Safety first at Carlsberg, Alwar: Working on curved dome roofs

Quick Facts

- Location: Alwar, Rajasthan
- Capacity: 471 kWp
- Type of system: Dome-Shaped Metal Roof
- Annual generation: 6.7 lacs units
- Carbon dioxide abated: 620 tons annually
- Date of commissioning: March 2016

Overview

Carlsberg believes that sustainability 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 with an aim to develop India's first solar brewery at Alwar and Daruhera, with a Power Purchase Agreement (PPA). CleanMax helped Carlsberg achieve the following threefold benefit: 1. Going green 2. No capital investment 3. Saving money on electricity units.

For CleanMax engineers, the unique dome-shaped rooftop at their Alwar facility involved various challenges and safety precautions had to be considered before the installation.

Challenges

- Height of the building
- No access to the rooftop
- Slanted shape of the rooftop
- High wind speed
- The dome-shaped metal roof of the brewery at Alwar is 20 meters 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 the height of 20 meters 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.

Solution

- **Safety first: While working at heights and on dome-shaped metal roofs**

  Engineers from CleanMax 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 set around the dome. The wires with anchor points were designed to hold project staff 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 emergency.

Highlights

- Heavyweight solar modules installed at the 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
- Despite the mammoth challenge, the turnkey project was completed in record 60 days after the PPA was signed and the plant was commissioned in March 2016. The "safety first" approach enabled a swift and easy installation.

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 brew great beers consistently.

About CleanMax

CleanMax is the sustainability partner for India's leading corporates. Headquartered in Mumbai, we are the largest provider of solar power to commercial and industrial customers.

The company develops projects on turnkey basis, providing cheaper-than-grid solar power without any upfront investment from its customers. With a highly skilled in-house team, CleanMax operates across India, Middle East and South East Asia.

Our track record with India's top companies has made CleanMax a preferred partner across sectors such as Automotive, Pharmaceuticals, Food & Beverages, Information Technology, Education and many other industries. We also partner with some of India's leading government institutions and top universities.