

Electric Bidding Processes: a Contribution of Mining to Public Policies in Chile

BY ANDRÉS ALONSO

In November of 2017, in Chile, the bidding process for electricity supply of distribution companies was awarded in accordance with the framework established by Law No. 20,805 approved by the National Congress in 2015. The result of this bidding process was once again very successful, as the first bidding process had already been held with this framework in August 2016, reaching lower energy prices than the previous year and historically low.

Undoubtedly, the main reason for the achievements in the aforementioned bidding processes was the increase in the competition that occurred in the electricity generation sector as a result of a series of factors. The greatest contribution to the observed competition was the market design developed for the bidding processes and its reduction of the entry barriers to the potential bidders, a design deeply influenced by the experience that the Chilean mining industry had used in its own electricity supply bidding processes for their operations.

Indeed, in 2005, Minera Escondida, which exploits the largest copper mine in the world and whose electricity consumption represents 8% of the total consumption of Chile, confronted a severe risk to its electricity supply, both from the point of view of security of supply, as well as the cost thereof. In the 2000s, this company had contracted electricity supply at very convenient prices with the power generation company Gas Atacama, which was supplied with Argentine natural gas to produce its electricity. However, in 2004, the supply of Argentinian gas to Chile gradually began to have shortfalls because Argentina favored its domestic gas consumption, which experienced an exponential growth as a result of its policy of freezing prices to local consumers. This caused Gas Atacama to operate with gas oil when there were interruptions, fuel with a much higher operating cost and higher probability of failure for the power plants.

Given this situation, the management of Minera Escondida decided to carry out a strategy that consisted mainly on calling an international bidding process for electricity supply with a market design that included a tender process of at least one year, with a start of supply in a term of 5 years, through a long-term contract greater than 15 years and bankable characteristics, which allowed it to be financed as a "Project Finance", which means that the economic flows of the project could guarantee the payment of the debt. In addition, during the bidding process, Minera Escondida would manage the sectoral and environmental permits of a power plant, the Central

Kelar, which was made available to potential bidders in the bidding process as an alternative to competitive backing and, in the last case, to build it directly if they did not find adequate price and security conditions for their electricity supply.

All of the above was designed with the aim of increasing competition by reducing the entry barriers in the bidding process, in order to obtain the best technical and economic conditions for electricity supply of the company.

The result of this process was announced in 2007 and the supply of Minera Escondida was awarded under very convenient conditions to the Angamos Plant, a project of the generation company AES Gener, which was already operating in the Chilean electricity sector. The Angamos Power Plant started its operation in 2011.

This strategy based on the principles of: international bidding through a process of at least one year, a start of supply in the fifth year, a bankable long-term contract and an alternative supply of competitive backing was also followed by the mining company Codelco for the supply of its operations in the center-north area of Chile in 2007, which represented 50% of its consumption. Codelco is the largest copper producer in the world and its electricity consumption represents 12% of the total consumption of Chile. In that instance, the competitive backup alternative was the Energía Minera power plant. This process concluded with the awarding of the supply to the Santa María Power Plant in 2010, a project of the electric generation company Colbún, which was already operating in the Chilean electricity sector. The Santa María Power Plant started its operation in 2012.

It is necessary to emphasize that due to the awards to companies that were already operating in the electricity sector, there were voices that criticized making so much effort in the competitiveness of the process to finally end up signing a supply contract with existing companies. Over time, and in the face of

Andrés Alonso is a member of the Board of the Coordinador Eléctrico Nacional de Chile and Associate Researcher at the Advanced Center of Electrical and Electronic Engineering, AC3E, of the Universidad Técnica Federico Santa María. This work has been supported by the Project CONICYT-Basal FB0008.

The opinions expressed are those of the author and do not necessarily represent the opinions of the Coordinador Eléctrico Nacional de Chile, its President or individual Members of the Board and are not binding on the Coordinador.

See footnote at end of text.

the results achieved, it was evident that the criticisms reflected a lack of vision regarding the objectives of a supply bidding process, because they did not consider the conditions that these large mining companies would have had to accept if they had not had real alternatives of supply product creating the necessary competition.

At the beginning of 2014, mining companies brought these experiences to the attention of the incoming government, given that in the supply bids for the distribution companies of 2013, the values obtained were much higher than the results previously obtained by the mining companies.

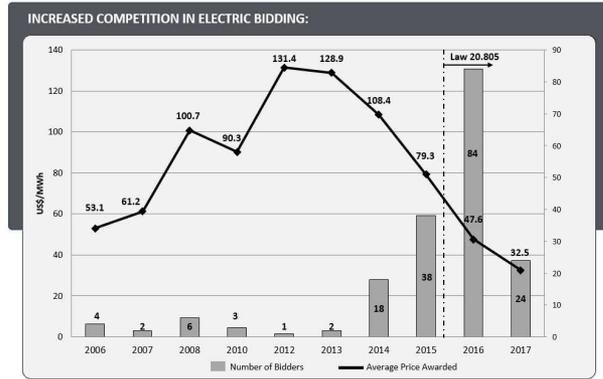
The government predicted how powerful a public electricity supply policy based on the aforementioned principles could be for electricity distribution companies. To implement such principles, it was required to make a legal modification and also to find which would be the alternative competitive backing.

The decision was to advance in the legal modification that led to the enactment of Law No. 20,805, which was treated in the National Congress in the record time of 8 months, with a majority support from all political sectors. The backup alternative was raised by the state-owned Empresa Nacional del Petróleo, ENAP, through its own project, the Nueva Era plant, and another alternative that was negotiated with Codelco, the Luz Minera power plant. Given the lack of experience of ENAP in the generation of electricity, to develop this process a strategic partner was sought in a tender process, and finally, the chosen one was the Japanese company Mitsui.

To carry out the strategy of a legal modification and to make in parallel an international call, with road shows included, and a design of competitive bidding rules in a limited period of time was a titanic task, carried out with great success by its executors.

The results obtained were impressive. The average price reached in the 2017 tender was 32.5 dollars per

ELECTRIC SUPPLY BIDDING



described. The entire supply was awarded, the bids received were seven times the energy tendered, over 50% of the energy came from new entrants to the electricity generation market, and about 40% was awarded to –wind and solar– renewable energy plants. This has led to multiple recognitions to the Chilean model, and to the publication of the experience as an example of a good public policy¹.

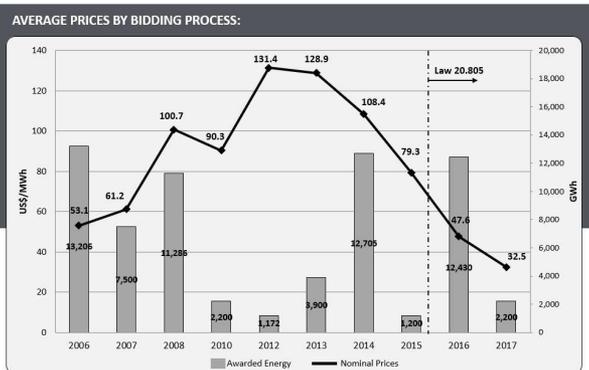
It is not possible to believe that the success of the 2016 and 2017 bidding processes is only the result of the application of the electricity supply strategy of the large Chilean mining industry. Undoubtedly, there are many other factors. Especially, it is important to consider the significant cost reductions of wind and solar renewable energy as a result of technological development, as well as other factors, such as: greater risk accepted by the owners of wind and solar technologies, reduction of costs and transmission risks for electric generators, support for investors to obtain sectoral and environmental permits, etc. In addition to the above, the establishment of participatory processes between the sectoral authorities and the different stakeholders of the national energy market, was undoubtedly another key factor.

The achievements are remarkable. In these last two supply bidding processes for electricity distribution companies, regulated consumers in Chile will save more than 20,000 million dollars compared to the level of prices in 2013 and, as a result of such processes, this country will have in the future one of the lowest energy prices in the world. This is fundamentally the product of an effective execution of a well-designed market strategy, which was largely proposed by the Chilean mining sector, as a result of its experience in its own electric supply processes.

Footnote

¹ “Nueva ley chilena de licitaciones de suministro eléctrico para clientes regulados: un caso de éxito”. Comisión Nacional de Energía y Banco Interamericano de Desarrollo. June 2017. “La Revolución Energética en Chile”. Máximo Pacheco (Editor). Universidad Diego portales. 2018.

ELECTRIC SUPPLY BIDDING



MWh, 32% lower than the 47.5 dollars per MWh in 2016 and 75% lower than the value obtained in the 2013 tender, which was awarded at 128.9 dollars per MWh.

More than 100 bidders participated in the processes