

**TC Document  
CH-T1132**

**I. Basic Information for TC**

- Country/Region: Chile
- TC Name: CTF Prep Grant - Renewable Energy Self-Supply and Energy Efficiency Program (RESSEE)
- TC Number: CH-T1132
- Team Leader/Members: Claudio Alatorre (INE/CCS)-Team Leader; Patrick Doyle (SCF/SMU)-Alternate Team Leader; Christoph Tagwerker (INE/CCS); Diego Flaiban (SCF/FMK); Marcelo Paz (FMK/CPE); Wesly Ureña (INE/CCS), Antonio Levy (ENE/CCH); Fazia Pusterla (SPD/SDV)-Team members
- Date of TC Abstract authorization: N/A
- Donors providing funding: CTF
- Beneficiaries: Private sector companies
- Executing Agency and contact name: IDB through INE/CCS and SCF/SMU
- IDB Funding Requested: USD740,000
- Local counterpart funding, if any: N/A
- Disbursement period (which includes execution period): December 2012 to February 2015
- Required start date: December 2012
- Types of consultants (firm or individual consultants): Consulting firm and individual consultant
- Prepared by Unit: INE/CCS and SCF/SMU
- Unit of Disbursement Responsibility: CSC/CCH
- Included in Country Strategy (y/n): y
- GCI-9 Sector Priority: Climate Change

**II. Objectives and Justification of the TC**

A recent study by the Energy Studies and Research Program of the University of Chile assessed the potential for energy efficiency (EE) in the largest consumption sectors in the economy, and concluded that without EE, energy demand in these sectors could double in the period from 2007 to 2021. However, if EE measures are added, this demand could be reduced by 20% at the end of this same period.

For Chile's electricity requirements alone, projections indicate that without EE, the economy will need an additional 14,500 MW of installed capacity by 2020. Reducing incremental consumption by 20% in the 2008-2020 period will decrease the additional installed capacity needed by 1,600 MW (or slightly more than 11% of the total). Despite these compelling factors and the apparent profitability of EE measures, investment in this sector has not yet taken off. Considering the relevance of EE, the Government of Chile (GoC) included EE as a central tenet of its recently launched National Energy Strategy<sup>1</sup> with the goal to reduce 12% of the projected energy demand by 2020. The strategy includes the following six pillars: 1. Public policy for a growth with Energy Efficiency; 2. Stronger push for non conventional renewable energies; 3. Traditional energies: Stronger focus on hydro, less external dependency; 4. A new focus on transmission; towards a public electric highway; 5. A more competitive electric market; 6. Advance in a regional electrical interconnection

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<sup>1</sup> <http://www.minenergia.cl/estrategia-nacional-de-energia-2012.html>

Chilean government support of mechanisms for energy investment has not had a significant impact on the development of small-scale energy self-supply projects in the industrial, public and commercial sectors. This is primarily due to the fact that these projects have smaller financing needs and are often not connected to the grid, so have not been able to benefit from existing support policies. As for EE, empirical evidence has shown that implementation lags far behind its full potential due to the existence of certain barriers, including lack of available information, as well as economic, technical, institutional and cultural barriers.

On May 3rd, 2012 the CTF Trust Fund Committee endorsed Chile's Investment Plan including three components 1: a concentrated solar power project (CSPP), 2: a large-scale grid-connected solar PV program (LSPVP) and 3: a renewable energy self-supply and energy efficiency program (RESSEE). The Government of Chile requested to use USD 1M of CTF financing for the RESSEE preparation grant.

The Joint IDB/IFC Private Sector Proposal "Chile Renewable Energy Self-Supply and Energy Efficiency Program (RESSEE) preparation grant proposal" approved by the CTF Trust-Fund Committee on October 26<sup>th</sup> 2012 states in chapter "Implementation and Financing Plan" that the preparation grant will be managed by the MDBs, dividing the different tasks between the two participating organizations (IFC and IDB).

Both the Preparation Grant and the subsequent RESSEE Program will be executed by the IDB and IFC in close coordination with the relevant agencies of the Government of Chile. The USD1,000,000 RESSEE preparation grant consists of: IFC executed USD213,000; IDB executed USD740,000 (this TC); MDB fees of USD36,500 for IDB and IFC USD10,500 for IFC.

This TC seeks to develop the Chile Renewable Energy Self-Supply and Energy Efficiency Program (RESSEE), which is component 3 of the CTF Chile Investment Plan. It will lay the foundation to address the barriers and thus to expand access to finance for Renewable Energy Self-Supply and Energy Efficiency (RESSEE) through implementation of pilot projects. By implementing such projects, companies will improve their energy management and reduce their energy use, a key issue for increasing their productivity and competitiveness, especially considering the high cost of energy in Chile.

This TC will also assist different sectors to identify and analyze the potential impacts that RESSEE projects have on their operational costs and other ancillary benefits that are not always considered in traditional economic evaluations of projects. This information is expected to increase interest from companies in EE and serve as a catalyst for the adoption of these technologies across multiple sectors in the Chilean economy.

This will contribute to the IDB's goal of 25% lending for climate change investment established under the Ninth General Capital Increase and directly support GCI-9 strategic activities including: mainstreaming climate change mitigation and increasing resilience of Bank-funded activities; identifying and developing lending and technical assistance for climate action in key sectors; scaling up investments; addressing financial gaps; and leveraging private sector investments.

### **III. Description of activities/components and budget**

#### **Component 1: Identification of the Target Market**

In order to optimize the use of the CTF resources, defining a target market is needed to make sure that adequate information regarding the market potential and opportunities can be identified and that the main barriers to unlock financing of EE and RE projects are adequately addressed.

A well-defined target market takes into account variables such as product (e.g., energy solution), place (distribution), promotion (market strategy to sell the product), price and market segments that can be grouped and targeted with a comprehensive approach, as well as level of familiarity by interested financial institutions. For this reason, it is important to identify the most appropriate subsectors, building on the experience of the MDBs with similar programs.

#### Activities:

- 1.1 Select a group of economic subsectors considered appropriate for the RESSEE component
- 1.2 Analyze and classify different selected subsectors by market size in terms of energy consumption and capital requirement, project readiness, financial feasibility, project size, interest and experience of local financial institutions in the sector as part of their existing portfolio, and potential for GHG emission reductions.
- 1.3. Identify financing potential and propose possible scenarios for RESSEE portfolio. Identify the market potential by subsectors, type of project (EE or RE), average size, GHG abatement, geography, and type of energy (thermal or electric).
- 1.4. Identify potential client companies in the different subsectors considered suitable candidates for RESSEE and potential candidates for the pilot projects
- 1.5. Identify barriers and potential solutions for every subsector separately. Additionally, identify any public and private sector initiatives that aim to eliminate the identified barriers
- 1.6. Regional consultation workshops intended to validate the proposed approach in the subsectors

#### Component 2: Development of Pilot Projects

To demonstrate the technical and financial feasibility of RESSEE projects, pilot projects are needed. In order to provide detailed information on the actual costs, and on the economic, financial and environmental benefits of RESSEE related projects in Chile, 6-10 projects will be developed from pre-feasibility through engineering design, and technical support will be provided to company clients/developers during implementation (financing for the projects themselves is not included).

In addition, as part of this process best practices will be identified to help all players in the market (energy end-users, off-takers, project developers, local financial institutions, and ESCOs). This will include tools such as templates and worksheets to facilitate the learning process.

#### Activities

- 2.1. Prepare and develop pilot projects including feasibility studies for the replacement, modernization and optimization of energy intensive production systems in private companies, including but not limited to heating, ventilation and air conditioning (HVAC), refrigeration systems, boilers and steam distribution, and industrial air compression, among others.
- 2.2. Develop pilot project monitoring system that helps to monitor and assess the pilot projects

#### Component 3: Design a System to Evaluate the Impact of the RESSEE

There are uncertainties with regards to the actual impact of EE interventions such as those planned under the RESSEE Program. It is difficult to know the difference between energy consumption or GHG emissions that will happen with the program, and those that would have happened otherwise. The best way to find this out is to carry out an impact evaluation by means of a randomized

experiment or other evaluation methodology, such as a quasi-experimental study. This activity will design such evaluation of the CTF and the Government interventions.

#### Activities

3.1. In coordination with SPD/SDV Design and develop the impact evaluation system to assess the government and CTF intervention.

#### Indicative Results Matrix

Products			
Metric	Unit	Baseline	Planned
Target Market Study	#	0	1
Feasibility studies	#	0	8
Knowledge Products	#	0	3
Impact Evaluation System	#	0	1
Results			
Metric	Unit	Baseline	Planned
Industrial subsectors and financing potential clearly identified	%	25	100
Barriers for implementation identified and solutions proposed	%	25	75
Client companies for pilots identified	%	0	100
Pilot projects ready for implementation	%	0	100
Evaluation System ready for implementation	%	0	100

The total cost of the TC is **USD 740,000** to be financed with resources of the Clean Technology Fund.

#### Indicative Budget

Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
Component 1: Identification of the target market (feasibility study)	Contract consulting services	90,000	-	90,000
Component 2: Development of pilot projects	Contract consulting services	530,000	-	530,000
Component 3: Design a system to evaluate the impact of RESSEE	Contract consulting services	35,000	-	35,000
Project management and coordination	Contract a project manager in Chile to implement RESSEE	70,000	-	70,000
Contingencies		15,000		15,000
<b>Total</b>		<b>740,000</b>		<b>740,000</b>

#### IV. Executing agency and execution structure

CSC/CCH will be the Unit of Disbursement Responsibility and also be responsible for procurement and execution. Technical responsibility will be with (SCF/PMU), and (INE/CCS) will provide technical advisory

Throughout the development of the activities, different stakeholders will be involved, including project developers; energy service companies (ESCOs), technology vendors, equipment suppliers, financial institutions, consultants, and governmental organizations.

Eligible companies can come from a variety of sectors, but preference will be given to those companies that are found in the sectors identified in Component 1. The TC would support the costs associated with RESSEE project feasibility studies, with a maximum amount of USD 100,000 per company. No company personnel or any type of overhead related expenses of the participating companies will be financed. A cooperation agreement signed between IDB and the participating company will define services offered to the participating companies and responsibilities of the beneficiaries and IDB.

In the area of EE and RE the following four projects are currently being prepared or executed in Chile by IDB in cooperation with AChEE (Agencia Chilena de Eficiencia Energetica) and CER (Centro de Energia Renovable) and IFC and complement the activities of RESSEE and this Preparation Grant.

1. CH-X1002: Promoting and Strengthening an Energy Efficiency Market in the Industry Sector
2. CH-X1009: Encouraging the Establishment and Consolidation of an Energy Service Market in Chile
3. CH-X1007: Promotion and Development of Local Solar Technologies in Chile
4. ChSEF: IFC's Sustainable Energy Finance Program (IFC Number P#581587)

In order to coordinate and integrate these similar efforts and initiatives related to EE and NCRE in Chile with the proposed RESSEE program, a Coordination Committee will be established and will include representatives of the MDBs, AChEE, CER and the Ministry of Energy.

The role of this committee is to oversee the results, budget, schedule and any necessary changes to the activities of the preparation grant. The committee will discuss the criteria to be utilized for the pilot projects and the specific pilot projects to be selected as part of Component 2. The comité won't have decision competencies with regards to this TC. Issues will be discussed but final TC related decisions will not be taken in the comité but by IDB in close coordination with a local RESSEE project manager to be hired with this TC. The project manager will chair the comité, call bimonthly meetings, prepare minutes, support and follow up on activities and report results to the comité.

#### Implementation schedule

Component	Timeline
Component 1: Identification of the target market (feasibility study)	April 2013 - June 2013
Component 2: Development of pilot projects	July 2013 - January 2014
Component 3: Design a system to evaluate the impact of the RESSEE	July 2013 –October 2013
Project management and coordination	January 2013 - January 2014

**V. Major issues**

The following risks and mitigation actions were identified:

Risk	Mitigation Action
Pilot studies result in unfeasible projects	Component 1 will define target markets with high implementation potential Preference will be given to projects that already have some initial pre-feasibility studies completed and available coordination committee will choose specific pilot projects
Lack of funds for pilot project implementation	The IFC executed part of this prep grant as well as the IDB GEF (CH-X1002, CH-X1009) projects include capacity building for local financial institutions and the identification of possible financing mechanisms
No funding availability from CTF for RESSEE program implementation	In addition to RESSEE funding, IDB will facilitate access to IDB's direct loans, the IDB's credit lines with local banks, the Canadian Climate Fund for the Private Sector in the Americas
No showcase/pilot effect and no downstream project deployment	Participating companies would have to allow sharing the project information

The program would support the costs associated with the feasibility studies project, with a maximum amount of USD 100,000 per company. The program will not finance any company personnel or any type of overhead related expenses of the participating company. All financial contributions would be explicitly documented in the cooperation agreement to be signed between the program and the participating company

Standard IDB liability, integrity, and information sharing clauses will be included in TC agreements with client beneficiaries.

**VI. Exceptions to Bank policy**

No exceptions to bank policy are requested.

**VII. Environmental and Social Strategy**

This TC is classified as Category C, under the requirements outlined in IDB's OP 703 Environment and Safeguards Compliance Policy. ([IDBDocs #37296753 - Safeguard Screening Form](#) and [IDBDocs #37296747- Safeguard Policy Filter Report](#)). The TC will facilitate additional climate friendly investment in energy efficiency and self-supply renewable energy generation, thereby mitigating climate change by reducing greenhouse gas emissions.

**VIII. Required Annexes:**

- A. Government of Chile's Request Letter ([37321315](#)) and CTF Commitment Letter ([37321352](#))
- B. Terms of Reference
  - i. Project Manager to Support The Execution Of Activities Associated To The RESSEE And CTF Investment Plan. ([37295385](#))
  - ii. Identification of target market and Development Pilot Projects for RESS and EE. ([37295248](#))
  - iii. Design the impact evaluation model for the CTF RESSEE program. ([37295320](#))
- C. Procurement Plan ([37321356](#))



QQ 290-c-12 \* 29.11.12

Santiago, - 4 DIC. 2012

Señora  
María Camila Uribe  
Representante  
Banco Interamericano de Desarrollo (BID)  
Presente

**Ref.:** Cooperación Técnica No Reembolsable (CH-T1132). CTF Preparación de Garantía de Autoabastecimiento de Energías Renovables y Programa de Eficiencia Energética.

**Ant.:** Carta CSC/CCH/1250/2012, de 05.11.12, Representación del BID en Chile.

De mi consideración:

Mediante carta del Antecedente, ese Banco ha tenido a bien solicitar la no objeción del Gobierno de Chile a la Cooperación Técnica No Reembolsable de la Referencia, por un monto de hasta US\$740 mil dólares, para el financiamiento de proyectos de energías renovables, que será ejecutada directamente por el BID.

Al respecto, cúpleme informar a usted que se otorga la no objeción del Gobierno de Chile a la realización de la citada operación de Cooperación Técnica No Reembolsable.

Sin otro particular, le saluda atentamente,

  
**ROSANNA COSTA COSTA**  
Directora de Presupuestos

Distribución:

- Sra. Representante BID en Chile.
- Sector Energía y Competitividad, DIPRES.
- Sector Crédito Público, DIPRES.



RECEPCION BIDCHILE  
9:18 5DIC'12





**Banco Interamericano de Desarrollo**

REPRESENTACIÓN EN CHILE

Santiago, 5 de Noviembre de 2012  
CSC/CCH/1250/2012

Señora  
Rosanna Costa Costa  
Directora de Presupuestos  
Ministerio de Hacienda  
Presente

**Ref.:** Cooperación Técnica No Reembolsable  
CH-T1132. CTF Preparación de  
Garantía de Autoabastecimiento de  
Energías Renovables y Programa de  
Eficiencia Energética. Solicitud de No  
objeción.

De nuestra consideración:

Nos permitimos remitir adjunto copia del Perfil del Proyecto de la operación de la referencia, la cual se prevé sea financiada con recursos del Fondo de Tecnologías Limpias (CTF - Clean Technology Fund), el cual hace parte del Plan de Inversiones presentado por Chile al CTF, hasta por un monto de US\$740,000, con el fin de solicitar la no objeción del Gobierno de Chile para su financiamiento.

El objetivo general de esta operación es desarrollar en Chile un Programa de Autoabastecimiento de Energías Renovables y de Eficiencia Energética a ser ejecutada por el Plan de Inversiones de Chile del Fondo de Tecnologías Limpias (CTF). Cabe señalar que esta operación será ejecutada por el Banco y no habrán recursos de contrapartida local. A su vez, esta solicitud de no objeción está siendo formulada directamente por la Representación toda vez que la contraparte técnica será un Comité de Coordinación conformado por cuatro actores del sector energético (Bancos Multilaterales; Agencia Chilena de Eficiencia Energética, Centro de Energías Renovables y el Ministerio de Energía).

Quedamos a la espera de su respuesta.

Saludamos a usted muy atentamente,

*Maria Camila Uribe*  
María Camila Uribe  
Representante

Anexo: Lo indicado.

c.c.: Sr. José Pablo Gómez, Jefe División Finanzas Públicas  
Sra. Clotilde Beltrán, Crédito Público, DIPRES

DIRECCION DE PRESUPUESTOS	
S. INV. Y CREDITO PUBLICO	
REG. N° 290	Fecha: 6/11/2012
DESTINATARIO: CBG/	

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AV. PEDRO DE VALDIVIA 6155 PISO 10 SANTIAGO, CHILE - TEL (562) 431-3700 - FAX (562) 431-3713

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OF DE PARTES DIPRES  
06.11.2012 14:29



**The World Bank**

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street N.W.  
Washington, D.C. 20433  
U.S.A.

(202) 473-1000  
Cable Address: INTBAFRAD  
Cable Address: INDEVAS

November 15, 2012

Ms. Sonia Rivera  
Chief, Grants and Cofinancing Management Unit  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, DC 20577

Clean Technology Fund

Dear Ms. Rivera:

Enclosed please find a Letter of Commitment in the amount of USD 776,500 to cover IDB's project preparation and fees approved from October 1, 2012 to October 31, 2012.

Sincerely,



Natalia Antsilevich  
Financial Officer  
Multilateral Trusteeship and Innovative Financing  
Concessional Finance and Global Partnerships

Enclosure

**The World Bank**INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION1818 H Street N.W.  
Washington, D.C. 20433  
U.S.A.(202) 473-1000  
Cable Address: INTBAFRAD  
Cable Address: INDEVAS

November 15, 2012

Inter-American Development Bank  
1300 New York Ave, N.W.  
Washington, D.C. 20577**THE TRUST FUND FOR THE CLEAN TECHNOLOGY FUND**  
**Commitment of Funds to the Inter-American Development Bank**

Dear Sir or Madam:

Reference is made to the Financial Procedures Agreement dated June 8, 2010, between the International Bank for Reconstruction and Development, as Trustee of the Trust Fund for the Clean Technology Fund (the "CTF Trust Fund") (the "Trustee") and the Inter-American Development Bank ("IDB") (the "Agreement").

In accordance with Section 3 of the Agreement, the Trustee hereby commits the sum of **USD 776,500** to IDB, such amount reflecting the amounts approved by the CTF Trust Fund Committee and/or the MDB Committee from October 1, 2012 to October 31, 2012 for IDB activities to be carried out in connection with CTF Project Preparation and Fees listed in Annex attached hereto; provided, however, that pursuant to Sections 3.1(c) and (d) of the Agreement, the amount of the commitment hereunder may be subject to adjustment, in accordance with the terms of the Agreement, to reflect any subsequent decrease of CTF funding allocated for any CTF Project or Project Administration Fee for which the commitment was made by the Trustee.

Funds will be transferred by the Trustee to IDB to an account provided by IDB in a cash transfer request in accordance with the procedures set out in Section 4 of the Agreement.

International Bank for Reconstruction and Development, as  
Trustee of the Trust Fund for the Clean Technology Fund\_\_\_\_\_  
Priya Basu  
Acting DirectorMultilateral Trusteeship and Innovative Financing  
Concessional Finance and Global Partnerships

Attachments

The Trust Fund for Clean Technology Fund  
Trustee Commitments to IDB - October 2012

Commitments					
Trustee ID	Description	Use	Type	Approved Amount	Trustee Commitment Date
PCTFCL204A-IADB-PP-PJ-GR-1	Renewable Energy Self-Supply and Energy Efficiency Program - Chile	Project Preparation	Grant	\$ 740,000.00	10/26/2012
			Sub-Total: Projects	\$ 740,000.00	11/2/2012
PCTFCL204A-IADB-FE-NA-NA-1	Renewable Energy Self-Supply and Energy Efficiency Program - Chile	Fees	Fees	\$ 36,500.00	10/26/2012
			Sub-Total: Fees	\$ 36,500.00	11/2/2012
			Total Commitment	\$ 776,500.00	

## **CTF PREP GRANT - RENEWABLE ENERGY SELF-SUPPLY AND ENERGY EFFICIENCY PROGRAM (RESSEE)**

### **CH-T1132**

#### **PROJECT MANAGER TO SUPPORT THE EXECUTION OF ACTIVITIES ASSOCIATED TO THE RESSEE AND CTF INVESTMENT PLAN**

#### **TERMS OF REFERENCE**

NOVEMBER 21, 2012

### **I. BACKGROUND**

- 1.1 The Objective of Chile RESSEE program is to promote the development of the market for financing self-supply and energy efficiency projects in Chile, supporting and addressing market barriers for Financing Institutions on a programmatic basis. The RESSEE program is consistent with the [Investment Plan for Chile \(IPC\)](#) which was endorsed by the Committee of the Clean Technology Fund (CTF) on May 3, 2012, and the [RESSEE preparation grant program](#) approved on October 25, 2012. The RESSEE program is designed and implemented together with IFC and considers the use of the amounts allocated in the IPC for each multilateral bank. The IPC contemplates further actions in the field of renewable energy, namely the Concentrated Solar Power Project (CSPP), already approved by the CTF, and the Large-Scale Photo-Voltaic Program (LSPVP) currently under preparation.
- 1.2 [CTF endorsed](#) USD\$ 68 million to IPC, which USD\$67 million where assigned by Chile to the CSP project and USD1 million to RESSEE preparation grant. The project manager is funded by the resources from the preparation grant.
- 1.3 The main challenges that self-supply and energy efficiency projects faced in Chile are: (i) financial barriers resulting from a lack of knowledge and experience among financial institutions related to project-based financing for self-supply and EE projects; (ii) lack of information on potential technologies and use of alternative energy resources; and (iii) lack of experience among energy end-user clients and technical service providers on the potential technologies and energy business models.
- 1.4 The preparation grant of the RESSEE program will contribute to overcome some of the barriers mentioned in the previous paragraph by providing tools to the market such as potential sub-economic sectors, workshops to key stakeholders, and pilot projects. RESSEE preparation grant includes the following activities:
  - a. Market development, intended to define the target market and to develop concrete actions to reduce the entry barriers for energy efficiency (EE) and renewable energy (RE) self-supply production schemes;
  - b. Capacity development, aimed to increase awareness, knowledge and expertise of key stakeholders in the market;

- c. Project development, to develop a series of EE and RE self-supply production pilot projects ready for financing, by documenting the entire process so as to provide guidance for future projects;
- d. Identification of possible financial structures and mechanisms; and
- e. Program evaluation, to develop the design of a randomized experiment or other methodology to evaluate the impact of the intervention

## **II. OBJECTIVES**

- 2.1 The objective is to support the execution of activities associated to the RESSEE preparation grant and the other programs under the Chile CTF Investment Plan. Specifically, the coordination, implementation and supervision of the activities described in paragraph 1.4. An individual consultant will be hired to ensure an adequate coordination, during the preparation and implementation, with the participating stakeholders, including Chile's governmental institutions (the Ministry of Energy, Agencia Chilena de Eficiencia Energética (AChEE), and the Centro de Energía Renovable (CER).

## **III. CHARACTERISTICS OF THE CONSULTANT**

- 3.1 Consultancy Category & Modality: Trust Fund Appointee
- 3.2 Contract duration: 8 months.
- 3.3 Place of work: Ministry of Energy in Santiago, Chile.
- 3.4 The consultant will have the following qualifications:
  - a. Master's Degree in an area related to sustainable energy resources, climate change, or other relevant fields.
  - b. Experience of at least 5 years in the implementation of projects related to the areas of sustainable energy, climate change mitigation activities, and finance.
  - c. Proven experience to structure bankable documentation in the field of climate change, renewable energy, and energy efficiency.
  - d. Working experience with multilateral institutions.
  - e. Experience in project implementation and management.
  - f. Ability to coordinate different stakeholders and tasks in a timely manner.
  - g. Fluent in English and Spanish
  - h. Good communication and organization skills.
  - i. Ability to organize events and meetings as required by the RESSEE Coordination Committee.

**IV. ACTIVITIES**

- 4.1 The consultant will report directly to IDB and IFC and will perform the following tasks:
- a. Provide technical expertise and project coordination activities to the Energy Minister Office, reporting directly to the CTF Focal Point.
  - b. Support the IDB and IFC to ensure proper coordination and liaison with the various institutions and actors involved in the preparation and implementation activities of RESSEE preparation grant under the Chile CTF Investment.
  - c. Support the CTF Focal Point in the preparation of the CTF documentation required for Chile, to present in a professional manner the Large-Scale Photo-Voltaic (LSPVP) investment program internally within the Government of Chile and other relevant stakeholders.

**V. PRODUCTS**

- 5.1 Reports and documents as required by the IDB and IFC.

**VI. PAYMENT SCHEDULE**

- 6.1 The payment will follow a monthly schedule.

**VII. COORDINATION**

- 7.1 Mr. Claudio Alatorre, INE/CCS (team leader), will be responsible for the supervision of the consultant team. Tatiana Molina (MinEnergia-CH) will be the responsible contact in Chile.

**VIII. APPLICATIONS**

- 8.1 Interested parties should submit information which clearly indicates they have the qualifications to perform the above mentioned tasks. All applications should include an individual CV and cover letter.

## **CTF PREP GRANT - RENEWABLE ENERGY SELF-SUPPLY AND ENERGY EFFICIENCY PROGRAM (RESSEE)**

### **CH-T1132**

#### **IDENTIFICATION OF TARGET MARKET AND DEVELOPMENT OF PILOT PROJECTS FOR RESS AND EE**

#### **TERMS OF REFERENCE**

NOVEMBER 21, 2012

### **I. BACKGROUND**

The Objective of Chile RESSEE program is to promote the development of the market for financing self-supply and energy efficiency projects in Chile, supporting and addressing market barriers for Financing Institutions on a programmatic basis. The RESSEE program is consistent with the Investment Plan for Chile (IPC) which was endorsed by the Committee of the Clean Technology Fund (CTF) on May 3, 2012, and the RESSEE preparation grant program approved on October 25, 2012. The RESSEE program is designed and implemented together with IFC and considers the use of the amounts allocated in the IPC for each multilateral bank. The ICP contemplates further actions in the field of renewable energy, namely the Concentrated Solar Power Project (CSPP), already approved by the CTF, and the Large-Scale Photo-Voltaic Program (LSPVP) currently under preparation.

CTF endorsed USD\$ 68 million to IPC, which USD\$67 million where assigned by Chile to the CSP project and USD1 million to RESSEE preparation grant. The project manager is funded by these resources.

The main challenges that self-supply and energy efficiency projects faced in Chile are: (i) financial barriers resulting from a lack of knowledge and experience among financial institutions related to project-based financing for self-supply and EE projects; (ii) lack of information on potential technologies and use of alternative energy resources; and (iii) lack of experience among energy end-user clients and technical service providers on the potential technologies and energy business models.

The preparation grant of the RESSEE program will contribute to overcome some of the barriers mentioned in the previous paragraph by providing tools to the market such as potential sub-economic sectors, workshops to key stakeholders, and pilot projects. RESSEE preparation grant includes the following activities:

- a. Market development, intended to define the target market and to develop concrete actions to reduce the entry barriers for energy efficiency (EE) and renewable energy (RE) self-supply production schemes;
- b. Capacity development, aimed to increase awareness, knowledge and expertise of key stakeholders in the market;



- c. Project development, to develop a series of EE and RE self-supply production pilot projects ready for financing, by documenting the entire process so as to provide guidance for future projects;
- d. Identification of possible financial structures and mechanisms; and
- e. Program evaluation, to develop the design of a randomized experiment or other methodology to evaluate the impact of the intervention

## II. CONSULTANCY OBJECTIVE

The objective of this program is to identify and characterize a target market for the RESSEE program taking into account already existing information and studies.

Furthermore energy efficiency audits and small-scale renewable energy feasibility studies, engineering design services should be realized in order to develop pilot projects under the RESSEE prep grant

## III. ACTIVITIES

The consulting firms will be hired to carry out selected or all of the following specific activities:

### **Component 1: Identification of target market**

As a result of a cost-benefit analysis realized by the Government of Chile, which identifies projects that require less financial resources per energy saved —EE projects— or energy produced —self-supply—, the following group of subsectors was identified: Paper and cellulose, fishing, milk products, agro pulp drying, agro cold, meat products, chemical, non-metallic and basic metal, forest and paper, sugar, and hotel and hospitality sector.

Based on this information the consultant will develop a study which will serve as a basis for the following components. Renewable energy self-supply (RESS) and energy efficiency (EE) should be considered as two separate markets and all activities should be performed for both. Already existing information should only be verified in order to not duplicate efforts.

The consultant will at least realize the following activities:

- (i) Validate the inclusion of these target subsectors or identify alternative ones;
- (ii) Categorize the target market subsectors by market size in terms of energy consumption and capital requirement, project readiness, financial feasibility, project size, interest and experience of local financial institutions in the sector as part of their existing portfolio, and potential for GHG emission reductions. Such criteria will be useful to ensure an adequate allocation of financial resources from CTF;
- (iii) Identify the market potential by subsectors, type of project (RESS and EE), average size, GHG abatement, geography, and type of energy (thermal or electric);
- (iv) Propose general investment guidelines to be considered as part of this RESSEE component, such as: (i) minimum level of energy savings per USD invested, and (iii) minimum level of energy generated per USD invested;
- (v) Conduct a desk review of the entry barriers for every subsector separately and validate the barriers identified. Additionally, identify any public and private sector initiatives that

aim to eliminate the identified barriers. For those barriers identified, propose a series of recommendations as to what CTF resources could be used to intervene and unlock the obstacle;

- (vi) Organize a consultation workshop with companies from the identified target subsectors to validate the results and recommendations of this component. This workshop should also serve to identify pilot projects;
- (vii) Identify potential client companies that are considered suitable candidates as potential candidates for the pilot projects of component 2 and provide a long list of companies out of which 6 companies will be selected by the coordination committee. Preference should be given to companies which already have some initial pre-feasibility studies completed and available for their projects requiring investments for implementation;

This should also include a quick review of existing RESSEE studies in order to identify the client companies.

## **Component 2: Development of Pilot Projects for RESS and EE**

In order to provide detailed information on the actual costs, and on the economic, financial and environmental benefits of RESSEE related projects in Chile, investment ready 6 pilot projects will be developed. This includes feasibility, basic engineering, and technical support to company clients/developers during implementation.

### **Subcomponent 2.1: RESSEE projects identification and evaluation**

Best practices will be identified to help all players in the market (energy end-users, off-takers, project developers, local financial institutions, and ESCOs). This will include tools such as templates and worksheets to facilitate the learning process.

The following activities will be realized for each identified client company. This will also comprise dedicated visits to the client site.

- (i) Review energy supply arrangements, indicating contractual terms, reliability of supply and principle supply risks;
- (ii) Assess the extent to which the implementation of new energy sources (renewable energy, on-site co-generation, fuel switching) is appropriate;
- (iii) Evaluate existing RESS and EE projects and identify additional ones with a focus on investment projects;
  - a. Assess the physical energy savings anticipated as a result of EE projects and estimate long term financial savings resulting from the energy efficiency investment, indicating key assumptions relating to energy prices or other relevant data;
  - b. Provide investment cost (CAPEX), operational cost (OPEX);
  - c. Provide conceptual engineering design for RESS and/or EE projects;
  - d. Calculate yearly net energy production, plant factor and provide a sensibility analysis for net energy production for RESS projects;
  - e. Calculate levelized cost of energy for an operating period of 20 years (LCOE) for RESS and EE projects;
  - f. Calculated GHG emission reduction;

**Subcomponent 2.2: RESSEE project prefeasibility**

- (i) Realize a prefeasibility study for a total of six projects based on the ones identified in subcomponent 2.1. Only one project per client company will be studied and the following will be included:
  - a. Provide technical viability assessment including technology and operational risk and basic engineering design for mechanical, electrical and civil works for RESS and/or EE projects;
  - b. Provide economic and financial viability assessment, including project cost structure, investment grade financial model with payback, net present value and internal rate of return calculations for the proposed projects, including sensitivity analyses demonstrating the impact of key variables;
  - c. Provide environmental and regulatory viability assessment and identify potential environmental, social and regulatory impacts and provide a mitigation plan;
- (ii) Realize a sensibility analysis for the levelized cost of energy (LCOE) and VPN using different entry variables including at least:
  - a. CAPEX and OPEX;
  - b. Financing cost;
  - c. Internal rate of return;
  - d. Other variables which the consultant considers necessary

**Subcomponent 2.3: Investment Plans for RESSEE**

- (i) Prepare an investment plan for the projects studied in Subcomponent 2;
- (ii) Analyze the impact of each of the proposed projects on the relevant company's forecast cost structure and energy procurement contracts;
- (iii) Prepare cash flow analysis over at least the life of proposed loans or project assets, whichever is longer and based on the proposed investment plan and resulting financial savings. The analysis should indicate returns and net present value for each component of the investment plan. All assumptions, such as inflation rates or exchange rates, should be clearly indicated;
- (iv) Establishment of financial and technical performance indicators to be monitored over the life of the energy efficiency project;
- (v) implementation schedule including the timing and estimated cost of each component and basis of such cost estimates;

**Subcomponent 2.4: Develop pilot project monitoring system**

Propose a system that helps to monitor and assess the pilot projects. This system must include how the information is collected and published. The following needs to be included:

- (i) a measurement and verification system;
- (ii) procedures for maintenance of records and reporting;
- (iii) financial, social and technical indicators;
- (iv) outline of evaluation reports;
- (v) procedure for undertaking the evaluation.

#### IV. CHARACTERISTICS OF THE CONSULTANCY

**Type of consultancy:** Consulting Firm.

**Starting date and duration:** The duration of the consultancy is 210 days from the date of signing the contract estimated in July 2013.

**Place of work:** Chile

**Qualifications:** The consulting should have proven experience in: (i) The energy efficiency sector, specifically in the technical and financial fields; (ii) The development of market research studies.

The following will also be evaluated

(i) Fluency in Spanish; (ii) Previous experience in Chile; (iii) Knowledge of the financial system in Chile, its barriers and opportunities; (iv) Experience in developing consulting projects with multilateral institutions, especially with the Inter-American Development Bank (IDB)

#### V. PRODUCTS

**Product 1:** Progress report: to be delivered after 25 days from the beginning the consultancy

**Product 2:** Target market report containing the details specified in the activities section, including conclusions and recommendations. There will be three versions of the report:

**Product 3:** Consultation workshop

**Product 4:** Six independent pilot project pre-feasibility studies

- Progress report: to be delivered after 25 days from the beginning the consultancy
- Interim Final Report: to be delivered at the end of the consultancy, for review by Bank and the client company
- Final report: including comments from the Bank to the interim final report

All products need to be delivered in Spanish and MS-Word (\*.doc) and Adobe (\*.pdf) format. An interim final report will be delivered for review by the IDB, the coordinating committee and the client company. A final report will be delivered including all comments received.

Additionally all backup documents and calculation sheets should be delivered in the respective editable format (e.g. \*.xls)

#### VI. SCHEDULE OF PAYMENT

The payments will be scheduled as follows:

Payment	Amount
1	10 % upon the signature of the contract
2	20% upon delivery and approval of products 1 y 2
3	10% upon delivery and approval of product 3

4	60% upon delivery and approval of products 4
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## **VII. COORDINATION**

This contract will be implemented by the Structured and Corporate Finance Department (SCF) in coordination with the Climate Change and Sustainability Division (INE/CCS).

## **CTF PREP GRANT - RENEWABLE ENERGY SELF-SUPPLY AND ENERGY EFFICIENCY PROGRAM (RESSEE)**

### **CH-T1132**

#### **DESIGN THE IMPACT EVALUATION MODEL FOR THE CTF RESSEE PROGRAM**

#### **TERMS OF REFERENCE**

NOVEMBER 21, 2012

### **I. BACKGROUND**

The Objective of Chile RESSEE program is to promote the development of the market for financing self-supply and energy efficiency projects in Chile, supporting and addressing market barriers for Financing Institutions on a programmatic basis. The RESSEE program is consistent with the Investment Plan for Chile (IPC) which was endorsed by the Committee of the Clean Technology Fund (CTF) on May 3, 2012, and the RESSEE preparation grant program approved on October 25, 2012. The RESSEE program is designed and implemented together with IFC and considers the use of the amounts allocated in the IPC for each multilateral bank. The ICP contemplates further actions in the field of renewable energy, namely the Concentrated Solar Power Project (CSPP), already approved by the CTF, and the Large-Scale Photo-Voltaic Program (LSPVP) currently under preparation.

CTF endorsed USD\$ 68 million to IPC, which USD\$67 million were assigned by Chile to the CSP project and USD1 million to RESSEE preparation grant. The project manager is funded by these resources.

The main challenges that self-supply and energy efficiency projects faced in Chile are: (i) financial barriers resulting from a lack of knowledge and experience among financial institutions related to project-based financing for self-supply and EE projects; (ii) lack of information on potential technologies and use of alternative energy resources; and (iii) lack of experience among energy end-user clients and technical service providers on the potential technologies and energy business models.

The preparation grant of the RESSEE program will contribute to overcome some of the barriers mentioned in the previous paragraph by providing tools to the market such as potential sub-economic sectors, workshops to key stakeholders, and pilot projects. RESSEE preparation grant includes the following activities:

- a. Market development, intended to define the target market and to develop concrete actions to reduce the entry barriers for energy efficiency (EE) and renewable energy (RE) self-supply production schemes;
- b. Capacity development, aimed to increase awareness, knowledge and expertise of key stakeholders in the market;

- c. Project development, to develop a series of EE and RE self-supply production pilot projects ready for financing, by documenting the entire process so as to provide guidance for future projects;
- d. Identification of possible financial structures and mechanisms; and
- e. Program evaluation, to develop the design of a randomized experiment or other methodology to evaluate the impact of the intervention

## II. CONSULTANCY OBJECTIVE

The objective of this consultancy is to design the impact evaluation model for the CTF RESSEE program

## III. ACTIVITIES

This consultancy will prepare an evaluation system for an IDB-CTF financed program. These methodological documents or are to be presented as impact evaluation designs, including:

- (i) General frame of reference for the evaluation;
- (ii) Definition of the results matrix for these projects, including their outcome and products indicators;
- (iii) explanation of indicators, and instructions for their collection;
- (iv) (vi) the survey methodology to be used, including the calculation of sample sizes;
- (v) critique/design of the survey questionnaires; and
- (vi) Preparation of model reports and general instructions for assembling and reporting the data collected.

The methodology would need to consider, among other aspects, the following

- (i) key evaluation questions and hypotheses to be tested;
- (ii) major evaluation parameters and indicators;
- (iii) who will conduct the evaluation;
- (iv) outline of the evaluation reports, and
- (v) major factors affecting implementation

## IV. CHARACTERISTICS OF THE CONSULTANCY

**Type:** Individual Consultant.

**Place of Work:** Consultant's residence

**Qualifications:** Professional with knowledge of impact evaluation methodologies, preferably with application to renewable energy and energy efficiency programs.

**Payments:** The consultant will be paid a lump sum to be paid in three installments.

- (i) 40% upon contract signature;



- (ii) 30% upon acceptance of draft report, and
- (iii) 30% upon acceptance of final report.

All travel costs compensated by the Bank in the contract.

## **V. PRODUCTS**

An Impact Evaluation Design for the RESSE Program

The product needs to be delivered in Spanish and MS-Word (\*.doc) and Adobe (\*.pdf) format. An interim final report will be delivered for review by the IDB, the coordinating committee and the client. A final report will be delivered including all comments received.

Additionally all backup documents and calculation sheets should be delivered in the respective editable format (e.g. \*.xls)

## **VI. COORDINATION**

This contract will be implemented by the Structured and Corporate Finance Department (SCF) in coordination with the Climate Change and Sustainability Division (INE/CCS).

## SAFEGUARD SCREENING FORM

This Report provides a summary of the project classification process and is consistent with Safeguard Screening Form requirements. The printed Report should be attached as an annex to the PP (or equivalent) and sent to ESR.

1. Save as a Word document. 2. Enter additional information in the spaces provided, where applicable. 3. Save new changes.

<b>PROJECT DETAILS</b>	<b>IDB Sector</b>	ENERGY-ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
	<b>Type of Operation</b>	Technical Cooperation
	<b>Additional Operation Details</b>	
	<b>Country</b>	CHILE
	<b>Project Status</b>	
	<b>Investment Checklist</b>	Generic Checklist
	<b>Team Leader</b>	Alatorre Frenk, Claudio (CALATORRE@iadb.org)
	<b>Project Title</b>	CTF Preparation Grant Renewable Energy Self-Supply and Energy Efficiency Program
	<b>Project Number</b>	CH-T1132
	<b>Safeguard Screening Assessor(s)</b>	Tagwerker, Christoph (christopht@IADB.ORG)
	<b>Assessment Date</b>	2012-11-27
	<b>Additional Comments</b>	

<b>PROJECT CLASSIFICATION SUMMARY</b>	<b>Project Category:</b> C	<b>Override Rating:</b>	<b>Override Justification:</b>
			<b>Comments:</b>
	<b>Conditions/ Recommendations</b>	<ul style="list-style-type: none"> <li>• No environmental assessment studies or consultations are required for Category "C" operations.</li> <li>• Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3).Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural,</li> </ul>	

		<p>health and safety etc.).</p> <ul style="list-style-type: none"> <li>• The Project Team must send the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.</li> </ul>
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<b>SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS</b>	<b>Identified Impacts/Risks</b>	<b>Potential Solutions</b>

<b>ASSESSOR DETAILS</b>	<b>Name of person who completed screening:</b>	Tagwerker, Christoph (christopht@IADB.ORG)
	<b>Title:</b>	
	<b>Date:</b>	2012-11-27

## SAFEGUARD POLICY FILTER REPORT

This Report provides guidance for project teams on safeguard policy triggers and should be attached as an annex to the PP (or equivalent) together with the Safeguard Screening Form, and sent to ESR.

1. Save as a Word document. 2. Enter additional information in the spaces provided, where applicable. 3. Save new changes.

<b>PROJECT DETAILS</b>	<b>IDB Sector</b>	ENERGY-ENERGY EFFICIENCY AND RENEWABLE ENERGY IN END USE
	<b>Type of Operation</b>	Technical Cooperation
	<b>Additional Operation Details</b>	
	<b>Investment Checklist</b>	Generic Checklist
	<b>Team Leader</b>	Alatorre Frenk, Claudio (CALATORRE@iadb.org)
	<b>Project Title</b>	CTF Preparation Grant Renewable Energy Self-Supply and Energy Efficiency Program
	<b>Project Number</b>	CH-T1132
	<b>Safeguard Screening Assessor(s)</b>	Tagwerker, Christoph (christopht@IADB.ORG)
	<b>Assessment Date</b>	2012-11-27
	<b>Additional Comments</b>	

<b>SAFEGUARD POLICY FILTER RESULTS</b>	<b>Type of Operation</b>	Technical Cooperation	
	<b>Safeguard Policy Items Identified (Yes)</b>	The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
	<b>Potential Safeguard Policy Items(?)</b>	No potential issues identified	
	<b>Recommended Action:</b>	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy	

		Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.
	<b>Additional Comments:</b>	

<b>ASSESSOR DETAILS</b>	<b>Name of person who completed screening:</b>	Tagwerker, Christoph (christopht@IADB.ORG)
	<b>Title:</b>	
	<b>Date:</b>	2012-11-27