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# Is the Region Capable of Meeting Increased Electricity Demand?

Inter-American Dialogue's Latin American Energy Advisor

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*Q and A: Is the Region Capable of Meeting Increased Electricity Demand?*

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Brazil's São Paulo state has suffered several major power failures this year, while the Venezuelan government has enacted rationing measures and begun importing electricity from Colombia. Meanwhile, Argentina's electricity consumption in May grew by 7.8 percent over the year prior, and the Chilean government has repeatedly said it will need to double its electricity generation capacity in the next 10 to 15 years. As Latin American economies continue to grow, how capable are they of meeting electricity demand? Are power shortages likely to hamper growth and, if so, where? What role should the state play in developing the power sector, and is the booming demand for electricity likely to make for a more favorable foreign investment climate in the industry?

**A: Jose Valera, partner at Mayer Brown LLP in Houston:**

"On the subject of adequate growth in generation capacity and transmission infrastructure, countries in Latin America can generally be divided into two camps: those where growth is primarily driven by the private sector on the basis of a legal and regulatory framework that encourages and rewards investment (Brazil, Chile, Colombia and Peru), and those where the industry is either monopolized by the state or regulated in a way that keeps further private sector investment away (Argentina, Bolivia, Ecuador and Venezuela). Countries in the first group are more likely to see only occasional, not chronic, shortages, while playing catch up with robust economic growth. Countries in the second group are plagued with chronic shortages and, worse yet, do not offer growth in generation capacity to match potential economic growth. These countries have a worrying, widening gap between supply and demand for electricity. The fundamental issue affecting the capability of countries to meet electricity demand is investment in infrastructure. In the countries where the electricity supply growth is adequate, the state plays a role in offering a framework for investment by a multiplicity of participants in an economically competitive environment and with stable outlook. Industry participants invest, and take risks and innovate, because they get paid adequate prices for the commercial risks they take. The common characteristic of the countries where electricity supply is not adequate is state control of the industry, which makes investment in infrastructure part of the political process associated with the expenditure of government funds (insufficient, poorly planned, inefficient and late). Countries in this category such as Bolivia, Ecuador and Venezuela also experience high losses, low bill collection and lack of service quality at the distribution level. In Argentina, the government decided a few years back to subsidize consumers at the expense of the private

industry sector, which halted new voluntary capital investments and is the root cause of today's shortages."

**A: Arnaldo Vieira de Carvalho, senior energy specialist at the Inter-American Development Bank:**

"In fact, the fast growth seen in the electricity demand and the apparent risks of not mobilizing enough electric power supply in Latin America and the Caribbean in the near future bring many other relevant issues besides just the legitimate doubts about the timely construction of new installed capacity, the role of the public sector vis-à-vis the private sector and the need for a favorable foreign investment climate. As Latin American economies continue to grow, other aspects shall be also the focus of government policies and strategies concerning the electricity sector, such as installing power generation capacity away from fossil fuels—as opposed to what was happening during the last decades; and drastically accelerating the implementation of energy-efficiency programs that would alleviate the need for additional power generation/transmission capacity in the region. The combination of these two overarching actions would help, in one hand, reduce the price volatility of oil products, mitigating the future impact of oil prices in the economies and, in the other, help solve climate change issues that are a must in this sector. Latin America and the Caribbean have enormous renewable energy untapped resources, including hydro, wind, solar and biomass. As mentioned in the Sept. 6- 10, 2010 issue of the Energy Advisor, energy efficiency should not be overlooked: 'Latin America and the Caribbean as a whole could reduce electricity consumption by 10 percent over the next decade by investing in widely available technologies. This demand reduction would save as much as \$36 billion in new energy capacity that the region would otherwise have to build.'"

**A: Lucas Aristizabal, director at Fitch Ratings:**

"Chile, Colombia, Brazil and Peru are among the countries where regulatory frameworks are stable and favorable and where private investment in generation will be responsible for capacity growth. Countries with less predictable regulatory frameworks and more government intervention, such as Venezuela and Argentina, will have to depend heavily on government support to meet growing electricity demand and are considered to be more prone to electricity shortages and inefficient generation capacity in the long run. Countries with favorable regulatory frameworks and sound long-term planning have seen an increased interest from private investment. A number of companies have reacted to government incentives and begun designing and developing projects that will increase energy supply in these countries. As of now, a significant portion of the projects currently being developed are hydroelectric generation, which is mainly due to the favorable hydrological resources found throughout the region. Future increases of thermoelectric generating capacity are also expected given the importance of maintaining a balanced generation mix for reliability purposes, not to mention the shorter construction lead times and potentially lower capital investments. Despite the strong private investment interest in some countries, some concerns still remain. The paramount concern in most countries, regardless of the level of private investment interest, is tight reserve margins and annual fluctuation in firm available capacity from hydroelectric generation. In general, generating capacity additions to the system are lumpy and have two- to four-year lead times, which increase risk of shortages in tight markets. The environmental licensing process has resulted in many projects being delayed or cancelled and heightens the risk of shortages. Many

projects in Brazil have suffered delays as a result of the lengthy environmental licensing process. This has also been the case with expansion projects in Chile. Colombia has also seen expansion projects cancelled as a result of environmental and social issues. A solution to this concern could be the requirement to have all environmental licenses approved prior to enrolling for capacity expansion bidding."

**A: Pietro Erber, a director of Brazil's National Institute of Energy Efficiency:**

"The electric power shortages mentioned have a common cause—insufficient investment—but are of different natures. The São Paulo problems have been caused by inadequacies in the local distribution facilities. Their duration has been brief but they have been relatively frequent. On the other hand, Venezuela had to import electricity from Colombia because of the lack of new investment in generation, coupled with an unfavorable hydrological situation. A monthly high growth in consumption compared to the same month of the previous year does not mean that demand is exploding, mainly if that year did not show a particularly high growth rate. I believe Latin American countries can cope with the energy needs of their economic growth, albeit in some cases with a significant effort in terms of capital and management investment, besides expansion planning, which will be required to attain proper choices and efficient utilization of resources. The role of the state will probably vary, according to the history and situation of the country and its power sector. By and large, it should provide regulation to ensure equal opportunities, competition and law enforcement reliability, so that private investment may play a significant role. However, if, for any reason, private agents should not find the attractiveness they want in local power supply, the state should step in, complementarily or not, in order to ensure adequate energy supply. It should also be noted that the state should promote energy efficiency and carry out periodical overall power system planning that will indicate the necessary and most adequate options for its expansion."

**A: Ferdinando Guerra, CEO of Mobix Brazil:**

"Brazil, as the economic leader in Latin America, including in the demand and production of electricity, is, by far, the country where all attention should be drawn. According to recent studies, electricity demand in the region will double by 2030; Brazil will increase by 160 percent. It will be necessary to increase, beyond the current expansion plans, practically 10 percent of generation capacity to meet demand, except if the country continues to make the smart grid a priority, which would lower the overall demand by 12 percent by making use of supply and demand-side energy efficiency. Besides having stable growth, Brazil also has the biggest and best options for renewable sources. Related to the sustainability issue, the Brazilian Electrical and Electronics Industry Association is finishing the first version of specifications for electronic electrical energy metering, whose regulation will happen this year. ABNT/ANEEL will leverage a series of governmental changes to incentivize the smart grid industry. Therefore, this market niche is the focus of attention these days, this being the biggest challenge that we can anticipate to meet the new demand of electrical energy in Latin America foreseen for 2030."

**A: Jorge Neher, international partner at MacLeod Dixon:**

"Energy demand in Latin America, in the aggregate, has increased steadily in the past years. However, political responses to such demand have been different from country to country. While

some countries, like Colombia, have promoted increased private investment and efficiency in the sector for years, thus creating a well-balanced generation capacity and efficient transmission and distribution systems; other countries, like Venezuela, have nationalized the industry and, in spite of several announced multi-billion dollar investments in the sector, have experienced a decrease in service capacity and had to impose rationings. The trick for Latin American countries in meeting their energy demands basically lays in two variables: tariffs and operational state involvement. As long as tariffs adequately remunerate the service on commercial terms, the sector will have the capacity to maintain quality and grow. Freezing tariffs (usually for populist reasons) is a perfect recipe for disaster. On the other hand, government is usually far less efficient than the private sector in operating any system and then it tends to operate the less remunerated part of the sector, like transmission and distribution, which are deemed less attractive to private investment. Even if you have been able to create good generation infrastructure, if you fail in bringing it to the customers, your whole system fails. As long as Latin American countries manage to limit government involvement to a market based regulator, their energy sectors will grow with the economy. The ones who do differently will end up in the dark."

*The Energy Advisor welcomes responses to this Q&A. Readers can write editor Gene Kuleta at [kuleta@thedialogue.org](mailto:kuleta@thedialogue.org) with comments.*