperity.

Emerging science suggests that environmental pollution and poor ventilation are risk factors for COVID-19 morbidity as poor air quality weakens lungs. The sustainable energy transition gives policymakers the opportunity to improve air quality in outdoor and in indoor spaces through a transition away from fossil fuels and a focus on energy-efficient ventilation and cooling systems. This will improve human health broadly, and perhaps make the newly clear skies over smoggy cities a welcome permanent feature.

3. How the CCREEE Can Help

The vision of the CCREEE is to transform the energy landscape into a climate resilient, sustainable and affordable sector, focused on improving the lives of our people. To achieve this vision, the CCREEE work programme already contains actions to address some of the listed issues. The CCREEE however recognises that further actions will be required to accelerate our ability to recover and become more resilient. The presented actions will be implemented with regional partners, including the CARICOM Secretariat and CCREEE's Thematic Hubs. These actions include:

- Developing Integrated Resource and Resilience Plans (IRRP) in collaboration with the CARICOM Secretariat Energy Unit supports planning for the future of the energy sector. This initiative involves 5 Member States in the first instance, and is currently active in 3 Member States. This may be expanded to other Member States with the support of regional institutions such as the Caribbean Development Bank;
- Identify hazards and assess vulnerabilities for the energy sector in partnership with other regional institutions such as the Caribbean Disaster Emergency Management Agency, the Pan American Health Organization, the Caribbean Public Health Agency, and the Caribbean Institute of Meteorology and Hydrology;
- Supporting Members States in building resilience by illuminating opportunities for greater energy efficiency and conservation. The CCREEE will visualize the results of a recently completed assessment of energy use and savings potentials by sector in the Member States which will highlight opportunities for greater technology deployment for energy efficiency and renewable energy;
- Publishing typical energy savings from energy efficiency and renewable energy interventions that will provide guidance to private and political decision makers, and consumers on opportunities for reducing operating costs;
- Supporting electrical utilities and regulatory authorities in accelerating the deployment of the Integrated Utility Service (IUS) models. Through regulatory reforms, IUS models enable utilities to provide innovative energy services that can enable greater energy efficiency for smaller customers, including the most vulnerable. The CCREEE will work with utilities and regulators to establish standards and frameworks for monitoring and verification of energy efficiency projects;
- Creating and deploying an energy access programme to support vulnerable groups, particularly in hinterland regions;
- Developing and deploying energy management and benchmarking tools for private households and micro, small and medium enterprises. These will enable them to assess, monitor and improve their energy consumption in a practical, intuitive and effective ways;
- In support of food security and essential services, improving energy supply to water utilities to ensure resilient and constant supply of water using indigenous energy supply.

The CCREEE stands ready to support CARICOM Member States in the formulation and execution of COVID-19 response measures that are appropriate to the energy sector.