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Should Solar Power Be a Priority in Latin America?

Inter-American Dialogue's Latin American Energy Advisor

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Q and A: Should Solar Power Be a Priority in Latin America?

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Global investment in renewable energies is expected to hit \$7 trillion by 2030, according to a new report by Bloomberg New Energy Finance, with the deployment of solar power globally expected to undergo the second-fastest percentage growth of all renewable technologies (after offshore wind), more than doubling from today to 1,137GW by 2030. How do you expect Latin America's deployment of solar power will compare with other parts of the world in the two decades ahead? Where within the region are solar power's prospects brightest? Should solar be a priority for the region? What government policies and market conditions need to be in place for solar power to thrive?

A: Garrett Soden, chief financial officer of Etrion Corp.:

"Latin America is ideal for solar power due to strong solar irradiation, high electricity prices and robust growth in electricity demand. However, it will be challenging to develop without deregulation of the electricity sector and clear policy support. Solar power generation is currently more expensive than traditional electricity sources and therefore requires government incentives to encourage investment. That said, the cost of solar is falling dramatically (by almost 40 percent in the last year alone) due to advances in technology, fierce competition and an oversupply of equipment. This provides a unique opportunity for Latin America to support solar power in the form of distributed energy (roof-top) and utility-scale (ground-mount) projects just as the region reaches grid parity, the point at which solar is competitive without subsidies. To attract solar investment, countries need solid fundamentals: strong solar irradiation, high electricity prices, attractive government incentives, land availability, clear permitting processes to avoid corruption and a developed local currency project finance market. Latin American countries could repeat the success of Germany, Spain and Italy by implementing a solar feed-in-tariff program. However, with grid parity rapidly approaching, the market is more likely to evolve beyond government subsidies straight to power purchase agreements with industrial consumers. Regardless, solar will be an important complement to traditional sources of power generation, especially in Brazil, Chile, Mexico and Peru. Chile, for example, has one of the highest solar irradiation levels in the world, plus high electricity prices and increasing electricity demand. Most importantly, Chile needs additional sources of domestic energy to reduce its dependence on natural gas from Argentina. Latin America has a huge opportunity to embrace solar at the perfect point in the cost curve. With an estimated GDP growth rate of 3.5 percent in 2012, Latin America will be a key solar market in the coming years."

A: Scott Sklar, president of The Stella Group in Washington:

"The United Nations-sponsored REN21 report was released in November by Worldwatch Institute and concluded that over \$250 billion of private sector investment in 2010 went toward renewable energy. Pew and Bloomberg found similar conclusions. Recently, *The New York Times* reported studies of photovoltaics crossing the economic line with the new generation of nuclear power plants and wind farms competitive with natural gas and new coal plants. Europe, Asia and North America will be the largest markets for solar because they have established unique sets of incentives to allow the solar industries to scale-up and thus lower costs utilizing feed-in-tariffs, renewable energy portfolio standards, tax incentives and tax forgiveness, loans and bonds and clean air and greenhouse gas credits. Latin American countries are way behind the curve on solar and many of the other renewable-electric options. For many countries without oil and gas reserves, and for all countries which have increasing air conditioning electric loads, all the forms of solar make excellent sense in a region with excellent solar resources. All the solar options can compete cost-effectively today against diesel generation if financed for the warranted life of these systems. Ignoring solar would be akin to ignoring cellular in the 1980s, more costly then but competitive and elegant now."

A: Maria Gabriela da Rocha Oliveira, head of Latin America research and analysis and Ethan Zindler, head of policy analysis at Bloomberg New Energy Finance:

"Latin America lacks the policy supports that have spurred major growth in solar installations in Western Europe. However, the region has massive potential given its exceptional insolation levels, healthy economic growth rates, power supply-demand imbalances and relatively high local electricity prices. In the near term, Latin America solar is handicapped by its lack of feed-in tariffs, supports that have allowed the German, Italian, and other solar markets to flourish. But this disadvantage will soon fade thanks to the recent photovoltaic (PV) module price collapse. A worldwide PV panel glut today has foreign equipment makers scrambling to find new markets. Ultimately, Latin America could break the paradigm of solar only succeeding when heavy subsidies are in place. This will not happen overnight, however. Additional committed developers, financiers and policymakers are all needed. Bloomberg New Energy forecasts that Latin America will add 133MW of new grid connected solar capacity this year. This represents major growth, given that there are currently no such projects online in the region, but it is only a start. To date, Latin American policy support for solar been spotty. Peru is the only nation to incorporate power purchase agreements for solar-generated electricity into its national tenders for power delivery contracts. Chile has a 10 percent by 2024 clean energy target but has offered few subsidies to achieve the goal. Brazilian developers await guidelines related to distributed generating capacity and hope their projects get included in upcoming tenders. Given the extraordinary heterogeneity of Latin America, there is no 'one size fits all' policy approach for speeding local solar deployment. Each nation has its own unique characteristics that must dictate policymakers' actions. Across the region, however, PV technologies now offer major opportunities ripe for the picking. In our view, solar-supportive policies belong where local insolation is strong, local electricity prices are high, or both are the case."

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

"Most of the world's future energy scenarios recently published are showing excellent prospects for the development of grid-connected solar power in Latin America and the Caribbean (LAC), mainly driven by project to be implemented in Brazil. These scenarios are showing a LAC solar energy power generation share of more than half of the wind power share by the end of the next two decades, despite the fact that the wind power industry has established a clear lead over solar as of today. Besides Brazil, Mexico and Chile show the best solar project prospects due to their exceptional solar energy resources that shall drive several of the first large scale solar projects in LAC in the next five to 10 years. LAC solar energy prospects would be even better if the region didn't have such a huge unexplored hydro potential, which will account for a 50-60 percent share of total LAC power generation over the next two decades. LAC shall keep hydro as a top priority in the short/medium term, reducing the priority of solar power as compared to other regions that no longer have unexplored relevant hydro potential. However, the hydropower generation share in LAC tends to be reduced constantly due to the increasing use of the best hydro sites, growing distances to energy consuming regions and increasing environmental requisites. Hydro share will be replaced first by wind and biomass and later by solar, in such a way that the overall renewable share in total LAC power generation will be around 60-70 percent, keeping the region in a lead position worldwide as having the cleanest power generation mix."

A: Beatrice Rangel, member of the Advisor board and director of AMLA Consulting in Miami Beach:

"Solar energy should indeed be a priority for Latin America on several grounds. First and most obvious is the rising cost and supply risks associated with fossil fuels. The 1980s concept of hostile oil coined by David Yergin is nowadays the rule rather than the exception, as political change sweeps through regions holding the largest depositories of fossil fuels. It thus follows that countries that are strongly oil dependent will see a constant and accelerated growth in their production costs. Second, the world economy desperately needs a profound restructuring if it is to create jobs and continue to generate middle-class households. This demands a new wave of industrial production capable of matching employment and population growth; equipment for solar and other renewable energies demands trained labor for sustained periods of time. Most importantly, there is the issue of sustainability. Latin America and the world have up until now flirted with solar and other renewable energies, but I fail to identify one country in the world besides China where solar and other renewable energies have been treated as a national security matter. To become viable, such treatment is essential in order to support supply and build demand. In this respect, Brazil is timidly leading the region with the Ceará state incentive program. Argentina has also entered this race by supporting a 1.2 megawatt facility in the province of San Juan. Nonetheless, as oil becomes more expensive and is used politically by producing nations, countries in Latin America will intensify their pursuit of energy security. However, the region will make slow progress in this decade with respect to solar power generation since there is still too much fossil fuel available in the region."

The Energy Advisor welcomes responses to this Q&A. Readers can write editor Gene Kuleta at gkuleta@thedialogue.org with comments.