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DEBACLE IN THE DESERT: ACCIDENT HIGHLIGHTS CHILE'S ENERGY PROBLEMS

By Benjamin Witte-Lebhar

A high-profile mishap involving an experimental electricity project near one of Chile's top tourist attractions has exposed serious shortcomings in the country's laissez-faire approach to energy production.

Last year environmental authorities in Region II, an area of northern Chile that contains the high-plains Atacama desert, gave energy company Geotermica del Norte (GDN) permission to conduct exploratory drilling on what promised to be the country's first geothermal electricity plant. Geothermal facilities harness energy from underground hot springs (steam) to push conventional turbines. Considered a renewable and environmentally friendly energy source, the technique is used in more than 20 countries worldwide but accounts for just a tiny fraction (0.3%) of the planet's total electricity production.

Hoping to add Chile to that list, GDN--a public-private consortium involving Italian energy giant Enel (51%), Chile's Empresa Nacional de Petroleo (ENAP) (44%), and the state-run Corporacion Nacional de Cobre de Chile (Codelco) copper company (5%)--began drilling a series of two-km-deep wells on the edge of Atacama's El Tatio geyser field. The company is eventually looking to build a 40-megawatt power station. Chile's current overall generating capacity is roughly 13,000 MW.

But in early September something went horribly awry. One of the wells sprang a leak that breached the surface in the form of a 60-meter plume of boiling water, steam, and subterranean gasses. The artificial geyser raged for nearly a month before GDN was finally able to cap it.

News of the geothermal escape made instant headlines, in part because of the visual nature of the debacle but also because of its proximity to El Tatio, the world's third-largest geyser field after Yellowstone National Park in the US and Russia's Dolina Giezerov. Home to some 80 active geysers, El Tatio attracts up to 100,000 visitors a year, making it Chile's number-two tourist destination after the Patagonia's Parque Nacional Torres del Paine.

Of immediate concern is the effect the artificial geyser may have had on its nearby natural counterparts. The Chilean government has promised to consult international experts to determine if--as some observers reported--the leak altered the natural pressure balance in El Tatio. Geothermal-power facilities in both Nevada and New Zealand had just that outcome, destroying natural geysers in both locales. Opponents of the project say GDN could end up doing the same thing, not only ruining one of Chile's natural wonders but also undermining the desert region's tourism-dependent economy.

"We've been against the project from the beginning because we knew it would end up damaging this unique national treasure," said Ana Maria Beron, a local hotel owner and

member of the Agrupacion Turistica y Medioambiental de San Pedro de Atacama (Atyma). "And sure enough, with this leak that surged out of control for 27 days there's been enormous environmental damage. The noise was deafening. You could hear it for five kilometers around. It scared off all the animals. Plus there was visual damage. It was visible from the natural geysers in El Tatio."

The blame game

GDN has borne the brunt of the blame. On Oct. 1, the Chilean government's top energy official, Marcelo Tokman, told members of the press that "the company hasn't been up to snuff." The same day, the Region II environmental body, the Comision Regional de Medio Ambiente (COREMA), shut the project down indefinitely pending further investigation into the cause of the accident and its impact on the surrounding area. The government's Consejo de Defensa del Estado (CDE) is also investigating GDN's role in the accident.

But critics say the government--especially the regional COREMA board--is also at fault. It was the environmental body, after all, that approved the controversial project in the first place despite widespread opposition by environmental groups and locals who questioned the wisdom of building a power plant right next to the Southern Hemisphere's most important geyser field.

"All of the authorities are responsible for this mess: the Ministerio de Minería, the Comision Nacional de Medio Ambiente (CONAMA) for not having provided proper oversight, and the Comision Nacional de Energia (CNE) for pushing for the project's authorization," said Flavia Liberona, executive director of the environmental think tank Fundacion Terram. "What they failed to do from the beginning was to use common sense, to realize that this exploration should not be approved in such a place."

Market-driven decisions

Many observers, however, insist Chile's real problem is its failure to define a coherent, top-down energy policy. With the exception of modest renewable-energy legislation introduced in 2008, the Chilean government has shied away from setting energy goals and has instead left the issue in the hands of the market. Chilean energy decisions, in other words, are made by just a handful of mostly foreign-owned energy companies that control the bulk of the electricity market.

Three companies alone--Endesa (controlled by Enel), AES Gener (US), and Colbun (Chilean)--generate close to 80% of the country's electricity. The vast majority of that power comes from hydroelectric dams and fossil-fuel (coal, diesel, and natural-gas) burning generators. Without government leadership, the energy companies have no real incentive to employ new, more environmentally friendly technologies. The environmental bodies responsible for evaluating those projects, furthermore, do little more than rubber stamp what is sent their way, say critics.

"The system is set up in such a way that even when there's widespread local opposition, energy projects go forward regardless of their environmental costs," said Juan Pablo Orrego, who heads Ecosistemas, a Santiago-based nongovernmental organization (NGO). "The system is totally biased."

That "bias" is perhaps most obvious in cases, like the GDN venture, where the state has approved projects in or near Chile's top natural treasures. In mid-2008, the COREMA office in southern Chile's Region de Los Lagos (Region X) authorized a hydroelectric project in the heart of the Parque Nacional Puyehue, a wilderness area supposedly protected from such intervention. That same week, the Region X COREMA also approved a hydroelectric plant in the Reserva Nacional Rio de Los Cipreses.

There's a chance widespread public outcry regarding the GDN fiasco could prompt the government to take a more proactive role on the energy issue. Presidential contender, senator, and former President Eduardo Frei (1964-1970), representing the governing Concertacion coalition, visited El Tatio on Oct. 1 pledging to save the geysers.

Independent candidate Marco Enriquez Ominami chimed in as well, blasting the Region II COREMA board for being "irresponsible." Even the normally pro-business daily La Tercera wrote in an Oct. 3 editorial, "It's not easy to understand the reasons the authorities permitted exploration in a place with such specific characteristics."

But environmentalists worry that the Atacama accident could end up hindering Chile's already tentative steps toward using more nonconventional renewable-energy sources. That same La Tercera editorial also suggested that environmentalists were somehow to blame for lobbying in favor of renewables.

"It's an absolute mistake to ignore where the rest of the world is going in electricity development and to instead blame a sector [environmentalists] that had nothing to do with this accident," said Liberona. "It's important to explore geothermal energy, but not in places like El Tatio. The same goes for any renewable-energy project. It's not enough just to opt for renewable energy without first considering the scale, the impact, and the location of a given project."