Focused on your business
CSP-F is a leading technology provider of turnkey solar fields based on Fresnel collector technology.

CSP-F offers energy systems and solutions for standalone solar thermal plants, power integration of conventional power plants and industrial steam processes.

CSP-F provides reliable, proprietary and proven low cost CSP solutions to meet customer energy requirements.

Our value proposition

For your sustainable power generation and green energy requirements we offer a cost effective, high quality and performing solution, working at your side to provide customised design and maintenance service.

The solar solution for your business

LUCE
Solar cooling plant, Lombardy, Italy
Technology

The Fresnel technology uses flat mirrors arranged in a matrix of rows and columns to concentrate solar irradiation onto a receiver tube capable to heat up fluids and/or boil water, producing high-temperature heat. Generated steam is used for power generation or industrial processes.

The solar field is a modular and scalable system. Equipment and components are based on common materials, can be easily manufactured on site and installed with minimal effort.

CSP-F Fresnel technology has been extensively proven in several applications ranging from process heat production, biomass-solar hybrid system to standalone power plants.

Our key technology features

- Low cost components
- Light and unbreakable mirrors
- Flexibility to any high-temperature fluid (steam, molten salt, oil)
- Easy-to-assemble and rapid components production
- Localised procurement and manufacturing of almost the whole solar field materials (flat mirrors, steel, metal sheet, etc.)
- Efficient land use

Applications & commercial targets

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At your side building sustainability
**LUCE FP**

LUCE FP is a low cost/high performing Fresnel solar collector for use in utility scale solar thermal power plants and/or for solar system augmentation at existing and conventional power plants.

**LUCE FP** is a low cost solution even for small and decentralized electrical production due to its modularity, efficient land use and flexible use of high temperature fluids.

**LUCE FP** can work with water to generate high temperature and pressure steam, with molten salt in combination with storage system to enhance dispatchability, and with no toxic oil at lower temperature to power ORC turbines.

**LUCE TH**

**LUCE TH** is designed to meet the energy requirements of the industrial sector. When combined with other industrial equipment it provides process steam, refrigeration, solar cooling as well as heat for water treatment.

**LUCE TH** produces thermal energy with temperature up to 250°C. Through its intelligent management and control system and a proper thermal energy storage **LUCE TH** can balance the energy demand throughout the day.

**LUCE TH** has a simple and light weight design that makes it compatible with floor or roof installation. With its different product configurations (TH84; TH106; TH126), **LUCE TH** offers a wide range of customized solutions.

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**MODULE SPECIFICATIONS**

**GEOMETRY**

- Number of primary mirrors: 160
- Width: 17 m
- Length: 48.7 m
- Receiver height above mirrors level: 8 m
- Reflecting surface: 562 m²
- Land use: 828 m²

**PERFORMANCE**

- Thermal power: 320 kWe
- Thermal efficiency: 60%
- Optical efficiency: 63%
- Operating temperature range: 200-500°C

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**INSTALLATION EXAMPLE (MODEL TH106)**

**GEOMETRY**

- Single module geometry: 8x6 x 4.5 m
- Number of modules: 22
- Net mirrors surface area: 772 m²
- Total area: 1150 m²

**PERFORMANCE**

- Annual yield: 600 MWh
- Thermal power: 450 kWth
- CO₂ saving: 150 tonn/year
- Fuel saving: 70000 m³/year

*Location with DNI = 1850 kWh/m²/year*