

Second Prize

*Thermal Power Stations
(Coal Fired Plants > 100 MW Capacity)*

**1 * 80 MW CAPTIVE POWER PLANT
ZAWAR MINES, HINDUSTAN ZINC LIMITED
Udaipur (Rajasthan)**

Unit Profile

Hindustan Zinc is a Vedanta Group company in zinc, lead and silver business. Company is one of the world's largest integrated producer of zinc and are among leading global lead and silver producers. It is one of the lowest cost producers in the world and are well placed to serve the growing demand of Asian countries.

Company core business comprises of mining and smelting of zinc and lead along with captive power generation. Company own 474 MW of coal based thermal captive power plants in Rajasthan to support its metallurgical operations. In addition, its environment friendly power generation includes 274 MW of wind energy and 36MW from waste heat generation

One unit of 80MW is located at Zawar Mines which uses coal as fuel to Generate Power. Zawar Unit was synchronized in December-2008. The unit has been continuously in operation and has been determined for Energy conservation through the savings by various improvement projects. Company have undertaken various initiatives to reduce the Energy Consumption (Coal, Oil, APC), which is the main cost driver. These initiatives include optimising Indian and imported coal blend, keeping the Coal, Oil & auxiliary consumption at a minimum and operating the power plants at high plant load factor.



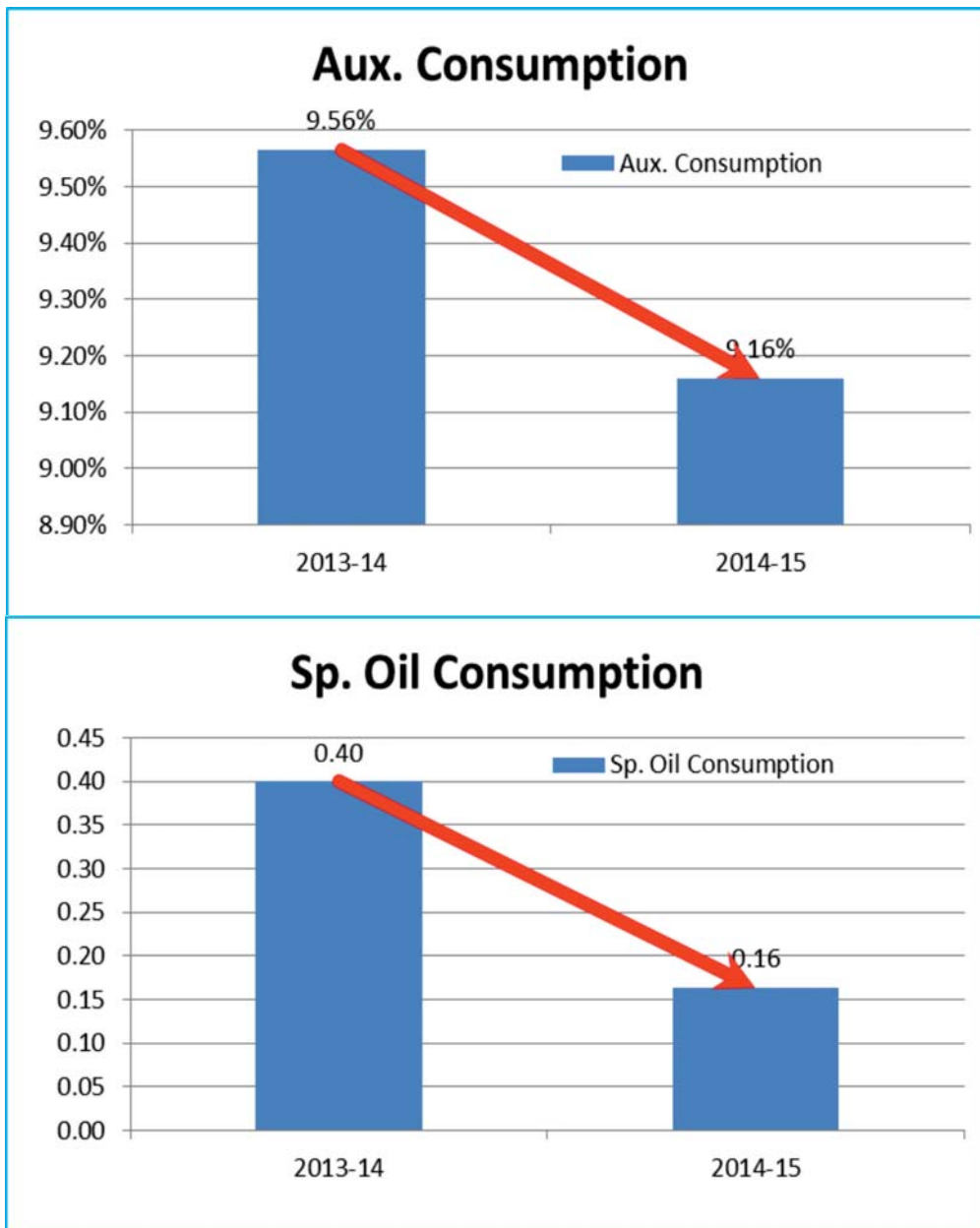
Energy Consumption

For 2014-15 total Generation of CPP Zavar was 624.991 MWh with 89.2% PLF.

The total Auxiliary Power Consumption for the year 2014-15 is improved to 9.2% against 9.56% in 2013-14.

Overall Specific Oil (HSD) consumption was reduced from 0.40 ml/kWh to 0.16 ml/kWh.

Total HSD saving is 124.363 KL. Overall Thermal energy used in the station due to the use of HSD (Billion kcal/ year) is reduced to .902 in 2014-15 against 1.996 in 2013-14.



Energy Conservation

Various initiatives were taken in year 2014-15 to reduce the Energy Consumption (Electricity /Fuel). Some of those initiatives are listed as: -

To reduce the oil consumption:-

1. Light up process optimized through RCA analysis of all units.
2. Modification in OST circuit.
3. Modification in Oil Firing Circuit & MAXDNA Logics.
To Avoid Frequent Tripping & Startup which consumes bulk oil, the following improvement schemes were carried out :-
4. Commissioning of Load Shedding relay for successful islanding operation.
5. To improve the GSS Stability modification done at GSS end, Grid end Main Bus conductor changed from Panther to Zebra conductor.
6. Islanding logic Modification to ensure successful islanding.
7. Feedback contact of Line breaker changed from breaker contact to Relay Contact
8. CT Fan VFD logic modification.
9. Coal Feeder VFD logic Modification.

Total Oil savings for 2014-15 was 124.363 KL

Measures taken for Auxiliary Power Saving:-

1. Modification in Raw Water Circuit, Using Water through Gravity & stopped 15 KW Raw Water Pump.
2. Modification in CT Make Water Circuit, Stopped 30 KW CT Makeup Pump.
3. Cooling Tower VFD close loop logic modification.
4. Energy savings from CT Fan and Seal Air fan VFD.
5. Automation of Service Water Circuit.
6. Optimization of ESP.
7. Ultrasonic Leak Test to identify Air Leaks.
8. Installation of LED Lights in TG Building.

Total Energy savings for 2014-15 was 0.5526 Million KWh

Total Energy savings for 2014-15 can be tabulated as:

Annual Energy savings achieved and investment made due to implementation of Energy Efficiency improvement measures	2014-15
Electrical Energy Savings (Million kWh/ year)	0.55
Electrical Energy Savings (Lac Rs/ year)	19.12
Oil Savings (KL/ year)	124.36
Total fuel savings (Million kCal/ year)	1094.15
Total fuel savings (Lacs Rs/ year)	68.40
Total annual energy savings (Lacs Rs/ year)	87.52
Investment made on energy conservation measures (Lacs Rs/ year)	10.00

Energy Policy



Energy and Carbon Policy

Hindustan zinc acknowledges the global concern on climate change and recognizes that concerted and sustained global action is required to reduce the scale of the problem and to adapt to its impacts. Hindustan zinc is committed to this effort through its own progressive energy and carbon programme that forms an integral part of our vision for sustainable development and is consistent with our overall business vision and mission.

Hindustan zinc strives to:

- Adopt and maintain global best practices on carbon and energy management and minimising greenhouse gas emissions throughout our operations. We will continue to measure our direct energy usage and carbon emissions, and maintain our year-on-year efforts to reduce energy consumption across our operations. We will endeavour to define and publish specific energy and specific carbon reduction targets, maximising the benefits of process improvements and technology advances;
- Periodically measure, monitor and report to all relevant stakeholders on our greenhouse gas emissions in compliance with the internationally recognised protocols and working closely with others to reduce energy consumption and carbon intensity;
- Foster research and innovative techniques within our operations leading to optimal utilisation of resources with continuous focus on minimising specific energy consumption in all our operations. We will seek to use our leading position within the geographies that we operate to act as an advocate of effective energy and carbon emissions management;
- Invest in clean energy and maximise benefits from waste energy recovery;
- Provide for adaptation and future-proofing of our facilities;
- Communicate our approach and achievements actively to stakeholders, and will work closely with policy-makers to encourage effective and equitable abatement policies within our sectors of operation;
- Consider carbon emissions for our project and R&D investments;
- Work with our staff, wider communities and other stakeholders to demonstrate our commitment to greenhouse gas emission reduction principles and practices.

We will measure and report progress against this policy and review performance on a periodic basis to ensure ongoing management of energy and carbon. The content and implementation of this policy will be reviewed periodically and actions taken accordingly including the sharing of good practices throughout Hindustan zinc organisation.

Akhilesh Joshi
Chief Executive Officer &
Whole - Time Director

Date: 29th March, 2012



Hindustan Zinc
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