

Jamaica Public Service Company Ruling: A Better Way Forward

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The Jamaica Public Service Company (JPS) Supreme Court ruling in July of 2012 could change the structure of the Jamaican electricity market. The ruling gives the public a sense of relief from the monopolistic hold JPS has across the island in the electricity market. The court ruling states that although the Minister of Energy and Mining has the authority to grant an exclusive license to JPS to transmit and distribute (T&D) electricity across the island, the manner in which the license was granted was improper—thus making the license invalid (Gayle, par. 6). The ruling opens the T&D sector of the electricity business in Jamaica to competition; allowing new companies to enter the transmission and distribution business in the Jamaican electricity market. However, based on the current structure of the electricity market in Jamaica, the ruling will garner little benefits, if any, to the citizens of Jamaica.

In the long run, the benefits may arise only if investors enter the transmission and distribution sectors of the Jamaican electricity market. More specifically, the ruling will benefit Jamaicans if investors are willing to spend capital to improve and extend the electric grid in Jamaica. The ruling sets Jamaica on a path in the electricity market that differs from more developed electricity market. In developed countries a truly competitive electric industry creates the right incentives for individuals or business to act in a manner that pushes the market towards an efficient outcome. In today's electricity market the competitive system seeks to provide safe and reliable electricity to the consumers at the lowest cost. If this goal is achieved, society will receive the maximum benefit from the use of the resources.

The electricity industry is separated into three main sectors: Generation, Transmission, and Distribution. Historically, the three stages were operated by the same company, a utility like JPS, to realize the cost savings. To produce and distribute electricity requires large amounts of

capital investment and once this investment is made the infrastructure is able to serve the entire market. Having multiple providers in this case would increase costs and redundancy. Therefore, a monopoly was granted to some companies because at a certain level of production, it was less expensive to have one company produce, transmit, and distribute the electricity for a given region. The costs associated with the capital investment are shared by members of the region which reduced the cost to each customer.

In developed electricity markets the goal of an efficient outcome is pursued by pairing a regulated (non-competitive) transmission and distribution sector with a deregulated (competitive) generation sector. The ruling by the Supreme Court does not promote the market dichotomy describe above, it is actually the opposite. In most developed electricity markets, utilities have territorial monopolies over the transmission and distribution sectors and are regulated by various levels of governments and regulatory agencies. The regulatory bodies attempt to ensure that the costs incurred by the utilities are reasonable and just—which attempts to imitate a competitive situation. In these countries competitive electricity markets are characterized by regulated transmission and distributions and competitive generation sector.

An important characteristic of the electricity markets in developed nations is that the generation function is separated from the distribution and transmission functions—as most of the cost associated with providing electricity is at the generation stage. That is, in the example of Jamaica, JPS would not be allowed to own generation units providing electricity to the electric grid. The alternative would be to separate the generation portion of JPS from the remaining sections of the company—under very close oversight by an independent agency to mitigate collusion. In addition, the electric grid needs to be operated by an independent agency that will not discriminate against the generating source of electricity. A goal of the government of Jamaica is to reduce the cost of electricity. By opening the generation stage of the market to competition, generation companies will have the necessary incentives to find lower cost alternatives of producing electricity. The government or regulatory groups need to steer the market in the direction of unregulated generation in order to achieve the goal of lower electricity costs. Laws should be implemented that clearly define the rules of the market and shift the

burden of reducing the costs to the generation owners. In a competitive market, the savings are passed on to the consumers.

Benefits of a Competitive Electricity Market

In most non-competitive electricity markets, each user has an equal right to the electricity being generated. That is, a child watching television, a bottling company during a production run, or a hospital ward, all have the equal right to the next unit of electricity generated on the grid. In a world with an ample supply each of the consumers above will have enough electricity to satiate their preferences. On an electric grid, when the demand is greater than the supply of electricity outages are prevalent. In a society where demand is greater than supply and the benefits outweigh the costs, a system to “ration” the supply of electricity is needed. The rationing system used in most markets today is the price. However, for most electricity consumers the cost of electricity is independent of the demand for the product or the availability of supply—this creates an inefficient market. The demand for electricity can be further examined as the value the use of the electricity can generate for the user. That is, if you can generate income of \$100 from using the electricity at a given time then your demand can be considered more valuable than someone who can only generate \$10 for using the same units of electricity. Also, the entity generating income of \$100 would be willing to pay a higher price for the electricity than the entity generating \$10.

Using the example above of the child, the bottling company, and the hospital; the hospital and bottling company can be considered as providing more net benefit to society and therefore, would be willing to pay to ensure that they have electricity during a period of low supply. This is not saying that the benefit of a child watching television is not important to society but under a normal set of circumstances, the bottling company and the hospital can be argued as providing more benefits to society. All is not lost for the child, however; different consumers of electricity have different patterns of usage. For example, most of the business, government offices, schools, and other non-residential consumers would tend to have higher consumption in the hours surround 12 noon—10am to 3pm. Most residential customers are away from home at this time and are using electricity at their place of employment—bottling company, office building, etc. In order for these individuals at work to remain employed it is important that these hours spent at work are productive. In today’s society it is difficult to be productive at work without

having electricity. Simply put, it cost more to produce electricity during certain hours of the day due to high demand. Equally likely is that during the hours of 1am and 5am, most individuals are asleep and most businesses are shut down for the night. There is less demand for electricity during these hours and as a result the cost of producing electricity at this time is relatively low.

The point gained from the above discussion is that the costs of producing electricity varies based on the amount of people using (demanding) electricity and the time of day when the electricity is being produced/demanded. In most developed electricity market, the cost of electricity is allowed to fluctuate with associated costs of production. Consumers of electricity, in general, are benefited when the price of electricity is allowed to vary with the cost of production and demand for electricity. To put it differently, on an aggregate, it is better for consumers of electricity if the use of electricity is associated with the value of the output it generates. Consumers are better off because different types of users have different patterns of usage and when customers are able to vary their usage the aggregate cost of producing electricity for all consumers is lower. Since the cost of producing electricity increases the more units generated in a given time period; variation in peak consumption across groups reducing the cost of producing electricity. The main idea behind a competitive electricity market is to better allocate costs and benefits associated with the production and consumption of electricity. Market efficiency is increased by a competitive electricity system as the consumers are faced with the true costs of the energy they consume. Entities that use electricity during high cost hours will pay a higher cost and those using electricity during low cost hours will see their cost reduced. Overall, consumers are more conscious of the benefits and costs of using electricity.

The court ruling in July 2012, regarding the JPS monopoly, opens the transmission and distribution sector to competition. The transmission and distribution sector of the electricity market is by law competitive but there are still many barriers to entry that may prevent companies from entering the market—the cost and size of the market being the chief among them. The electricity market in Jamaica is much to be desired. Even though a competitive outcome in the near future is unlikely, there is significant room for improvement in all areas. Admittedly, the transmission and distribution infrastructure is in need of upgrades across the island. The court ruling can be viewed not as a signal for new companies to enter the market

and compete against JPS in the T&D business but a signal to encourage new companies to work alongside the incumbent to extend the electricity grid across the island and to establish new generation sites that will increase the capacity and enhance the reliability of the electricity market in Jamaica.

Areas for Improvement

Restructuring the electricity market in Jamaica is an enormous and expensive task. However, incremental improvements to the electricity market can provide society with benefits through cost savings. The changes suggested below will not drive the market to an optimum competitive market but enhancements to the infrastructure and increased generation will provide benefits to the Jamaican electricity market. These improvements will require detailed study of the needs of the electricity market and timely planning and design. The planning and design will need to incorporate experts from the electricity industry, economic development, and policy makers. The rules governing the market will need to be re-examined to promote efficiency and effectiveness in the electricity market. The re-designed market rules should be tailored to the evolving characteristics of Jamaican economy and designed to meet the needs of the Jamaican electricity consumers.

Improving the safety and reliability of the markets provide value to the customers by maximizing the economic benefits while minimizing the cost. The significant outlay of capital needed to improve the infrastructure produces significant risk to investors. Instead of attempting to create a new transmission and distribution system cross the island, companies outside the energy industry can be incentivized to invest in incremental upgrades by the guaranteed rate of return offered in the transmission and distribution business. Firms outside the energy industry can diversify their portfolio through investment in a market that is characterized by safe and positive returns. Venture capitalist can pool resources to minimize the risk and invest in the infrastructure upgrade—which under the described system—would still be regulated at a stated rate of return.

The current infrastructure in Jamaica and the design of the market is one such that each region is essentially served by a single generator. In a competitive setting, Jamaica would need to have

the infrastructure that allows for multiple generators to provide service to each area. The island currently does not have the capacity to facilitate that type of market. However, as the future of the island is envisioned, accommodations should be made to improve the market allowing generations to serve customers across regions. The expansion of the electricity system provides opportunities for companies to invest in the new generation needed to make the market a success. New generation is needed to increase the amount of electricity available around the island. Enough generation reserve (excess generation capacity) is needed to ensure that when there is a power outage in one area that demand can be supplied by another unit. This requires the ability to transport high voltage electricity over longer distances. Investor will need to be confident in the structure and operation of a competitive electricity market and be assured that they will achieve the desired rate of return.

References

Gayle, Barbara. "JPS Appeals License Ruling." The Jamaica Gleaner 30 August, 2012. Online.