



## Concentrating Solar Power Projects

### Khi Solar One CSP Project

This page provides information on Khi Solar One CSP project, a concentrating solar power (CSP) project, with data organized by background, participants, and power plant configuration.

#### Project Overview

<b>Power Station:</b>	Khi Solar One
<b>Location:</b>	Upington ZF Mgcawu District Municipality Northern Cape South Africa
<b>Owners (%):</b>	Abengoa
<b>Technology</b>	<a href="#">Power Tower</a>
<b>Solar Resource:</b>	2952
<b>Nominal Capacity:</b>	50 MW
<b>Status</b>	<a href="#">Operational</a>
<b>Start Year:</b>	2016

#### Status Date

<b>Status Date</b>	October 26, 2023
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#### Background

<b>Break Ground Date</b>	2012
<b>Expected Generation (GWh/year)</b>	180
<b>Lat/Long Location</b>	-28.537,21.078

#### Participants

<b>Developer</b>	Abengoa Spain
<b>EPC</b>	Abener, Teyma Spain
<b>Operator</b>	Abengoa Solar

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Electricity Generation Offtaker

Eskom

## Costs

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Total Construction Cost (2016)

\$ 450.00 million

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Total Cost USD (2020)

\$466.59 million

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Specific Cost/kW USD (2020)

\$ 9331.8

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LCOE USD/kWh (2020)

\$ 0.22

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Remuneration ZAR/kWh

2.69

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Remuneration Start Year

2016

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Remuneration USD/kWh Deflated (2020)

0.19

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PPA or Tariff Period (Years)

20

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Support Scheme Type

PPA

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Concessional Funding or Other Support

European Investment Bank (EIB) €50 million; CTF \$15 million; IFC app. \$75 million; C Loan \$15 million

## Plant Configuration

### Solar Field

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Solar Field Aperture Area (m<sup>2</sup>)

576800

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# of Heliostats (or dishes for dish systems)

4120

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Heliostat Aperture Area (m<sup>2</sup>) (or dish aperture for dish systems)

140

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Collector/Heliostat Manufacturer

Abengoa  
Spain

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Collector/Heliostat Engineering or IP Owner

Abengoa  
Spain

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Collector/Heliostat Model

ASUP 140

### Solar Field (Receiver)

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Receiver Working Fluid

Water/Steam

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Receiver Working Fluid Category

Water

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Tower Height (m)

200

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Receiver Manufacturer

Cockerill  
Belgium

## Power Block

Nominal Turbine or Power Cycle Capacity	50 MW
Power Cycle	Steam Rankine
Cooling Type	Dry

## Thermal Energy Storage

Storage Type	Other
Storage Capacity (Hours)	2
Storage Description	Saturated steam

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