

COUNTRY PAPER

TRINIDAD AND TOBAGO

INTRODUCTION

Trinidad and Tobago signed the UNFCCC in June 1992. The Republic of Trinidad and Tobago is a two-island state located at the southern-eastern end of the Caribbean archipelago. Together they comprise a total land area of 5126 square kilometres.

Physiography

Trinidad and Tobago are both situated on the South American continental shelf from which they became separated in geologically recent times. Notwithstanding this, they both have marked differences. Trinidad features three mountain ranges:

- (i) the Northern Range, running east to west across the northern boundary of the island and, rising over 900 metres represents the easternmost extension of the Andean Mountain System;
- (ii) the Central Range, an area of rolling hills of maximum elevations of about 300 metres and
- (iii) the Southern Range located in the extreme southeastern part of the island, and is comprised of a series of anti-clinal folds separated by complicated fault systems which have resulted in low hills.

These three mountain ranges are interspersed by two fertile plains, the Northern Basin, lying between the Northern and Central ranges and the low lying rolling Southern Basin with a shallow, inland freshwater lagoon, known as the Nariva Swamp, separated by a 25 km long sand bar.

In terms of the smaller island Tobago, its physical features include the Main Ridge that occupies the north-eastern two-thirds of the island and reaches 576 m and the southern lowlands that comprise a coastal plain of coral terraces terminating in a coral reef.

Climate

Trinidad and Tobago lie roughly between 10 deg. N and 11 deg. N latitude, and between 60 deg. W and 62 deg. W longitude. As a result of their southerly location, Trinidad and Tobago experiences two relatively distinct seasonal climatic types:

- (i) Tropical Maritime – warm days and cool nights with rainfall mostly in the form of showers due to daytime convection. This typifies the early to mid dry season months of January to April;

- (ii) Modified Moist Equatorial – low wind speeds with hot humid days and nights and a marked increase in rainfall, not always convective. During this period, the area comes repeatedly under the influence of equatorial weather systems.

The two climate types described above result in two distinct seasons – a dry season from January to May and a wet season from June to December. Tobago, the more northerly of the two islands, experiences a drier dry season and Trinidad a wetter wet season.

Economic Profile

Trinidad and Tobago has a strong industrial base with 27% of GDP derived from the petroleum and petrochemical industry. Agricultural production accounts for 2 % GDP while manufacturing contributes between 8 and 9 %. Tourism in Trinidad and Tobago is small and largely centred in Tobago and is 1% of GDP. (Data is derived from 1996 statistics.)

Energy Profile

Primary energy production in Trinidad and Tobago comprises mainly crude oil and natural gas with a small additional amount from baggase. Approximately 48% of crude oil produced are exported and the remainder refined locally.

Gas production has increased steadily over the past decade. By the end of 1997, estimated proven and probable reserves for oil stood at 2.6 billion barrels while by the end of 1998, gas was at 30.7 trillion cubic feet.

Renewable Energy

While Government's policy is the monetization of its hydrocarbon reserves, it is prepared to support by fiscal and other incentives, viable opportunities that may seek to exploit the renewable energy sector.

National Environmental Policy

The following policy approaches are utilised inter alia:

Air Pollution

- Adopting ambient air quality standards
- Emission limit values (stationary industrial plants)
- Setting upper limits on total emissions
- Uniform reduction in production or use of polluting products

Motor Vehicle Emissions

- Inspection and certification programmes
- Emission standards and emission fees
- Improved gasoline and diesel standards
- Fuel pricing to encourage the use of CNG as an alternative fuel

- Traffic management measures

Greenhouse Gases

- Conduct regular inventories of greenhouse gases
- Implementation of technologies that will reduce, prevent or control man-made greenhouse gas emissions
- Conserve and enhance natural ecosystems that serve as sinks or reservoirs of ghgs.

TECHNOLOGY NEEDS AND TECHNOLOGY NEEDS ASSESSMENT

Specific technology needs and assessment studies are sparse if non-existent. However, needs in the context of “technology” interpretation have been alluded to in various reports and studies. These include knowledge or technical know-how in various fields including socio-economics, economic valuation of natural resources including biodiversity inventorying, engineering, environmental impact assessment, computer modeling and software development etc. These can all be viewed as critical to vulnerability and adaptation assessment to impacts of global climate change. The know-how in conducting comprehensive technology needs assessment may in itself be identified as a need.

CAPACITY BUILDING NEEDS

As with technology needs and technology needs assessment, studies on specific capacity building needs are sparse if non-existent and references to such requirements are made in various reports and studies. There is a need to build capacity, on a sustained basis and to cater to relevant changes and requirements, in all sectors, public, private and non-government, so as to provide the enabling environment that will allow meaningful input and cooperation of these sectors.

BARRIERS TO TECHNOLOGY TRANSFER

In the absence of specific details, barriers may be broadly categorised under:

- Institutional and policy
- Costs and financing
- Lack of awareness in all sectors in terms of opportunities and access.

POSSIBLE ACTIONS AND INITIATIVES TO REMOVE BARRIERS

Detailed identification of such barriers is the obvious first step and will necessarily involve initiating comprehensive studies, mainly in the categories identified above.

Presently, Trinidad and Tobago is part of a regional project aimed at identifying barriers in respect of renewable energy for the Caribbean through an initiative of the Caribbean Energy Information System (CEIS) called the Caribbean Renewable Energy Development Project (CREDP).

OPPORTUNITIES FOR INVESTMENT AND PRIVATE SECTOR PARTICIPATION

Opportunities may exist in most sectors that involve activities, which can be refined in terms of the employment of environmentally sound technology, development of indigenous technology and developing and enhancing capacity.

ONGOING AND PLANNED TECHNOLOGY TRANSFER ACTIVITIES

Trinidad and Tobago is involved in the Caribbean: Planning for Adaptation to Global Climate Change (CPACC). Under the activities of this project, there are several components that involve and allow for technology transfer.

ELEMENTS OF SUCCESSFUL TRANSFER OF TECHNOLOGY ACTIVITIES

- Comprehensive technology needs assessment and capacity building studies
- Identification of barriers to technology transfer, technology development and capacity building
- Implementation of recommendations arising therefrom
- Strengthening and development of institutional capacity to allow for the above. For regions like the Caribbean, the development of a Regional Climate Center would be useful in facilitating technology transfer.

POSSIBLE ELEMENTS OF A FRAMEWORK FOR MEANINGFUL AND EFFECTIVE ACTIONS TO ENHANCE IMPLEMENTATION OF ARTICLE 4.5 OF THE CONVENTION

In the context of Article 4.5, actions to be implemented will be in accordance with sustainable development needs and objectives. Accordingly, elements for such a framework of action should be compatible with the Small Island States Barbados Programme of Action (SIDs PoA). Therefore, the sectors important to Small Island States identified in sustainable development objectives will need to be incorporated, namely:

1. Natural and Environmental Disasters
2. Management of wastes
3. Coastal and marine resources
4. Freshwater resources
5. Land resources
6. Energy resources
7. Tourism resources
8. Biodiversity resources
9. National institutions and administrative capacity
10. Regional institutions and technical cooperation
11. Transport and communication
12. Science and technology
13. Human resource development

CONCLUSIONS

For a successful implementation of Article 4.5, due consideration must be given to Caribbean countries in the distribution of projects and programmes. Thus far, Caribbean countries have benefited little from such projects and programmes in the climate change process. It is therefore critical that the transfer of technology process be one of full participation for Caribbean countries.

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