

Establishing Policies for a Clean Energy Future

Robert D. Pickersgill
Minister of Mining and Energy, Jamaica

Policymakers in each country must consider the global implications of their actions. The international conferences and agreements in the decade of the 1990's offer encouraging signs that the world community wishes to reduce the negative environmental impacts of human activities.

Of the many linkages among economic growth, energy resources, and environment, three are of particular concern:

- The continuing global dependence on fossil fuels to drive economic growth, throwing more CO₂ into the atmosphere and negatively affecting climate change;
- The Earth's ability to absorb the rising quantities of waste generated by increasing economic activity;
- The need to mobilize support for conserving resources and protecting biodiversity.

However, we should not underestimate our ability to face new challenges and to cope with such problems if we have the political will.

Population density plays a major role in causing diminished environmental quality from waste products. In addition, it stimulates socially disruptive events such as noise and even civil violence. More people will be living in cities in the future. The shift of population towards urban areas will have some positive attributes. For example, a greater proportion of people will have access to health care, education and other social services, resulting in higher living standards. Greater population densities will allow communities to capitalize on economies

of scale, such as more cost-effective water management. These benefits will only occur if cities can expand their infrastructures and services to keep pace with population growth.

The future we face in protecting the environment requires an array of flexible strategies in energy supply, energy efficiency, environmental sustainability, and economic growth. A balanced programme of clean energy development offers the best prospects of achieving the lowest social and environmental costs.

We are now eight years from the adoption of the UN Climate Convention in 1992 and there has not been substantial progress in curbing greenhouse gas emissions. The Kyoto Conference of 1997, with all its achievements, unfortunately did not advance the world far enough along the path of decision-making and cooperation in making urbanization less stressful to the environment.

Against this background, energy companies are urged to develop and seek market opportunities for new, clean and efficient energy technologies; and incorporate strategies into business plans that will improve efficiency and manage emissions. Planners and policymakers should encourage this effort, nationally and internationally.

[The Caribbean Energy Scenario](#)

Within the Caribbean area, there are countries such as Jamaica that are oil deficient. There are others like Trinidad and Tobago, as well as Venezuela and Mexico that border the Caribbean Basin, that have abundant resources of oil, natural gas and/or coal. There are still others, such as Barbados, that hold some fossil fuel reserves but nonetheless are presently net importers of energy.

The fact, nevertheless, is that taken as a whole, Latin America and the Caribbean hold enough reserves of fossil fuel to meet the demand of the region as well as have surpluses for export to the rest of the world. It has been estimated that in 1997, the countries of Latin America and the Caribbean produced 8.1% of the world's energy, but consumed only 5.6%. Latin America and the Caribbean is reported to hold 173 billion barrels of oil reserves, 8 trillion cubic metres of natural gas and 16 billion tonnes of coal. That is enough to meet the oil demand for another 43 years, natural gas for another 49 years and coal for another 300 years according to regional statistics.

Notwithstanding this wealth of energy resources, Latin America and the Caribbean is not sufficiently teamed together to benefit from the levels of market development, national development and regional integration which may be obtained from energy cooperation.

Fortunately, the region has, to some extent, embarked on a path towards this type of integration that could be mutually beneficial. There is the Caribbean Common Market, which could develop into a meaningful trading block, perhaps with less nationalism and a more regional outlook. There is Mercosur, the Southern Common Market, which involves some of the countries of South America. In the longer term we can look towards the Free Trade Area of the Americas, an equivalent of NAFTA.

The energy resources of Latin America and the Caribbean can go a far way in bringing about the inter-country cohesiveness that will be necessary for economic survival as globalization impacts on the economies of the region.

It is good to note that energy cooperation has begun, even if it has been slow in terms of expansion and development. The San Jose Accord has been in force for a number of years, and countries such as Jamaica have benefited from Venezuelan and Mexican oil supplies under this cooperation agreement. Seven

weeks ago the Caracas Agreement was signed, which gives additional financial benefits to oil deficient Caribbean countries. The Mexican-Central American Gas Pipeline is under very serious consideration by the countries involved. Cross-border interconnections in natural gas and electric power are at various stages of implementation in some parts of South America.

As the Caribbean countries work together in the exploration, exploitation and marketing of our energy resources, our capabilities will be strengthened both individually and nationally, and we could achieve much together, including:

- The standardization of legislative and fiscal regimes for energy;
- Optimal petroleum and natural gas procurement for our countries;
- A joint approach in our response to the Kyoto Protocol and the achievement of sustainable development within the energy sector;
- Satisfactory levels of energy efficiency and demand side management;
- Deregulation and liberalization of the electricity supply industry;
- Utilization of the abundance of domestic renewable energy (such as solar, wind, and hydropower), which can be positive additions to the energy mix.

Some of these strategies are already under implementation. We need to find new and mutually beneficial ways to expand the supply and marketing of natural gas and coal. We also need to see how best to combine our efforts at the development of renewables. We should proceed to do so with a systematic approach that will bind Caribbean countries together in a cohesive trading block that shares technology. The Kyoto Climate Change Protocol proposals to cut greenhouse gas emission levels will provide opportunities for growth in the demand for renewable energy, not only in the Caribbean, but worldwide.

We must emphasize the importance of intensifying a dialogue on renewable and energy efficient technologies. This accelerated transition to the use of renewable energy and energy efficiency can yield substantial benefits in the form of reduced oil consumption, lower air pollution levels, reduced emissions of greenhouse gases – at either modest cost, or even net economic savings.

There are societal goals and concerns other than the environment that motivate the development of renewable energy. Creating jobs, capacity building, increasing energy self-reliance and supply security, as well as rural development, are motivation for promoting renewable energy in most countries.

Security

An important need is to extend electricity service to unserved populations as well as service the demands of agriculture, transport, and urban-industrial growth. We have tended to view energy security since 1973 as merely reducing dependency on oil consumption and imports. However, in today's market environment, energy security is an issue shared by both importing and exporting countries.

Our energy security can be enhanced by:

- The ability, through the state or private sector, to access foreign energy resources and products that can be freely imported through ports, pipelines and electricity networks where relevant. This can be assisted by charters, energy treaties, and other trade agreements.
- Keeping adequate reserves to strategically make up for any transient interruption, shortages or unusual high demand.
- Developing domestic renewable energy resources that can be a part of the local energy mix; and
- Diversifying import sources and types of fuels.

Security in our electric power supply systems is of paramount importance. To ensure security in many countries, electricity

supplies are bolstered by standby plants on the consuming premises. Attaining a reasonable standard of energy security in the public system is essential not only to improve security, but also to limit the wasted resources on standby plants and unused reserves. This can be improved by better system planning and by investment in training and maintenance, rather than only investing in system extension.

Of all energy forms, crude oil is still the most important for energy security. Changes in the oil market have improved the overall availability of product on the energy market. The oil markets have become more like conventional commodity markets that are transparent and respond rapidly to changing circumstances.

OPEC has demonstrated its ability to influence oil prices through supply allocation, and its influence may increase in the future. However, oil is expected to show continual moderate price increases, and hopefully not prove a burden to our economies, by settling at a price of around \$25 per barrel.

Natural gas is gaining importance and should become an integral part of the mix in the Caribbean, whenever it is technically and economically viable to bring the product to market.

Market driven developments usually pursue short-term objectives, while energy security demands long term planning, investment and political will. For this reason, we need to ensure national long-term security of supply and protection of consumers.

Barriers

We need to remove the barriers to the use of renewable energy. They include the lack of public education as well as the unavailability of financial resources, incentives, and soft loan funds to consumers to purchase such items as solar water

heaters. Among the constraints is a lack of working capital for small-scale manufacturing, and inventory finance to suppliers of solar products with domestic applications in both rural and urban areas. At the same time there is the need to convince utilities that renewables are a positive addition to their energy mix.

A number of factors may contribute to why renewable energy is not perceived to be competitive with conventional energy sources in many countries. Environmental costs associated with the use of conventional energy sources are only partly internalized through regulations on emissions. In the case of renewable energy the perceived costs of energy may be high due to a number of factors that could be the target of new policy. For example, it is more difficult to access financing for renewable projects and these projects often face higher interest rates than energy projects using fossil fuels.

No country has achieved economic prosperity without raising its per capita use of modern energy forms – for industry, transport, agriculture, commerce, and in homes.

Can such energy demands be met and financed? Can the environmental problems be solved without undermining growth? There is no reason, from either a technological or an economic standpoint, why we should not enjoy the benefits of high levels of energy consumption and a better environment. By liberalizing energy and capital markets, the financial requirements of the industry can be met – indeed this is the primary goal of liberalization, along with increased energy efficiency. If extended to trade and investment, liberalization can also make an important contribution to addressing environmental problems – because it then becomes an ideal conduit for the transfer of “clean” technologies across countries. Such technologies have been developed in recent years in response to environmental policies in the industrial countries and have put developing countries in a position where they can

aspire to addressing environmental problems at a far earlier stage of development than the industrial countries before them.

Environment

Fuel use is the major cause of urban air pollution. I am pleased to indicate that in Jamaica, although the regulations allow for a phaseout period of lead in gasoline up to July 2003, we have fast-tracked our commitment. This is in response to a commitment made at the Summit of Americas Meeting in 1994. Thus, the phaseout of leaded gasoline was completed three years earlier than required; in April 2000.

This is part of our commitment to controlling environmental pollution as we move toward a sustainable energy system.

Capacity Building

In order to effect capacity building we should arrange regional training courses for middle management government personnel, utilities, and industrial and domestic energy clients in order to improve awareness of the economic and technical issues in energy planning, fossil fuel use, energy efficiency, and renewable energy; and of the global environmental situation that demands remedial measures, bearing in mind that energy use is the greatest source of pollution. About 70% of greenhouse gases are related to energy use.

A challenge lies in capacity building with respect to public awareness and human resources development. Our task is to provide training both at the technical and policymaking level; and to raise awareness and provide information. We need massive public education programmes, with the participation of a full range of social actors in the public and private sectors.

The capacities that are required in our countries include the local manufacturing and marketing of appropriate technologies. We need to develop, adapt, test, diffuse, and maintain

technologies. We need to provide education and further training for public servants, managers and supervisors, operators and maintenance workers, and research scientists and technologists. Capacity building will require institutional reforms that include savings and investment institutions, regulatory frameworks and enforcement procedures, standards and certification, as well as financial and accounting standards. The important message is that too often poor information and training, low awareness, and general inertia result in policy failures.

Unless substantial improvements in capability and capacity building are made, our problems will not likely be resolved. Perhaps the time has come to consider a regional approach to training, capacity building, and research and development on a formal basis.

Summary Statement

Regionally, we should agree on common goals, give directives, and seek assistance in carrying them out.

We could have a common regional energy policy with specific modifications for particular countries. In order for electricity supply to keep pace with economic expansion, increased industrial activity, urbanization and improving living standards we should review all options to provide electric power through integrated resource planning (IRP). This approach systematically evaluates potential electricity supply – and demand-side resources to develop a plan that provides energy services to customers under a given set of objectives. Renewables would then be shown to enhance energy security, reduce the negative environmental impacts of electricity supply, optimize the use of indigenous resources, and minimize foreign exchange costs.

The use of renewable energy and the implementation of energy efficiency should be accelerated. On the one hand renewable and energy efficient technologies are widely praised for the

environmental and social benefits they offer and the important role they serve in offsetting dependence on imported oil. On the other hand, there is a prevailing perception that renewable energy and energy efficiency are largely irrelevant in the near to mid-term planning horizons of industrial growth and energy investment. This perception is manifested by the relatively small expenditures of governments to date on demonstration and commercialization projects, although renewable energy and energy efficiency is a part of the present energy policy of many countries.

What we really need to do is to bring about energy alliances between countries; utilize a blend of new, clean, renewable technologies and cleaner fossil fuels; and optimize, in combination, both efficient, economic generation, and efficient, economic end-use of electricity.

When we do this we will have begun the process of developing a sustainable linkage between economic growth, energy resources, and environment.

As policymakers, we should concentrate on identifying, and bringing to our respective countries, the best available technologies, the best expertise, and the best technology transfer mechanisms. An energy innovation strategy should be part of the economic activity of our countries.

Let us make a commitment to new strategies for clean energy. And let us convert our strategies into policies, wielded by effective policy agents. Therein lies our challenge.

Thank you.

