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SUMMARY OF THE NATIONAL REPORT SUBMITTED BY JAMAICA\*

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## SUMMARY

### Introduction

Jamaica is one of the developing countries that are adversely affected by the increasing cost of oil, primarily because of:

(a) Its almost total (99 per cent) dependence on imported oil for its commercial energy needs;

(b) Its relatively high per capita consumption of 8.0 barrels per annum of fuel oil equivalent;

(c) The fact that Jamaica's only conventional resource is hydropower, which accounts for approximately 1 per cent of its commercial energy.

Jamaica has consequently developed an energy policy, of which the primary objectives are:

(a) To reduce dependence on imported oil and diversify the present energy supply mix;

(b) To accelerate exploration for indigenous energy resources and the development of new and renewable energy supplies.

It is hoped to achieve these objectives through:

(a) Short-term (1-5-year) programmes largely dealing with conservation measures, proven solar technologies, and public education, and the planning and development of studies and programmes whose effects will be felt in the medium and long term;

(b) Medium-term (5-10-year) programmes dealing with energy supply and demand diversification, for example, coal and peat, as alternative fuel for electricity generation, utilization of garbage as fuel and proven technologies in solar energy and bioenergy;

(c) Long-term (over 10-year) programmes for energy development, which are primarily a continuation and expansion of the programmes for the short and medium term, including the major energy projects, new and emerging renewable energy technologies, energy planning, co-ordination and institutional development.

To meet these objectives, the Energy Division is being restructured, with a view to expanding and strengthening its institutional capacity to plan, manage and improve energy programmes.

Potential role of new and renewable energy resources

The present trend in rapidly escalating energy costs, combined with a projected 5 per cent per annum rate of increase for petroleum-based energy, makes it increasingly difficult for Jamaica to find sufficient foreign exchange for its energy importation. This puts a new dimension on the importance and role of new and renewable energy sources.

From assessments carried out in 1979, the indications are that, by the end of the decade, with a progressive diversification of the energy resources, an approximate replacement of 38.1 per cent of the country's total energy needs could be realized. With the development of hydropower in the second decade, a further replacement of 20 per cent could be achieved.

The variety of new and renewable energy mix which could be considered comprises

- (a) Solar energy - solar thermal, agricultural, commercial and industrial;
- (b) Biogas applications;
- (c) Energy conversion from wastes;
- (d) Biomass (direct combustion and charcoal);
- (e) Hydroelectricity;
- (f) Ocean thermal energy conversion (OTEC);
- (g) Wind energy;
- (h) Photovoltaic energy;
- (i) Geothermal energy.

While some of these energy sources are at present technically and economically feasible, the majority require further research and development.

Two of these new and renewable energy sources, thought to be on the verge of commercial viability and likely to contribute to Jamaica's energy needs are OTEC and solar thermal energy. Three potential sites for OTEC in Jamaica have been identified at the pre-feasibility level. A data-gathering programme is necessary to determine the technical and economic feasibility of both OTEC and solar thermal energy applications. International assistance is required in the areas of funding and expertise. The connexion of electricity generated from OTEC and solar thermal energy to the national grid would present no significant problem.

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