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RENEWABLES AND ISLANDS GLOBAL SUMMIT
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SESSION: **ISLANDS ENERGY TRENDS AND STATEGIES**

"Renewable Energy Trends and Strategies in the Caribbean Community"

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Excellencies,
Member States of IRENA represented here
AOSIS Members States
IRENA Staff, Invited Guests, Ladies and Gentlemen

First of all, let me thank IRENA for inviting me to be a panelist in this session on Islands Energy Trends and Strategies. My presenation will focus on the countries of the Caribbean Community (CARICOM), specifically, power generation.

The Context of the Region:

- The Region has 14 independent States, and a number of Non-Self Governing Territories: UK, Dutch (Dutch Antilles), and US (Virgin Islands)
- Only 2 countries-Antigua and Barbuda, and Grenada are members of IRENA with 3 countries planning to be full members soon
- Power price in the Region averages US.35 cents per Kwh.

Given the geographical and geological features that characterize the Caribbean region, there are good opportunities for the implementation of renewable energy technology. There is an abundance of resources for renewable energy development in the Caribbean.

The first RE technology that the Caribbean has experience with is hydro. Hydro plants have provided power to Suriname, Dominica and St. Vincent since the mid-1950s. Hydro is also utilized in the Dominican Republic, Haiti, and Jamaica. There is great potential for expansion of hydro in Suriname, and development in Guyana.

Every Caribbean country has extensive wind and solar resources, and several have significant geothermal potential, especially the East Caribbean.

The high cost of oil and its attendant pressure on the fiscal reality of these islands, coupled with the great appreciation presently by Governments for low carbon development, has fostered a drive to increasing the share of renewables in the energy sources mix. Think about the realities of the Caribbean SIDS and energy:

- 20% of imports is petroleum
- On average 20% of GDP spent on fuel imports

Trends:

Most Caribbean countries are considering:

1) **utility-scale wind power exploitation**- Wigton Wind Farm in Jamaica: installed capacity 38.7 MW,

2) **solar energy development**

3) **those with geothermal potential are accelerating the development of that resource-** Dominica and Nevis are at various stages of exploration development. St. Vincent and Grenadines, Grenada, and Montserrat planning to pursue geothermal exploration

4) **biomass development** – Barbados is exploring energy generation from bagasse

5) **expansion of hydro potential:** Suriname and Guyana

6) **exploration of OTEC** (Ocean Thermal Energy Conversion)- to address energy and water needs- The Bahamas is planning to explore the viability of transferring this technology

Policy Framework to govern renewable energy development:

- Most of the Member States now have now adopted National Energy Policy (NEP)
- Some have adopted or drafted Energy Action Plans (EAP) or Sustainable Energy Plans (SEP)

In terms of legal framework, there is growing movement to amending legislation which provides for the operation of IPP either by contract with the utility or by license from the utility. It must be noted that historically in the Caribbean utilities are government-licensed monopolies, responsible for production, transmission, and distribution of electricity among island-isolated grids.

Renewable Energy Development has had very modest achievements in the region, mainly in hydro-electric generation. There are a range of challenges to wind, solar and geothermal development:

Wind Power:

- Weather risks- i.e. the constant threat of hurricanes with high shear wind speeds. This requires insurance coverage, which is an additional cost.
- High capital costs due to relatively small plant sizes
- Difficulty in site access and land acquisition. Site identification and acquisition present challenges and therefore requires Governments to take action to mitigate land-use interests by establishing wind development zones.

Geothermal:

- Geothermal power has huge site-specific geological uncertainties, which make site selection, resource assessment, and financing difficult. (Problems with site geology have been an issue in St. Lucia where carbon dioxide and corrosive discharge have been found in exploratory drilling

- Financial and policy barriers have held up exploration efforts in St. Lucia, St. Vincent and Nevis. In each case, the Government agreed to grant rights for geothermal exploration to companies which were unable to finance the geological studies and exploratory drilling

Dominica has had a better process having secured significant grant funding for the risk phase of geological studies and exploratory drilling from the EU, The French Fund for Environment (FFEM), and Agence Francaise pour le Development (AFD). Dominica aims to achieve economic diversification with its geothermal program by becoming an energy exporter to its two neighbors, Guadeloupe and Martinique and thereby eventually helping them to reduce their high level of nitrous oxide emissions from diesel generation of electricity.

- Lack of agreement between the utility and the geothermal developer on how the developer can operate as an IPP presents another barrier.

Solar:

- The Region has opportunities for a range of solar energy technologies primarily solar water heating (SWH) and photovoltaics.
- Islands have good-to-excellent solar resources for photovoltaics with GHI comparable to that found in the southwestern United States. Solar data indicates that flat panel PV and solar water systems can perform well in the Region
- Need for a clear inter-connection policy to encourage consumers to add PV to their residences or buildings
- Fiscal barriers that prevent Solar Water Heater adoption rate approaching that of Barbados, which is the model for the Region
- Land acquisition for solar farms. At least 7.5 acres of land are required per megawatt of concentrating solar power (CSP). A CSP plant of 15 MW is generally what is required to achieve reasonable economies of scale. Such a plant would require at least 90 acres.

What Next:

- Scale up SIDS DOCK-the financing mechanism of the SIDS. Donors need to see SIDS DOCK as a viable mechanism for funding some of the requirements of SIDS Energy.

- Grant funding and low interest loans is absolutely essential for RE Development in the SIDS, capacity building (directed at policy-makers, regulators, technical personnel, and financial sources) especially in development of a skilled human resource, and capacity for efficient management of emerging RE Sector
- Nexus to be created between SE4ALL and SIDS DOCK. Countries must be assisted to undertake Rapid Assessments to become eligible for funding.
- UNDP is giving more attention to the needs of SIDS and aims to be a leading advocate for SIDS needs, realities and challenges. One size does not fit all. High indebtedness and MIC Status of Caribbean SIDS is a challenge that donors need to recognize.
- UNDP organized the Barbados Conference on Sustainable Energy for SIDS in May 2012. Post that conference, the Regional Bureau for Latin America and the Caribbean (RBLAC) facilitated a relationship with the Inter-American Bank (IDB) to provide grant funding for Rapid Assessments, now underway in all the countries in the Caribbean. Barbados completed its Rapid Assessment by itself. These RAs are required for access to SE4ALL.
- IRENA to assist the countries in technology acquisition, sustainable energy plans, and assessment of country capacities, and brokering of financing for SIDS leading to a special fund for SIDS which would provide both grants and soft loans.
- Multilateral Banks to make financing available to RE Development -both grants and soft loans
- Private sector investment is critical for sustainable development of renewable energy development in Caribbean SIDS. It is important however that transparent and accountable processes be integrated into the partnerships between Governments and the private sector.

In conclusion, let me say that RE development will depend on a coordinated approach among island states, donor partners, technical partners, and civil society.

RE development has the potential to transform Caribbean SIDS economically, lead them unto a low carbon pathway, and improve the lives of their people.

Thank you.