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MEXICO

GEOTHERMAL FINANCING AND RISK TRANSFER PROGRAM

**(3178/OC-ME, 3179/TC-ME;
GRT/TC-14423-ME, GRT/TC-14424-ME; ME-X1010)**

LOAN MODIFICATION PROPOSAL

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ABBREVIATIONS

BTU	British thermal unit
CC	Climate change
CCG	Comité Coordinador de Geotermia [Geothermal Coordination Committee]
CCLIP	Conditional credit line for investment projects
CFE	Comisión Federal de Electricidad [Federal Electricity Commission]
CRE	Comisión Reguladora de Energía [Energy Regulatory Commission]
CRG	Contingent recovery grant
CTF	Clean Technology Fund
ESMR	Environmental and social management report
ESMS	Environmental and Social Management System
FFF	Flexible Financing Facility
FOTEASE	Fondo para la Transición Energética y el Aprovechamiento Sustentable de la Energía [Fund for the Energy Transition and Sustainable Energy Use]
GHG	Greenhouse gas
IFC	International Finance Cooperation
INEEL	Instituto Nacional de Electricidad y Energías Limpias [National Institute for Electricity and Clean Energies]
$ktCO_2e$	Kilotons of carbon dioxide equivalent
$MtCO_2e$	Megatons of carbon dioxide equivalent
NAFIN	Nacional Financiera S.N.C.
NDC	Nationally Determined Contribution
OC	Ordinary Capital
PCR	Project completion report
PPPs	Public-private partnerships
SENER	Secretaría de Energía [Department of Energy]
SHCP	Secretaría de Hacienda y Crédito Público [Department of Finance]
SNI	Sistema Nacional Interconectado [National Interconnected System]
TC	Technical cooperation

I. DESCRIPTION AND RESULTS MONITORING

A. Background

1.1 The purpose of this document is to request that the Board of Executive Directors approve modifications to the Geothermal Financing and Risk Transfer Program (3178/OC-ME, 3179/TC-ME; GRT/TC-14423-ME, GRT/TC-14424-ME). This program was approved by the Bank's Board of Executive Directors on 29 May 2014.

1.2 The program objective is to increase power production from geothermal sources so as to contribute to the diversification of the energy matrix and reduce dependency on fossil fuels and greenhouse gas (GHG) emissions in Mexico. To this end, the program intends to scale up investment in geothermal power generation projects by making available a range of financial mechanisms tailored to meet the specific needs of each project's stage of development. This will include risk mitigation mechanisms, as well as various forms of financing for exploration, drilling, field development, and construction and operation phases of private geothermal projects.

1.3 The program is structured under the global credit modality and has two components: Component 1. Risk mitigation for geothermal projects in the early stages of exploration and test drilling; and Component 2. Financing adapted to different phases of project exploration and development. Resources are also included to finance implementation costs and technical assistance activities.

1.4 The cycle of a geothermal project begins with surface exploration, including: geological, geochemical, and geophysical surveys, better known as 3G surveys. Uncertainty about the resource location decreases after 3G surveys. These 3G surveys help identify locations with greater chance of success when drilling. The 3G stage is generally financed by the developers themselves. Narrow-diameter exploration (slim holes)[1] is used to further reduce uncertainty about the location of the resource. This stage should provide data about resource temperature, flow rates, and pressure (water vapor), which further delimits the location and size of the resource. The next stage is large-diameter commercial exploration.[2] This is the higher risk stage due to the high cost of drilling and high probability of error. A successful exploration confirming the existence of the resource in the desired amount and conditions make it possible to advance to the next stage of resource development. There is no risk at this stage, because the total resource is captured and passed through a turbine for the generation and sale of electricity. At the end of the process, steam condensate will return to the depth from which it was extracted in order to maintain hydrogeological balance. This is known as fluid reinjection.

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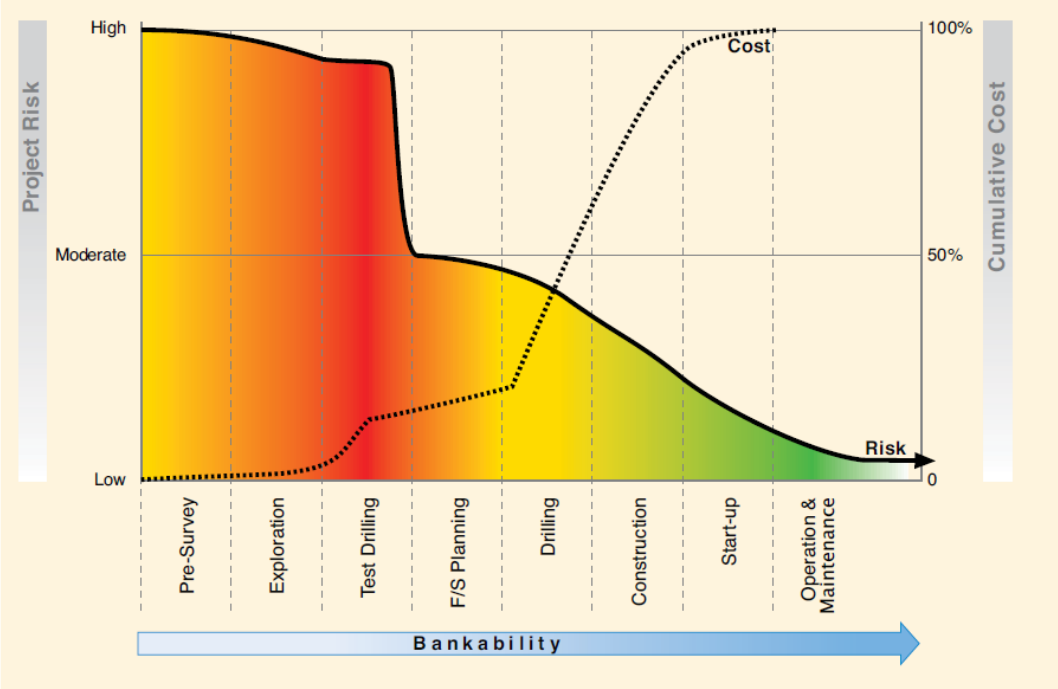
[1] Slim-hole exploration consists of narrow, shallow holes, usually less than 500 meters deep and less than six inches in diameter, drilled to measure temperature increase with depth.

[2] Commercial (or real) wells can be as deep as 1.5 kilometers to 3.5 kilometers, with an internal diameter of six to eight inches, while the upper diameter (at the surface) can be larger than 20 inches.

Figure 1. Geothermal project risk and cumulative investment cost



Source: Magnus Gehringer and Victor Loksha, Geothermal Handbook: Planning and Financing Power Generation, ESMAP, World Bank, 2012.

1.5 The total program financing amount is US$120.1 million, broken down as follows: (i) a US$54.3 million investment loan financed with resources from the Bank's Ordinary Capital (3178/OC-ME), as the fourth individual operation under conditional credit line for investment projects (CCLIP) ME-X1010; (ii) a US$31.5 million investment loan financed with resources from the Clean Technology Fund (CTF) (3179/TC-ME); (iii) a US$20 million contingent recovery grant financed with CTF resources (GRT/TC-14424-ME); (iv) a US$2.8 million nonreimbursable technical cooperation operation (GRT/TC-14423-ME); and (v) US$11.5 million[3] in local counterpart funding from Fondo para la Transición Energética y el Aprovechamiento Sustentable de la Energía [Fund for the Energy Transition and Sustainable Energy Use] (FOTEASE).

1.6 The program borrower, beneficiary, and executing agency is Nacional Financiera S.N.C. (NAFIN). The United Mexican States is the guarantor of the two investment loans. The Bank is the executing agency of the nonreimbursable technical cooperation operation.

B. Program progress

1.7 Loans 3178/OC-ME and 3179/TC-ME were declared eligible for disbursements on 11 May 2016, and contingent recovery grant GRT/TC-14424-ME on 12 May 2016. However, no progress has been made in their execution thus far, in part because the original program structure, while innovative, did not help mitigate exploration

[3] Approximate value of 150 million Mexican pesos, calculated at an average exchange rate of 13 Mexican pesos to the U.S. dollar in May 2014.

risks at the right time; it was also not very attractive to developers given recently observed results of power purchases from other nonconventional renewable sources, driven by reforms in the sector. Mexico underwent an energy reform that prompted energy auctions, helping to lower the price of renewable energy futures, especially solar and wind, which put additional pressure on geothermal, which had no prior experience with private capital investment for development. Although the original operation called for certain measures to mitigate the anticipated challenges, the challenges proved too great. Therefore, considering these lessons learned, this modification fully integrates the actual cycle of a geothermal project in its design and execution, and will: (i) build the knowledge of the executing agency (NAFIN) in geothermal and operational aspects of geothermal exploration and exploitation; (ii) facilitate coordination between NAFIN and the Department of Energy (SENER), as the apex agency of the energy sector, through the creation of a working group that will gradually become a Geothermal Coordination Committee (CCG) (see paragraph 2.15); and (iii) incorporate a technical entity with extensive experience in geothermal energy, which will to provide NAFIN with operational and environmental support in the different phases of the geothermal project cycle.

1.8 The resources from nonreimbursable technical cooperation operation GRT/TC-14423-ME have been executed and/or committed for an amount of US$700,994.75 (25.03%),[4] to finance consulting services for development of the program Operating Regulations, program dissemination and promotion among geothermal operators, and monitoring of the electricity/geothermal market. All these activities are aligned with the program objectives.

1.9 In January 2018, the CTF Committee approved an Amendment Proposal to address the difficulties standing in the way of progress in program execution. This proposal included: (i) change the US$31.5 million in loan resources financed by CTF (3179/TC-ME) to a contingent recovery grant (CRG), increasing the total CRG amount (GRT/TC-14424-ME) to US$51.5 million, and cancelling the CTF loan (3179/TC-ME). The CRG remains as a nonreimbursable fund in the event of failure during the exploration stage, becoming reimbursable in the event that the family of wells is successful; (iii) lengthen the grace period of subloans made by NAFIN to developers to six years, so repayment on successful wells occurs once the plant is operational and with proceeds of electricity sales; and (iii) eliminate the reinsurance mechanism with Münich RE,[5] which was financed with local counterpart resources, thus eliminating the program local counterpart.[6] Nevertheless, the borrower has allocated budgetary resources to finance supplemental activities independent of the

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[4] Resources were used primarily for a consulting firm to develop the Operating Regulations, and then for an international consultant to help NAFIN revise them. Outreach workshops and various promotional activities with geothermal market stakeholders were financed to revive and expand awareness of the program. Individual consultants were financed to monitor the electricity market and, more specifically, the geothermal market.

[5] Changing the nature of use of the CTF loan proceeds to a CRG and the grace periods of the subloans will make program execution more realistic and stimulate demand for geothermal projects in the country, addressing current conditions in the energy sector without the need to use the Münich RE reinsurance mechanism.

[6] The original local counterpart was used to subsidize the cost of the Münich RE reinsurance premium. Making the Münich RE reinsurance mechanism unnecessary would eliminate the need for the premium subsidy.

program-financed activities, which will be recorded as parallel financing to the program. To implement this proposal, the CTF Committee called for a 2018 Schedule of Activities to be prepared. These changes will make it possible for all CTF resources (under the CRG) to committed before January 2019, thus avoiding possible cancellation of their use.

C. Borrower's request

1.10 The Government of Mexico, acting through the Department of Finance (SHCP), NAFIN, and SENER, via the attached Aide-mémoire I and Aide-mémoire II, has requested that the Bank process the program modification, to implement the modification approved by the CTF (see paragraph 1.9).[7] It has also requested that the resources of nonreimbursable technical cooperation operation GRT/TC-14423-ME could be used, among other activities, to engage the Instituto Nacional de Electricidad y Energías Limpias [National Institute for Electricity and Clean Energies] (INEEL), to provide operational and technical support for program execution. It has also requested an extension of the program disbursement periods, since the geothermal project cycle requires long execution periods (see paragraphs 1.4 and 2.19).

1.11 The borrower agreed that program execution will continue under NAFIN, this time in close coordination with SENER as sector leader, and with support from INEEL, as the technical/operational arm. The creation of a Geothermal Coordination Committee (CCG) is proposed, to coordinate execution. SENER will chair the committee, which will include NAFIN, INEEL, and SHCP, with the IDB as an observer. The CCG will facilitate the establishment of an execution mechanism coordinated by the relevant entities, according to their roles and responsibilities, to guarantee integrated and more impactful execution of the program (see paragraph 2.15).

D. Rationale for the modification

1.12 The borrower requested that the Bank modify the program based on the following considerations: (i) the program is part of the recent energy reform in Mexico, which seeks to increase the use of renewable sources of energy in the country's energy matrix.[8] The Nationally Determined Contribution (NDC) also has ambitious GHG emissions targets for 2030,[9] which is considered a significant challenge for the country; (ii) the Government of Mexico has prioritized the use of domestic and external resources to develop and approve the Geothermal Energy Law and its Regulations, so that it can contribute to NDC targets; (iii) progress needs to be made on implementation of the 22 exploratory permits granted by SENER, 13 of which must be executed with the involvement of the Comisión Federal de Electricidad [Federal Electricity Commission] (CFE) in its new legal structure as a state-owned productive enterprise (EPE) operating as a private enterprise with the ability to generate its own earnings, and the other eight granted to private geothermal

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7 The borrower, with the guarantor's concurrence, waived the proceeds of loan 3179/TC-ME in a letter of 19 June 2018 to the Bank (Waiver and guarantor concurrence letter).

8 With the Transition Strategy to Promote the Use of Cleaner Technologies and Fuels, which sets clean power generation targets of 35% by 2024; 37.7% by 2030; and 50% of total electricity generation by 2050.

9 Mexico has an ambitious emissions reduction target of 25% below the year-2000 baseline by 2030. Government of Mexico, Climate Summit, 23 September 2014.

developers; (iv) in line with the energy reform, progress needs to be made on the development of public-private partnerships (PPPs) between the CFE and private geothermal developers; and (v) the development of firm power generation capacity with nonconventional renewable energies needs to be strengthened in the National Interconnected System (SNI). Moreover, an analysis by the team shows that, once the risk has been mitigated at the exploration stage, geothermal energy can compete[10] directly with natural gas as a firm power source at natural gas prices at US$3 per million BTUs. Base load electricity capacity and price stability for power produced are some of the advantages of geothermal power compared to other fossil fuels and nonconventional renewable energies.

1.13 As a result of this modification, the drilling stage, to be financed with CRG resources, is expected to accelerate significantly. Additionally, combined with the expected momentum from geothermal PPPs in Mexico, greater demand is expected for permits for geothermal power project development, and future participation in the country's electric power auctions. Financial terms are also expected to be more attractive to private geothermal developers as a result of this modification. As far as the operating stage, the program is expected to better enable geothermal developers to enter into contracts with qualified service providers through electric power purchase contracts with qualified users or through sales on the Mexican electricity market, in order to sell the electricity generated using geothermal energy.

1.14 Consequently, the CRG resources (which would increase to US$51.5 million with this modification) are expected to be used for the exploration stage (Component 1), to absorb the risk in the event of failure,[11] and the loan proceeds financed with IDB Ordinary Capital resources (Component 2) are expected to be used for the operation phase, once the resource has been identified. Lastly, the nonreimbursable technical cooperation resources will be used to finance implementation costs and technical assistance activities (Component 3).

E. Strategic alignment

1.15 The proposed modifications are consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008), and are aligned with the development challenge of productivity and innovation, based on (i) increased power generation from geothermal sources and reduced GHG emissions; (ii) reduced dependence on fossil fuels; and (iii) encouraging private investment in geothermal power through financing and risk transfer mechanisms that lower the cost of investment, leverage private capital for projects, and guarantee long-run sustainability/growth. The modification is also aligned with the following crosscutting areas: (i) institutional capacity and rule of law, through improvement in own resource generation and public investment capacity by ensuring that the CFE, as a state-owned productive enterprise, can generate its own resources by undertaking PPPs; and (ii) climate change and environmental sustainability, through interventions that support climate change mitigation and adaptation. Because this is a modification, the contribution of the operation was recorded in 2014, when it was originally approved, with climate

[10] A financial analysis was done using two different financial models (the Bank's and CFE's), and both confirmed the financial viability of geothermal projects with the variables proposed in this modification.

[11] The CRG remains as a nonreimbursable fund in the event of failure of the exploration stage and becomes reimbursable in the event of a successful family of wells.

finance of 100% of the resources given their investment in renewable energy. The operation is therefore not recorded again toward the climate finance target according to the joint methodology of the multilateral development banks for the estimation of climate finance. Under the Corporate Results Framework 2016-2019 (document GN-2727-6), the program is aligned with the country development results indicator for GHG emissions reduction with IDB financing.

1.16 The program and proposed modifications are also aligned with the IDB Group country strategy with Mexico 2013-2018 (document GN-2749), which identifies the energy sector as a dialogue area, since energy reform will create opportunities to strengthen the sector with investments that lower the country's energy costs, improving productivity.

1.17 The program and its modifications fall under the following sector strategies: (i) IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (document GN-2609-1), in terms of introducing effective geothermal risk management practices, ensuring that infrastructure investments build resilience to extreme climate changes. It will also contribute to the relevant dimensions of success and lines of action of the following sector frameworks: (i) Energy Sector Framework Document (document GN-2830-3), by encouraging the use of renewable energy sources to generate electrical power; (ii) Climate Change Sector Framework Document (document GN-2835-3), by promoting a multisector and interdisciplinary approach to climate change; and (iii) Fiscal Policy and Management Sector Framework Document (document GN-2831-3), by building public-sector institutional capacity to design and implement public policies in the energy sector that improve sector performance, and by building institutional capacity to design and execute projects that encourage geothermal power use and adoption in Mexico.

1.18 Program Component 2 will finance the construction and commissioning of geothermal power plants and associated transmission lines. These projects must be consistent with national laws and regulations for economic analysis of investment projects and those stipulated in the program Operating Regulations. Additionally, the new electric power generated must be sold in compliance with the financial sustainability and economic evaluation conditions of the Public Utilities Policy (document GN-2716-6).[12] See the compliance analysis of policy document GN-2716-6.

II. Description of Proposed Modifications

A. Objective and components

2.1 The objective of the program is not modified and remains as described in paragraph 1.2. The program components are modified as far as their names and the activities identified under each one. The modifications to the components and cost table are described below.

[12] Not only does the program not alter the electricity rate schedule, it contributes substantially to the full coverage of geothermal generation costs by the power purchase agreements between geothermal developers and electricity buyers.

2.2 **Component 1. Risk mitigation for geothermal projects in the early stages of exploration, chargeable to GRT/TC-14424-ME (US$51.5 million).** The drilling costs to geothermal developers[13] will be mitigated during the initial exploration stage, drawing on resources of the CRG. Instituto Nacional de Electricidad y Energías Limpias [National Institute for Electricity and Clean Energies] (INEEL) will engage drilling services, on behalf of NAFIN, for such purpose, and make these services available to private geothermal developers under the contingent recovery modality. Geothermal developers will also be asked to contribute[14] at least 25% of the total geothermal development cost toward well development. If the drilling is unsuccessful (as confirmed by an independent certifier), the loan proceeds will be treated as a nonreimbursable grant. However, if drilling is successful, and provided that the electricity produced from the proven resource in the wells can be sold at competitive prices on the Mexican electricity market, the financing will be treated as a concessional loan (at an interest rate[15] not to exceed 2.25% from NAFIN to the developers), and the winning private geothermal developers will repay the concessional loan once the plant is operational (up to six years after the geothermal resource is assessed as proven). Once repaid to NAFIN, these revolving resources may be used by NAFIN to finance new geothermal developments under this same modality.[16]

2.3 **Component 2. Financing for the operation phase, chargeable to 3179/CO-ME (including development of geothermal plants and transmission lines) (US$54.3 million)** The Bank's Ordinary Capital resources (loan 3179/CO-ME) will be used by NAFIN to make loans to developers to build geothermal power plants and transmission lines. To access these resources, developers will have to demonstrate the feasibility of the geothermal resource as described in the program Operating Regulations This component may finance new plants, restoration and/or expansions of existing geothermal plants, and transmission lines associated with the geothermal project. These resources will reduce the cost of financing the geothermal power plant, improving project competitiveness. The resources repaid to NAFIN will be revolving, so NAFIN may finance other geothermal projects under this same modality.

2.4 **Component 3. Technical assistance to support program execution and other implementation costs, chargeable to GRT/TC-14423-ME (US$2.8 million).** The following activities will be financed with nonreimbursable technical cooperation

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13 CFE may opt for these resources, but in the event of success in the exploration stage, CFE must structure PPPs with private geothermal developers in the production stage.

14 The 25% may be in costs associated with drilling, preparation of access roads to drilling sites, earth moving to facilitate drilling, contribution of funds for drilling or deeper drilling extensions or a letter of credit executable in the exploration phase, etc.

15 If the drilling is successful, NAFIN will set a deadline for the private geothermal developer to make an investment decision whether to continue developing the field(s) and to build and operate the geothermal power plant. If the decision is not made within the allotted timeframe, then INEEL, representing the developer, will take the necessary action to obtain the concession, following the process described in the program Operating Regulations. The new developer receiving the production concession will have to repay the cost of the successful wells.

16 The grace period of the concessional loans made by NAFIN using Clean Technology Fund (CTF) resources will increase to six years. The objective is to improve the competitiveness of geothermal power developments through private participation in the Mexican electricity market by providing better interest rates. The NAFIN interest rate reflects the CTF interest rate (0.75%).

resources: (i) contracting INEEL to provide operational and technical support to SENER and NAFIN in program execution; (ii) contracting additional consulting services associated with improving program coordination, as well as the corresponding program evaluations; (iii) support for surface, environmental and social, regulatory, and other surveys; and (iv) support for financial structuring of PPP projects to be financed by the program. A more detailed description will be included in the program Operating Regulations.

B. Costs and financing sources

2.5 The original program cost table (see Table 1) has been modified, to visualize the changes made to each component based on the proposed modification described in Section A above (see Table 2).

2.6 In a letter to the Bank (electronic link 14) dated 19 June 2018, the borrower, with the guarantor's concurrence, waived the Bank financing of up to US$31.5 million, chargeable to the resources of the Clean Technology Fund (CTF) (3179/CT-ME, Resolution DE-39/14). On 9 January 2018, the CTF Committee authorized the use of such resources (once waived/released) to increase the total nonreimbursable resources (GRT/TC-14424-ME, Resolution DE-40/14) originally allocated to the program. The local counterpart resources originally planned for the program are also eliminated[17] (see paragraphs 1.9 and 1.4).

Table 1. Cost of original program (US$ millions)

Components	IDB	CTF	Local*	Original
Component 1. Risk mitigation for exploration	-	20	≈11.5	31.5
Component 2. Financing for the operation phase (including development of geothermal plants and transmission lines)	54.3	31.5	-	85.8
Component 3. Technical assistance to support program execution and other costs	-	2.8	-	2.8
Total	**54.3**	**54.3**	**11.5**	**120.1**

* In the cost of the original program, the approximate value of the local resources was 150 million Mexican pesos, using an average conversion rate of 13 Mexican pesos to the U.S. dollar. The additional NAFIN resources were used for financing of Component 2 and were determined for each project on a case-by-case basis.

[17] The Government of Mexico has allocated budgetary resources to finance supplemental activities independent of those planned in this program as parallel financing. Consequently, those activities are not necessary to achieve the program objectives.

Table 2. Cost of modified program (US$ millions)[*]

Components	IDB	CTF	Actual
Component 1. Risk mitigation for exploration	-	51.5	51.5
Component 2. Financing for the operation phase (including development of geothermal plants and transmission lines)	54.3	-	54.3
Component 3. Technical assistance to support program execution and other costs	-	2.8	2.8
Total	**54.3**	**54.3**	**108.6**

2.7 The original financial terms of the program are given in Table 3, and the modified financial terms in Table 4.

Table 3. Original financial terms and conditions

Borrower and executing agency: Nacional Financiera S.N.C (NAFIN) **Guarantor:** United Mexican States				
Source	**Amount**	**%**		
ME-L1148 (OC-CCLIP ME-X1010)	54.3	45.2	**Flexible Financing Facility[*]**	
			Amortization/grace period:	24/6.5 years
			Weighted average life (WAL):	15.25 years
			Disbursement period:	6 years
			Interest rate:	LIBOR-based
			Inspection and supervision fee:	**
			Credit fee:	**
			Currency	U.S. dollars chargeable to the OC
ME-L1148	31.5	26.2	**CTF Financing**	
			Amortization/ grace period:	20/10 years
			Disbursement period:	6 years
			Interest rate:	0.75%
			MDB upfront fee:	0.45%
			Currency:	U.S. dollars
ME-G1005[***]	22.8	19.0	**CTF nonreimbursable financing**	
			Currency:	U.S. dollars
Local	≈11.5[****]	9.6		
Total	**120.1**	**100**		

[*] Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take market conditions and operational and risk management considerations into account when reviewing such requests.

[**] The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions of the Bank's policy on lending rate methodology for Ordinary Capital loans.

[***] This amount includes both the contingent recovery grant (US$20 million) and the nonreimbursable grant from the investment plan (US$2.8 million).

[****] Approximate U.S. dollar value of 150 million Mexican pesos, using an average conversion rate of 13 Mexican pesos per U.S. dollar.

Table 4. Modified financial terms and conditions

Borrower and executing agency: Nacional Financiera S.N.C (NAFIN) **Guarantor:** United Mexican States				
Source	**Amount**	**%**		
ME-L1148 (3178/OC-ME) (CCLIP ME-X1010)	54.3	50%	**Flexible Financing Facility (FFF)**[a]	
			Amortization/grace period:	19 years/11.5 years[b]
			Weighted average life (WAL):	15.25 years
			Disbursement period:	11 years
			Interest rate:	LIBOR-based
			Inspection and supervision fee:	[c]
			Credit fee:	[c]
			Currency:	U.S. dollars
ME-G1005 (GRT/TC-14424-ME)	51.5	47.4%	**CTF contingent recovery grant**	
			Disbursement period:	9 years
			Currency:	U.S. dollars
ME-G1005 (GRT/TC-14423-ME)	2.8	2.6%	**CTF nonreimbursable**	
			Disbursement period:	9 years
			Currency:	U.S. dollars
Total	**108.6**	**100%**		

[a] Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

[b] Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted, provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

(c) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the relevant policies.

2.8 **Disbursement projections.** Although program disbursements will be based on demand, disbursement projections can be estimated, based on dialogues with possible geothermal developers, including CFE (see Table 5; see paragraph 2.19 for more information on disbursement period extensions).

Table 5. Disbursement projection estimates (%)

Financing	**Disbursement projection (%)**							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Component 1. Risk mitigation for exploration								
CTF committed	100	-	-	-	-	-	-	-
CTF disbursed	-	20	20	30	20	10	-	-
Component 2. Financing for the operation phase (including development of geothermal plants and transmission lines)								
IDB committed	-	-	20	30	30	20	-	-
IDB disbursed	-	-	-	10	30	30	20	10
Component 3. Technical assistance to support program execution and other costs								
CTF committed	100	-	-	-	-	-	-	-
CTF disbursed	-	20	20	20	20	20	-	-

C. Results Matrix

2.9 The Results Matrix (see Annex II) was updated to reflect the program modifications and includes the outcome and output indicators described below. The output indicators for Component 1 are: contingent recovery resources provided to geothermal projects with CRG resources from the program; and for Component 2: loans granted to geothermal projects by the program at any stage of development. The outcome indicators are: (i) total geothermal projects financed by the program at any stage that reached financial closing for plant construction; (ii) total geothermal projects financed at any stage by the program that are in operation (producing electricity); (iii) geothermal power generation capacity installed in projects financed at any stage by the program; (iv) electricity production from projects financed at any stage by the program; (v) GHG emissions avoided by geothermal projects financed at any stage by the program; and (vi) additional financing from third parties mobilized to develop geothermal projects financed at any stage by the program.

D. Environmental and social safeguard risks

2.10 As a global credit program, the program is a financial intermediation operation, for which the financial intermediary is responsible for ex ante environmental and social impact classification of the subprojects during program execution, following procedures developed in an environmental and social management system (ESMS) established in the program Operating Regulations, under Directive B.13 of the IDB Environment and Safeguard Compliance Policy (Operational Policy OP-703). The planned program includes geothermal subprojects that may be high-risk. As a result, this operation is classified as high risk (FI-1) and high risk of vulnerability to natural disasters (Type 1).[18] Geothermal projects deliver long term GHG emission reductions and are considered environmentally friendly projects as they entail cleaner energy production. However, most geothermal projects can be considered high-risk (including initial drilling) and can have adverse environmental or social impacts that can be significant and need to be assessed and managed on a project-by-project basis, identifying the measures to be implemented for risk mitigation.

2.11 Due to the high-risk nature of the subprojects, the ESMS previously agreed[19] upon by the Bank and NAFIN for the program includes a “hand-in-hand” environmental and social due diligence process, with the support of a consulting firm, for all geothermal subprojects in accordance with Operational Policy OP-703. As part of this process, the consulting firm will perform an environmental and social screening of each geothermal field to classify them as “A”, “B”, or “Ineligible”, and will develop a geographic information system to identify potential impacts and risks. This will guarantee the agreement of the parties that the beneficiaries of the financing implement environmental and social impact assessments, mitigation and management measures consistent with Mexican laws and regulations and international best practices, including the Performance Standards of the

[18] The OP-703 implementing guidelines distinguish three levels of risk under Directive B.13: FI-1 (high risk) equivalent to Category A; FI-2 (moderate risk) equivalent to Category B; and FI-3: (little or no risk). The program subprojects may be Category A, so operation B-13 is classified as FI-1 and Type 1: high risk of vulnerability to natural disasters.

[19] This operation is a modification of an existing operation, for which an environmental and social management report (ESMR) and an ESMS had been previously agreed upon with the borrower. ESG agrees to use these documents with the incorporation of certain changes as described in the ESMR.

International Finance Corporation (IFC), which are consistent with IDB policies. Additionally, the IDB and the consulting firm will support NAFIN in holding public consultations for each subproject, conduct due diligence missions to the selected sites with NAFIN, issue its final no objection, and closely monitor the implementation of each project. The ESMS is incorporated into the program Operating Regulations and integrates all applicable Mexican norms, the IDB Environment and Safeguard Compliance Policy, international best practices for dissemination of information, the IDB exclusion list of activities, fundamental principles of workplace rights and IFC Performance Standards, as well as World Bank environmental, health, and safety guidelines. The original program ESMS has been published on the IDB website since the original operation approval in 2014. The ESMS is incorporated into the program Operating Regulations, and as such will be revised to include the appropriate changes as a condition precedent to the first disbursement of resources of the modified program. Application of this ESMS will ensure compliance with the environmental and social safeguards of the operation over the life of the program.

E. Fiduciary risks

2.12 **Fiduciary risks.** Institutional capacity assessments performed under CCLIP ME-X1010 conclude that the executing agency has sufficient capacity for fiduciary management of the loan. However, the executing agency's lack of experience with geothermal power and operational aspects of geothermal exploration and operation will be mitigated through closer coordination between NAFIN and SENER, and technical support from INEEL, on operational as well as environmental matters in relation to the different phases of the geothermal project cycle. This risk has been classified as high. The lack of human resources in the geothermal field has also been identified as medium risk. This risk will be mitigated with technical and operational support from INEEL (see paragraph 2.20), as well as the engagement of a full-time individual consultant devoted solely to program management and execution. No financial or procurement risks have been identified that require a mitigation action. That notwithstanding, the execution mechanism needs strengthening as described in Section F on implementation arrangements, to support the technical and operational part of the program.

2.13 **Procurement.** The procurement of goods, works, and services and the selection and contracting of consulting services will be conducted in accordance with the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9), based on the procurement plan.

F. Implementation arrangements

2.14 The original program implementation structure remains unchanged. NAFIN will remain as borrower and executing agency, with the guarantee of the United Mexican States for the OC-financed investment loan (loan 3178/OC-ME). The Bank will also remain as executing agency of the nonreimbursable technical cooperation operation.

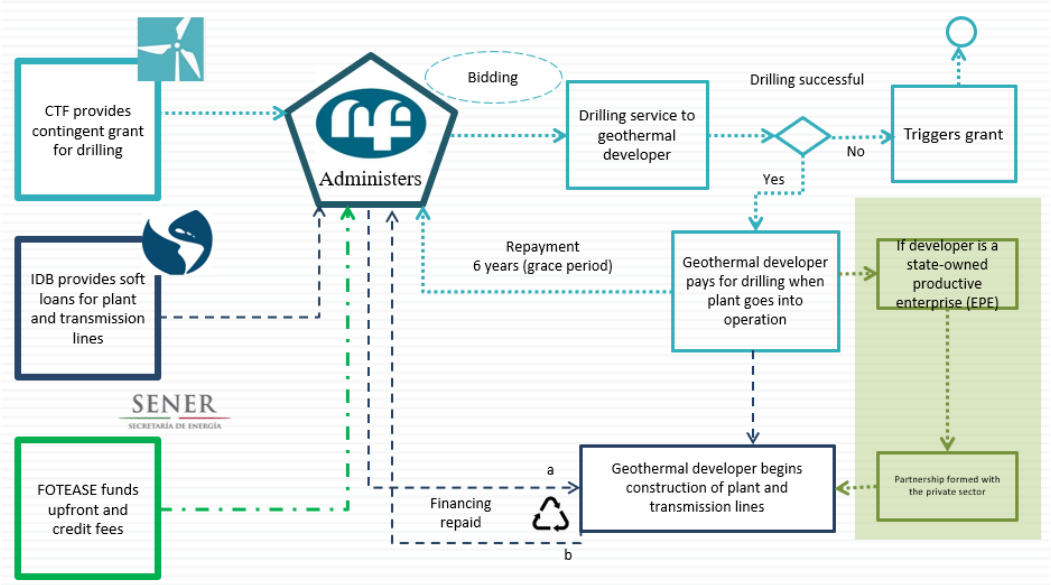
2.15 A working group has been set up between SENER, NAFIN, INEEL, and the IDB to coordinate the necessary work among themselves prior to, and in preparation for, approval of the program modification by the IDB Board of Executive Directors.

During the preparation of this proposal, the working group has met monthly since January 2018. Once the program modification has been approved, the working group will become the Geothermal Coordination Committee (CCG), comprised of the same institutions plus the SCHP, and chaired by SENER. The IDB's role on this committee will be solely as an observer. The CCG will meet on a six-monthly basis, unless a member considers special meetings necessary. More details on the role and responsibilities of the CCG will be included in the program Operating Regulations.

2.16 As part of this modification, it is recommended that SENER perform the following activities in support of the executing agency: (i) collaborate in identifying project developers that might participate in a public competitive bidding process; (ii) assist in reviewing the model contracts to be entered into with the winning bidders for the drilling; (iii) assist in reviewing the model contracts between NAFIN and the private geothermal developer for the exploration phase, which will include the applicable clauses in the event of success and the corresponding obligations (repayment and construction of the plant and transmission lines, using the OC loan proceeds); and (iv) assist in reviewing the contracts between NAFIN and the developer for the plant and transmission line construction phase.

2.17 INEEL will provide technical and advisory support to the executing agency, performing the following activities: (i) select and contract drillers; (ii) establish selection criteria and mechanisms for drilling areas and for developers using best practices; (iii) launch the competitive bidding process for the selection of developers receiving the drilling service; (iv) provide environmental and social support in the areas selected for drilling; (v) provide continuity in the process of obtaining a geothermal concession if drilling is successful and the developer is unwilling or unable to continue, in which case the necessary permits will be secured to obtain the concession, and support will be provided to SENER, as Mexico's energy sector leader and the only institution authorized under the Geothermal Energy Law and its Regulations, to issue the solicitation for such concession; and (vi) support the evaluation and provide a recommendation to NAFIN as to the viability of granting financing to projects with proven geothermal resources.

Figure 2. New program flowchart



a. Financing from NAFIN to developer for construction of geothermal plant.
b. Once the geothermal plant is in operation and selling electricity, the developer repays the financing.

2.18 Resource disbursements under this modification will be subject to the following conditions: (i) a collaboration agreement is signed and in force between and among NAFIN, SENER, and INEEL, as necessary to establish the roles and responsibilities of each during program execution; (ii) the Geothermal Coordination Committee (CCG) has been created, to coordinate program execution, chaired by SENER and including NAFIN, INEEL, SHCP, and the IDB (as an observer); and (iii) the updated program Operating Regulations have been provided, to the Bank's satisfaction, including the necessary changes to implement the modifications identified in this proposal. Program resources will be deposited into NAFIN's concentration account, referenced to specific subaccounts for the OC loan and the CRG.

2.19 Drawing on the lessons learned from the original operation, the real cycle of a geothermal project has been integrated into this modification, for efficient and coordinated execution of the operation. Considering the extended periods of time required to execute a geothermal project cycle efficiently, and considering the disbursement projection estimates resulting from this modification (see paragraph 2.5, Table 5), the disbursement periods for program instruments must be extended as follows: (i) a 6-year extension of the 3-year original disbursement period for the CRG financed with CTF resources (GRT/CT-14424-ME), for a total period of 9 years, taking into account that 3 of the 9 years have already passed; (ii) a 5-year extension of the original 6-year disbursement period for the investment loan with Bank OC resources (3178/OC-ME), for a total of 11 years, taking into account that 3 of the 11 years have already passed; and (iii) a 6-year extension of the original 3-year disbursement period for the nonreimbursable technical cooperation operation (GRT/CT-14423-ME), for a total of 9 years, taking into account that 3 of the 9 years have already passed. This is justified for the following reasons: (i) the exploration

phase (Component 1) will last from 2 to 6 years, since it must encompass drilling, assessment of resource quality, repayment of the cost of the family of successful wells, and decision-making on whether to invest in the geothermal plant; (ii) the operation phase (Component 2) will finance the construction of plants and transmission lines, which in many cases can occur only once the exploration stage is complete, and these activities, by their nature, require an extended execution period, depending on the project; and (iii) the resources to finance support and technical assistance activities (Component 3) must be available during the exploration phases of the program, to ensure efficient, coordinated execution.

2.20 **Direct contracting.** Efficient and coordinated execution requires the direct contracting of Instituto Nacional de Electricidad y Energías Limpias [National Institute for Electricity and Clean Energies] (INEEL). Direct contracting of INEEL is warranted under point 1.11(c) of policy document GN-2350-9, as a research center in the borrower's country whose participation is crucial to program implementation due to the unique and exceptional nature of its services. INEEL is the decentralized public agency of the federal government for energy sector research dedicated primarily to Mexico's electricity sector. Its primary objectives include applied innovation, technological development, engineering and specialized technical services in such areas as energy efficiency, planning and expansion of the national electrical system, reliability, safety, simulation, renewable energies, automation, and new information technologies. INEEL management has focused exclusively on geothermal development and has over 30 years' experience supporting CFE in geothermal resource exploration, development, and operation in Mexico, putting it at the forefront of this field in Mexico and Latin America. Its database includes 2,361 geothermal manifestations spread among 27 of Mexico's 32 states. The data includes location, type of manifestation, source of heat, geological age, water chemistry, sample temperature and an estimate of field temperature. The focus is mainly on the following areas of geothermal development: resource exploration, characterization of formations and wells, development of conceptual models of the field, studies related to exploitation of the field, environmental impact studies, and medium- and low-enthalpy fluid exploitation. INEEL has developed more than 350 projects in Mexico's geothermal fields and areas, as well as projects or services in Argentina, Bolivia, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Jamaica, Nicaragua, Panama, Peru, and the United States. INEEL receives most of its income from offering specialized services to the public and private sectors in the country.

2.21 Drilling will be performed by companies contracted via international competitive bidding, following the process in policy document GN-2349-9. This will make it possible to commit all CTF resources by January 2019, as requested by CTF (see paragraph 1.9)

G. Program evaluations

2.22 It is suggested that the executing agency may perform the midterm evaluation once 50% of total program resources have been disbursed. The executing agency will also deliver a progress report, to be prepared every six months. An ex post cost-benefit analysis and a project completion report (PCR) will both be produced at the end of the program The monitoring and evaluation report provides more information

on the program evaluation mechanisms. The PCR and the ex post cost-benefit analysis will be produced by NAFIN, in coordination with SENER.

III. RECOMMENDATION

3.1 Based on the evidence and documentation submitted by the borrower, together with the analysis described in the foregoing sections, and in accordance with paragraph 3.29, point (c) of the Regulations of the Board of Executive Directors of the IDB (document DR-398-17) and paragraph 6 of the List of Matters to be Considered by the Board via Short Procedure (document CS-3953-3), Bank Management recommends that the Board of Executive Directors approve the modifications proposed in Section II of this document via short procedure by adopting the attached proposed resolution.

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	Aligned		
Lending Program	Lending to support climate change initiatives, renewable energy and environmental sustainability.		
Regional Development Goals	i) Percent of firms using Banks to finance investments, and ii) CO2 emissions (kilograms) per $1 GDP (PPP).		
Bank Output Contribution (as defined in Results Framework of IDB-9)	Percentage of power generation capacity from low-carbon sources over total generation capacity funded by IDB.		
2. Country Strategy Development Objectives	Aligned		
Country Strategy Results Matrix	GN-2749	i) Increase financing to the real economy; and ii) Support the implementation of national climate change policy mechanisms fostering adaptation measures focusing on the long-term.	
Country Program Results Matrix	GN-2756	The intervention is included in the 2014 Country Program Document.	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
II. Development Outcomes - Evaluability	Evaluable	Weight	Maximum Score
	8.1		10
3. Evidence-based Assessment & Solution	8.4	33.33%	10
3.1 Program Diagnosis	3.0		
3.2 Proposed Interventions or Solutions	2.4		
3.3 Results Matrix Quality	3.0		
4. Ex ante Economic Analysis	8.5	33.33%	10
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0		
4.2 Identified and Quantified Benefits	1.5		
4.3 Identified and Quantified Costs	0.0		
4.4 Reasonable Assumptions	1.5		
4.5 Sensitivity Analysis	1.5		
5. Monitoring and Evaluation	7.5	33.33%	10
5.1 Monitoring Mechanisms	2.5		
5.2 Evaluation Plan	5.0		
III. Risks & Mitigation Monitoring Matrix			
Overall risks rate = magnitude of risks*likelihood	Medium		
Identified risks have been rated for magnitude and likelihood	Yes		
Mitigation measures have been identified for major risks	Yes		
Mitigation measures have indicators for tracking their implementation	Yes		
Environmental & social risk classification	B.13		
IV. IDB´s Role - Additionality			
The project relies on the use of country systems			
Fiduciary (VPC/PDP Criteria)			
Non-Fiduciary			
The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor			
Environment	Yes	This project will benefit the environment by helping to reduce emissions. The intervention has positive externalities for the environment and will strengthen the entities involved.	
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	Complementing the financial support provided by the program, recommendations for draft legislation on geothermal, as well as a diagnosis on the current regulatory framework, were provided to the Ministry of Energy through technical assistance operations.	
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan			

SPD has reviewed the proposal and has concluded that no significant changes have been made to the loan under this reformulation. Thus, the original DEM matrix and its corresponding scores apply to the loan.

The objective of the program is not modified, nor is the amount of the program altered. The proposed changes do not alter in substance the design of the originally approved project, and aim to reduce the risks of the exploration stage, which involves high drilling costs and high probability of failure.

The proposed modifications are as follows. First, it changes the nature of the loan resources financed by the CTF for the amount of US $ 31.5 million (3179 / TC-ME) to CRG (GRT / TC-14424-ME). The CRG is maintained as a non-refundable fund in case of failure of the exploration phase and becomes reimbursable in case of success. Second, it increases the grace period of the sub-loans granted by NAFIN to the developers to at least five years, so that the repayment of the successful wells takes place once the plant is operating and with electricity sales. Finally, the reinsurance mechanism with Münich RE is eliminated, which is why the local counterpart resources foreseen in the program are eliminated.

The original diagnosis, economic analysis, and monitoring and evaluation plan are still valid, and the vertical logic of the project remains adequate. The results matrix has been modified in some indicators to reflect the proposed modifications, mainly associated with the use of Contingent Recovery Resources (CRG), and to define goals at the end of the program. In general, the indicators are SMART with baselines and established goals.

MODIFIED RESULTS MATRIX

Objective	The program objective is to increase power production from geothermal sources so as to contribute to the diversification of the energy matrix and reduce dependency on fossil fuels and greenhouse gas (GHG) emissions in Mexico. To this end, the program intends to scale up investment in geothermal power generation projects by making available a range of financial mechanisms tailored to meet the specific needs of each project's stage of development. This will include risk mitigation mechanisms, as well as various forms of financing for exploration, drilling, field development, and construction and operation phases of private geothermal projects.

Indicators	Unit	Baseline	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	End of program target[1]	Description/Means of verification
Outputs Component 1													
Contingent recovery resources provided to geothermal projects with CRG resources from the program	Number of projects (wells) using NAFIN-approved CRGs	0	0	0	0	2	2	0	0	0	0	4	Target is inclusive of all projects financed, both successful and failed. Source: Program report from NAFIN. Estimations consider that a beneficiary project that is successful during early exploration stages may be eligible for program support in the production drilling phase.
Outputs Component 2													
Loans granted to geothermal projects by the program at any stage of development	Number of NAFIN-approved loans	0	0	0	0	0	1	1	0	0	0	2	Values based on loan agreements financed with program resources. Figures consider loans at any stage of development, including insured loans, soft loans, and/or refinancing of projects that move on from early exploration to production drilling and construction stages. Does not include CRGs already monitored by another indicator. Source: Program report from NAFIN.

[1] End-of-program target and target Y10 are cumulative figures.

Indicators	Unit	Baseline	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	End of program target[1]	Description/Means of verification
Outcomes													
Total geothermal projects financed at any stage by the program that reach financial closure for plant construction	Number	0						1	1	0	0	2	Includes the total number of projects that have secured full financing for plant construction in the year indicated. Due to the long maturities associated with these projects, projects financed from early exploration may not reach this phase until past the timeframe of monitoring (see target Y10). Source: Program report from NAFIN.
Total geothermal projects financed at any stage by the program that are in operation (producing electricity)	Number	0									2	2	Includes the total number of projects in operation in the indicated year. Due to the long maturities associated with these projects, projects financed from early exploration may not be fully operational until past the timeframe of monitoring (see target Y10). Source: Program report from NAFIN.
Geothermal power generation capacity installed in projects financed at any stage by the program	MW	0								15	15	30	Includes only capacity ready for production.[2] Due to the long maturities associated with these projects, capacity resulting from projects financed from early exploration may not be installed until past the timeframe of monitoring (see target Y10).
Electricity production from projects financed at any stage by the program	GWh/year	0								110.38	220.75	331.13	Source: Program report from NAFIN. Estimations based on expected capacity installed, an average production factor in Mexico of 24 hours/day, 365 days/year.

[2] For practical purposes, the analysis assumes 30 MW development in two geothermal power generation plants, with an average 15MW installed capacity each.

Indicators	Unit	Baseline	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	End of program target[1]	Description/Means of verification
Greenhouse gas (GHG) emissions avoided by geothermal projects financed at any stage by the program	$ktCO_2e$/year	0								64.24	128.24	192.48	Tons of GHG emissions that will be reduced or avoided once the plants financed by the program are commissioned. Source: Estimations made following IDB methodology, based on installed capacity (see indicator above), envisaged production, and an average conversion factor of 0.582 tCO_2/MWh for electricity generation in Mexico. $ktCO_2e$ = kilotons of CO_2 equivalent
Impacts													
Additional financing from third parties mobilized to develop geothermal projects financed at any stage by the program	US$ millions	0										190	Volume of third-party direct finance leveraged by the program. Includes all financing from sources other than IDB/CTF (government, NAFIN, financial institutions, and private or public capital contributions). Source: Program report from NAFIN. Estimations based on a 70:30 debt-to-equity ratio (for the production stage), investment costs of US$5 million per well and US$2 million to US$4 million per MW installed.
Total geothermal capacity installed in Mexico	MWe	909[3]										1.108[4]	Source: SENER, Balance Nacional de Energía.

[3] Total capacity at end-2016 (SENER). SENER, Prospectiva de Energías Renovables 2017-2031 [Renewable Energies Outlook 2017-2031].

[4] This target would not necessarily reflect a direct program contribution.

Indicators	Unit	Baseline	Year 1 2016	Year 2 2017	Year 3 2018	Year 4 2019	Year 5 2020	Year 6 2021	Year 7 2022	Year 8 2023	Year 9 2024	End of program target[1]	Description/Means of verification
Electricity production from geothermal sources in Mexico	GWh/year	6.148[5]										6.921	Source: Public information from the Energy Regulatory Commission (CRE) and CFE. Estimations based on the average production factor in Mexico.
GHG emissions in the Mexican energy sector	$MtCO_2e$	503.8[6]										814	Source: IDB estimations based on Estrategia Nacional de Cambio Climático [National Climate Change Strategy] (ENACC) and Sector contribution to emissions, Mexico's Fifth National Communication to the UNFCCC. The baseline GHG in 2024 and 2030 is 900 $MtCO_2e$/year and 996 $MtCO_2e$/year, respectively, and the potential for emissions abatement in 2024 and 2030 is 86 $MtCO_2e$/year and 172 $MtCO_2e$/year, respectively, according to Contribución sectorial a las emisiones, Quinta Comunicación al UNFCCC. $MtCO_2e$ = megatons of CO_2 equivalent
Percentage of renewable energy in the energy matrix	% of generation	19[7]										27[8]	Source: Public information from the CRE and CFE.

[5] Gross generation at end-2016. SENER, Prospectiva de Energías Renovables 2017-2031 [Renewable Energy Outlook 2017-2031].

[6] Mexico's Fifth National Communication to the UNFCCC. Data from 2010.

[7] Energy Information System, Electricity Sector, 2017, Generación bruta de energía por tecnología [Gross power generation by technology].

[8] Scenario 450 Prospectiva de Energías Renovables 2012-2026 [Renewable Energy Outlook 2012-2026].

INVESTMENT GRANT FOR THE GEOTHERMAL FINANCING AND RISK TRANSFER PROGRAM

ME-G1005 (GRT/TC-14424-ME)

CERTIFICATION OF INCREASE

Original IDB Amount:	22,800,000.00
Increase Amount:	**31,500,000.00**
Total Operation Cost:	54,300,000.00

I hereby certify that this operation was approved for financing under **Clean Technology Fund (CTF)** through a communication dated April 30, 2018 and signed by Goritza Ninova. Also, I certify that resources from said fund are available for up to **US$31,500,000** in order to finance the activities described and budgeted in this document. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, represent a risk that will not be absorbed by the Fund.

Certified by: Original Signed — May 2, 2018

Sonia M. Rivera — Date
Chief
Grants and Co-Financing Management Unit
ORP/GCM

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/18

Geothermal Financing and Risk Transfer Program

(Amendment of Loan Contracts Nos. 3178/OC-ME, 3179/TC-ME; and of Nonreimbursable Financing Agreements Nos. GRT/TC-14423-ME and GRT/TC-14424-ME; and of Resolution DE-40/14)

The Board of Executive Directors

RESOLVES:

1. To approve the modifications contained in section II ("Description of the Proposed Amendments") of document PR-____, entitled "Geothermal Financing and Risk Transfer Program 3178/OC-ME, 3179/TC-ME; GRT/TC-14423-ME, GRT/TC-14424-ME; ME-X1010 – Proposal of Loan Amendment".

2. To amend paragraph 2 of Resolution DE-40/14, adopted by the Board of Executive Directors on May 29, 2014, as follows:

> "That up to the sum of US$54,300,000 is authorized for purposes of this resolution chargeable to the resources of the Clean Technology Fund, of which up to the amount of US$51,500,000 is to be provided on a contingent recovery grant basis, and up to the sum of US$2,800,000 is to be provided on a nonreimbursable basis."

3. That the President of the Bank or such representative as he shall designate, is authorized in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with Nacional Financiera, S.N.C., as borrower, and with the United Mexican States, as guarantor, for the implementation of the modifications referred to in paragraph 1 of this proposed resolution.

(Adopted on __ _____ 2018)