



Chile - Self-supply Renewable Energy

Executive Summary

Sponsoring Country:	Chile
Sponsoring Agencies:	Renewable Energy Center
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Introduction

The Renewable Energy Centre (CER) Chile, as part of the Chilean Government's Economic Development Agency (CORFO) and implementing agency of the Energy Ministry, has developed a proposal for a NAMA "Self-supply energy systems based on renewable energy" (SSRE).

The overall objective of the NAMA is to promote the incorporation of renewable energy systems for self-supply in private and public enterprises and to drive the development of a prosperous market for renewable energy technologies in Chile. Self-supply renewable energy is defined as renewable energy systems that generate electric and/or thermal energy for own consumption at the point of installation. In Chile and for the purpose of this NAMA, self-supply is defined as installations that consume more than 50% of the energy generated on-site.

The NAMA aims to increase the uptake of renewable energy systems across industry and the public sector through a comprehensive programme of measures to remove identified barriers such as higher incremental costs of renewable energies (RE) technologies vs. Business as Usual (BAU)/ other capital investments in the sector., difficulties to access to loans by commercial banks and lack of understanding of the technologies among company/resource owners The NAMA aims at incentivize SSRE investments under three components: a financial component, a technical support component and an outreach component.

Financial component

The financial component will provide financial support at two stages in the investment cycle. At the feasibility stage, the programme will provide pre-investment grants to undertake economic and engineering studies that are part of the feasibility assessment of a project. At the investment stage, the fund will provide financial

incentives in the form of co-investment grants and subsidised loans, with partial credit guarantees to the lending programme in order to reduce default risk.

Subsidized long term loans will be made available to finance up to 80% of the total cost of a renewable energy installation so the applicant must provide at least 20% own equity. Investment grants will be made available for up to 20% of the total installed cost, subject to certain conditions, during the early stage of the implementation of the NAMA. Two metrics are proposed which capture the objectives of the programme: leverage ratio and mitigation factor. Leverage ratio shows the relation between incentives granted to a project and the total amount of private investment generated. Mitigation factor shows the amount of emission reductions expected per unit of renewable energy produced. Minimum performance required for the leverage ratio is 4 and for the mitigation factor is 500 gCO₂e/kWh.

It is foreseen that the type of instrument and levels of support given will change over time. Due to the low maturity of the Chilean SSRE market, the first years will require higher levels of support so both grants and loans together may be required in initial funding packages. The objective over time will be to promote a higher share of loans, as these are more cost-efficient for the programme, until eventually support is phased out as RE technologies reach grid parity.

Technical Component

Three core activities are proposed for technical support; training & capacity building; a help desk and knowledge exchange. The objective of the activities will be to build up knowledge on financing and operation of RE systems for self-supply to generate demand for these technologies and ultimately achieve the objectives of the NAMA.

Outreach Component

Outreach and awareness raising activities are an important component of the NAMA. Experiences shows that constant marketing and outreach is necessary in order to make benefits of SSRE technologies widely known and understood to generate demand for the support instruments. Activities under this component will include seminars, conferences and roundtables, with the aim to disseminate the benefits of SSRE systems to a large number of stakeholders.

The NAMA is proposed to be undertaken with support from both domestic and international sources. The Government of Chile, through the Center for Renewable Energy (CER) will partly support activities with domestic resources. The CER has already put together a US\$10 million programme to co-finance capital costs of self-supply renewable energy projects.

The NAMA will need to raise \$17.5 million in grants to pay for partial credit guarantees for the loan programme, to provide pre-feasibility and investment grants and to cover for the technical and outreach components. The programme will also need to raise \$50 million in concessional loans from domestic or international development banks and \$30 million from financial institutions to capitalize the loan programme. Loans would be fully repayable with interest.

For the NAMA to achieve 1.5 – 2 MtCO₂e of emission reductions in a 33-year timeframe, approximately \$100 million in private investment in SSRE projects would be needed. Based on the leverage ratios calculated for

the financial incentives and the estimated administration and MRV costs, the incremental cost is \$16.5 million. The incremental cost per tonne of CO₂ reduced is between \$9-12. The incremental cost per watt peak installed was estimated at \$0.48 per watt peak.

The Renewable Energy Center has been implementing tools to measure the GHG emission reductions achievements with the support of the UK Government, that assisted with a Prosperity Fund with the aim to “strengthen the capacities of Chile’s Renewable Energy Centre to evaluate GHG emission reductions and other benefits generated by renewable energy projects, in order to improve policy planning and promote renewable energies”. This MRV system is currently being implemented in the Center and will be available shortly.