

Captive Power Plant Performance Overview

Our Power business is driven by the Vision “to supply reliable, efficient and sustainable power for Hindustan Zinc with ZERO harm and at lowest cost.” Led by our strong Sustainability focus, we are continually investing in strengthening our Green Energy business to reduce Greenhouse Gas emission and carbon footprint. At the same time, we are focused on revamping our Thermal plants to boost operational excellence. Collectively, these initiatives are enabling us to drive exceptional improvement in our CPP performance on all major parameters of sustainable growth.

GREEN POWER

Our Renewable Power business encompasses Solar Power, Waste Heat Energy and Wind Power. During FY2021, we had a cumulative green power capacity of 349.19 MW, which included 273.5 MW of wind power, 40.42 MW solar power for captive consumption and 35.27 MW captive capacity of waste heat energy. All our wind and solar power projects are now registered under the Gold Standard, which is globally the most rigorous certification for carbon offset projects. Due to this, the Company generated a revenue of ₹ 8.34 crore from the sale of Carbon Credits, significantly higher than last year.

349.19 MW

Green Power Capacity

5,51,695 ton of CO₂

Emission Reduced in FY2021



SOLAR POWER



1 MW of ground mounted solar power plant commissioned at Kayad mine in FY2021

83.43 mn units produced in FY2021 for captive consumption



WASTE HEAT ENERGY



Waste heat recovery power plants are registered with the Rajasthan Renewable Energy Corporation as a source of renewable energy

203.13 mn units of waste heat energy produced in FY2021



WIND POWER



273.5 MW wind energy plants are located in five states, with long-term power purchase agreements with distribution companies

362.93 mn units of wind power produced in FY2021

Reducing the carbon footprint – the way forward

With sustainability an overarching objective of our business strategy, we remain committed to continuous expansion of our Green Energy footprint. We are moving proactively forward towards achieving our goal to reduce our carbon footprint by 5,00,000 ton of CO₂ through a series of innovative initiatives. These include:

- Installation of 20 MW solar power project at Dariba
- Commissioning of 35.27 MW Waste Heat Recovery Boiler (WHRB) at Fumer project
- Installation of 5.58 MW WHRB at Dariba
- Sifting of Mines Material from underground to surface by Winder, in place of heavy machinery
- Installation of Variable Frequency Drives to reduce auxiliary power consumption
- Upgradation of roof-top solar power plant at Head Office, Udaipur, from 100KW to 200KW
- Revamping of all five unit turbines of CPP
- Use of Electrical HEMM vehicles in underground mines in place of HSD-based HEMM

CONVENTIONAL POWER

Thermal Power Business



Our six coal based thermal power plants have a cumulative power generation capacity of 485.5 MW. In FY2021, Hindustan Zinc CPP generated 4,085 Mn units of power which was 3.73% more than the previous Financial Year.

CPP	PLF (%)	APC (%)	SCC (Gms/kWh)
Chanderiya	97.84	8.14	440
Dariba	99.91	7.78	442
Zawar	83.35	7.54	428

Hindustan Zinc CPP achieved its lowest Specific Coal Consumption of 439 Gms/kWh in last seven years. Also achieved lowest ever Auxiliary Power consumption of 7.99% in FY2021.

Our power business showed remarkable progress during the year due its operational excellence despite the pandemic. Chanderiya & Dariba CPP achieved their best plant load factor. Our Zawar CPP achieved best ever Specific Coal Consumption (428 Gms/kWh) and Auxiliary Power Consumption (7.54%). Further, Hindustan Zinc WHRB STG achieved its best ever generation at 203.13 mn units.

Scaling Safety, Reliability & Operational Efficiency

In tandem with our ZERO Harm policy, we initiated several new sustainability measures at our CPPs during the year, with the explicit aim of ensuring increased safety, reliability and efficiency of operations.



Safety Initiatives

- › Establishment of remote control room for smooth plant operation/safe shutdown of plant in case of any COVID-like situation in control room
- › Weighted CO₂ Flooding System for generator at Chanderiya CPP
- › Installation of automated Pneumatic doors at bottom ash inspection door to avoid fire injury and to avoid the line of fire at all three CPPs



Reliability & Efficiency Initiatives

- › Commissioning of 1 MW Solar Power Project at Kayad mine
- › Gold standard registration of all Renewable Power Projects
- › Successful completion of injury-free Turbine revamping of Zawar Unit #4
- › Waiver of charges through advocacy, resulting in financial saving of ₹ 1.3 crore per month from July 2020 onwards
- › Single CWP (Cooling Water Pump) operation at Chanderiya CPP and at Zawar CPP, enabling Power Saving of 0.6 MU in Q3 of FY2021
- › Commission of Pilot project on FGD by Gore Technology to reduce Sulphur Oxide (SO_x) emissions at Zawar

Power Business at a Glance

**Captive Thermal
Power – 485.5 MW**

**Renewable Power
– 349.19 MW**

**Captive
Thermal
Power**

485.5 MW



**Captive
Solar
Power**

40.42 MW



**Captive
WHRB**

35.27 MW



**Wind
Power
IPP**

273.5 MW



834.69 MW

Total Power Capacity

A Rewarding Journey

A multitude of awards and recognitions validated the strength of our business model and the success of our strategy during FY2021.

Chanderiya & Zawar CPP received 1st prize and Dariba CPP received Runner-up in Thermal CPP Category in **5th Thermal O & M Awards** by Mission Energy Foundation



Won the Gold award in the categories of **“Energy efficiency” and “Water stewardship”** under the flagship **FAME Excellence Awards 2020**



Chanderiya CPP received Runner-up in **“2nd edition Water Optimization Awards”** under category of Zero Liquid Discharge Points by Mission Energy Foundation



Dariba CPP was adjudged **“Best water efficient plant <= 500MW”** in Water Optimization Awards 2020 by Mission Energy Foundation



Dariba CPP received **“Eminent Engineer Award 2020** under category of **Innovation”**



Zawar CPP was Rewarded **GOLD award in Occupation Health and Safety Management** by APEX India Foundation

