

**COMMENTARY ON**  
**“CUBA’S ENERGY CHALLENGE: A SECOND LOOK”**  
**BY PIÑÓN CERVERA**

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Because of the less than favorable relations between the governments of the United States of America and the Republic of Cuba over the past 45 years, the free flow of accurate information has become and continues to be a somewhat rare commodity. This owes in large part to inaccurate reporting, less than reliable sources, and politically motivated disinformation emanating from both sides of the Straits of Florida. In some areas of inquiry, this has been the case for much more than just ideological reasons, especially so in areas critical to the material well-being and the survival *en lo actual* of the Cuban state.

Without a doubt, energy has been one of those areas, and so it is refreshing—and perhaps even a revelation—that we are presented a paper that for all intents and purposes definitively and comprehensively speaks to the issue of energy development and the challenges facing the Cuban state in both the short and long term. It suffices to say that in the post-Cold War era, energy has been and remains the Achilles heel of the Cuban economy. In that light, the following comments serve to highlight and accentuate the excellent work by Mr. Piñón. I have recently visited Cuba to discuss these matters with Cuban energy officials and representatives of foreign firms presently engaged in a number of energy-related activities on the island, and overwhelmingly I concur with Mr. Piñón’s analysis and will merely be seeking to further affirm this work.

First, in reference to the developments related to oil exploration underway in Cuba and the growing international cooperation to develop existing offshore reserves on the north coast of the island, it has been suggested that investments on the part of Cuba’s Ministry of Basic Industry (MINBAS) and of CUPET have been misplaced. There appears to be an almost exclusive focus on high profile, upstream investment schemes like the example of purchases of drilling rigs from SINOPEC. Drilling rigs of similar or higher quality were already present on the island and industry insiders are critical of such investment because all Cuban ventures are essentially constrained due to the lack of support services that forces all investors to come to the project with not only the expertise to conduct oil exploration but all to provide all of its support services. The lack of these support services drives up the already higher costs of operating in Cuba due to the nature of joint ventures, the importation of equipment on to the island, the U.S. restrictions against the use of equipment employing *tecnología de punta* that increases up the costs of any project by up to 30 percent. From the perspective of industry insiders on the island, Cuba would be better served by downstream investment that would increase the capacity of port services, modernize existing pipelines, and other support services. This explains why firms such as Repsol-YPF spent in excess of \$53 million dollars in oil exploration in Cuba and then walked away. Drilling for oil is an inherently risky proposition and Cuba does itself no favors by

creating a less than accommodating environment for something so critical to the future economic development on the island.

A discussion of the potential soundness of Cuba’s transportation infrastructure is warranted for two important reasons not mentioned in the paper. First, the potential of the investment environment of a post-transition Cuba is replete with conditions that may hinder successful outcomes owing to the deteriorated condition of the infrastructure, especially as it pertains to the Cuban rail system. We often operate on the basis on incomplete knowledge regarding the degree to which entire rail lines must be replaced, roads repaved, and ports completely rebuilt so that they can serve in the facilitation of the many related activities needed to renovate Cuba’s energy sector. In reality, the costs of revamping basic infrastructure may cripple any attempt to assist Cuba’s effort to modernize under the present circumstances and in the short term immediately after a transition. I conservatively estimate that this may cost Cuba hundreds of billions of dollars.

This brings me to the second reason. I do not share the optimism that the investment environment will be sufficiently attractive enough or suitable to Western market practices in the post-transition environment. This owes primarily to an argument that in the period immediately after Fidel Castro ceases to serve as the *Comandante en Jefe*, the Cuban leadership—unless forced or sufficiently “incentivized”—will not opt for a full embrace of democratic and capitalist market practices, and will seek to adopt a Chinese mixed economic model with significant barriers to entry into the Cuban market. Under no scenario is such a model adequate to the colossal tasks at hand because Cuba does not possess the economies of scale nor the market potential of China, nor does it seem feasible that adoption of such a model will gain Cuba access to the global and regional financial institutions that could help it to underwrite the investment needed in this critical sector.

This is especially relevant to the paper’s discussion of the generation of electrical power in Cuba. The reasons that Castro’s address at this year’s 26<sup>th</sup> of July commemoration, before a highly-controlled and

comparatively small gathering of Cubans, focused on addressing the chronic shortages of energy and *apagones* (blackouts and brownouts) of the past two years. Notable is new information that due to the deteriorated state of many of the electricity generation facilities, the last of which was upgraded in 1996, will continue to be less productive in the immediate future unless there is a dramatic effort to renovate and modernize these facilities. Discussions with energy experts revealed that the losses in transmission and delivery alone may total 30 percent, not taking into consideration the losses at energy generation facilities.

Similar to the period immediately after the end of Soviet oil subsidies, Cuba’s electricity generation capacity will continue to decline because of the diminishing capacity of electrical generation facilities. While the existing facilities may have operated at around 80 to 85 percent of capacity, utilizing 90 to 95 percent Cuban crude oil to produce electricity, many of the facilities have gone off-line for extended periods of time requiring the remaining facilities to operate at production capacities—in excess of 90 percent of capacity in some cases—that ultimately caused breakdowns creating an on-going state of crisis that continues unabated. This matter has now been further complicated by the damage to the national transmission and delivery network from Hurricane Dennis in early July 2005 and from Hurricane Wilma in late October 2005. The network was essentially cut in half, and in the wake of Hurricane Dennis the areas most effected, like Cienfuegos and Cárdenas, had no electrical service for almost two weeks in the aftermath of the hurricane.

With regard to the supply and demand structure of Cuba’s energy market, the inherent inability at present to refine petroleum products still leaves Cuba in a very vulnerable state in relation global energy markets. Even with Cuba being able to offset its external oil dependency with the recent gains in domestic oil production, the island still must import 50 percent of its oil, primarily in the form of gasoline, diesel, and other refined oil products. More importantly, the cost of importing these petroleum prod-

ucts, critical to the tourism sector, consumes over 50 percent of Cuba's export earnings.

The development of alternative and renewable sources of energy has been a priority of the Cuban government since the late 1990s. Yet, due to the lack of sufficient investment and funding of development activities, progress in this area, while admirable, remains in a development stage and the implementation of projects in solar energy, wind power, co-generation (biomass), and hydropower generation has been small-scale and dedicated to mostly remote areas. One project in particular bears further discussion.

Under the auspices of the Centro de Gerencia de Proyectos Priorizados (GEPROP) in the Ministry of Science, Technology, and the Environment (CIT-MA), in conjunction with the United Nations Development Program (UNDP), Cuba has undertaken a comprehensive alternative energy development project on the Isla de la Juventud, that when completed will have in place a wind power park capable of generating 5 to 7 MW of energy, a biomass energy generation unit utilizing Argentine technology that will produce up to 10 MW of power, and an expansion of solar energy capacity on the island that will reduce the demand from the electrical grid by an estimated 3 percent. The project is aimed at assisting island nations throughout the world in developing sustainable and clean energy sources that will enable these nations to address chronic energy resource constraints that take advantage of environmental factors common to these types of countries, that being the power of wind and sun. The project is expected to be complete by 2007 and perhaps could serve as a model of energy development for island nations across the globe.

In conclusion, I would like to leave us with some thoughts to consider. First, there is still much conjecture in determining the actual cause of Marcos Portal's dismissal as Cuba's Minister of Basic Industry, but the chronic lack of efficiency in investment and operation in this critical area were certainly justifiable reasons for the decision. What is puzzling is the placement of Yadira García as the new Minister, since she is neither an engineer nor does she possess

any policy experience in the area of electricity generation. Her previous experience with the Cuban Council of State has raised some questions from Cubans and foreigners alike.

Second, I too share the conclusion that the upstream program for oil production has been successful, but it is openly debatable whether the tenuous nature of Cuba's existing industrial plant can be sufficiently rehabilitated to garner a respectable return on investment over the long run. So much of analysis is based on a positive perspective of transition to a perhaps less authoritarian and more market friendly state in Cuba. I do not share that perspective for the immediate aftermath of Fidel Castro's "reign" in Cuba. Almost all of the mid-level and senior-level government officials and bureaucrats quietly acknowledge that change will occur, but they do so with one important proviso: that it will be incremental. A more accurate scenario may be a concession model, as is presently being utilized by the Chinese in important sectors. While this does not meet the present standard for normalization of diplomatic and economic relations between the United States and Cuba, it possesses the potential for engendering the type of transition most desired by all parties interested in energy development in Cuba. That is, a transition to a market economy and a form of governance that embodies all the critical elements of a sustainable democracy. In that we must be prepared to support Cuban efforts at reform and transition, however incremental and piecemeal, lest we find ourselves in a situation where there is neither tenable transition nor lasting development of the kind that Cuba so critically needs.

Finally, this paper is an excellent contribution to the growing literature of the critical elements that must be addressed if Cuba can successfully rescue itself from the 45-year economic debacle at the hands of the *Castrista* regime. That effort will demand that we address these needs with no less than the best practices, leading edge technology, and an overriding dedication to sustainable development—politically, economically and environmentally. This paper by Mr. Piñón embodies all of those characteristics and serves as a realistic template fueling Cuba's engine of future economic vitality.