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Total budget **2.100** billion Euros

24.500 engineers and researchers

More than **1** patent every day

Fraunhofer Chile Research

We are the second largest subsidiary of Fraunhofer-Gesellschaft outside Germany.
We connect the science and technology of excellence realized by more than 60 institutes of applied research in Germany, with the needs of the Chilean industry. We promote technology transfer with the aim to increase competitiveness and facilitate business innovation.

We seek to produce an impact at national and regional levels, by including innovations based on applied science and technology, which provide a solution to the productive needs and development of added value services and products in Chile.

Through the applied research we link universities, research centers, business associations, private companies and public entities.

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Fraunhofer CHILE

CENTER FOR SOLAR ENERGY TECHNOLOGIES
FCR-CSET

TECHNOLOGY SOLUTIONS TO BUILD A SOLAR ECONOMY FOR CHILE

Center for Solar Energy Technologies FCR-CSET

We provide special consultancy services, based on an R&D approach for industry and public stakeholders and together with industry we develop innovative technical solutions to achieve large scale implementation of solar energy into the main industrial, commercial and residential sectors in Chile.

Technology solutions

Investigate and address the specific scientific, technological, economical and market challenges for solar energy technologies in Chile.

- Develop technologies which are adapted to the particular conditions in Chile.
- Implement certification schemes and other measures to support high quality of solar installations.
- Bridge the gap between academic research and industrial entrepreneurship.

FCR-CSET Founding Institutions

Fraunhofer ISE

The largest solar energy research institute in Europe.

1.163 researchers

Pontificia Universidad Católica de Chile

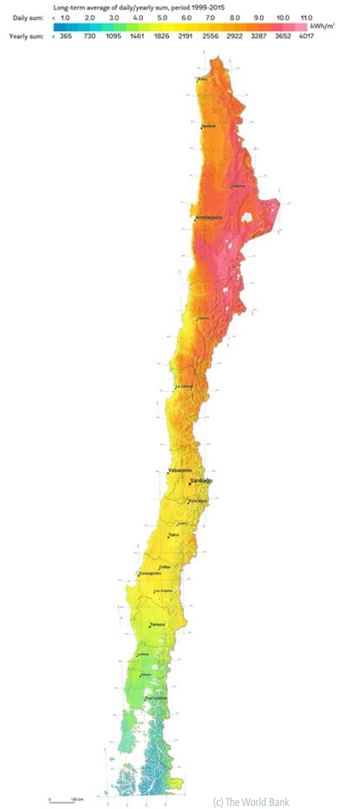
Leading Chilean university with first class facilities in the schools of Engineering, Chemistry and Geography.

CORFO

With the support of the Program for the Attraction of Excellence International Centers in R&D.

Why Chile?

Chile is one of the most interesting countries for applying technologies with high demand of direct normal irradiation (DNI). It has in its North territories the highest DNI levels worldwide. Moreover its environment provides a challenge for the durability of solar materials and components.



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Business Areas

With an interdisciplinary and market-oriented approach, we focus on integration issues of renewable energy into the national energy system, the electricity grid or the energy supply system of a company on the technical level. Similarly we investigate in integration into the market or into business models on the economical and social level.

Solar Electricity

We develop know-how and technology suitable for the special conditions of Chile. We look to transfer this technologies to the market and help to establish a high standard of installation quality.

Research approach:

- Quality aspects of material, components and systems for PV, CPV and CSP.
- Concentrated solar thermal power, high-temperature storage systems, electrical grid and systems analysis.
- Detailed high-precision measurements of components in the field and the monitoring of system operation.
- Optimization of systems with the help of dynamical simulations,
- Support for industry in testing, monitoring, simulation, prefeasibility.
- Adaptation of technology in soiling investigations, reliability and durability issues, etc.

Services:

- Quality assessment for PV and CSP plants.
- Operations and services of state of the art meteo-stations.
- Special yield analysis of ground based measurements.
- Evaluation of new systems and technologies based on satellite data, among others.

Solar Process Heat

We look to transfer the knowledge of solar heat technologies to industries such as mining and food. We focus on the development of trustful technologies and adaptation of business models.

Research approach:

- Use of solar thermal energy in industrial processes like drying, preheating or sterilization with low and medium temperatures ranges (<100°C and 100-400°C) and different heat transfer fluids, like water, steam or air.
- Development of cogeneration solutions, which combine electricity and heat production.
- Solar cooling.
- Energetic efficiency and integration system studies, for the correct integration of solar thermal energy and thermal storages in different thermal schemes.

Services:

- Viability and design studies, system simulation and optimization of existing systems.
- Adaptation of innovative technologies and design and operation of pilot and demonstration plants.
- Techno-economical studies in diverse scenarios and financing option searches and analysis of economic proposals.

Solar Water Treatment

We develop water treatment technologies adapted to individual specifications of feed water salinity for complete stand-alone systems, powered by solar electricity or solar/ waste heat.

Research approach:

- Thermal desalination systems powered by waste heat or solar thermal heat, based on membrane distillation technology.
- Small to medium scale PV powered reverse osmosis systems. Ultrafiltration, detoxification and sanitization technologies.
- Technology integration research including biological, desalination, waste water treatments powered by solar systems.
- System simulation and development of individual design tools.

Services:

- Feasibility studies, simulation and design of water treatments systems (desalination, waste water treatments, biological and up-concentrating).
- Innovative technologies integration, design, implementation and operation of pilot plants.
- Economic studies different scenarios and financing option (public and private).

Fraunhofer CHILE