



**GOVERNMENT OF THE REPUBLIC OF TRINIDAD AND TOBAGO
MINISTRY OF ENERGY AND ENERGY AFFAIRS**

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MEDIA RELEASE

Speech by the Minister of Energy and Energy Affairs

Senator the Honourable Kevin Ramnarine

IDB Natural Gas in the Caribbean

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I have argued that we in the Caribbean spend too much time talking about the past and too little time talking about the future. One may ask the question - what is the future of the Caribbean? What is the growth strategy of the Caribbean? Avinash Persaud has written a paper called “the anti-growth coalition” in the Caribbean. It is an interesting read as it hits to the heart of the problem which is in his view the state of the political economy of the Caribbean region.

There are in my view four major issues facing the Caribbean:

The first is the decline of the tourism sector;

The second is the loss of preferential treatment of agricultural products;

The third is the cost of energy and

The fourth is what “Inderjit Ruprah” calls “the silent debt crisis”.

All four are inter-related. We are here today to discuss energy and its role in the future of the Caribbean and we are here to signal our willingness to collaborate with the IDB and other Caribbean countries to make a natural gas supply chain a reality in the Caribbean. We are here to look into a possible future. The future must be informed by the past not held prisoner by the past.

The IDB has two main objectives and these are: reducing poverty and inequality and achieving sustainable growth. To achieve these objectives the Bank has five sector priorities. Of these five objectives, two are directly relevant to our conversation today:

- Infrastructure for competitiveness; and
- Protection of the environment, response to climate change, promotion of renewable energy and ensuring food security.

Both objectives are related to energy. I am happy that the IDB has seen energy as central to the discussion on reducing poverty and achieving sustainable growth. It's a narrative that I have found to be lacking in the policy agenda of other multi-laterals. Energy security, food production and water security are the three big challenges of sustainable development in the 21st century. To ignore the role of energy in sustainable development is to defeat the idea of sustainable development.

Energy has been an enigma in development economics. On the one hand for those countries that have abundant energy resources there is the question of Dutch Disease and Resource Curse which in itself stunts development. While on the other hand those countries that do not have indigenous supplies of hydrocarbons are exposed to the reality of expensive imports and "energy poverty". The latter is exacerbated in the case of small island developing economies.

So let us get to the Caribbean and frame the problem. Caribbean countries are mainly small islands. This means that markets are small which negates the advantages of economies of scale and presents logistical challenges for the delivery of fuel. With the exception of Trinidad and Tobago, all the Caribbean countries in the study generate electricity using mainly fuel oil. This is expensive and has become more expensive as the price of oil has increased in the last 10 years.

An oil price of \$US 100 per barrel of oil equates to a natural gas price of \$17 per mmbtu. Compare this to where the Henry Hub price is today of \$US4.66 per mmbu and you get an appreciation of the problem. The consequence is felt in electricity tariffs which is 36 US cents per kilowatt hour in Jamaica and 44 US cents per kilowatt hour in Dominica. That compares to 10 US cents in Florida. Sixty two percent of the power in this State is generated from natural gas; 21% from coal, 12% from nuclear and 5% from other sources including renewable energy. In Trinidad and Tobago 100% of our power comes from natural gas and that gives us electricity tariff of around 5 US cents per kilowatt hour.

The dependence therefore on imports of fuel oil and or diesel for power generation places negatively impacts on current accounts, balance of payments and levels of debt in the region. The Caribbean as the IDB would well know is one of the most indebted regions in the world. If the "energy status quo" holds the debt burden of the Caribbean will get heavier. The high price

of oil products leads to high energy costs in the region, which slows economic growth and hurts competitiveness. The high price of oil is not going to go away anytime soon. Debt is not necessarily a bad thing if that debt is contributing to economic growth and adding to production.

The current relationship between the Caribbean and energy is therefore not sustainable. It has set in train a vicious cycle – oil consumption – increasing debt levels – impact on growth and loss of competitiveness. In a nutshell the status quo has to change and has to change fast. I hope the IDB for going to the heart of the issue and committing to this consultancy.

So what is the way forward and what is the future?

The way forward has to be through collaboration and collective action. The region has to diversify itself away from liquid fuels and towards natural gas and where economically feasible renewable energy. This movement has to start as soon as possible (some say 2018 for first conversion) and should achieve by 2025 a significant conversion of the installed power generation capacity to natural gas or renewable. Forty four percent (44%) of fossil fuel consumption in the Caribbean region goes toward generating electricity while 29% goes to transport. We must also consider energy efficiency in all this as we simply waste too much energy. Natural gas to power must involve efficient combined cycle power plants and not simple cycle power plants. We have learnt that lesson in Trinidad and Tobago. All this of course requires investment and investors need a return on their capital. Investors also need to feel comfortable in the political space in which they invest.

In 2013 the IDB contracted a Castalia to determine the feasibility of establishing a competitive commercial supply chain for natural gas in the Caribbean Region. A copy of the Final Report indicated that there is potential demand for natural gas in the Caribbean and that Liquefied Natural Gas (LNG) is the preferred technology for its delivery in the region.

Castalia has concluded that “... LNG would be the best technical option for creating a regional market, because it is likely to be cheaper than the alternatives, and because it is a mature technology that is technically feasible for all the countries of emphasis.”

The LNG challenge has however always been the small size of markets and the logistics of shipping. The report notes that since 2006 the global fleet of ships with a capacity of 5000 cubic meters or less has increased from five to twenty four. The reports further notes that the technology around shipping and re-gasification terminals have emerged and will make LNG an economic option for the Caribbean.

Small scale LNG is coming into its own. In particular, markets like China, the US and Indonesia have strong demand for gas from remote areas and have strong dependence on small and

medium LNG plants. Countries in Baltic Sea, South East Asia and Americas are also making plans to invest in the infrastructure.

Castalia considered three scenarios for a regional gas market. Each scenario is an improvement on what currently obtains. The scenarios include two in which countries aggregate demand and one in which they contract supply separately.

Scenario one – hub and spoke - a single private company supplies from a single country.

Scenario two – or the virtual hub approach - a single private company supplies all countries.

Scenario three – each county goes its own way and contracts its own supply.

The consultants have compared all three scenarios and have concluded that while scenarios one and two are beneficial from a price standpoint they would be harder to implement. Of course we heard from Castalia that a 20% to 30% discount to fuel oil would be what is needed to trigger the economic decision to switch from fuel oil to natural gas.

The Report further advised that the pursuit of the LNG option would require major investment in the form of regasification and supporting facilities and the conversion of existing installed generation capacity to gas fired plants. The size of these facilities will be different for each of the participating countries depending on their demand. The consultant determined mid –sized CARICOM Member States such as Guyana, Haiti and Barbados would require regasification units of size 40,000 cubic metres and Member States such as Jamaica would require units in the order of 160,000 cubic metres to meet electricity generation demand over a five year period 2018 to 2013. The initial investment cost ranged from US\$88 million in the case of mid-sized countries to US\$ 222 million for Jamaica. The question is where will this capital come from and who will take the risk of this investment?

The financial savings of the conversion to gas fired generation units as determined by the Consultant in terms of NPV of total costs of generation in each year over the period 2018-2032, discounted to the year 2018 at a 10 percent discount rate range from US\$283 million to US\$637 million for midsized CARICOM Member States and from US\$2154 million to US\$4193 million for Jamaica. That is a tremendous saving and presents a game changer if it can be achieved.

I want to talk a bit now about renewable energy in Trinidad and Tobago. Based on research conducted by the Engineering Institute of the University of the West Indies, wind energy offers the most practicable prospect for a grid integrated project. The prognosis is that the cost of onshore wind energy will continue to fall. It is against this backdrop that the Government is about to initiate a Wind Resource Assessment Programme (WRAP) across Trinidad and Tobago. Given that we in Trinidad and Tobago now generate 100% of our electricity from natural gas it is

expected that our next evolution would be towards a lower carbon option. That for us means wind resource and wind is abundant on our country's east coast.

The Government has also established a Carbon Reduction Strategy Task Force, under the country's Ministry of Environment and Water Resources, which has been given the responsibility to develop a draft National Carbon Reduction Strategy with a focus on the transportation, industrial and power generation sectors.

At the international level, a number of green initiatives have been undertaken and include the following:

- A MOU between the Government of Trinidad and Tobago and the USDOE for the establishment of a Caribbean Renewable Energy Center with the major focus being research and demonstration.
- Collaboration with United Nations Environment Programme (UNEP) on the development of a framework for the establishment of a Feed-In Tariff policy.
- A Loan Agreement with the Inter-American development Bank (IDB) with respect to the development of a Sustainable Energy Framework. A Technical Co-operation facility under this loan Agreement has been the engagement of the services of an international consultancy) to provide policy and technical support to the Ministry of Energy and Energy Affairs particularly in the areas of renewable energy and energy efficiency.

In closing, I would like to add that Trinidad and Tobago is one of the IDB's biggest clients in the Caribbean and Latin America. The IDB has supported Trinidad and Tobago on strategic initiatives such as procurement reform (Bill before the Parliament now), waste water treatment and on making Port of Spain a sustainable city. In speaking to Dr. Bhoë Tewarie this morning we discussed the idea of moving from sustainable city to smart city – based on the principle of energy efficiency. This is an idea we support.

We welcome organizations such as the IDB that are prepared to partner with us in pursuing our goals for energy security in the region. In principle we support the initiatives of the IDB and in the last four years the relationship between Trinidad and Tobago and the IDB have grown stronger. We are ready to collaborate with you and the region to make the leap to natural gas a reality.

I thank you.