

Expanding The Solar Photovoltaic (PV) Value Chain - A Caribbean Solar PV Assembly Facility

The clean energy sector, especially solar and energy efficiency, provides several opportunities for meeting climate change goals. It has the potential to absorb significant new job entrants with low and medium skills for installation, maintenance, and construction services (Figure 1 illustrates). Along with the creation of jobs and reduced carbon emissions, the clean industry offers new avenues for revenue generation, increased entrepreneurial activity and new technological adoptions that will increase economic activity and ultimately bolster national GDP across the islands. As territories grapple with economic recovery plans, there is a greater need to look closely within the region and capitalise on the abundant natural and human resources that exist to manage our major economic burden - energy expenditure.

Figure 1: Clean Energy Job Creation



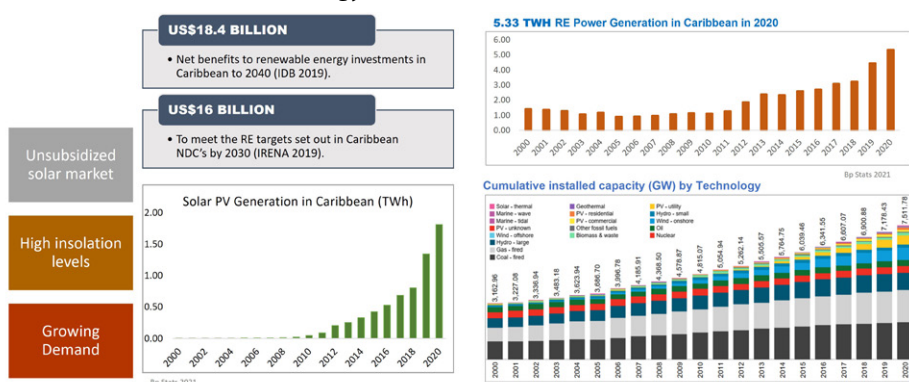
Source: IRENA 2020

Because the Caribbean region spends an estimated 40% of its foreign exchange on fuels for electricity generation and transportation, a home-grown investment which provides jobs and enables the energy transition, is a uniquely synergistic solution to solving multiple challenges. Growing capacity in renewables therefore provides a platform from which other innovations can be developed and layered upon.

Renewable Energy in the Caribbean is Imperative

Post the COVID-19 economic contraction, the pursuit of energy independence will become even more urgent. Conservative estimates value the region's solar energy industry at USD7.9 billion over the next 10 years. Yet, that level of investment may only lead to an average 57% renewable energy penetration (See Figure 2). The region must be seen as more than a destination for clean energy technology and carve out its own space along the entire clean energy value chain.

Figure 2: Caribbean Renewable Energy Potential



National Energy has continuously sought opportunities for sustainable value creation. In 2020, a Memorandum of Cooperation was executed between National Energy and the

Caribbean Climate-Smart Accelerator (CCSA) to identify potential investors and collaborators and to develop market and financing opportunities to support creation of a clean energy industry in Trinidad and Tobago. The CCSA is a coalition of 27 Caribbean countries; Inter-American Development Bank (IDB), World Bank, Organization of Eastern Caribbean States (OECS), Caribbean Community (CARICOM) and other global partners, united to make the Caribbean the World's First Climate-Smart Zone. CCSA's objective is to help transform the Caribbean economy through fast-tracking sound public and private investment opportunities, supporting climate action and economic growth.

The Caribbean Solar PV Assembly Investment Opportunity – Facilitated by National Energy, CCSA and InvestTT

Building upon previous extensive studies undertaken to establish an integrated photovoltaic manufacturing cluster in Trinidad & Tobago, the concept for a Caribbean Solar PV Assembly plant is being advanced. A collaborative effort among National Energy, CCSA and InvestTT resulted in the development of an investment prospectus for a Caribbean Solar Assembly facility, strategically located in Trinidad & Tobago. The size of the facility and the investment required are negotiable, although it is anticipated that capital expenditure of at least USD25 Million will be required for a competitively sized assembly facility.

With a projected development timeline of 12 – 18 months for a large-scale assembly facility, an experienced manufacturer/developer with industry knowledge and extra regional market access will strengthen the overall success of the endeavour.

This initiative represents a consolidation of demand across at least 15 Caribbean territories, working together to create a single market for solar that ultimately provides an investment opportunity for their people, pooling their buying power to access not just solar but development and investment as well.

Whilst the solar PV industry remains highly competitive and dominated by Chinese manufacturers, the pandemic exposed the risks associated with over-reliance on a supply chain that is entrenched in a single geographic location. Reshoring or diversifying the supply chain will reduce supply risks in the future and affords the region a chance to suitably configure a truly Caribbean Solar Assembly facility.

Capturing the Caribbean market provides access to a skilled labour force in a region primed for investment, with easy access to North and South American markets. As a strategic initiative, capital investment and incentives are available to support the delivery of the project. As the price per unit of solar decreases the reach of solar increases, requiring existing players to quickly scale or sacrifice new market share.

At the Eighty-Second Special Meeting of the Council for Trade and Economic Development [Energy], Special Strategic Session - Achieving Regional Energy Security Through Enhanced Cooperation and Integration: Considerations for a Regional Approach to Energy Security - A Pragmatic Approach to Regional Energy Integration, Caricom Member States "Endorsed the Caribbean Solar Assembly Concept, presented by the Caribbean Climate-Smart Accelerator (CCSA), recognising the value proposition and benefits that Member States can derive from the venture."

Through the efforts of the Caribbean-Climate Smart Accelerator, the Rocky Mountain Institute (RMI) has also expressed its support for the concept. The RMI estimates that roughly 40GW of solar PV- coupled with other clean energy technologies will be required to transition the entire Caribbean region to 90% clean energy to 2040. A Caribbean-based solar PV assembly facility can accelerate efforts along the entire sustainable energy value chain.

Further, regional Investment Promotion entities are prepared to assist in this effort to provide as seamless an operational establishment as possible. This is the time to capitalise on the future as this investment will be transformational for the region, creating a new pathway for self-sufficiency and energy independence in the Caribbean.

As discussions continue with potential investors/ developers, National Energy acknowledges that a significant collaborative effort across local and regional partners is needed to create an enabling environment for development of a clean energy industry to serve the Caribbean. We take on board the challenge that lies ahead and invite you to learn more about this exciting opportunity by visiting our website at www.nationalenergy.tt



nationalenergy.tt



A SUBSIDIARY OF

THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO LIMITED