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**The Low Carbon Scenario for the  
Caribbean Region**

***by***

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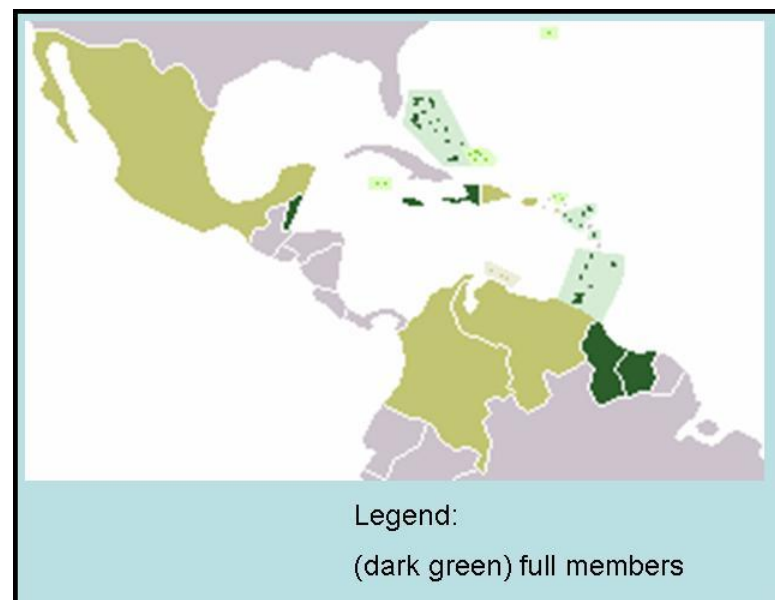
# Order of Presentation

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- ❑ First an overview of the economic, energy and climate change-related factors influencing the development of a Low Carbon Scenario for the Caribbean Community will be presented.
- ❑ Second four critical sectors will be identified through which a Low Carbon Economy could be developed
- ❑ Review of the Technology and Financial Factors influencing implementation of a LCS
- ❑ Concluding remarks

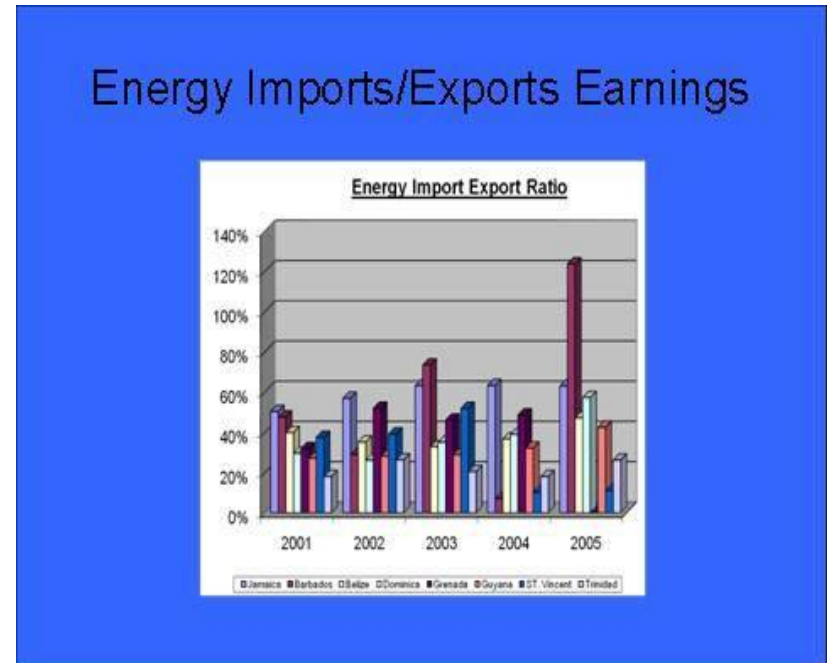
# The Economic Factor

- ❑ The CARICOM countries as a bloc have been experiencing balance of payments deficits and slow and sluggish growth for some time, with many falling into the category of highly indebted poor countries (HIPC).
- ❑ The current global financial recession has further exacerbated the economic situation.
- ❑ Many economies have been forced to turn to the IMF for help.
- ❑



# The Energy Factor

- ❑ Despite the lack of sizable oil reserves, the Caribbean countries are heavily dependent upon petroleum as their primary energy source.
- ❑ The CARICOM countries are predominantly net energy importers
- ❑ The cost of fuel imports requires significant percentage of foreign exchange earnings. In some cases the cost of fuel imports is greater than the value of total exports of the country.



# Climate Change Factor

- Indicators of a warming climate in the Caribbean
  - Coral bleaching
  - Extreme events
  - Changing rainfall patterns and intensity
  - Category 4 and 5 hurricanes
  - Pest infestation
- Regional climate models suggest further increases in these events and hence, increased development risks.



# Regional Initiatives

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- A strategic framework for achieving development resilient to climate change was developed and approved for implementation by the CARICOM Heads of government in July 2009. The Strategy objectives include among other things:
  - Promoting actions to reduce greenhouse gas emissions through energy reduction and conservation, and switching to renewable and cleaner sources of energy;
  - Promoting actions to minimize the effects of greenhouse gas emissions through initiatives and measures designed to reduce the vulnerability of natural and human systems to the effects of climate change;
  - Promoting the development and implementation of educational and public awareness programs as well as public access to information and citizen participation across the Caribbean.

# Regional Initiatives Cont'd

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- In addition to the strategic framework the Heads authorized the Development of a CCCCC/SPREP (South Pacific Regional Environmental Programme) sustainable development initiative to facilitate
  - the development of renewable energy and energy efficiency, and
  - to assist in generating financial resources for adaptation and development.

# The Road to a Low Carbon Economy

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- Steps to develop a LCE will include, as a start, the transformation of:
  - The Energy Sector from fossil-based to renewable energy-based
  - The agriculture sector to lower energy dependence
  - The Tourism sector to a carbon neutral destination
  - The Transportation Sector to be less dependent on petroleum



# Transforming the energy sector

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- Transformation of the energy sector will be achieved through a combination of continual improvements in energy efficiency and development of renewable energy resources.
- The Caribbean is endowed with a number of under-exploited indigenous forms of renewable energy such as:
  - Geothermal (Nevis, Dominica)
  - OTEC (Ocean Thermal Energy Conversion)
  - Hydropower generation (Belize and Guyana)
  - Solar energy conversion (Barbados)
  - Biomass (Guyana)
  - Cogeneration (Belize and Guyana)
  - Wind (Jamaica)
  - Waste energy (Jamaica, Bahamas)

# Transforming the energy sector

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- Full transformation of the energy sector will require a multifaceted mechanism. The mechanism will be required to:
  - provide assistance for assessing the potential of the energy sector for renewable energy and energy efficiency.
  - help with the setting of emission reduction targets and in implementing the required energy strategy that is needed.
  - develop a Facility to coordinate the activities at the regional level and to support as necessary national activities.
- Objectives of the Facility
  - Assisting with developing a sustainable energy sector;
  - Providing a vehicle for mobilizing resources to catalyze clean economic growth;
  - Provide a mechanism for connecting with the global carbon market and taking advantage of the resource transfer possibilities that it will afford.

# Transforming the Agriculture Sector

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- ❑ Agriculture is one of the most important sectors since it serves as one of the major contributors to the GDP as well as an important contributor to the region's food security.
  
- ❑ Transforming the Agriculture Sector to a low carbon economy will require:
  - promoting the production of foodstuffs within the region and as close as possible to the final consumers.
  - using more energy efficient irrigation systems and planting of crops needing less energy input.
  - Use of alternative fuels (e.g. waste wood)
  - cogeneration (heat and power)
  - bio-fuels especially ethanol from sugar cane, cellulosic ethanol and jathropha

# Transforming the Tourism Sector

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- Like agriculture tourism contributes significantly to the GDP of all CARICOM member states. Contribution ranges from a low of approximately 15 % to a high of approximately 90%.
- This sector is also energy intensive and imports a significant amount of the agricultural products currently being used. Hence there is a real need for transforming this industry to a low carbon economic sector.

# Transforming the Tourism Sector

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- This will be achieved through among other things:
  - development and pilot demonstration of modalities for verifying carbon footprint of the tourism sector in participating Caribbean countries;
  - evaluation and identification of technically feasible options for reducing carbon emissions from tourism facilities;
  - evaluation and identification of appropriate costs/benefits for implementing technically feasible options for reducing carbon emissions from tourism facilities;
  - development of financing plan for implementing technically feasible options for reducing carbon emissions from tourism;
  - development and pilot demonstration of standards, accreditation and verification/certification program for carbon neutral tourism program;

# Transforming the Transport Sector

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- This sector like that of energy is highly dependent on technology transfer from the industrialized countries. Transformation to a low carbon transportation system will require the use of:
  - Low carbon-biofuels that can be produced locally
  - Increased focus on fuel efficient vehicles
  - More alternative and flex-fuel vehicles (based on local conditions and availability)
  - Driver training for more fuel efficiency.
  - Increased bicycle and public transport usage, less reliance on private motor vehicles.

# Presentation Summary

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- ❑ The economic, energy and climate change-related factors on the development of a LCE were reviewed.
- ❑ Four sectors critical for the development of low carbon economy in the Caribbean were presented. Of these sectors it can be concluded that:
  - the agricultural and tourism sectors can be developed through regional and national initiatives. This could be achieved through the development and implementation of appropriate policies.
  - The energy and transportation sectors, however, will require substantial financial and/or technological support through bi- and multi-lateral agreements.
  - Some individual members like Belize, Guyana, Suriname and Trinidad and Tobago are endowed with the natural resources to become carbon neutral through the use of mechanisms such as carbon sequestration and carbon capture and storage if they are provided with the financial and technical support either bilaterally or through international instruments developed through the UNFCCC

# Concluding remarks

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- ❑ **The Caribbean Community provides a wide range of possibilities for investment in activities that would set it firmly on a low carbon development pathway.**
- ❑ **Four primary sectors were highlighted – Energy, Agriculture, Tourism and Transportation.**
- ❑ **Secondary and tertiary sectors would include areas such as avoided deforestation and in Carbon Capture and Storage.**
- ❑ **To realize this potential would require the provision of resources and technical assistance together with favourable conditions for technology transfer under the umbrella of a comprehensive global agreement to significantly decrease the GHG concentration in the earth's atmosphere**



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Thank you for your attention.