

## S3-4 The Low Carbon Scenario for the Caribbean Region

Kenrick R. Leslie PhD

Executive Director

Caribbean Community Climate Change Centre

Belmopan, Belize

### Introduction

The development of a low carbon scenario for the Caribbean Region is dependent on a number of factors. Key among these is the region's economic status, its dependence on imported energy and its vulnerability to a warming climate and sea level rise. The paper provides a brief review of these factors. The review is restricted primarily to the Caribbean Community (CARICOM) consisting of the following fifteen countries: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Guyana, Grenada, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. Guyana and Suriname are located on the northeast of South America and Belize in Central America. The remaining countries are island states in the Caribbean basin.

### The economic status of most Caribbean countries

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). According to the International Monetary Fund (IMF), CARICOM countries over the period 1984 – 2004 had an annual average real gross domestic product (GDP) growth rate of 1.8 percent, while that of the developed world grew by an annual average of 4.3 percent over the same period. These overall low growth rates not only affect economic growth, but also economic development in the region. The current global financial recession and the loss in preferential markets in the EU for its agricultural exports further exacerbate the situation. As such, many economies have been forced to turn to the IMF for help.

### The region's dependence on imported energy

The CARICOM countries are predominantly net energy importers, with the exception of Trinidad and Tobago. In 2004, the islands in the Caribbean region consumed a total of 2.6 quadrillion British thermal units (Btus) of total energy, of which petroleum accounted for 77 percent. The cost of fuel imports

consumes 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-related issues

Observations in the Caribbean are showing significant increases in the number of incidences of: Coral bleaching, Extreme events, Changing Rainfall patterns and intensity, Category 4 and 5 hurricanes and Pest infestation. Modeling of future changes in the regional climate, suggest further increases in these events and hence, increased development risks.

### The Road to a Low Carbon Economy for the Caribbean Community

Noting the region's unsustainable economic status, the high percentage of its GDP used for the importation of fossil fuel energy and the further exacerbating effects of climate change and sea level rise, the need for a low carbon economy (LCE) has been recognized. The LCE is regarded as a practical solution in aiding the cause of sustainable development and the adaptation and mitigation initiatives to cope with climate change and sea level rise. The establishment to a low carbon economy is critically dependent on the transformation of the Energy Sector from fossil fuel-based to renewable energy-based, the Agriculture Sector from a primarily export oriented entity to food and bio-energy industry for local consumption, the Tourism Sector to a carbon neutral destination, and the Transportation Sector to be less dependent on petroleum. The enabling environment for achieving the transformation is briefly discussed below.

### Transforming the Energy Sector

It is envisaged the energy sector can be transformed through a combination of continual improvements in energy efficiency and the development of renewable energy resources. The Caribbean is endowed with a number of under-exploited indigenous forms of renewable energy. Some of these are currently being implemented such as: Geothermal (Nevis, Dominica), Hydropower generation (Belize and Guyana), Solar

thermal water heaters (Barbados), Biomass (Guyana), Cogeneration (Belize and Guyana), Wind (Jamaica), Waste energy (Jamaica, Bahamas) and OTEC (Ocean Thermal Energy Conversion). The transformation of the energy sector can only be achieved through a multifaceted mechanism that will provide assistance for assessing the potential of the energy sector for renewable energy and energy efficiency. This means support for the transfer of appropriate technologies from the developed countries.

### **The Agricultural Sector**

Prior to the loss of preferential markets, agriculture was once a major contributor to most CARICOM member states' GDP. This came about through exportation of key products such as sugar, bananas and rice. Transforming the agricultural sector to a Low Carbon Industry would provide needed growth in the GDP through reduction in the amount of imported petroleum products as well as creation of local and region markets. These would offset the decrease of revenue from the loss in the preferential markets. The increase in revenue would be derived through an increase in the use of indigenous agricultural products as well as the promotion of inter-regional trading of these products. The sugar cane industry could be transformed from sugar-based industry to energy-based industry, through the promotion and development of the bio-fuel and agro-forestry industries. The development of these industries and promotion of inter-regional trade of indigenous agricultural products should result in a significant reduction in imported fossil energy. In so doing higher economic growth rates could be achieved with less dependence on the global economic conditions.

### **The Tourism Sector**

The transformation of this sector to LCE is critical, since it is one of the most energy intensive industries in the region even though it contributes significantly to the region's GDP. The transformation to the LCE could be achieved through the development and implementation of: modalities for reducing the industry carbon footprint through, among other things, addressing the energy efficiency factor and the promotion to a greater extent in the use of regional agricultural products.

### **The Transportation Sector**

The development of a LCE in this sector will be highly dependent on technology transfer from the industrialized countries. Included must be technology for the development of carbon-biofuels that can be produced locally and for fuel efficient vehicles including more alternative and flex-fuel vehicles for national and inter-regional transportation.

### **Conclusion**

The brief review of a development path to a Low Carbon Economy (LCE) in the Caribbean Community shows that the region can provide 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. In addition to these primary areas another area of growing importance is avoided deforestation. The realization of these possibilities 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.