Harnessing solar energy for flexible, on-demand power generation

More than 100 years of power generation experience, unsurpassed project management expertise and a global reach enable GE to supply complete turnkey concentrated solar power (CSP) plants as well as the individual components needed to increase your plant’s productivity. Our advanced technology can be adapted to a full range of projects, including hybrid power generation and all-solar power plants.

GE’s industry-leading expertise shapes the future of next-generation CSP plants by delivering increasingly efficient solar receivers and storage technologies like those found in our Molten Salt Central Receiver (MSCR). Thermal energy storage enables power generation on cloudy days, or long after sunset. With almost no reduction in operating efficiency and low capital costs per kilowatt-hour compared to other solar energy storage system solutions.

How It Works

Thousands of mirrors, known as heliostats, track the sun on two axes and concentrate the solar energy onto the molten salt central receiver (MSCR), located in the centre of the heliostat field at the top of a tower. The concentrated energy reflected by the heliostats enables the heating of molten salt to temperatures in excess of 565°C. Once heated, the molten salt may be stored in an insulated-tank and used for on-demand steam generation to produce electricity as required.

Design Features

<table>
<thead>
<tr>
<th>Expected Operating Life</th>
<th>25 years – Backed by GE’s heat transfer, corrosion and mechanical properties data</th>
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</thead>
<tbody>
<tr>
<td>Thermal Power Output</td>
<td>200 – 1,200 MWth, continuous rating</td>
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<tr>
<td>Outlet Temperature</td>
<td>565°C – Design ready for next-generation solar salt with outlet temperatures greater than 600°C</td>
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<tr>
<td>Regulatory Standards</td>
<td>Product design and qualification for international standards</td>
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<tr>
<td>Control Technology</td>
<td>Advanced technology controls for enhanced product life and reliability</td>
</tr>
<tr>
<td>Flexible Operation</td>
<td>Dynamic daily operation simulation for efficient and flexible operation modes</td>
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With extensive turnkey power plant and equipment experience, GE Renewable Energy is a leader in advanced technology thermal storage solutions for concentrated solar power projects.
The GE Advantage

We strive to deliver best-in-class technology that allows you to harness the sun’s energy for decades – based on the most reliable, flexible, and integrated solar technologies.

GE’s Molten Salt Central Receiver (MSCR) helps you deliver clean, reliable energy at a competitive cost.

Additional benefits include:

**Flexibility**

- Based on extensive heat transfer and material behavior expertise, the MSCR design accommodates a wide range of heat fluxes expected during 25 years of operation.
- An integrated approach couples the MSCR design with diverse heliostat size and solar field configurations to boost plant economics.
- The design allows for a wide range of thermal loading application possibilities that accommodate diverse solar field configurations and Direct Normal Irradiation (DNI) conditions.

**Fast startup**

MSCR features enable fast start and re-start capability while reducing parasitic power consumption and enhancing solar energy collection.

**Reliability**

MSCR designed for exceptional reliability and availability, even in the most arduous of operation conditions.

Low cost of electricity

Low construction costs thanks to integrated tower and erection concept

Low environmental footprint

Avoids impacts and costs of extensive land grading and concrete pads associated with flat collector solar fields

Flexible sizing and reliable operation guaranteed

For more information please contact a GE representative.

**GE Renewable Energy**

Brown Boveri Strasse 7
5401 Baden
Switzerland

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