



## Manufactured Capital

We are working on an ambitious plan to increase our renewable assets through the key business activities of power generation, transmission and trading. From 4.6 GW, we plan to grow our installed capacity to 10 GW by 2025 and to 20 GW by 2030. This will enable us further our vision of becoming India's top independent power producer and a net-zero company before 2050.

<b>Description of the Capital</b>	This Capital encompasses our tangible assets used to carry our business activities and create value. The Company manages capital investments to manage a portfolio of assets and create value for customers.
<b>Management Approach</b>	To offer competitive supply of energy in a safe and reliable environment
<b>Significant Aspects</b>	<ul style="list-style-type: none"> <li>• Power generation assets</li> <li>• Power transmission assets</li> <li>• Power distribution assets</li> <li>• Encouraging a circular economy</li> </ul>

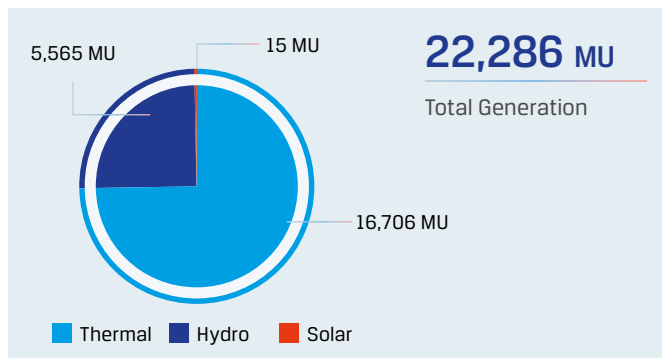
Key Performance Indicators	Material Topics	Strategy Linkage
<ul style="list-style-type: none"> <li>• Installed capacity</li> <li>• Renewable capacity</li> <li>• Investment in Renewables portfolio</li> </ul>	<ul style="list-style-type: none"> <li>• Operational efficiency of plants</li> <li>• Increase in renewables</li> </ul>	<p><b>S01</b> Embracing a greener future</p> <p><b>S04</b> Measuring environmental impact of operations</p> <p><b>S05</b> Ensuring efficient operations of our existing assets</p>



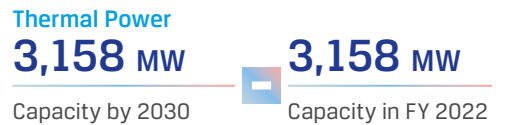
Since the commissioning of our first 2x130 MW thermal power plant at Vijayanagar, Karnataka, over two decades ago, we have had a consistent focus on improving efficiency of all our plants to create sustainable value for all our stakeholders. We have one of the best run power plants across India. Our plants have gained consistent recognition for their efficient operational capabilities.

Over the years, we have steadily enhanced our power generation capacity from 260 MW in 2000 to 4,559 MW, having a portfolio of 3,158 MW in thermal power, 1,391 MW in hydropower, and 10 MW in solar power. We rely heavily on optimum utilisation of resources for our business activities in power generation, transmission and trading, lignite/ coal mining. With our focus and steadfastness, we emerge as a resilient organisation acting as a responsible corporate citizen towards the society and environment.

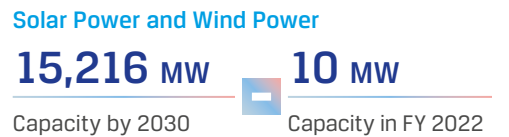
**Gross Generation – By Source (MUs)**



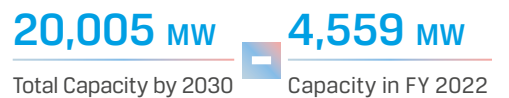
**Increase in Power Generation Capacity**



240 MW New Capacity to be added



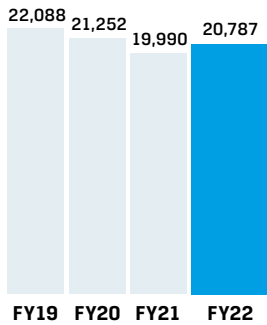
15,206 MW New Capacity to be added



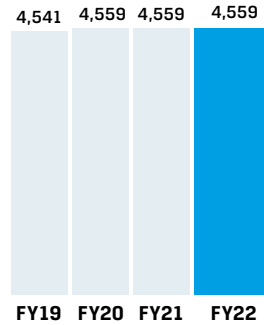
15,446 MW New Capacity to be added

## Creating and Delivering Value for Stakeholders

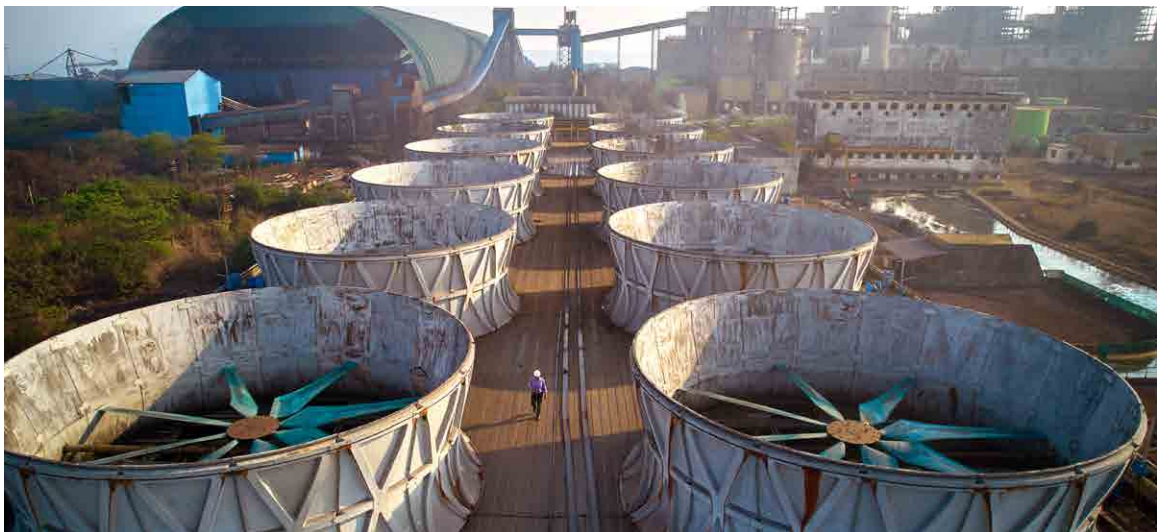
### Total Net Generation (MUs)



### Installed Capacity (MW)



## Operational Performance



### Our Thermal Power Plants

Our constant focus is on selecting coal for our thermal plants with the lowest impact on the environment. We make use of primary fuels like coal and lignite, and secondary fuels like heavy fuel oil and light diesel oil. We ensure strict implementation of the standard operating procedures. In order to maximise our production efficiency, we ensure regular maintenance and refurbishment of the plant equipment.

### Power Generation in FY2022 (MUs)

	Net (MU)	Gross (MU)
Vijayanagar	3,114.50	3,385.78
Barmer	6,515.37	7,176.71
Ratnagiri	5,515.35	6,024.76
Hydro	5,520.29	5,563.83*

\* Excluding 1.65 MU of captive Solar Generation

### Plant Load Factor in FY2022 (%)

	FY2021	FY2022
Vijayanagar	31.82	44.94
Barmer	74.26	75.86
Ratnagiri	58.97	57.31
Hydro	49.81	47.66

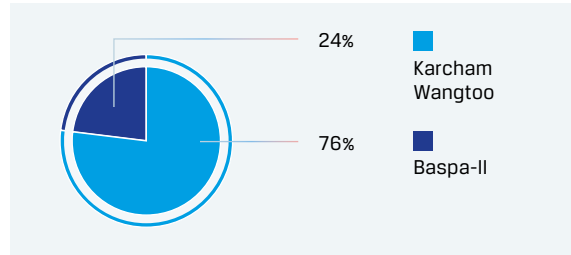


### Our Hydro Power Plants

Hydro power contributes nearly 30% to our total power generation capacity. With an installed capacity of 1,091 MW, our Karcham Wangtoo Hydro Electric Power Plant is India's largest private sector hydro power plant. During FY2022, the plant achieved the highest-ever Plant Availability Factor (PAF) since its commissioning.



### Hydro Power Generated



### Net Generation of Hydro Power Plants

**5,520 MU** in FY2022      **5,629 MU** in FY2021

### Generation Data for FY21-22

	Karcham Wangtoo	BASPA II	Solar
Gross (MU)	4,243.46	1,320.37	1.65
NET (MU)	4,214.40	1305.89	1.65

### Overall PLF for Hydro

FY22 - 47.66%	FY21 - 49.81%
Karcham Wangtoo - 46.91%	KW - 49.79%
BASPA II - 50.24%	BASPA II - 49.89%

### Our Solar Power Plants

Spread across different locations in Rajasthan, Andhra Pradesh, Maharashtra and West Bengal, our solar power plants have a total capacity of 10 MW.

### Net Generation of Solar Power Plants

**15 MUs** in FY2022      **12 MUs** in FY2021

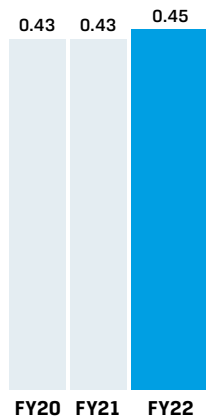
### Other Operational Assets

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 Power Trading since 2006. The combined capacity of our lignite mines, Barmer Lignite Mining Company Limited (BLMCL) in Rajasthan is 9 MTPA. This is also in a joint venture with Rajasthan State Mines and Minerals Limited (RSMML), who hold 51% equity in BLMCL.

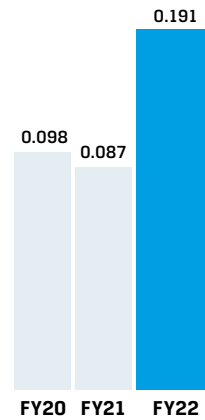


## Key Performance Indicators

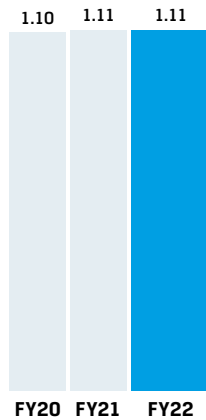
### Specific Coal Consumption (KG/KWh)



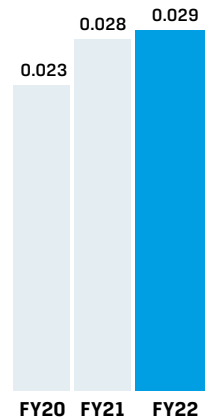
### Specific Oil Consumption (M3/MU)



### Specific Raw Water Consumption (m3/MWH)



### Specific DM Water Consumption (m3/MWH)



### Utilisation of Ash in FY2022

**Total Ash Utilised: 1471833.52\* MT**

	Units	Vijayanagar	Barmer	Ratnagiri
Total Ash	MT	2,54,517	8,46,777.43	3,56,658.09
Sold to Cement Co'sRMC	%	47	68.57	65.78
Used in making Ash Bund / Dyke	%	38		8.6
Used for Brick making	%	15	23.59	25.62
Used in Mines	%	0	7.84	0
Total Utilisation	%	100	94.38	100

\* 13881 MT of ash utilized in nandyal plant (100%) is included here





## Compliance Audits

As part of compliance requirements and leveraging the ideal of 'continual improvement', the below audits are conducted across all our plants.

**Environmental Management System Audits-**  
Internal & External

**Integrated Management System Audit & Re-certification-** External

**Health and Safety-**  
Internal & External

## Quality Certifications

All thermal and hydro operating plants are certified to ISO International Standards. We strive to maintain the best quality at our manufacturing plants. We also endeavour to emphasise on the importance of health and safety of our workers contributing towards our plant operations. Quality, occupational health, safety, and environmental factors play a critical role in our production processes. We not only identify the impact of production on the environment, we also address the impact to achieve sustainable growth and development. JSW Energy Ltd received ISO 27001: 2013 certification for Information Technology compliance

### JSW Energy Limited-Vijayanagar (860 MW)



ISO-9001:2015, ISO 14001:2015, ISO45001:2018, ISO 50001:2018

### JSW Energy Limited-Ratnagiri (1,200 MW)



ISO-9001:2015, ISO 14001:2015, ISO45001:2018, ISO 50001:2018

### JSW Energy Limited-Barmer (1,080 MW)



ISO-9001:2015, ISO 14001:2015, ISO45001:2018, ISO 50001:2018

### JSW Hydro Energy Limited (1,391 MW)



ISO-9001:2015, ISO 14001:2015, ISO45001:2018, ISO 50001:2018





### Awards & Recognition

A keen focus on optimum utilisation of resources, efficient operations, occupational safety and minimising environmental impact provide us with due recognition each year. In FY2022, our manufacturing plants were awarded with several recognitions.







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## 1 Awards received by Barmer plant during FY2022

- Achieved Five Star Rating in Occupational Health and Safety Audit conducted by British Safety Council, demonstrating commitment towards continual improvement for health and safety management systems
- Awarded the 2021 Sword of Honour by the British Safety Council for excellence in Occupational Health and Safety
- Bagged the Mission Energy Foundation 6<sup>th</sup> Edition of Thermal Power O&M – Conference award that was scheduled on 2<sup>nd</sup> June 2021, focusing on O&M best practices. JSWBL won in the category of "Power Plant Performer  $\geq$  500 MW Lignite"- Winner
- Won the State Safety Award-2021, appreciated by Factories & Boilers Inspection, Rajasthan Government
- Received "Extra Mile CSR Initiative Award-2021" under topmost Diamond Category organized by Green Maple Foundation
- Secured the most credible and prestigious "Excellence Award for COVID 19 Relief Activities in 2020" in the Energy sector,



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organized by Global Safety Summit (GSS)

- Received "Excellence in Energy Efficiency -2021" for Improving Net Heat Rate (Category – IPP Lignite 125-250 MW) organised by Council of Enviro Excellence (CEE)

## 2 Awards received by Vijayanagar plant during FY2022

- Received "SEEM National Energy Management Award 2020 under Gold category" in recognition to efforts towards achieving sustainable energy performance
- Received Certificate of Appreciation for timely return filing and sizeable payment of GST in cash issued by the Central Board of Indirect Taxes & Customs, Ministry of Finance
- Conferred with Extra Mile Energy Conservation Awards – 2021 under top-most Diamond category for outstanding achievement in the area of Energy conservation by Green Maple Foundation
- Awarded Best Water Efficient Plant less than 500 MW category by Mission Energy, New Delhi
- Awarded Energy Efficient Unit for energy conservation at the



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National Award for Excellence in Energy Management 2021 by Confederation of Indian Industry

- Bagged prestigious award Unnatha Suraksha Puraskara for the Best Safety Management Systems & Safety Performance by National Safety Council Karnataka chapter
- CPP4 was awarded Excellent Energy Efficient Unit under the coal CPP greater than 50 MW category for best Net Unit Heat Rate by Council of Enviro Excellence
- Received Diamond Award in GMF Ace Awards-2022 under the Corona Fighter Award Category organized by Green Maple Foundation
- Awarded Innovation in Data Intelligence Award for Innovation in Data Intelligence by International Data Center TQM excellence awards
- Twelve awards received at CCQC Nagpur Chapter under different categories like Case Studies, Essay, Slogan competition TQM excellence awards
- Bagged Golden Peacock National Quality Award for Year 2021 in the Power Sector (Generation) Category



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### 3 Awards received by Ratnagiri plant during FY2022

- Achieved 5 STAR rating in Occupational Health & Safety audit conducted by the British Safety Council demonstrating the commitment of JSW Energy for excellence in Health & safety management systems
- National Energy Management Award-2020 by Society of Energy Engineers & Managers (SEEM) in Gold category
- Recognized as "Energy Efficient Unit" in National Award for Excellence in Energy Management organized by CII
- Bagged State Level Award for Excellence in Energy Conservation & Management by MEDA
- Won Quality Circle Awards for QCFI (quality circle forum of India) and NCQC (national convention on quality concepts) Awards
  - 'Excellent' rating in the 'Eat Right' campus program of Ministry of Health & Family welfare, GOI.
  - Awarded 'Best Thermal Power Generator' in IPPAI power award 2022.

### 4 Awards received by JSW Hydro Energy (Baspa-II and Karcham Wangtoo) during FY2022

- Platinum Winner of Extra Mile Award-2021 for Outstanding Contribution in Environmental Initiatives by Green Maple Foundation
- Platinum Winner of Extra Mile Award-2021 for Outstanding Contribution in Safety Management by Green Maple Foundation
- Platinum Winner of Extra Mile Award-2021 for Outstanding Contribution in Energy Conservation by Green Maple Foundation
- 9<sup>th</sup> FICCI Safety System Excellence Awards – Silver Prize in Power Sector- for KW & Baspa-II HEP by FICCI
- Won the Occupational Health & Safety Award -2021 by Grow Care India
- Bagged the GMF Ace Business Excellence Award-2022 by Green Maple Foundation

### 5 Awards received by JSW Energy Limited during FY2022

- JSW Energy, as a Corporate Entity, won the prestigious "Golden Peacock Award for Occupational Health & Safety", organised by the Institute of Directors, which included all the operational Thermal and Hydro Power Plants.