Aluminum Smelters and National Economic Prosperity

By

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I wish to express my heartfelt thanks to the South Chamber and other members of the organizing committee for inviting me to speak to this forum. In particular, special praise to Dr. Driver who pestered me until he got a positive response. So here I am drawn kicking and screaming into the debate. One good thing about it is that I thought at least I would not have to go through the traffic jam in the morning. Lo and behold I discovered how wrong I was trying to get here on Time.

This occasion is indeed special for at least two reasons. First it is to my knowledge the first time that there has been such vocal protest against the establishment of an industrial plant. Second, notwithstanding the rational for convening such a symposium, it is the first such open discussion on the natural gas based industrialization since the inaugural conference on " Best Uses of Natural Gas Resources was held in 1974.

In my brief fifteen minute comments I would like focus primarily on the question of How Can Aluminum smelters enhance national economic

prosperity and sustainability?. Let me say at the onset that I do not propose to present a feasibility study on smelters because I am not privy to relevant numbers. I propose instead to provide a framework for analyzing economic value created by major energy sector projects of which smelter s are a subset.

Let us begin by taking a brief look at the long history of T&T and smelters. The desire to have an Aluminium industry in T&T is not new. The national consultation on **the best use of our natural resources** identified aluminum as one of the best options for utilization of Trinidad's natural gas reserves. An aluminum smelter was considered to have greater potential for employment creation and local value added than say LNG. The smelter was viewed as an excellent example of Caribbean economic integration, combining Bauxite of Surinam, Guyana and Jamaica with T &T's natural gas resources. In the 1980 White Paper on Natural Gas, a smelter was forecast to be up and running by 1985. That idea, like so many other regional initiatives, was stillborn. With the onset of the economic recession in 1983, Government was forced to shelve any such investment.

There was renewed interest in establishment of an aluminum smelter from the mid 1990's. The discovery of additional gas resources, the breakthrough with LNG, and a new wave of foreign investor interest in T&T's gas sector were the primary stimulants. Several companies were engaged in discussions with the Government and the National Gas Company. These included Southwire Corporation, Norsk Hydro and later Noranda . In November 1999, the Government hosted a lavish ceremony to mark the signing of a Memorandum of Understanding with Norsk Hydro for the establishment of an Aluminium smelter at Point Lisas. But alas, Hydro pulled out and opted to expand its facilities in Norway instead.

Next we turn to the question: Why Trinidad and Tobago? The answer is pretty obvious competitive energy costs. – meaning essentially cheap gas and electricity. Electric power is the single most important cost factor in the production of aluminum, representing some 35-40 per cent of operating costs. Primary aluminum production facilities are located in areas where there are abundant supplies of inexpensive energy, such as hydro-electric power.(55%) and cheap coal(30%). Only 15% of the world's aluminum production capacity is fired by natural gas power plant. In most cases the gas used is gas that would have been flared or in very large supply. Such

countries include Qatar and Venezuela which are among the top ten in Global gas reserves. Although current power prices in Trinidad are by far the lowest in the region, it is understood that a 50% reduction is necessary in order to make an aluminum plant viable in today's market conditions. Current costs for industrial power are reported to be of the order of US$0.04 per KWh, but investors were said at one time to be asking for power at a cost of US $0.015 per Kwh.(Norsk Hydro Project) These numbers are only indicative. The salient point is that the current level of electricity prices was insufficient to attract a smelter. If today, we do have MOU's agreed for smelter or smelters, it means that there has been an agreement on a competitive price of gas and hence lower cost of power.

What's Does Aluminum Promise Us.

As any other gas based investment, Aluminum promises to increase investment, output Government revenue, employment and export earnings. The development of an Aluminum industry is simply an extension of the Point Lisas Model – with the input of foreign capital T&T. We glean from the scant information in the public domain is that its attractiveness is based primarily on potential contribution to two important national development objectives. Firstly it represents a diversification of the gas portfolio – that is

the mix of gas based industries. Trinidad and Tobago already has the distinction of being among the countries with the most diverse portfolio of gas based industries. Secondly, it holds great potential for deepening the industrial base of the country – Aluminum products feature prominently in the aerospace, automotive, packaging, building and construction, commercial transportation, power distribution and industrial markets. Myriad opportunities for downstream expansion would arise.

The Trade Off

From the above, it is evident that vastly different factors influence the investment interests of the State and the companies. In these circumstances, there must be a significant trade-off if any investment is to take place. In short T&T must provide competitively priced natural gas if it wishes to win Aluminum investment(s) The essential economic question then becomes does the stream of economic benefits compensate T&T adequately for the revenue foregone in lower gas / electricity costs?. Gas Master Plan consultants Gaffney Cline estimated that Government would have had to forgo revenue of US$ 500 million over the life of the project to secure the Norsk Hydro project. In addition to this the state also undertakes bears the cost of infrastructure – estate and marine facilities. Given the burden of the

trade-off that seems necessary to "win" an Aluminum project, careful consideration need to be given to its potential benefits. Simply year on year growth in output exports and employment is necessary but far from sufficient. In deciding on the attractiveness or appropriateness of an aluminium smelter for Trinidad and Tobago , we need to determine what makes an investment sustainable from an economic development standpoint ? The following variables should be considered:

What makes a sustainable investment?

The first criterion is that we must seek to quantify net value added. It is insufficient to speak only about growth in output. Real sustainability is a positive function of increased value added. A crude rule of thumb is that an industry increases its net value added as it grows from primary to tertiary or finished goods production. After thirty years, Point Lisas is only now beginning to move towards downstream processing. LNG is no more than a primary processing plant. In the specific case of Aluminum- it is imperative that the country seeks to maximize linkages with the national economy. This means that the tremendous downstream potential of aluminum must be captured. The onshore economy must be stimulated so that domestic entrepreneurs either by themselves or in conjunction with foreign partners,

seize the opportunity to become involved in what is still a growing business. Increased local value added can be captured from greater local equity ownership including participation in the local capital markets. For example, state ownership of one smelter project opens the opportunity for direct public participation in wealth creation through the divestment of state equity at a later stage.

The second criterion is the development of local technological capability. TNC's, particularly in the extractive industries, are notorious for providing the workforce with only operating and maintenance skills. In the classic TNC subsidiary operation, most if not all strategic decisions are made at the head office. The result is that locals never get to learn the tricks of the trade. In a recent study of energy sector based TNC in Trinidad, Lou Anne Barclay found that "the foreign investor has played virtually no role in enhancing the country's indigenous technological capability" Their contributions has been limited to training nationals in the operations and maintenance of process plants'. It is imperative therefore that we move beyond the mere provision of "jobs" What is required is the opportunity to develop innovative and strategic skills – including commercial business development and leadership

skills,. Our history with energy sector based TNC's suggests that this may not be possible without a share of ownership and decision making capability.

The third criterion is export earnings. Hydrocarbons is the primary source of foreign exchange earnings for Trinidad and Tobago . While aluminum would add to that export base and increase its size there is no reduction in price volatility .Aluminum prices have fluctuated from US$1000/ Ton to US$ 2100 pr tonne over the ten year period 1990 to 2000. Of interest to citizens would be the prices used in making projections of plant revenue and foreign exchange earnings. A conservative approach is advised. Here again downstream investment is advisable as a hedge against primary commodity price vulnerability

There are two important fallacies of energy sector investment that need to be clarified. The first is with respect to employment. Over US $15 billion has been invested in the energy sector over the last ten years. Yet the sector employs under 4% of the labour force (less than 22,000 people) The fact is that energy sector expansion will NOT provide much needed jobs in the amounts necessary amounts to create the type of society we want. What is true for the national community is also true for the South West Peninsula.

Energy sector growth is NOT the panacea for the relatively high unemployment data in this area. For several years the workers on the Point Lisas estate were not residents of the neighboring communities.

The second myth that seems to be pervading is what I call " the more the merrier" Aluminum is a mature industry . Trinidad and Tobago's entry is based essentially on lower energy costs. This is not a sustainable position since there are many nations where gas is relatively cheaper than T&T. There are also many nations in which hydro power can erode competitive advantage based on cheap energy. Michael Porter speaks of the value of rivalry among firms in the local industry in aiding and abetting national competitiveness. The concept of rivalry among firms is irrelevant in the case of the T&T aluminum business. In this case, the establishment of two aluminum smelters, on the terms outlined above, means that the state is in fact setting up conditions for a foreign firm to compete against a national firm.

To summarize, I am arguing that from an economic standpoint the development of an aluminum industry in Trinidad and Tobago has an opportunity costs in the form of revenue forgone with respect to the pricing

of power and natural gas. In this context, a smelter seems attractive and advisable to T&T only if it meets prescribed targets for increased value added, increased economic rents and improved technological capability. The sum of these benefits should outweigh the revenue forgone or the opportunity costs of alternative investments. I leave it up to you to determine from what you have heard, today and before the extent to which any o f the proposed smelters satisfy the criteria set out above.