

Decontamination and Decarbonization Solutions for Chile: Geothermal Energy Application

TERMS OF REFERENCE [1]

LEGAL, ENVIRONMENTAL AND TECHNICAL ASSESSMENT FOR GEOTHERMAL TECHNOLOGIES

I. Background

- I.1 The Government of Chile (GoCh) actively promotes the development of Non-Conventional Renewable Energy (NCRE) to reduce energy costs and to ensure a more diversified, cleaner and safer energy matrix. The GoCh has prioritized the implementation renewable energy-based District Heating (DH) systems in its national Energy Roadmap 2018-2022 to support the diversification of the national energy matrix and improve energy efficiency. In line with this strategic roadmap, the Ministry of Energy (MINENERGIA) has undertaken several initiatives aimed at exploring opportunities and business models for the deployment of DH solutions with renewable energy, including geothermal resource.
- I.2 The deployment of DH with non-conventional renewable energy (NCRE) can bring significant energy and environmental benefits to Chile. The use of firewood and fossil fuels for heating accounts for an important share of the national energy matrix. This final use of energy, in addition to entrenching dependence from imported fossil fuels and contributing to high CO₂ emissions from the residential sector, is the main source of fine particulate matter, coarse and black coal pollution, which are the main culprits for low air quality in cities such as Santiago, Rancagua, Talca, Curicó, Chillán, Los Angeles, Temuco, Valdivia and Osorno, among others. The use of firewood for heating is also behind deforestation of native forests in the Central-South zone.
- I.3 Chile's Intended Nationally Determined Contribution (INDC) to mitigation is a quantified reduction of the intensity indicator of greenhouse gas (GHG) emissions by 2030. Chile hopes to reduce its GHG emissions while decreasing poverty and inequality as well as continue advancing toward sustainable, competitive, inclusive and low-carbon development. To this end, it has introduced incentives to NCRE. Pursuant to Law 20.698, for example, 20% of the energy by 2025 under supply contracts subject to said law will be generated from NCRE. It a step forward to promote the use of geothermal energy (NCRE in a fix basis) for both electricity generation (high enthalpy) and district heating/cooling (low enthalpy). Additional measures are being are being implemented to reduce emissions to reduce or prevent forest degradation (e.g. replacing the use of firewood for heating, through a National Policy Framework implemented in 2015).
- I.4 Chile is in the Pacific Ring of Fire, a belt of volcanoes and earthquake epicenters, with a high potential for geothermal energy development. It is one of the countries with the highest potential for geothermal energy development in Latin America. District heating/cooling with geothermal resources can contribute to the GoCH efforts to

promote NREC. It is prioritizing the identification of innovative business models with public and private sector initiative that contribute to its overarching policy objectives.

- I.5 The objective of TC is to contribute to decontamination and decarbonization efforts in Chile with a focus on potential geothermal energy applications for district heating and cooling. The project will assess opportunities for the development of low temperature (enthalpy) geothermal resources to both reduce CO2 emissions, curb air pollution and improve public health in Chilean cities. Particularly, this TC will finance: (i) activities related to data gathering, project analysis, technical support for risk mitigation, (ii) the development of pre-feasibility studies and innovative market business models for mainstreaming low enthalpy geothermal energy, and (iii) the design and exploration planning strategy for one district heating/cooling project.

II. Consultancy Objectives

The objective of this consultancy to ensure adequate availability of critical sector information, this component will finance activities related to data gathering aimed at identifying available knowledge, international best practices and technologies, and opportunity areas for geothermal projects in Chile

III. Main Activities

Under the supervision of the Team Leader, the Consultancy's activities include, but are not limited to, the following: (i) generate a geothermal energy resources potential analysis and consumption map, (ii) prepare an assessment of available technologies for low temperature projects, (iii) deliver a report on the status of all existing and new low temperature geothermal projects.

IV. Reports & Outputs

- IV.1 **First Deliverable: Inception Report:** a report containing the work plan for the consultancy
- IV.2 **Second Deliverable: Energy Resources and Consumption Map.** This deliverable will summary all information gathering and analysis and generate of a thematic cartography with multiple layers that highlight (i) potential areas for the exploitation of very low and low enthalpy geothermal resources in Chile at the district level, (ii) georeferenced energy demand for heating/cooling, disaggregated by sector (commercial, public and industry) in all regions of the country, (iii) socioenvironmental layers, considering existing restricted areas, community-managed lands, etc.
- IV.3 **Third Deliverable: Available Technology Assessment:** a report with technical costed review and benchmark of available solutions for low enthalpy geothermal introduction, including a detailed analysis of international best practices, and advantages and limitations for introduction of geothermal applications in specific prospective areas in Chile.
- IV.4 **Fourth Low: Enthalpy pre-projects:** a report on the status of all existing a new low temperature geothermal projects (under prospect, study, development, or construction), including specific review of the following aspects: (i) energy balance, (i) risk mitigation guidelines for environmental impacts, (ii) best suitable technology (iii) global cost assessment, and (iv) planning.\

- IV.5 Every report must be submitted to the Bank in one electronic file. Report should include cover, main document, and all annexes. (Zip files won't be accepted as final reports, due to regulations from the Records Management Section)

V. Supervision, Coordination and Product Acceptancy

- V.1 The focal points for the supervision and coordination of this Consultancy will be Martin Walter (martinw@iadb.org), Team Leader and he will be supported by Gaston Siroit (gsiroit@iadb.org).
- V.2 Product delivery shall be done from the email of the Consultant to the IDB focal points. Late deliveries will be communicated to the IDB.
- V.3 Deliverables will be only accepted and approved by the Team leader by e-mail. The payment will be executed only after the IDB gave the formal and written approval by email.

VI. Characteristics of the consultancy

Consultancy characteristics are detailed below:

<i>Consultancy Category</i>	Independent Consultant
<i>Modality</i>	Lump Sum
<i>Contract Duration</i>	3 months
<i>Place of work</i>	External consultancy (consultant's place of work)
<i>Product's Language</i>	Spanish
<i>Electronic Formats</i>	Word, Excel, PowerPoint, JPG, PNG, PDF or other suitable format approved by the IDB

VII. Schedule of payment

Payments will be made as detailed below:

%	Deliverables
10%	Delivery and approval by the Bank of the First Deliverable
30%	Delivery and approval by the Bank of the Second Deliverable
20%	Delivery and approval by the Bank of the Third Deliverable
40%	Delivery and approval by the Bank of the Fourth Deliverable

VIII. Qualifications

The work is expected to be carried out by an Independent Consultant with at least 5 years of specific experience in geosciences research, renewables resources mapping or heating/cooling sustainable architecture. The consultant shall demonstrate acknowledge on economical and financial subjects, technical and legal aspects, and environmental activities.

IX. CONSANGUINITY

Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuels, will not be eligible to provide services for the Bank.

X. DIVERSITY

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TERMS OF REFERENCE [2]

DISSEMINATION AND SOCIABILIZATION

I. Background

- I.1 The Government of Chile (GoCh) actively promotes the development of Non-Conventional Renewable Energy (NCRE) to reduce energy costs and to ensure a more diversified, cleaner and safer energy matrix. The GoCh has prioritized the implementation renewable energy-based District Heating (DH) systems in its national Energy Roadmap 2018-2022 to support the diversification of the national energy matrix and improve energy efficiency. In line with this strategic roadmap, the Ministry of Energy (MINENERGIA) has undertaken several initiatives aimed at exploring opportunities and business models for the deployment of DH solutions with renewable energy, including geothermal resource.
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- I.3 Chile's Intended Nationally Determined Contribution (INDC) to mitigation is a quantified reduction of the intensity indicator of greenhouse gas (GHG) emissions by 2030. Chile hopes to reduce its GHG emissions while decreasing poverty and inequality as well as continue advancing toward sustainable, competitive, inclusive and low-carbon development. To this end, it has introduced incentives to NCRE. Pursuant to Law 20.698, for example, 20% of the energy by 2025 under supply contracts subject to said law will be generated from NCRE. It a step forward to promote the use of geothermal energy (NCRE in a fix basis) for both electricity generation (high enthalpy) and district heating/cooling (low enthalpy). Additional measures are being are being implemented to reduce emissions to reduce or prevent forest degradation (e.g. replacing the use of firewood for heating, through a National Policy Framework implemented in 2015).
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- I.5 The objective of TC is to contribute to decontamination and decarbonization efforts in Chile with a focus on potential geothermal energy applications for district heating and cooling. The project will assess opportunities for the development of low temperature (enthalpy) geothermal resources to both reduce CO₂ emissions, curb air pollution and improve public health in Chilean cities. Particularly, this TC will finance: (i) activities

related to data gathering, project analysis, technical support for risk mitigation, (ii) the development of pre-feasibility studies and innovative market business models for mainstreaming low enthalpy geothermal energy, and (iii) the design and exploration planning strategy for one district heating/cooling project.

II. Consultancy Objectives

- 3.1. The objective of this consultancy is to increase the comprehension of the stakeholders such energy regulators, governments, neighboring communities or industries about low enthalpy geothermal energy potential and benefits.

III. Main Activities

- 3.2. Under the supervision of the Team Leader, the Consultant will organize the dissemination workshops for low enthalpy technology and its social benefits. Consultant will moderate those workshops and explain the different uses, success cases and potential in Chile.

IV. Reports & Outputs

- IV.1 **First Deliverable: Inception Report:** a report containing the strategy and the methodology to run the workshops.
- IV.2 **Second Deliverable: Workshop 1:** Workshop agenda and customized material and/or information handled to the targeted audience. The Consultant will also include the attendance list, and a report that captured the main questions and doubt from the participants.
- IV.3 **Third Deliverable: Workshop 2:** Workshop agenda and customized material and/or information handled to the targeted audience. The Consultant will also include the attendance list, and a report that captured the main questions and doubt from the participants.
- IV.4 **Fourth Deliverable: Workshop 3:** Workshop agenda and customized material and/or information handled to the targeted audience. The Consultant will also include the attendance list, and a report that captured the main questions and doubt from the participants.
- IV.5 Every report must be submitted to the Bank in one electronic file. Report should include cover, main document, and all annexes. (Zip files won't be accepted as final reports, due to regulations from the Records Management Section).

V. Supervision, Coordination and Product Acceptancy

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VI. Characteristics of the consultancy

Consultancy characteristics are detailed below:

<i>Consultancy Category</i>	Consultant Firm
<i>Modality</i>	Lump Sum
<i>Contract Duration</i>	18 months
<i>Place of work</i>	External consultancy (consultant's place of work)
<i>Product's Language</i>	Spanish
<i>Electronic Formats</i>	Word, Excel, PowerPoint, JPG, PNG, PDF or other suitable format approved by the IDB

VII. Schedule of payment

Payments will be made as detailed below:

%	Deliverables
10%	Delivery and approval by the Bank of the First Deliverable
30%	Delivery and approval by the Bank of the Second Deliverable
30%	Delivery and approval by the Bank of the Third Deliverable
30%	Delivery and approval by the Bank of the Fourth Deliverable

VIII. Qualifications

VIII.1 The work is expected to be carried out by a Consultant Firm with (i) at least 5 years of specific experience in organizing events related with social conflicts or energy topics.

VIII.2 The Consultant firm shall demonstrate acknowledge on renewables energies projects, public projects and / or environmental issues. A core team of five (3) members is suggested: Project Manager, Senior Moderator, Manager and Social Specialist

IX. CONSANGUINITY

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X. DIVERSITY

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TERMS OF REFERENCE [3]

BUSINESS MODELS

I. Background

- I.1 The Government of Chile (GoCh) actively promotes the development of Non-Conventional Renewable Energy (NCRE) to reduce energy costs and to ensure a more diversified, cleaner and safer energy matrix. The GoCh has prioritized the implementation renewable energy-based District Heating (DH) systems in its national Energy Roadmap 2018-2022 to support the diversification of the national energy matrix and improve energy efficiency. In line with this strategic roadmap, the Ministry of Energy (MINENERGIA) has undertaken several initiatives aimed at exploring opportunities and business models for the deployment of DH solutions with renewable energy, including geothermal resource.
- I.2 The deployment of DH with non-conventional renewable energy (NCRE) can bring significant energy and environmental benefits to Chile. The use of firewood and fossil fuels for heating accounts for an important share of the national energy matrix. This final use of energy, in addition to entrenching dependence from imported fossil fuels and contributing to high CO₂ emissions from the residential sector, is the main source of fine particulate matter, coarse and black coal pollution, which are the main culprits for low air quality in cities such as Santiago, Rancagua, Talca, Curicó, Chillán, Los Angeles, Temuco, Valdivia and Osorno, among others. The use of firewood for heating is also behind deforestation of native forests in the Central-South zone.
- I.3 Chile's Intended Nationally Determined Contribution (INDC) to mitigation is a quantified reduction of the intensity indicator of greenhouse gas (GHG) emissions by 2030. Chile hopes to reduce its GHG emissions while decreasing poverty and inequality as well as continue advancing toward sustainable, competitive, inclusive and low-carbon development. To this end, it has introduced incentives to NCRE. Pursuant to Law 20.698, for example, 20% of the energy by 2025 under supply contracts subject to said law will be generated from NCRE. It a step forward to promote the use of geothermal energy (NCRE in a fix basis) for both electricity generation (high enthalpy) and district heating/cooling (low enthalpy). Additional measures are being are being implemented to reduce emissions to reduce or prevent forest degradation (e.g. replacing the use of firewood for heating, through a National Policy Framework implemented in 2015).
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- I.5 The objective of TC is to contribute to decontamination and decarbonization efforts in Chile with a focus on potential geothermal energy applications for district heating and cooling. The project will assess opportunities for the development of low temperature (enthalpy) geothermal resources to both reduce CO₂ emissions, curb air pollution and improve public health in Chilean cities. Particularly, this TC will finance: (i) activities related to data gathering, project analysis, technical support for risk mitigation, (ii) the

development of pre-feasibility studies and innovative market business models for mainstreaming low enthalpy geothermal energy, and (iii) the design and exploration planning strategy for one district heating/cooling project.

II. Consultancy Objectives

The objective of this consultancy to perform an assessment of existing business models to promote public-private investments and to design local tailor-made business models to ensure the financing for geothermal applications at the district level.

III. Main Activities

Under the supervision of the Team Leader, the Consultancy's activities include, but are not limited to: (i) gathering the list of the different existing business models for low temperature geothermal heating/cooling projects, (ii) designing a customized evaluation methodology for low temperature geothermal projects in Chile, (iii) preparing a customized business model that estimate the cost of geothermal heating/cooling services, (iv) identifying measures that could promote the development of low temperature geothermal projects, and (v) identifying and monetizing the benefits of low temperature geothermal heating/cooling projects

IV. Reports & Outputs

IV.1 First Deliverable: Inception Report: a report containing the work plan for the consultancy

IV.2 Second Deliverable: Business Model and Methodology Assessment

(i) a report gathering existing business models for low temperature geothermal project and with a SWOT analyze for each model.

(ii) a customized financial and economic evaluation methodology for low temperature geothermal projects in Chile, identifying the main technical components and the associated CAPEX, OPEX and revenues according to specific districts in Chile its local and national regulation.

(ii) a business model defining the leveled cost of geothermal heating/cooling services base on different plants size; operational parameters, associated infrastructure cost, and implementation times of low temperature geothermal projects and including a customized sensibility model that shows the variation of each key parameters.

IV.3 Third Deliverable: Improvements and Benefits

(i) a proposal with possible measures that could promote the development of low temperature geothermal projects through public policies and quantify its potential impact on geothermal competitiveness.

(ii) a proposal identifying, justifying and monetizing the benefits of low temperature geothermal heating/cooling projects based on the identification of the economic / social / environmental value that is generated, directly or indirectly attributable to the activities supported.

IV.4 Every report must be submitted to the Bank in one electronic file. Report should include cover, main document, and all annexes. (Zip files won't be accepted as final reports, due to regulations from the Records Management Section

V. Supervision, Coordination and Product Acceptancy

- V.1 The focal points for the supervision and coordination of this Consultancy will be Martin Walter (martinw@iadb.org), Team Leader and he will be supported by Gaston Siroit (gsiroit@iadb.org).
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VI. Characteristics of the consultancy

Consultancy characteristics are detailed below:

<i>Consultancy Category</i>	Independent Consultant
<i>Modality</i>	Lump Sum
<i>Contract Duration</i>	3 months
<i>Place of work</i>	External consultancy (consultant's place of work)
<i>Product's Language</i>	Spanish
<i>Electronic Formats</i>	Word, Excel, PowerPoint, JPG, PNG, PDF or other suitable format approved by the IDB

VII. Schedule of payment

Payments will be made as detailed below:

%	Deliverables
10%	Delivery and approval by the Bank of the First Deliverable
60%	Delivery and approval by the Bank of the Second Deliverable
30%	Delivery and approval by the Bank of the Third Deliverable

VIII. Qualifications

The work is expected to be carried out by an Independent Consultant with at least 5 years of specific experience in finance and economics modelling for energy projects. The consultant shall demonstrate acknowledge on geothermal geosciences, technical and engineering projects, and environmental and legal framework in Chile,

IX. CONSANGUINITY

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TERMS OF REFERENCE [4]

PRE-FEASIBILITY STUDIES

I. Background

- I.1 The Government of Chile (GoCh) actively promotes the development of Non-Conventional Renewable Energy (NCRE) to reduce energy costs and to ensure a more diversified, cleaner and safer energy matrix. The GoCh has prioritized the implementation renewable energy-based District Heating (DH) systems in its national Energy Roadmap 2018-2022 to support the diversification of the national energy matrix and improve energy efficiency. In line with this strategic roadmap, the Ministry of Energy (MINENERGIA) has undertaken several initiatives aimed at exploring opportunities and business models for the deployment of DH solutions with renewable energy, including geothermal resource.
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- I.3 Chile's Intended Nationally Determined Contribution (INDC) to mitigation is a quantified reduction of the intensity indicator of greenhouse gas (GHG) emissions by 2030. Chile hopes to reduce its GHG emissions while decreasing poverty and inequality as well as continue advancing toward sustainable, competitive, inclusive and low-carbon development. To this end, it has introduced incentives to NCRE. Pursuant to Law 20.698, for example, 20% of the energy by 2025 under supply contracts subject to said law will be generated from NCRE. It a step forward to promote the use of geothermal energy (NCRE in a fix basis) for both electricity generation (high enthalpy) and district heating/cooling (low enthalpy). Additional measures are being are being implemented to reduce emissions to reduce or prevent forest degradation (e.g. replacing the use of firewood for heating, through a National Policy Framework implemented in 2015).
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- I.5 The objective of TC is to contribute to decontamination and decarbonization efforts in Chile with a focus on potential geothermal energy applications for district heating and cooling. The project will assess opportunities for the development of low temperature (enthalpy) geothermal resources to both reduce CO₂ emissions, curb air pollution and improve public health in Chilean cities. Particularly, this TC will finance: (i) activities related to data gathering, project analysis, technical support for risk mitigation, (ii) the

development of pre-feasibility studies and innovative market business models for mainstreaming low enthalpy geothermal energy, and (iii) the design and exploration planning strategy for one district heating/cooling project.

II. Consultancy Objectives

The objective of this consultancy is to perform 2 (two) pre-feasibility studies for the installation of a district heating/cooling using geothermal resources in a Chilean town.

III. Main Activities

Under the supervision of the Team Leader, the Consultancy's activities include, but are not limited to the development of a pre-feasibility study for a public infrastructure building and for an industrial application of low temperature geothermal energy aimed at reducing socioenvironmental impact and optimizing economic sustainability conditions.

IV. Reports & Outputs

- IV.1 **First Deliverable: Social Infrastructure:** a pre-feasibility study for a selected project focusing on a public infrastructure building (i.e. Hospital, school, library, city hall) or municipal use (to address snow and freezing issues in colder climates, or cooling requirements)
- IV.2 **Second Deliverable: Industrial Application:** a pre-feasibility study for an industrial application (e.g. tourism, agriculture, manufacture, etc.)
- IV.3 Every report must be submitted to the Bank in one electronic file. Report should include cover, main document, and all annexes. (Zip files won't be accepted as final reports, due to regulations from the Records Management Section.
- IV.4 Both pre-feasibility studies will take into the consideration the specific location and specificity of the project and detailed at least and not limited to: (i) the technology chosen, (ii) selected business model, (iii) resource study and balance

V. Supervision, Coordination and Product Acceptancy

- V.1 The focal points for the supervision and coordination of this Consultancy will be Martin Walter (martinw@iadb.org), Team Leader and he will be supported by Gaston Siroit (gsiroit@iadb.org).
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VI. Characteristics of the consultancy

Consultancy characteristics are detailed below:

<i>Consultancy Category</i>	Consultant Firm
<i>Modality</i>	Lump Sum
<i>Contract Duration</i>	6 months
<i>Place of work</i>	External consultancy (consultant's place of work)
<i>Product's Language</i>	Spanish
<i>Electronic Formats</i>	Word, Excel, PowerPoint, JPG, PNG, PDF or other suitable format approved by the IDB

VII. Schedule of payment

Payments will be made as detailed below:

%	Deliverables
50%	Delivery and approval by the Bank of the First Deliverable
50%	Delivery and approval by the Bank of the Second Deliverable

VIII. Qualifications

VIII.1 The work is expected to be carried out by a Consultant Firm with (i) at least 5 years of specific experience in finance and economics modelling for energy projects and (ii) 3 accountable and related projects during the last 5 years.

VIII.2 The Consultant firm shall demonstrate acknowledge on geothermal geosciences, technical and engineering projects, and environmental and legal project development. A core team of five (4) members is suggested: Project Manager, Environmental Engineer, Legal Specialist, Geothermal Engineer.

IX. CONSANGUINITY

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TERMS OF REFERENCE [5]

DESIGN AND EXPLORATION STRATEGY FOR DISTRICT HEATING/COOLING PROJECTS

I. Background

- I.1 The Government of Chile (GoCh) actively promotes the development of Non-Conventional Renewable Energy (NCRE) to reduce energy costs and to ensure a more diversified, cleaner and safer energy matrix. The GoCh has prioritized the implementation renewable energy-based District Heating (DH) systems in its national Energy Roadmap 2018-2022 to support the diversification of the national energy matrix and improve energy efficiency. In line with this strategic roadmap, the Ministry of Energy (MINENERGIA) has undertaken several initiatives aimed at exploring opportunities and business models for the deployment of DH solutions with renewable energy, including geothermal resource.
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improve public health in Chilean cities. Particularly, this TC will finance: (i) activities related to data gathering, project analysis, technical support for risk mitigation, (ii) the development of pre-feasibility studies and innovative market business models for mainstreaming low enthalpy geothermal energy, and (iii) the design and exploration planning strategy for one district heating/cooling project.

II. Consultancy Objectives

The objective of this consultancy is to design of an exploration strategy to support the implementation of the most promising district heating/cooling projects identified using low temperature geothermal source.

III. Main Activities

Under the supervision of the Team Leader, the Consultant will validate the legal and environmental framework and economical & financial model to for the development low temperature geothermal projects. Consultancy's activities include but are not limited to the preparation of (i) a Heat Purchase Agreement (HPA), (ii) an Environmental and Social preliminary studies and (iii) all technical documents and specifications needed to prepare a Call for Tender (CFT) to develop the project.

IV. Reports & Outputs

IV.1 First Deliverable: Inception Report: a report containing the work plan for the consultancy

IV.2 Second Deliverable: Heat Purchase Agreement (HPA): a solid, robust and innovative Heat Purchase Agreement (PHA), adaptable to different private or public sponsorship, socioenvironmental conditions, technological opportunities, and stakeholder arrangements. The HPA shall include a robust legal framework revision that will at least consider but will not be limited to local and national water and geothermal regulations.

IV.3 Third Deliverable: Environmental and Social Preliminary Studies. A set of environmental and social preliminary studies for the prioritized project according to the local and national legal framework, and all required documents in order to ensure the corresponding environment authorities' approval. The set of documents delivered shall cover complementary exploration works, drilling (if required), development works, construction and operation of the project.

Fourth Deliverable: Technical Documents for tendering. A set of documents (i.e. planning, basic engineering, cost estimation) enabling to tender, select and award an Engineering Procurement and Construction (EPC) Contractor that will deliver a turnkey contract geothermal plant for a public development heating/cooling project or all tendering documents for a private concession development.

IV.4 Every report must be submitted to the Bank in one electronic file. Report should include cover, main document, and all annexes. (Zip files won't be accepted as final reports, due to regulations from the Records Management Section.

V. Supervision, Coordination and Product Acceptancy

V.1 The focal points for the supervision and coordination of this Consultancy will be Martin Walter (martinw@iadb.org), Team Leader and he will be supported by Gaston Siroit (gsiroit@iadb.org).

- V.2 Product delivery shall be done from the email of the Consultant to the IDB focal points. Late deliveries will be communicated to the IDB.
- V.3 Deliverables will be only accepted and approved by the Team leader by e-mail. The payment will be executed only after the IDB gave the formal and written approval by email.

VI. Characteristics of the consultancy

Consultancy characteristics are detailed below:

<i>Consultancy Category</i>	Consultant Firm
<i>Modality</i>	Lump Sum
<i>Contract Duration</i>	6 months
<i>Place of work</i>	External consultancy (consultant's place of work)
<i>Product's Language</i>	Spanish
<i>Electronic Formats</i>	Word, Excel, PowerPoint, JPG, PNG, PDF or other suitable format approved by the IDB

VII. Schedule of payment

Payments will be made as detailed below:

%	Deliverables
10%	Delivery and approval by the Bank of the First Deliverable
30%	Delivery and approval by the Bank of the Second Deliverable
30%	Delivery and approval by the Bank of the Third Deliverable
30%	Delivery and approval by the Bank of the Fourth Deliverable

VIII. Qualifications

- VIII.1 The work is expected to be carried out by a Consultant Firm with (i) at least 5 years of specific experience in finance and economics modelling for energy projects and (ii) 3 accountable and related projects during the last 5 years.
- VIII.2 The Consultant firm shall demonstrate acknowledge on geothermal geosciences, technical and engineering projects, and environmental and legal project development. A core team of five (5) members is suggested: Project Manager, Environmental Engineer, Contract Engineer, Legal Specialist, Geothermal Engineer.

IX. CONSANGUINITY

Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractuals, will not be eligible to provide services for the Bank.

X. DIVERSITY

The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity on the basis of gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDS status. We encourage women, Afro-descendants and persons of indigenous origins to apply.