

3-21-2001

# Does Chile Face an Imminent Energy Crisis?

Inter-American Dialogue's Latin American Energy Advisor

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## Recommended Citation

Inter-American Dialogue's Latin American Energy Advisor. "Does Chile Face an Imminent Energy Crisis?." (2001).  
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*Q and A: Does Chile Face an Imminent Energy Crisis?*

*Citation:* Inter-American Dialogue's Latin American Energy Advisor, March 21-25, 2011; pp. 1, 3, 6. Also online at [www.thedialogue.org](http://www.thedialogue.org).

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In response to a drought that has crimped hydroelectric output and in the face of soaring fuel prices that are hitting consumers, the Chilean government has pushed for new fuel subsidy legislation and enacted several energy-saving measures to lower electricity voltages and conserve reservoir waters. Are these the right steps at the right time? Is an energy crisis imminent in the short term in Chile? Which industries would most likely be affected by energy shortages? What steps should the Chilean government take to ensure a steady power supply in the future?

**A: Craig Kelly, vice president of the Cohen Group in Washington:**

"Chile's dependence on hydroelectric power led a former top Chilean energy official to comment that he began each day with a rain dance. Add to uncertain rainfall the historic problems with Chile-Argentina natural gas contracts, and it is not surprising that Chile is looking at rigorous energy conservation measures, fuel subsidies, new liquefied natural gas plants and continued exploration of renewable sources. Conservation is clearly a smart move. As U.S. Energy Secretary Chu notes, energy-efficient refrigerators save more energy in a year in the United States than all the wind and solar energy we produce during the same time span. And Chile has also built LNG re-gasification plants at Quintero and Mejillones—crucial for Chile's vital but energy-hungry mining sector. Despite a wealth of Chilean government efforts, the country remains vulnerable to shortages, which is why the issue of nuclear power remains part of the public debate. Former President Bachelet opposed nuclear power for earthquake-prone Chile, but approved a study that came out in 2007—the so called Zanelli report. Before the tragic earthquake and tsunami in Japan, Chile had planned to study that country's seismic-resistant systems. The effort will clearly be shelved for now, but at some point such field studies are bound to take place. If so, the Chile-California program would be a good framework—seismically active California has four nuclear power reactors. In any case, the U.S-Chile memorandum of understanding on cooperation in the peaceful uses of nuclear energy, signed days before President Obama's visit to Santiago, will provide a good roadmap for bilateral work on an issue that will remain sensitive in Chile."

**A: Douglass Sims, senior energy project finance specialist at the Natural Resources Defense Council:**

"Chile's recent Supreme Decree No. 26—an energy rationing decree—puts mechanisms in place to potentially decrease energy demand through rationing in the coming months. The

government's rationale for the measure is a possible deficit in energy generation in Chile's main grid, the Central Interconnected System. The underlying problem is not a lack of installed generating capacity or insufficient water to operate Chile's dams, but rather a lack of planning and poor incentives. In an article published on the energy Web site, Central Energía, Chilean electricity consultant Systep models the impact of a repetition in 2011 of the driest year on record (1998-1999) and concludes that there is sufficient capacity in the system to meet demand even under extreme circumstances. Instead, Systep concludes that the main problem is congestion -there is not enough functioning transmission capacity to carry the energy to where it is needed. The other is policy design: generators who are paid for capacity are not incentivized to locate near ample transmission capacity so that their capacity cannot be accessed when needed most. This result comes as no surprise. As the International Energy Agency noted in its 2009 assessment, Chile needs more public-sector led energy planning to effectively move away from its current system where generators make self interested decisions that fail to maximize resilience and reliability. Such a planning process, if conducted on sound principles, would incentivize investments in efficiency (the cheapest resource), 'nonconventional' renewables (i.e. not including hydro greater than 20 MW) and strategic transmission assets."

**A: Nelson Altamirano, assistant professor of economics at the School of Business and Management at National University:**

"Chile's southern regions, including Santiago, depend on hydroelectric power and Chileans are risk averse to another energy crisis, but hydropower was usually viewed as being part of the solution, not the problem. After the gas energy crisis in 2007, the Chilean government took a proactive role in energy markets, created the Ministry of Energy and embarked on a strategy to diversify the energy matrix. While hydropower is viewed as the backbone of the matrix with a solid 37-38 percent of total generation capacity, all efforts were made to reduce the share of natural gas in favor of carbon, LNG and renewables. This combination reduces external dependency on unsecure suppliers, but when water reservoirs are 44 percent of normal levels, Chile has to import more LNG, oil and coal at international prices that are expected to go up significantly because of speculation after the latest events in the Arab world and Japan. Can the government pass this cost to energy consumers and let the market decide the price, conservation rates and efficiency? Yes, but this has not being the trend in energy policy since 2007 and we are not talking about big mining firms in the north. The Argentine gas crisis was solved through the combined efforts of the government, Codelco and major energy firms that invested in LNG and within the rules of market solutions. Chileans were willing to pay higher prices at that time. Today, the new law approved by 17 out of 31 senators will help mostly the industries around Santiago and the south, many export oriented."

**A: Rodrigo Fernández Hirsch, project manager at Energética:**

"The Chilean energy situation can't be considered an energy supply crisis, which carries out into energy shortages, but rather a price crisis, driven by the last year's heavy drought and high fuel prices in the international market. This price crisis is aggravated in the Santiago metropolitan area, where due to transmission lines' limitations and lack of water for generation, the supply has been critical. In the rest of the system, there exists enough generation capacity to supply the demand. However the drought has obligated the dispatch of diesel generation, which is the most expensive in the system, and high international fuel prices had strongly impacted Chilean energy prices. To pass through this 'crisis,' the government published a special decree

called the 'Preventive Rationing Decree.' This document establishes mechanisms to avoid, as much as possible, a rationing in the supply, including a 10 percent reduction in the supply voltage, relaxation of security restrictions of the transmission lines that were overloaded and a relaxed requirement for the connection of new generation capacity. This mechanism worked as expected and the rationing threat has gone, at least in the public opinion. The industries are not likely to be affected by shortages, but depending on their supply contract, their energy prices could be unsustainable. For residential and regulated consumers, energy prices will be affected partially due to the indexation formulas in the distribution companies supply contracts. In the last five years, Chile has experienced two high energy price crises due to international fuel prices. These situations directly impact Chile's competitiveness. The government must open up the dialogue of what the future generation matrix that Chile needs should look like. There are plenty of natural resources that can be used, but a definition is needed to send a message to investors."

*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.*