Geothermal Risk Mitigation Program (MiRiG)

Country / Region: **Chile** | Project Id: **PCTFCL222A** | Fund Name: **CTF** |

MDB : **Inter-American Development Bank**

Comment Type	Commenter Name	Commenter Profile	Comment	Date
Comment 1	McAlinden, Karl	United Kingdom	Dear Mafalda, Many thanks to you and your team. We have a number of questions we'd like the IDB to respond to: 1. Given the current situation outlined in the request, what would need to change in order to make this project viable in the long term? For example, what would the oil prices have to be and what kind of subsidies and/or other incentives would the government need to provide? Are there any other measures that could/need to be taken? 2. Are there specific reasons to justify such a lengthy period of time? Additionally, following a review and in the absence of sufficient advancement during this period, is there a possibility for funds to be returned to the CTF? We look forward to hearing from you. All the best, Karl	Apr 05, 2018
Response 1	Claudio Alatorre	IDB	We thank the British Government for the questions. Please find our answers below. Answer 1. The MiRiG program was designed building on the premise that geothermal power in Chile will be competitive in the long term, without the need for specific incentives, and we consider that this premise is still valid. The Geothermal Roundtable (convened by the Government of Chile, with the support of the World Bank, with CTF resources) was created precisely to answer these questions. Its findings (in Spanish) are posted on the website http://www.minenergia.cl/mesa-geotermia/. The Roundtable findings show that, based on the assumptions used for the simulation exercise, Chile's main grid has enough flexible generation resources to enable low-cost variable renewable energy generation (wind and solar) to continue growing until ≈2025. The recent interconnection between the former Northern and Central grids has played a significant role in increasing this flexibility. However, thereafter the system will increasingly need either more baseload generation such as geothermal or coal-fired (that matches the flat load profile of the important mining sector) or flexible resources such as hydropower with storage. Given the difficulties faced by new large-scale hydropower and coal-fired projects, geothermal power, concentrated solar power with thermal storage, and electricity storage technologies are set to play a relevant role in the medium term. Therefore, even though geothermal power is unlikely to ever be competitive with wind or solar, it has a role to play as part of a pool of energy assets. In fact, it is by having recourse to a diversified pool of generation assets, including geothermal, that Enel Generación Chile was able to secure a PPA as a result of the last energy auction held in November 2017. This PPA will start in 2024, which coincides with the period where the modeling predicts an increasing role for geothermal power. During the Roundtable process, geothermal developers have stated their interest in MiRiG. This interest bears witness to the prospects of the technology in the medium term, but also to the key role that the program may play today to help this technology to succeed in Chile's competitive market. Answer 2 In the last few months, several developers have approached the IDB with business leads that deserve further analysis to assess their feasibility. Their technical complexity and the potential opportunity make them worth exploring, but also make the existing timeframe of the Program (July 2018) insufficient to fully explore the projects in the pipeline. The independent engineers need enough time to conduct their analysis, and the IDB Group needs time to appraise the maximum possible number of transactions in order to optimize its decision-making process.	Apr 19, 2018

The IDB Group estimates that at least six months are required to process a MiRiG operation from the moment a mandate letter is received until Board approval. Therefore, in order to enable CTF resources to be more effectively used, the IDB Group will return to the CTF any resources not backed by mandate letters on May 6th, 2019.