

CARLSBERG, ALWAR

Safety First: Working on Curved Dome Roofs

QUICK FACTS

- ❖ Location: Alwar, Rajasthan
- ❖ Capacity: 471 kWp
- ❖ Type of system: Dome-Shaped Metal Roof
- ❖ Type of modules: Polycrystalline
- ❖ Type of inverters: String
- ❖ Annual generation: 6.7 lac units
- ❖ Carbon dioxide abated: 620 tonnes annually
- ❖ Date of commissioning: March 2016

BEGINNING OF AN ALLIANCE

Carlsberg believes that sustainability of the environment is vital to their business. Carlsberg's environmental policy with respect to energy usage is to strive to use all kinds of energy sources as effectively as possible, and regularly assess the possibilities of introducing renewable energy in order to reduce their carbon footprint.

Carlsberg India partnered with CleanMax Solar with an aim to develop India's first solar brewery at Alwar and Daurhera, on a PPA-basis. CleanMax Solar helped Carlsberg achieve the following 3-fold benefit - 1. Going green; 2. No capital investment; 3. Saving money on electricity units.

For CleanMax Solar engineers, the unique rooftop shape at Carlsberg, Alwar involved various challenges and safety precautions had to be considered before the installation.



First Steps in Going Solar

The dome shaped metal roof of the brewery at Alwar is 20 metres high and at each end of the roof is a sharp curve slanting towards the ground. The daunting task was to install solar modules at a height of 20 metres on a curvy roof, where it is extremely difficult for people to even stand properly. This problem was further compounded by high wind speeds, due to the high altitude, and the lack of access to the rooftop.

The Simplified Solution - Safety First

Engineers from CleanMax Solar enabled access to the roof, without compromising the safety of the existing infrastructure. They established an access route to the rooftop by setting up a ladder through which a safety line with harnesses and ropes was established around the dome. The wires with anchor points was designed to hold workers and save them from falling from the rooftop. A walkway was created to enable easy movement across the roof.

The workers at the site were given special training at the beginning of each day, to highlight the risks and precautions to be taken for the day's activities. To ensure maximum safety, a dedicated resource monitored the wires and ropes for their strength at all times. This additional safety measure ensured prompt action in case of an emergency.

Project completed in record time

Despite the mammoth challenge, the turnkey project was completed in a record 60 days and was commissioned in March 2016, a meagre 60 days after the PPA was signed. The "safety first" approach enabled a swift and easy installation.

KEY CHALLENGES

- ❖ Height of the building
- ❖ No access to the rooftop
- ❖ Slanted shape of the rooftop
- ❖ High wind speed

HIGHLIGHTS

- ❖ Heavy weight solar modules installed at a height of 20m on a curved roof
- ❖ Special training provided to workers each day to ensure maximum safety
- ❖ Project completed in a record 60 days
- ❖ India's first solar brewery

ABOUT CARLSBERG INDIA



Carlsberg Group's operations in India began in May 2006 with the creation of South Asia Breweries Pvt Ltd, which in 2009 was renamed as Carlsberg India Private Limited. In March 2008, Carlsberg expanded its operations by establishing its second brewery in Alwar, Rajasthan. The brewery uses modern technology and the very best of fresh ingredients to consistently brew great beers.

ABOUT CLEANMAX SOLAR



Founded in 2011, CleanMax Solar is India's largest on-site rooftop solar developer with 45 MWp installation in more than 72 projects. The company has been awarded Best Rooftop Solar Developer as well as Best Solar EPC Player by the Ministry of New & Renewable Energy.

Disclaimer:

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www.cleanmaxsolar.com