



# Energy



The cement industry is energy intensive. To substantially limit our energy consumption, we are reducing fossil fuel usage and gradually increasing the use of renewable energy and green energy. We are also implementing measures to generate electricity from waste heat. We are using Solar, Hydro and Waste Heat Recovery systems on-site to generate green energy.

## Key highlights

**14,785 TJ**  
Total energy consumption

**13,217 TJ**  
Total fuel consumption  
(including Alternate fuel)

**489 TJ**  
Renewable energy consumption

**14%**  
Green energy consumption

## Overall energy consumption

|   | Units | 2024-25  | 2023-24  |
|---|-------|----------|----------|
| Total electricity consumption                     | MWh   | 4,35,479 | 4,60,524 |
| Total electricity consumption from renewables*    | MWh   | 62,075   | 52,584   |
| Total electricity consumption from non-renewables | MWh   | 3,73,404 | 4,07,940 |
| Total fuel consumption                            | TJ    | 13,217   | 13,554   |
| Total fuel consumption from non-renewables        | TJ    | 12,951   | 13,484   |
| Total fuel consumption from renewables            | TJ    | 266      | 70       |
| Total energy consumption                          | TJ    | 14,785   | 15,212   |

\* WHRS power consumption is included in renewable sources

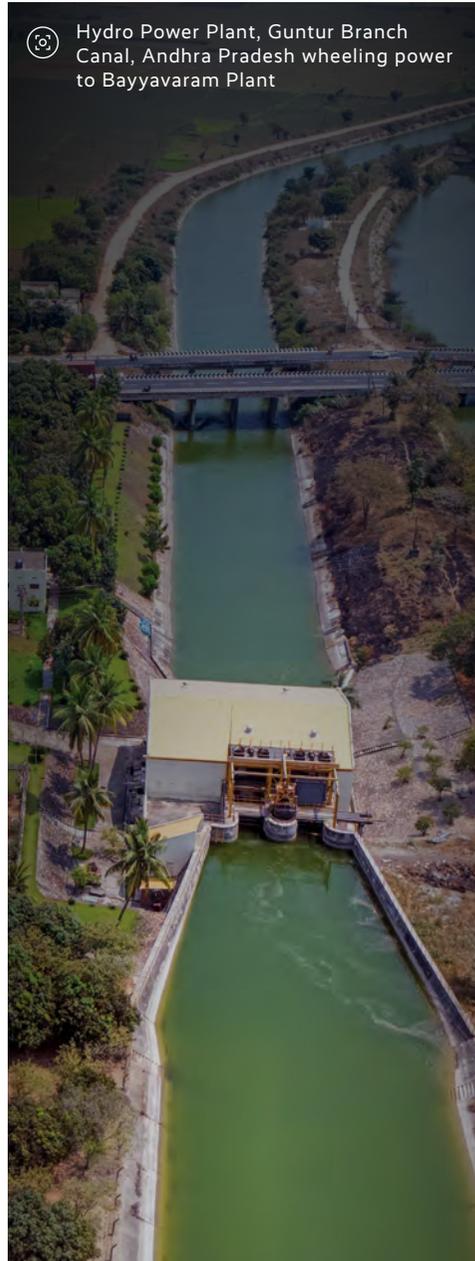


## Key initiatives

- ◆ **Increasing share of green energy:** We are committed to expanding the use of green energy at our cement plants by optimising our power mix, which includes WHRS, hydro, and solar power. In January 2025, we commissioned a 6 MW solar power plant at Gudipadu, increasing our total green energy capacity to 30 MW.
- ◆ **Using electric vehicles across three plants:** We have incorporated Electric Vehicles (EVs) at three of our plants. At Mattampally and Dachepalli, two EV loaders are utilised at each plant for material handling. Meanwhile, at Bayyavaram, two EV trucks are deployed for transporting slag to the plant and dispatching cement.



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**Hydro Power Plant, Guntur Branch Canal, Andhra Pradesh wheeling power to Bayyavaram Plant**

### Renewable energy and Green energy

Sagar Cements is diversifying its energy usage by investing in renewable energy, such as solar and hydro-power plants along with installation of green energy like waste heat recovery systems across plants. We have installed renewable energy power plants on-site and off-site and have significantly increased our renewable energy consumption in the past four years.

**30 MW**

Renewable Energy and Green Energy Capacity

**62,075 MWh**

Total electricity consumption from renewables and green energy

**52,556 MWh**

Waste Heat Recovery Systems (WHRS) power plants

**4,088 MWh**

Solar power

**5,431 MWh**

Hydro power

### CASE STUDY



## Portable solar lighting towers to enhance energy efficiency

The Dachepalli plant adopted portable solar lighting towers to enhance energy efficiency and lower its carbon footprint. Conventional lighting systems were replaced with solar towers to cut power consumption, minimise CO<sub>2</sub> emissions, and offer a flexible lighting solution suited to changing operational needs. Installation began in January and a monitoring system was set up to track energy savings and performance.

Traditional lighting towers consumed 1.20 kW/hour; solar towers brought this down to zero, eliminating grid dependency. Each tower now saves energy cost worth ₹ 9 per hour, totalling ₹ 33,696 annually. The switch has also reduced CO<sub>2</sub> emissions by 24 tCO<sub>2</sub>. It has also improved operational flexibility, enabling its positioning in different parts of the plant, depending on lighting requirements.

**24 tCO<sub>2</sub>e**  
Emissions reduction annually



**Portable solar power used at Dachepalli Plant**



## ENERGY

### CASE STUDY



## VFD systems to promote energy conservation

The Dachepalli cement plant has installed a Variable Frequency Drive (VFD) for the cooling tower water pump of cement mills. It has led to a noticeable reduction in electricity consumption and reduced 255 of tCO<sub>2</sub> emissions annually.

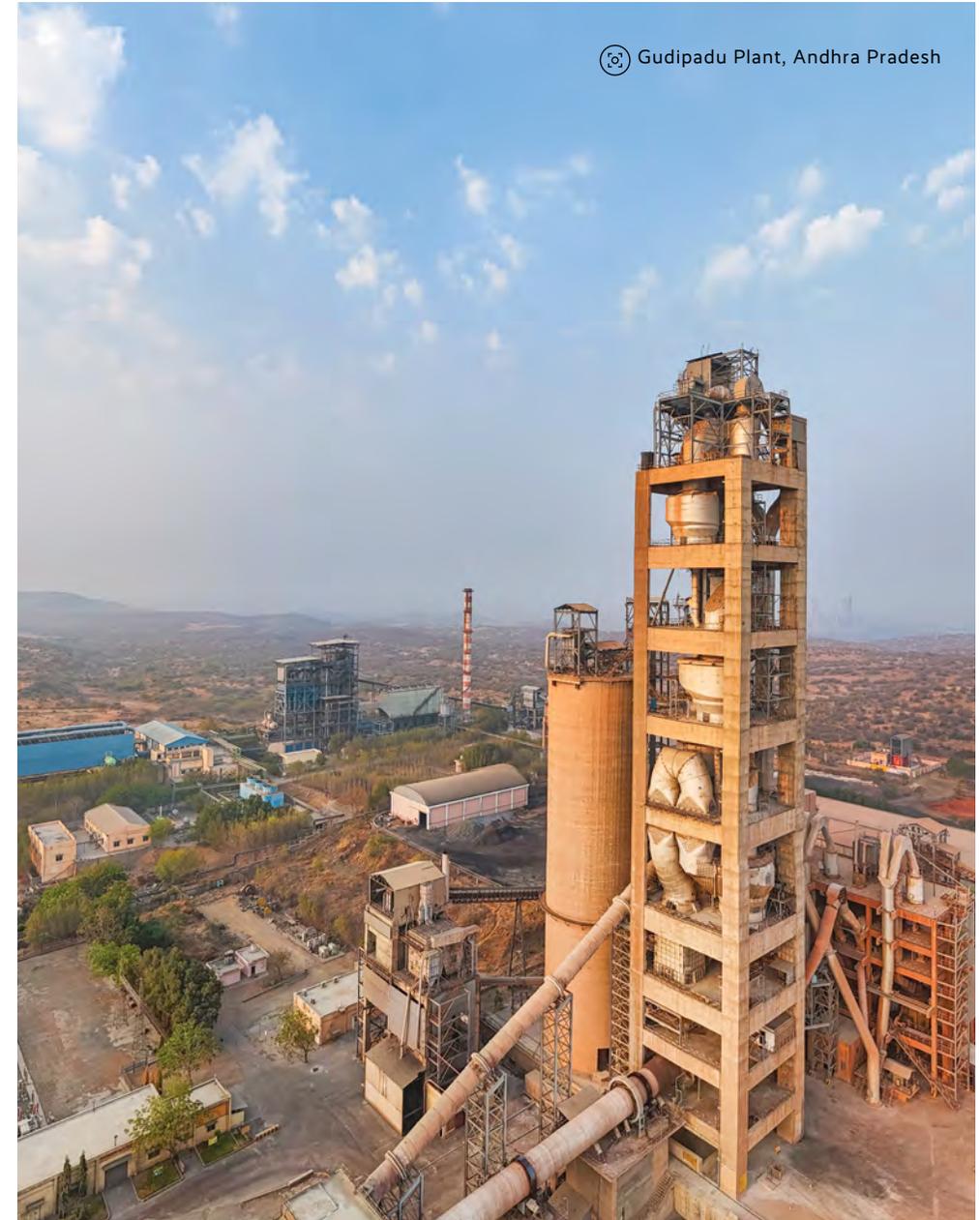
The cooling tower water pump plays a vital role in maintaining the temperature of critical equipment and ensuring smooth operation of cement mills. Previously, the pump operated at a constant speed of 1440 RPM, consuming between 64-68 kW of power per hour, regardless of actual demand. This

fixed-speed operation led to excessive energy consumption, contributing to higher electricity costs and unnecessary carbon emissions.

The VFD was installed to regulate motor speed according to the actual cooling demand. This smart control system reduced the pump's average operating speed to 1000 RPM, resulting in a remarkable decrease in power consumption to just 23 kW per hour.

**255** MT CO<sub>2</sub> emission  
Reduction annually

**40** kWh  
Reduction in power consumption



 Gudipadu Plant, Andhra Pradesh