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FEATURED Q&A

Can Peru Reach 100% Electrification in the Next 5 Years?



The head of Peru's Ministry of Energy and Mines, Cayetana Aljovín, said it would cost more than \$1 billion for Peru to reach its goal of 100 percent electrification of rural areas. // File

Peru in early October set a target to provide electricity to 100 percent of rural residents by 2021. The head of the country's Ministry of Energy and Mines, Cayetana Aljovín, estimated it would cost Peru some \$1.05 billion to close the electrification gap in the country. What infrastructure will Peru have to build in order to realize this goal? What barriers are there to achieving 100 percent electrification? What effects will the project have on Peru?

Luis Fernández Pérez, managing partner at Gas Energy Latin America: "This is not the first time that the Energy Ministry has announced a target of 100 percent electrical coverage in rural areas. This target is almost impossible to achieve in Peru, even in urban zones, because of the absence of long-term urban growth plans and continuous illegal settlements without basic services. This is a political message to show concern about rural zones; there has already been a government policy since 2011 to try to get as near as possible to 100 percent coverage, but we have estimated that complete coverage will require at least \$3 billion and will take more than four years to complete. Isolated rural populations are far from the cities and live in dispersed small communities across a country that is 1.3 million square kilometers. In November 2014, Ergon Power won the first bidding process to install 3,554 photovoltaic systems off-grid to connect 500,000 homes in isolated communities in southern Peru. PV modules with capacities of 120 watts for homes, 600 watts for health centers and 1,200 watts for schools were proposed. In our view, a serious electrification program should include at least 2 kilowatts per home and thus, as mentioned

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TOP NEWS

Argentina's YPF Eyes Investment of More Than \$30 Bn

Argentine state-run energy company YPF said it plans to invest more than \$30 billion over the next five years in the country's energy sector.

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POWER SECTOR

Puerto Rico Contract Given to Small Firm

A \$300 million contract to help rebuild Puerto Rico's energy sector was awarded to two-vear-old Montana-based Whitefish Energy Holdings, sparking calls for an investigation from congressional Republicans and Democrats.

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OIL & GAS

Prosecutor Probing Former Pemex CEO Fired

Santiago Nieto was fired two days after he told a local newspaper that the head of Pemex from 2012 to 2016, Emilio Lozoya, sent him a letter pressuring him to publicly declare him innocent of any wrongdoing.

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Nieto // File Photo: Mexican Government.

practices throughout Latin America. Former Odebrecht officials admitted to giving some \$10 million in bribes to Lozoya in exchange for contracts, according to leaked documents from

The attorney general's office said Nieto was fired for breaching an internal code of conduct.

Brazil's Supreme Court that were published earlier this year. Some \$4 million was paid to Lozoya from April to November 2012 when he was serving as a top campaign official to Peña Nieto before he was elected, according to Odebrecht officials' testimony. Lozoya has repeatedly denied the allegations.

POWER SECTOR NEWS

Lawmakers Probing Puerto Rico Contract Given to Small Firm

A \$300 million contract to help rebuild Puerto Rico's energy sector in the wake of Hurricanes Irma and Maria was awarded to two-year-old Montana-based Whitefish Energy Holdings,



Zinke // File Photo: @SecretaryZinke on Twitter.

sparking calls for an investigation by congressional Republicans and Democrats, USA Today reported Wednesday. The company, which had only two employees at the time of the hurricane and is relatively inexperienced compared to

other companies that might have been selected for the job, is based in Interior Secretary Ryan Zinke's hometown of Whitefish, Mont., raising questions as to how the company secured such a lucrative contract. Also, Zinke's son had previously held a summer job at a Whitefish Energy construction site. On Tuesday, the House Natural Resources Committee chairman said the committee would be looking into the contract, The New York Times reported. Also on Tuesday, Senator Maria Cantwell (D-Wash.) asked the Government Accountability Office to investigate the circumstances surrounding Whitefish's contract. Puerto Rican opposition Senator Eduardo Bhatia called the awarding of

the contract to Whitefish "absolutely outrageous." He said the Puerto Rico Electric Power Authority did not appear to have made any open requests for proposals, to have performed background checks or to have followed the normal safeguards and checks before awarding the company the contract, The New York Times reported. Interior Department and company officials said Zinke had not helped Whitefish to obtain the contract. In related news, the U.S. Senate passed a \$36.5 billion hurricane relief bill on Tuesday that gives Puerto Ricans access to \$4.9 billion in low-interest Treasury loans to help aid in recovery efforts, Bloomberg News reported.

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before, the investment required must be three times higher than the one indicated by the ministry. To approach a target near 100 percent is possible with a serious off-grid



- Luis Fernández Pérez

plan, identifying all places to cover, a transparent bidding process and rapid license and permission process. There is no doubt that this will have an important social impact on the quality of life or rural populations."

Jaime E. Luyo, academic director of the PhD Energy Program at the Universidad Nacional de Ingeniería: "In the Rural Electrification Plan (REP) published by the Ministry of Energy and Mines in December 2015, it is projected that by the year 2025, electricity will reach 3.4 million rural inhabitants, reaching a rural electrification coefficient (REC) of 99.8 percent, but by 2021 there will be almost half a million people without electricity. The ministry reports that the REC went from 29.5 percent in 2007 to 78 percent in

2015. We believe that this great jump is due to the larger investments in rural electrical infrastructure and, above all, due to the effect of the massive installation of photovoltaic panels in isolated areas with the limitation that only the need for lighting and entertainment (watching TV) is solved, since the reduced capacity of the panels does not allow the carrying out of productive activities; that is, the REC must be corrected for being overestimated. The REP has planned for the period between 2016 and 2025 to install 500,000 panels, approximating the REC to 100 percent with an investment of \$400 million and a total for the rural sector of \$1.2 billion to close this electrification gap, but we believe it will not solve the problem of rural poverty. Difficult barriers with isolated communities and in wooded areas of the Amazon, new micro-grids and distributed generation technologies with renewable energy resources must be introduced, so that in the medium and long term these poor populations do not depend on a cross subsidy. To achieve the goals of the REP, the government should rethink using new energy technologies and an affordable price policy, avoiding the subsidies and surcharges that currently distort electricity prices, which reflects that the residential tariff in Peru is one of the most expensive in South America, while industrial tariff is the opposite."

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César Gutiérrez Peña, director at Utilities Peru and former president of Petroperú: "In order to universalize electricity coverage, which today reaches 95 percent of the population, some 368,000 new connections will need to be incorporated, according to Peruvian Mining and Energy Minister Cayetana Aljovín, and will require some \$1 billion, or an average of \$250 million annually. The goal is good in theory, as it is a service that would help facilitate social inclusion to about 1.4 million people. The challenge, however, will be disposing of the resources, which according to the rural electrification law have to come from various private and state resources. The former originate from the utilities of electricity sector operators, which are deducted from income tax. Citizens also contribute to a percentage of the monthly billing by consuming electricity, and this complements the basis of the government's general budget. When one reviews the annual budget, it can be concluded that there will be a deficit of about \$120 million annually, which has to be covered by resources from the public treasury, which has serious limitations, given the drop in revenue that led us to a fiscal deficit of the order of 3 percent this year. The challenge will be finding the funds to make the goal of 100 percent coverage become a reality."

Emilio Zúñiga, vice president at Latin Pacific Capital: "The Ministry of Energy and Mines' proposal is a great challenge to the government. The main barriers are due to our fragile and small local institutions, geographic difficulty in reaching very small populations in the highlands, and the program needs a very careful organization and efficient execution. Last year, 40 rural electrification projects were delivered, and for 2017 the target is 98. The budget for 2017 doubles the 2016 budget at \$100 million, which is big improvement, if the goal is met. The 2021 target is a very ambitious, since it plans to spend \$200 million, however last year the planned target was in 2025. One of the challenges is the different ways to provide electricity to these populations. The government should consider building transmission lines from the network nearby, focusing on small power generation and investing in solar panels for very small and isolated populations. As for the effects, this infrastructure is key to including the poorest populations into the 21st century, and all the benefits will be derived from that."

The Advisor welcomes comments on its Q&A section. Readers can contact editor Gene Kuleta at gkuleta@thedialogue.org.

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