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**A REVIEW OF ENERGY POLICIES IN THE SUBREGION AND THE
IMPEDIMENTS TO INTRODUCTION OF NEW AND RENEWABLE
ENERGY SOURCES IN THE REGION**

Table of Contents

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| | |
|------------------------------------------------------------------------|-----------|
| Public policy defined..... | 2 |
| <i>The public policy process in the Caribbean.....</i> | <i>2</i> |
| Energy policy..... | 2 |
| <i>Trinidad and Tobago.....</i> | <i>3</i> |
| <i>Jamaica.....</i> | <i>3</i> |
| The Regional Context..... | 5 |
| <i>REAP.....</i> | <i>5</i> |
| <i>CREDP.....</i> | <i>6</i> |
| <i>Other regional initiatives.....</i> | <i>7</i> |
| Efforts at introducing a new renewable energy policy..... | 8 |
| Extracts from and analysis of reports of regional meetings..... | 10 |
| Current RE programmes..... | 11 |
| <i>Curacao.....</i> | <i>12</i> |
| <i>French Antilles.....</i> | <i>12</i> |
| <i>Analysis of reports of RE Projects.....</i> | <i>13</i> |
| Responses to questionnaire..... | 14 |
| Analysis and recommendations..... | 15 |
| Suggested Reading Material..... | 18 |

A review of Energy Policies in the subregion and the impediments to introduction of new and renewable energy sources in the region.

Public policy defined

What is policy, when is policy made and what is a “statement of intent” continues to be the topic of discussion in the region. There is also the argument that doing nothing is a policy. It is therefore necessary to establish what is the meaning of “policy” as intended in this paper. According to Charles W. Anderson, *“a policy is more than a state action or activity. It is a conscious contrivance, reflecting human purposiveness, and it is in some sense a moral act. A distinction is made somewhere, between things that are good for the public and things that are bad. Seen in that light, a policy cannot be satisfactorily explained simply as a product of certain socio-economic conditions, or a given configuration of political pressures, or as the outcome of a particular political process. It is also necessary to know what people thought of prevailing socio-economic conditions, the claims and grievances brought forward by interested parties, and how they debated and assessed these problems.”*¹ This definition is not without some inadequacies. However, it does stress the conscious decision made and the action, in terms of putting structures in place, for implementation. In other words, if inaction is decided upon after consideration, then it can be deemed a policy. An additional benefit to this definition is that it allows for comparison between different policies and administrative structures. Using that definition, the policy process in the subregion can be examined particularly as it relates to new and renewable energy promotion and use.

The public policy process in the Caribbean

Since the above definition did not exclude political structures, we can begin by looking at the obvious and state that the public policy process is a function of the political structure of the State. In that respect the process is varied, since there are various political systems in the subregion, most prevalent of which is a version of the Westminster system, or the Whitehall model, which the English speaking Caribbean adopted after independence from 1962 onwards. There are different systems for the French, Spanish and Dutch speaking countries of the subregion, as well as for the North American dependencies. Without going into the details of the differences in these administrative structures, one can observe that the Whitehall system appears to be more centralized in the decision-making process than the other systems. Would that account for the fact that the countries with the Whitehall system are more resistant to renewable energy use as the data will indicate?

Energy policy

In determining the existence of an energy policy in the subregion it is necessary to provide some insight into the energy sector, especially electricity generation, in the region. For this, the situation in Trinidad and Jamaica will be examined. It is also

¹ Douglas E. Ashford. Comparing Public Policies. Sage Publications. Beverly Hill, California. United States of America. 1978. Page 20.

worthwhile to mention that most of the islands of the Caribbean, with the exception of Trinidad and Tobago, and to a lesser degree, Barbados, depend heavily on petroleum imports for their primary energy needs.

Trinidad and Tobago, which produces oil and natural gas, was the principal source of oil for the British Navy based in the subregion during World War II. Barbados is the only other petroleum producer among the islands. Trinidad and Tobago has been the only exporter of petroleum in the Caribbean since 1912. Jamaica imports close to 90% of its commercial energy needs in the form of petroleum products.² The situation in Jamaica is mirrored in the other islands.

Trinidad and Tobago

The early history of electricity in Trinidad and Tobago is closely connected with public transport. In December 1886, a group of local businessmen was granted a 20-year franchise to run an electric power station and tramway system in Port of Spain. In 1894 the Electric Light and Power Company was formed and in March 1895, electricity was installed for the first time in Trinidad. From 1901 to 1933 the Electric and Transport was owned by a Canadian businessman, after which the company was taken over by the Government of Trinidad and Tobago.³ The Trinidad and Tobago Electricity Commission (T&TEC) came into being by way of the Trinidad and Tobago Electricity Commission Ordinance No. 42 of 1945. Its mandate was to generate electricity and to distribute it outside the city of Port of Spain and the town of San Fernando.⁴ T&TEC is presently responsible for the design, construction, operation and maintenance of the country's electrical transmission and distribution network and supplies electric power to customers of both islands via a single inter-connected grid. Up until 1994, T&TEC was responsible for both the generation and distribution of electricity. The primary source of energy is natural gas. On December 24, 1994, the Commission established a fully-owned subsidiary, the Power Generation Company of Trinidad and Tobago (PowerGen), from which it purchases power for resale. T&TEC is also responsible for securing fuel supplies for the generation company. It is state-owned and regulated and is by law, the sole retailer of electric power in the country. Installed electricity generation capacity in Trinidad and Tobago is 1416.7 Mega watts (MW). Approximately 5,279 GWh is generated per year while consumption per capita is in the vicinity of was 3,667 KWh.

Jamaica

According to a report of the Petroleum Corporation of Jamaica, about 80% of Jamaica's primary energy demand is satisfied by imported oil. The rest comes from wood (12%), coal (2%), bagasse (5%) and hydropower (1%). In 1989, oil imports consumed 25% of Jamaica's export earnings. As of 1998, 87% of Jamaica's energy mix was

² Implementation of and possibilities for renewable energy in the Caribbean with special reference to Trinidad and Tiobago. Indra Haraksingh. Department of Physics, Faculty of Natural Sciences. The University of the West Indies, St. Augustine, Trinidad. 1996.

³ Trinidad and Tobago Electricity Commission – A historical Perspective: The Early Years. <http://www.ttec.co.tt/about/history/history.htm>

⁴ Trinidad and Tobago Electricity Commission – A Historical Perspective: The First Decade 1946 – 1956. <http://www.ttec.co.tt/about/history/history.htm>

petroleum-based. Over the years the consumption of imported oil has not changed, the Jamaica Public Service Company Limited (JPSCo), the transportation sector and the bauxite industry still remain its main consumers. Each organization accounts for roughly one quarter of total consumption. Consumption of electricity, though once dominated by small-scale industries (47% in 1989/1990), is now dominated by private households. Householders' access to electricity has moved from a mere 32% in 1989/1990 to over 50% in 1998. Most of Jamaica's energy is still imported from Venezuela and Mexico under the San Jose Accord. As long as these contractual arrangements remain favourable to Jamaica's national interest, they will be continued. Even with privatization, it is envisaged that the country will continue to enjoy the benefits of crude oil supplies under the existing contractual arrangements in the same way that Jamaica enjoyed these prior to acquisition of Petrojam Limited in 1982. The market has been deregulated for the importation of all petroleum products since 1993. In 1990 the Jamaican government designed and implemented a five-year development plan that included renewable energy technologies. This plan was supposed to reduce the country's dependence on imported oil by developing and utilizing indigenous sources of energy while improving and promoting the rational use of energy. In recognition of the strategic importance of the energy sector to the country's economic growth and development, an Energy Policy has been developed. The policy seeks to diversify Jamaica's energy base with the aim of ensuring an adequate and secure energy supply for Jamaica. Within this energy policy, issues relating to energy sources such as petroleum, renewables and other fuels are addressed. In this regard, the Petroleum Corporation of Jamaica (PCJ) currently has a project on the drawing board to construct a 20-megawatt wind farm near Newport, Manchester, under partnership with a British company, Renewable Energy Systems Limited. The PCJ is the vehicle used by the State to implement its energy policy.⁵

The table below provides information on the net electricity consumption in the region for the 10-year period between 1992 and 2001. It is significant to note that for the same period, the net electricity consumption from renewable sources of energy was so insignificant for the region, that the readings for all countries registered at 0. This does not mean that no electricity was generated or consumed from such sources, however, as evidenced by the case of Dominica, where 40% of the country's energy requirements come from hydrogeneration. With the growing needs of the subregion, coupled with a steady increase in the price of energy from crude oil, the need for a clear policy on renewable energy becomes critical.

Net Electricity Consumption in the Caribbean: 1992 - 2001
Million Btu – British Thermal Units

| Country | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-------------------|------|------|------|------|------|------|------|------|------|------|
| Antigua & Barbuda | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Barbados | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 |
| Cuba | 10.1 | 9.6 | 10.5 | 10.9 | 11.6 | 12.4 | 12.4 | 12.7 | 13.2 | 13.4 |
| Dominica | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 |
| Grenada | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |

⁵ Interview with Dr. Raymond Wright, Managing Director, Petroleum Corporation of Jamaica (PCJ). Adapted from the Business Observer. January 23, 2002.

| Country | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|
| Guyana | 0.2 | 0.2 | 0.3 | 0.5 | 0.6 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 |
| Haiti | 0.5 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.5 |
| Jamaica | 3.5 | 3.3 | 4.2 | 5.1 | 5.3 | 5.5 | 5.7 | 5.8 | 5.8 | 5.8 |
| Martinique | 0.7 | 0.7 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 |
| Montserrat | - | - | - | - | - | - | - | - | - | - |
| Netherlands Antilles | 0.7 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 |
| St. Kitts/Nevis | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| St. Lucia | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| St. Vincent/the Grenadines | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Suriname | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| Trinidad & Tobago | 3.5 | 3.3 | 3.6 | 3.8 | 4.0 | 4.4 | 4.5 | 4.6 | 4.8 | 4.9 |
| Turks & Caicos Islands | - | - | - | - | - | - | - | - | - | - |
| US Virgin Islands | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 |
| British Virgin Islands | - | - | - | - | - | - | - | - | 1.0 | 1.0 |

Source – Energy Information Administration/International Energy Annual 2001.

The Regional Context

The formation of regional institutions from 1965 with the Caribbean Free Trade Association (CARIFTA) to the present Caribbean Community (CARICOM) and the Organisation of Eastern Caribbean States (OECS), has been the driving force towards efforts at a regional approach to regional development. Some of the major inputs in the development process, for example, energy, although sources are national, have been dealt with in a regional context.

REAP

The first regional project was the Regional Energy Action Plan (REAP). First formulated in November 1982 at the Third Meeting of the Conference of Heads of Government of the CARICOM held at Ocho Rios, Jamaica, CARICOM Ministers responsible for Energy agreed that they should, *inter alia*:

- (i) meet and prepare a comprehensive Regional Action Plan to promote security of intra-regional supplies and markets of petroleum products and seek to develop alternative sources of energy within the Region; and
- (ii) give support to the strengthening of regional institutions so as to enable them to give increased support to member States in their efforts to undertake effective energy planning, conservation and development of alternative energy sources.⁶

The major objectives of the REAP were to “*alleviate within the shortest possible time, the adverse impact of the energy crisis on Caribbean economies, while laying the*

⁶ The Regional Energy Action Plan. Caribbean Development Bank (CDB) and Caribbean Community (CARICOM) Secretariat. October 1983. CDC 12314.

basis for a more coordinated and rational development of the energy resources of the region.”⁷

The specific objectives of the REAP were divided into five major components with a total cost of US\$22.23 million. Regarding procedures for the mobilisation of external resources in support of the REAP, the Heads of Government recommended that the Caribbean Development Bank (CDB) and CARICOM Secretariat prepare the major programmes for submission to donor agencies and that these programmes be submitted, in the first instance, at the forum of the Caribbean Group for Cooperation in Economic Development (CGCED) to solicit the interest of the donor community in supporting the thrust. Specific agencies were identified to provide funding for the individual components including United States Agency for International Development (USAID), German Appropriate Technology Exchange (GATE) and the European Development Fund (EDF) of the European Economic Community (EEC). Financing would take the form of grant funding as well as contributions to a revolving loan fund. It is significant to note that the proposals did not provide for counterpart funding by Caribbean governments.

It should be noted that the REAP was prepared at a time of extreme crisis and uncertainty regarding the future economic and social well-being of the CARICOM. That was why the plan placed major emphasis on specific programmes and projects that could have important beneficial impacts over the short and medium term on the energy balances of individual countries and the subregion as a whole with an allied net reduction in the foreign exchange outlays for energy needed to sustain desired levels of economic activity.⁸

CREDP

More recent efforts to promote the use of renewable energy in the subregion are currently being attempted with the formation of the Caribbean Renewable Energy Development Programme (CREDP). The CREDP was initiated in 1998 when fourteen Caribbean countries and two (2) British dependencies agreed to work together to prepare a regional project to remove barriers which hamper the increased use of renewable energy (RE) in the Caribbean and thereby foster its development and commercialisation. It was proposed that this be done by offering an umbrella under which participating CREDP countries can receive support in the areas of national policy, finance, capacity building and public awareness. It was proposed that the programme be funded by the GEF/UNDP through a grant facility (US\$4.426 million), parallel financing by participating governments and regional and national institutions (US\$1.150 million), other donors (US\$2.2 million), equity from the private and public sectors (US\$6 million) and loans from the CDB or other banking institutions (US\$4 million). The total cost of

⁷ The Regional Energy Action Plan. Background for REAP. 1.01. Caribbean Development Bank (CDB) and Caribbean Community (CARICOM) Secretariat. October 1983. CDC 12314.

⁸ The Regional Energy Action Plan. Background for REAP. 1.04. Caribbean Development Bank (CDB) and Caribbean Community (CARICOM) Secretariat. October 1983. CDC 12314

the programme was estimated at US\$17.776 million. The phases of the project have been undertaken within the GEF project preparation fund.⁹

Other regional initiatives

OLADE projects

In its continuing efforts to promote energy policy and energy efficiency in the Latin America and Caribbean area, the Latin America Energy Organization (OLADE) has been working out the details of a project aimed at overcoming the barriers hindering the development of energy efficiency, especially in the Caribbean subregion. The project is in response to what OLADE identified as the absence in the countries of the Caribbean, of policies oriented to the development of energy efficiency and in some cases, of an energy policy in general. The project involving 16 Caribbean countries, is being implemented in association with three major institutions – the Caribbean Energy Information Systems (CEIS), University of the West Indies Centre for Environmental Development (UWICED) and the Caribbean Electric Utilities Services Corporation. In the development phase, the project is being funded by the GEF with the United Nations Development Programme (UNDP) acting as the implementing agency.¹⁰

The studies for the project began with a survey aimed at identifying the barriers to the development of energy efficiency in the Caribbean. The survey was conducted on the basis of a representative sampling of various sectors classified in five subject areas defined at the start of the project: Energy Policy and Regulation, Financing Alternatives, Business Development, Awareness-Raising and Information and Training Management. The representatives of the participating countries discussed the reports coming from the institutions implementing the project and reached a consensus about which barriers were the most important. Likewise, the possible actions that should be adopted to overcome the barriers should be part of the general plan to be proposed as the groundwork for the development of energy efficiency in the Caribbean. The list of barriers that were identified can be summarized as follows:

- Lack of awareness of energy efficiency benefits among politicians, decision-makers, authorities and executives;
- Absence of energy policy;
- Lack of government commitment;
- No lead organization on energy policy;

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