



## Promoting Solar Energy in Chile

Chile has abundant renewable energy (RE) resources such as wind, solar, biogas, small hydro and geothermal. In recent years, the costs of relevant technologies have experienced a significant decline. Amidst this scenario, Chile has the potential to generate a substantial share of energy through RE, to develop the sector sustainably without affecting international competitiveness.

To date, the energy sector (including transport) has represented the main source of CO<sub>2</sub> emissions. However, Chile has taken a proactive role in mitigating greenhouse gas emissions (GHG) with a formal commitment to the Copenhagen Accord to achieve a 20% reduction below the current emissions scenario by 2020. Consequently, the potential for mitigation actions, particularly by incorporating renewable energy systems, is significant.

Since 2008 the government of Chile has been assigning the highest priority to the rapid expansion of non-conventional renewable energy. This is reflected by the large number of solar energy projects that have entered the Environmental Evaluation System (SEIA). Currently, 9.9GW have been approved and an additional 4.9GW are under assessment.<sup>1</sup> At present, nearly 2GW of solar energy projects are under construction in Chile.

Within the International Climate Initiative (IKI), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) has been supporting the Chilean Government in improving the sustainability of the energy sector in Chile since 2008.

<sup>1</sup> Energy Sector Report in July 2015, CNE

### PROJECT EXAMPLES:

#### Expansion strategies for grid-connected renewable energies

One of the IKI-supported projects helped the Chilean government to draft expansion strategies for grid-connected renewable energies. The project successfully ended in 2014. It evaluated medium and long-term alternatives for the expansion of grid-connected renewable energies. A strategy for an ideal expansion, meeting economic efficiency, safety of supply and environmental sustainability criteria, was developed. It was based on elaborated meteorological models, geographic information systems and the analysis of diverse scenarios. Regarding its complexity, it is the most complete analysis of Chile's electricity sector so far. The methodologies developed by this IKI project have been the foundation for medium and long term energy planning and expansion of the power system in Chile, leading to a more sustainable electric energy supply for the country.

#### Solar energy for electricity and heat generation

This IKI project aims at promoting the generation of electricity through photovoltaic (PV) and the production of heat by solar thermal applications (SWH) for self-supply of commercial entities, industrial plants or in public buildings. The project develops strategies for the improvement of the current political framework, the development of innovative business models and the strengthening of local competitiveness for the creation of new markets

for solar energy technologies. Local expertise is being fostered through the training of future developers and solar installers in several selected educational institutions distributed throughout the country. Moreover, a nationwide dissemination program of PV systems for public buildings conducted by the Chilean energy ministry is supported through this IKI-Project in order to boost market development of PV systems in Chile. Last but not least, the project assists the Chilean authorities in improving the regulatory framework for solar energy applications in the low and medium voltage sector.



## Support of Solar Energy (focused on large solar plants CSP/PV)

The objective of this project is to boost the development of large-scale solar energy applications. The project promotes the power generation by large solar plants and identifies instruments and methodologies to generally improve grid injection of variable renewable energies with emphasis on electricity generation by photovoltaic (PV) and concentrated solar power plants (CSP/CST). Considering the prospective of a significantly increasing share of fluctuating renewable energy in the Chilean electricity grid, the grid operators need to be prepared to adequately manage these upcoming challenges. Furthermore, the project includes capacity building and training, technology transfer, identification and analysis of innovative applications for solar energy as well as the dissemination of the results and experiences gained in Chile at an international level. It also supports the efforts of the Chilean government to launch a national strategy for developing a solar industry and sustainable development of solar projects in the country and forms part of a national steering committee in order to design a solar roadmap. Lastly, the project includes a financing component that is covered by KfW in order to contribute towards financing the first Latin American CSP plant.

## NAMA Support Project Self-Supply Renewable Energy in Chile (SSRE)

Main partner for this newly initiated project is the National Innovation Centre for Renewable Energy (CIFES). The aim of this project is to promote the integration of non-conventional renewable energy for self-consumption into the Chilean energy supply system as a nationally appropriate mitigation action (NAMA). The activities focus on the creation of technical capacity in order to accelerate market development in Chile. The project expects to lower the relevant barriers and to encourage the development of a new industrial sector by improving technical and financial conditions. With a financing line provided by KfW, feasible projects will be funded and supported in their implementation. A guarantee fund will be included as well in order to mitigate the risks associated with the financing of innovative projects. The funds for the NAMA support project are provided by Great Britain's Department of Energy & Climate Change (DECC) and BMUB.

---

## Imprint

**Published by:** Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB)  
Referat KI III7 · 11055 Berlin  
E-Mail: [KIII7@bmub.bund.de](mailto:KIII7@bmub.bund.de) · Internet: [www.bmub.bund.de](http://www.bmub.bund.de)  
**Design:** MediaCompany – Agentur für Kommunikation GmbH  
**Photo credits:** GIZ 4e Chile  
**Date:** September 2015



 @iki\_bmub

[www.international-climate-initiative.com](http://www.international-climate-initiative.com)

### Contact:

Rainer Schröder,  
Director of Renewable Energy and Energy efficiency Program in Chile  
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)  
GmbH  
Marchant Pereira 150, Santiago, Chile  
T: + 56 2 23068602  
M: + 56 9 52173234  
E: [rainer.schroeer@giz.de](mailto:rainer.schroeer@giz.de)  
[www.giz.de](http://www.giz.de)