Manufactured Capital

With a CDP leadership band rating of A-, JSW Energy is leading the renewable transition in a confident and responsible manner with an acute focus on the renewable targets, while maintaining high standards of operational efficiency in the existing power plants. We are steadily approaching our 2025 target of achieving an installed capacity of 10 GW, and subsequently enhancing the capacity to 20 GW by 2030, from our present installed capacity of 6.6 GW. This continuous growth in capacity reaffirms our vision of becoming a Net Zero organisation on, or even before, 2050.

Description of the Capital

Manufacturing Capital encompasses our tangible assets used to carry our business activities. With a focused and quick decision making, our leadership team navigates the capital investments to manage a diverse portfolio of assets and create value for our customers.

Management Approach

To provide continuous and reliable supply of power with increased share of renewables in the generation portfolio, aligning with our approach to combat climate change.

Significant Aspects

- Power generation assets
- Power transmission assets
- Power distribution assets
- Encouraging a circular economy

Key Performance Indicators	Material Topics	Strategy Linkage
• Installed capacity • Renewable capacity • Investment in Renewable portfolio	• Plant efficiency • Increase in renewables	**S01** Embracing a greener future **S04** Measuring environmental impact of our operations **S05** Ensuring efficient operations of our existing assets

We are a resilient organisation and a responsible corporate citizen, having one of India's "best-run" power plants, and maintaining a consistent focus on improving further efficiency. The plants have been recognised constantly for efficient operational capabilities. We have also improved our power generation capacity – from 260 MW in year 2000 to 6.6 GW in FY 2023. For our business activities in power generation, transmission and trading, we rely on optimum utilisation of our resources.

Key numbers

10
Presence in number of States

6,564 MW
Total Installed Capacity

Generation Capacity Mix

52%
Renewable

48%
Non-Renewable

Gross Generation
– By Source (MUs)

- Thermal **17,396.27** MU
- Hydro **5,636.76** MU
- Solar **419.42** MU
- Wind **32.66** MU

Increase in Power Generation Capacity

Thermal
3,158 MW
Capacity in FY 2023

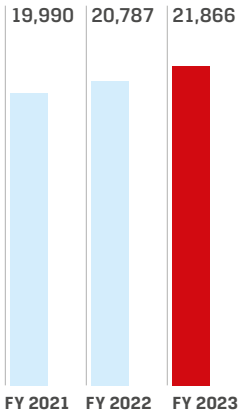
Hydro
1,391 MW
Capacity in FY 2023

Total (Thermal, Hydro, Solar, Wind)
6,564 MW
Capacity in FY 2023

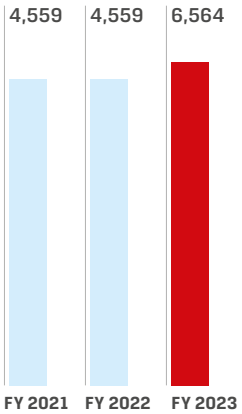
20,000 MW
Target Capacity in FY 2030
(Thermal, Hydro, Solar, Wind)

Creating and Delivering Value for our Stakeholders

Total Net Generation
(MUs)



Installed Capacity
(MW)



Our Operational Performance

Thermal Power Plants

For our thermal power plants, we select coal which will have the lowest impact on the environment, such as, primary fuels like coal and lignite, and secondary fuels like heavy fuel oil and light diesel oil. To maximise production efficiency, we regularly maintain and refurbish the plant equipment, and ensure strict implementation of the standard operating procedures. There are no transmission losses as the customer boundary starts just after the Switchyard itself. Thus there were no transmission reliability issues with customers in FY 2023.

Plant Load Factor (%)

	FY 2022	FY 2023
Vijayanagar	44.94	51.16
Barmer	75.86	77.01
Ratnagiri	57.31	59.39
Hydro	47.66	47.84

Power Generation in FY2023 (MUs)

	Net Generation (MU)	Gross Generation (MU)
Vijayanagar	3,550.06	3,853.88
Barmer	6,544.35	7,285.66
Ratnagiri	5,714.72	6,242.89
Hydro	5,595.11	5,636.76

Hydro Power Plants

Hydro power contributes nearly 21% of our total power generation capacity. Karcham Wangtoo Hydro Electric Power Plant, with an installed capacity of 1,091 MW, is India's largest private sector hydro power plant. Since its commissioning, it has achieved the highest-ever Plant Availability Factor (PAF) in FY 2023.

There are no transmission losses at Karcham Wangtoo because the customer boundary starts just after the pothead yard itself. At BASPA II there is a 15 Km transmission line upto the Jhakhri substation from where the customer boundary starts.This resulted in a transmission loss of 8.7544 MU. There were no transmission reliability issues with customer

Solar Power Plants

Our solar power plants have a total capacity of 657 MW, and are spread across different locations in Rajasthan, Andhra Pradesh, Maharashtra and West Bengal.

Net Generation of Solar Power Plants

419.28 MUs
In FY 2023

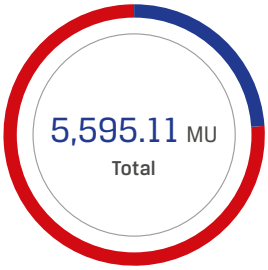
15 MUs
In FY 2022

Other Operational Assets

We have a joint venture with Maharashtra State Electricity Transmission Company Limited (MSETCL), for two 400 kV transmission lines in Maharashtra. We are also engaged in trading of power since 2006. The combined capacity of our Lignite Mines, Barmer Lignite Mining Company Limited (BLMCL) in Rajasthan is 9 MTPA. This is a joint venture with Rajasthan State Mines and Minerals Limited (RSMML), which holds 51% equity in BMCL.

There were no gas leakage issues in any of the plants as JSW Energy does not have any gas based power plants

Hydro Power Generated NET (MU)



- Baspa II **1,338.07** MU
- Karcham Wangtoo **4,257.04** MU

Net Generation of Hydro Power Plants

5,595 MW
In FY 2023

5,520 MW
In FY 2022

Generation Data in FY 2023

	Karcham Wangtoo	BASPA II	Solar
Gross (MU)	4,284.84	1,351.91	1.62
Net (MU)	4,257.04	1,338.07	1.62

Overall Plant Load Factor for Hydro Power Plants

47.84%
FY 2023

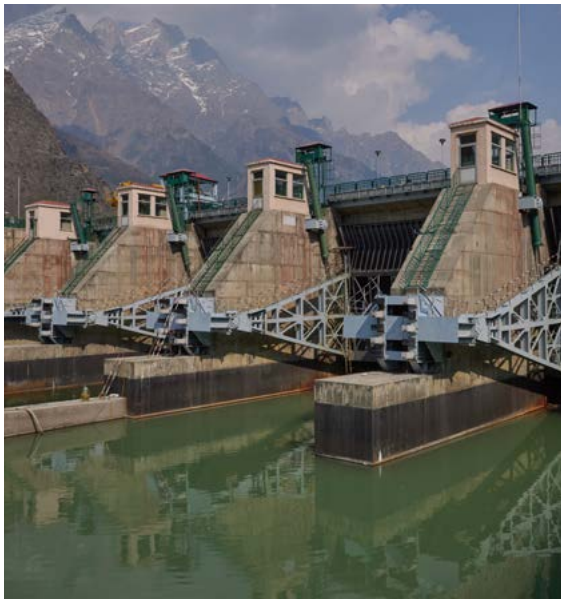
47.66%
FY 2022

46.81%
Karcham Wangtoo

46.91%
Karcham Wangtoo

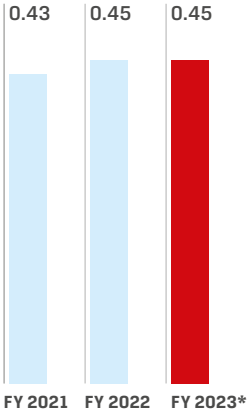
51.44%
Baspa II

50.24%
Baspa II



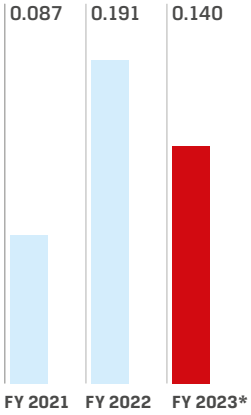
Key Performance Indicators

Specific Coal Consumption
(KG/KWH)



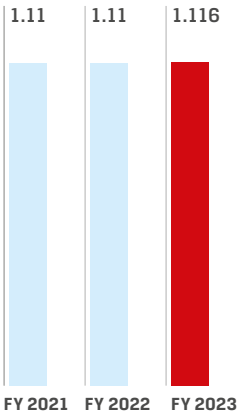
* Coal Consumption 45,99,008 MT
Lignite 59,81,401 MT

Specific Oil Consumption
(M^3/MU)

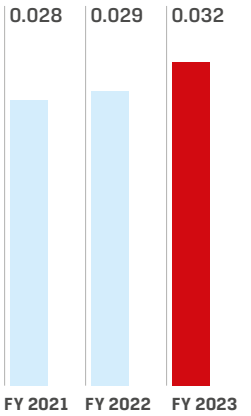


* Oil Consumption 3,298.74 KL

Specific Raw Water Consumption
(m^3/MWH)



Specific DM Water Consumption
(m^3/MU)



Utilisation of Ash in FY 2023

Total Ash Utilised: 13,89,038 MT

	Units	Vijayanagar	Barmer	Ratnagiri	Nandyal
Total Ash	MT	2,12,958	9,47,667	2,26,158	2,253
Sold to Cement Cos RMC	MT	1,18,092	6,54,720	1,80,831	2,253
Used in making Ash Bund / Dyke	MT	56,230	0	13,591	
Used for Brick Making	MT	33,877	2,92,947	30,755	
Other Reuse	MT	4,761	0	981	
Total Utilisation	%	100%	100%	100%