Concentrated solar power costs

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2021 ATB data for concentrating solar power (CSP) are shown above. The Base Year is 2019; thus costs are shown in 2019$. CSP costs in the 2021 ATB are based on cost estimates for CSP components that are available in Version 2020.11.29 of the System Advisor Model .

2024 ATB data for concentrating solar power (CSP) are shown above. The base year is 2022; thus, costs are shown in 2022$. CSP costs in the 2024 ATB are based on cost estimates for CSP components (Kurup et al., 2022a) that are available in Version 2023.12.17 of the System Advisor Model (SAM), which details the updates to the SAM cost components.

Concentrating Solar Power. 2022 ATB data for concentrating solar power (CSP) are shown above. The Base Year is 2020; thus, costs are shown in 2020$. CSP costs in the 2022 ATB are based on cost estimates for CSP components (Kurup et al., 2022) that are available in Version 2021.12.02 of the System Advisor Model (SAM) which provided detail the ...

Average installation cost for concentrated solar power (CSP) worldwide from 2010 to 2023 (in U.S. dollars per kilowatt)

Definitions Parameters Levelized Cost of Energy. Levelized cost of energy (LCOE) ...

2024 ATB data for concentrating solar power (CSP) are shown above. The ...

Concentrating Solar Power. 2022 ATB data for concentrating solar power (CSP) are ...

We track the cost and performance of CSP technologies. Data on installed CSP ...

2024 ATB data for concentrating solar power (CSP) are shown above. The base year is 2022; thus, costs are shown in 2022$. CSP costs in the 2024 ATB are based on cost estimates for CSP components(Kurup et al., 2022a)that are available in Version 2023.12.17 of the System Advisor Model (SAM), which details the updates to the SAM cost components.Future year projections are informed by the literature, National Renewable Energy Laboratory (NREL) expertise, and technology pathway assessments for reductions in capital expenditures (CAPEX) and operation and maintenance (O& M) costs.

The three scenarios for technology innovation are as follows:

The solar resource is prevalent throughout the United States, but the Southwest is particularly suited to CSP plants. The direct normal irradiance (DNI) resources across the Southwest, which are some of the best in the world, range from 6.0 kilowatt hours/square meters/day (kWh/m2/day) to more than 7.5 kWh/m2/day(Roberts,

2018). The raw resource technical potential of seven states (Arizona, California, Colorado, Nevada, New Mexico, Utah, and Texas) exceeds 11,000 gigawatts-electric (GWe), which is almost tenfold the current total U.S. electricity generation capacity;some regions in these states have an annual average resource greater than 6.0 kWh/m2/day(Mehos et al., 2009).

For illustration in the ATB, a range of capacity factors calculated in SAMVersion 2023.12.17 is associated with three resource locations in the contiguous United States for three classes of insolation: