MANILA BULLETIN
THE PHILIPPINES' LEADING NATIONAL NEWSPAPER

Monday, January 15, 2018

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Dilemmas in formulating energy policy

(Part I)

Despite all the enthusiastic talks about clean energy like solar and wind, the long-term projection of the Department of Energy still shows that in 2040, the share of coal-powered plants in the energy mix will actually increase. The latest long-term projection shows that coal will account for 41.6 percent of the sources of energy in 2040 compared to 22 percent in 2016. This harsh fact, reflecting the pragmatism of our policy makers, clearly illustrates the many dilemmas confronting emerging markets like the Philippines in formulating an energy policy that will balance the imperative of lowering electricity costs to the masses and the desirability of cleaning the environment. It is no secret that the Philippines has the highest electricity costs among the emerging markets in Southeast Asia. Not only do these costs deter much needed manufacturing investments. More importantly, they hurt the consuming public, especially the poorest of the poor, because of the impact of high electricity prices on the prices of basic goods.

The dilemmas in formulating a balanced energy policy over the long term can only be resolved by expert knowledge of the intricacies of technology, economics, geopolitics and other related sciences. There is no alternative to serious study and reflection by people in Government and in the private sector. We have to avoid populism, superficial analysis, vested interests and emotional arguments which unfortunately have been proliferating recently in the debates about taxing coal and removing subsidies from renewable energy such as solar. Fortunately, a book was recently launched that can help policy makers and investors make more intelligent decisions on energy matters. Written by Dr. Ricardo Barcelona, the book is entitled "Energy Investments (An Adaptive Approach to Profiting from Uncertainty)." I have known Dr. Barcelona for the past 40 years during most of which he has been involved in the energy sector as an investment banker based in Europe, a top executive of the multinational Royal Dutch Shell and finally as Research Director for Energy Chair at the IESE Business School in Barcelona and more recently as professorial lecturer at the School of Economics at the University of the Philippines. He also is lecturer at the Advanced Management Program of the University of Asia and the Pacific. As the former Dean and currently Professor at the IESE Business School, Dr. Jordi Canals, wrote as an endorsement of the book: "The energy industry is at a crossroad. The paradigm is changing although the uncertainty around new technology and lack of clear orientation from policy and regulatory perspective makes firms' decision-making more complex. It also raises some expectations in our society that may not be delivered in the medium-term. Ricardo's book offers a rigorous platform to better frame some energy decisions — both at policy and company levels — and offer consistent answers to this very relevant societal challenge."

In no time at all, Dr. Barcelona has been in the thick of the discussion on policy matters that will affect the energy sector in the Philippines for the next few decades. He did not hesitate to take the bull by the horns in the debate about the proposed taxes on both imported and

* DEPT. OF ENERGY (DOE)
* POWERPLANTS

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domestic coal contained in the ongoing tax reforms that have just been legislated. The first salvo concerns the misdiagnosis of the illness by those who proposed a tax on the production of domestic coal. The typical emotional argument was the reference to the fact that only one producer, Semirara, would benefit from exempting domestic coal production from the tax. Whether there is one, two or more domestic producers, the issue is totally irrelevant because producers always pass on the tax to the consumers. Producers are not harmed by the tax because it is so easy to pass on the tax to the consumers who are the ones who ultimately suffer and who are already suffering from the highest electricity rates in Southeast Asia.

Dr. Barcelona, using his vast theoretical knowledge and practical experiences in emerging markets all over the world, points out that the recommendation to tax coal ignores the Philippine peculiarities as an archipelagic power system. What was missed by those who had the good intention of cleaning the environment by discouraging the use of coal was the critical role of logistics in distributing energy supply. Going for the jugular, Dr. Barcelona rightly comments that without resolving the real problems of viable and affordable power supply and the needed infrastructure to deliver it, "a coal tax may just end up killing the goose (secure power supply) that lays the golden eggs (buoyant economy)." He describes the stark contrast between what happened in Europe (where he has spent the last thirty years of his professional life) and the experience of the Philippine energy sector. "Whereas Europe metamorphosed from coal to clean energy, the Philippines 'retrogressed' from clean energy (geothermal, natural gas, hydro and dendrothermal) to coal, not by choice but by necessity. Philippine gas requires gas-fired capacity to use the gas it delivers. This requires substantial investment in infrastructure that only the Luzon grid could provide the minimum economic volume. The demand in the Visayas and Mindanao, in contrast, is far too limited to viably absorb Malampaya's gas."

"The supply from Malampaya will be depleted by 2025. We may have to turn to imported gas but this requires constructing regasification facility to receive the gas, without which no imported gas could be delivered to the Philippines. Regasification investment is viable at a minimum annual volume of a million tons, enough to fuel 1,000 MW of gas-fired capacity, making Luzon as the only viable market. Both geothermal and hydropower face uncertain supply prospects and more importantly, solar power's competitiveness (vs coal and gas) still fails to convince." Except for a few brave souls in the island of Negros, there are no long queues rushing to develop solar farms. Despite all the legitimate concerns about the polluting effects of coal, short of a massive gas find to replace Malampaya or regasification facility becoming available, coal-fired power remains among the few viable and affordable sources to secure power supplies for years to come.

The tax on coal is a perfect example of the road to hell being paved with good intentions. An expert like Dr. Barcelona has seen enough empirical evidence (as contrasted withpure idealism on the part of some of our legislators) to point out that carbon taxation succeeds when it is implemented as part of a holistic energy strategy. "This takes into account available indigenous resources, energy logistics and grid infrastructures, existence of functional energy markets, and coherent fiscal practices that balance competing interests." There is too much collateral damage, especially to the consumers, that will result from ad hoc and piece meal cherry

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picking of isolated measures based on knee-jerk reactions or worst, still, emotional arguments about who will benefit from what policies. In his new book, Dr. Barcelona posits "that under functional energy markets, carbon tax applied to all polluting technologies could set one periodic price for power. Given this market price signal, managers could decide on how to structure their supply portfolios that best achieve their objectives. From the private sector point of view, the portfolio is influenced by what energy resources are available and the uncertainties surrounding access, costs, and fuel supplies."

Unfortunately, Philippine power grids operate as partially connected systems, with Luzon and major Visayan islands (e.g. Negros and Leyte) functioning as "one system." As Dr. Barcelona explains, "In reality, they are constrained by limited interconnection capacity, with Mindanao completely isolated. We, therefore, have multiple prices that reflect distortions arising from frequent interventions from regulators, long-term contracts that experience occasional renegotiations, and subsidies that are frequently unrelated to market realities. The legislators who insisted on a coal tax did not realize that such a tax, under the archipelagic system we have, could adversely impact coal-dependent Luzon where more than three-fourths of industrial production take place. Luzon's decline could arrest the country's continued economic buoyancy. It was not a total disregard for the environment that drove the Philippines to embrace coal. It was merely a logical response to resolving a resource constraint problem. With limited alternatives and very inadequate logistics, the simpler coal and diesel fuel solution was considered the most practical in addressing both the objectives of economic growth and lower costs of energy. By ignoring these harsh realities, the coal tax may inadvertently contribute to the next severe power shortage, reminiscent of the late 1980s and early 1990s." (To be continued)