Sensitization Workshop on Renewable Energy and Energy Efficiency Project Support Mechanisms

The Landscape Of Renewable Energy & Energy Efficiency Project Financing: A Global And Regional Outlook

ANCILE BREWSTER
ancile.brewster@gmail.com
OCTOBER 29, 2020

On behalf of

Presented by

ANCILE BREWSTER CONSULTING
Presentation Overview

- Energy & Energy Efficiency Project Financing
- Areas Considered:
  - Green energy and relevance to the Caribbean
  - Global Green Energy Trends
  - Renewable Energy – types at work in the Region
  - Energy Efficiency- how viable is it in the Caribbean?
  - Financing – Where is the money?
Green Energy - Relevance to the Caribbean

- High dependence on fossil fuel → economic instability, high debt profile, under-performing economic growth
- Large repositories of green energy – What is green energy?
- Underutilization of these repositories due to structural constraints-
  - Stranded Assets (Generation + Distribution)
  - Legacy contracts
  - Weak institutional frameworks
  - Consumer lending focus
  - Low ideation - innovation - implementation business transition
  - Nascent understanding of financing new businesses
Global Green Energy Trends ...

- Global developments or emerging trends that can impact the Caribbean –
  - Mitigate structural constraints
  - Present opportunities ….

- Energy Storage, Green Hydrogen
- Community Cooling Ocean Thermal
- Distributed Generation
- Floating Solar
- Ocean Wind
- CDM
- Biomass
- Green Bonds
- Crowd Funding
- Fee for Service (ESCO)
Renewable Energy – types at work in the Caribbean

- Solar – Utility; St. Vincent, Jamaica, etc. Distributed; Barbados, Floating: Trinidad & Tobago (Proposed)
- Hydro – Suriname, Guyana, Jamaica, St. Lucia
- Wind – Jamaica,
- Biomass – Guyana, Jamaica, Belize
- Geothermal – Dominica, St. Vincent & Grenadines, St. Kitts
- Storage – Hydrogen – Martinique, Trinidad & Tobago & Barbados (Forthcoming)
Energy Efficiency – how viable is it in the Caribbean?

- Demand side vs. Generation side
- Low hanging fruit?
- Opportunities for returns from EE investments?

- Cooling systems - air conditioners, cold rooms, refrigerators and fans
- Lighting systems - LED lights (including streetlights)
- Water heating systems – solar water heaters, heat pumps
- Manufacturing systems – motors, drives, boilers, machines
- Energy efficient buildings – shading, insulation, air movement
Energy Efficiency – how viable is it in the Caribbean?

Sectoral demand in the Caribbean

Source: Development of a Regional Sub-policy, Strategy and Action Plan on Energy Efficiency for the Caribbean Community, CCREEE, Econoler, 2019
Energy Efficiency – Demand Side

- Residential
- Commercial
- Industrial - Waste Heat recovery, (engine/process) Peak Power Demand Modulation
- Institutional
- Infrastructure - LED streetlights,
- Transport - Mass transit, EV
Energy Efficiency – Generation & Distribution Side

- Combined cycle plants
- Organic-Rankine Cycle – biomass
- Allam-Fetvedt Cycle – CO₂ reduction
- Transmission (L.T. & H.T.) losses
- Biomass mix -
- Waste to energy (WtE)
Sources & Structure of Financing - Institutional

Institutional Financiers & Modalities for financing.

* Multi-lateral
  - General Economic Development
    Specific - related to country and sectors.
    - Energy Related
    - Private Sector Focused
    - Counter-Cyclical Capital Providers

* Bilateral
  - Climate Related
    - Green Climate Funds –
      - Adaptation
      - Mitigation
    - Low Carbon development (LCD)
    - Investment Accelerators
Sources & Structure of Financing - Commercial

- Private Sector –
  - Banks
  - Private Equity
  - Investment Funds
  - Pension Funds
  - Venture Capitalists

- Insurance Providers
- Guarantee Providers
- Consumers - PPA’s
- Crowd Funding
Principal Financing Modalities

- Debt
- Equity
- Grants
- Guarantees
- Blended Finance
- Consumer Financing
- Bonds (Green)
- Leasing
- Fee for Service (ESCO’s)
- Stock exchange
- Crowd Funding
### Funding Agencies Active in the Region

#### Multilateral Funds
- Inter-American Development Bank Group: IDB Invest, IDB LAB
- World Bank Group – IFC, IDA
- European Investment Bank - EIB
- Caribbean Development Bank – CDF, CCREE, CCCCC
- Corporacion Andina de Desarrollo – CAF
- United Nations Development Programme – UNDP

#### Bi-lateral Funds
- U.S. International Development Finance Corporation
- Dutch Entrepreneurial Development Bank - FMO
- Agence Francaise de Développement – AfD, PROPARCO

#### Intermediate Lenders: Private Equity Funds
- CIBC First Caribbean International Bank
- Portland Caribbean Fund
- Corporacion Interamericana Financiamiento de Infraestructura, S.A. (CIFI)

#### Grant Funds/ Agencies
- Deetken Impact Sustainable Energy
- Green Climate Fund
- Adaptation Fund
- US Agency for International Development AID
- Dept for International Development - DFID
- European Union EU
- German Agency for Int’l Cooperation GIZ
- Canadian International Development Agency (CIDA)

#### Insurance Providers
- Multilateral Investment Guarantee Agency
- U.S. International Development Finance Corporation
- Lloyds
Outlook for Green Financing?

- What should we expect in the coming years?
- Impact of COVID Pandemic
- Price of Petroleum Derivatives
- Cost trend of renewables
- Impact of innovations in energy storage, EVs,
- What are the implications for the Caribbean Region?
- What will it take to expand local financial investments?
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RE & EE Project Financing - A Global And Regional Outlook

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abcon.caribbean@gmail.com