

MANUFACTURED CAPITAL



Our plant infrastructure acts as a key strength of our organisation that we use efficiently and utilise our resources throughout our value chain to ensure quality power supply to our customers.

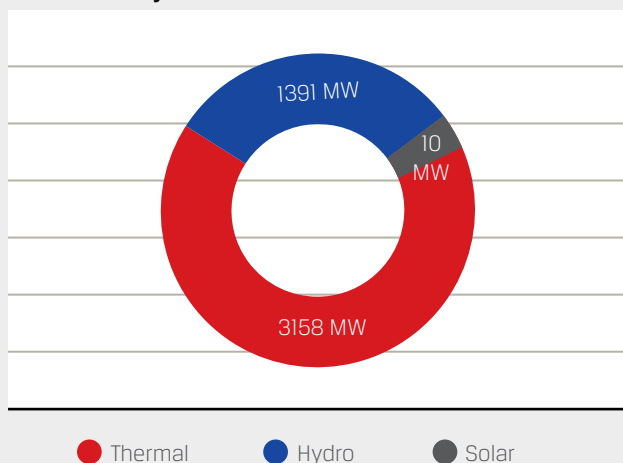
At JSW Energy, we consistently focus on improving the efficiency of our plants to create a sustainable value for our stakeholders. Our activities encompass power generation, transmission and trading, lignite/coal mining. Our philosophy relies heavily on the optimum utilisation of resources, which makes us competitive and resilient as we operate in dynamic economic conditions. It also enables us to act as a responsible corporate citizen towards our society and environment.

Operational Review

We have one of the best run thermal and hydro plants across India. Our plants have been consistently recognised for their efficient operational capabilities. We are also exploring opportunities in the renewable energy. During FY2020, our Karcham Wangtoo Hydro Electric Power plant achieved its highest ever PLF in FY2020 since commissioning.

In FY2020, our net generation stood at 21,252 MUs as against 22,088 MUs in the previous year. The deemed Plant Load Factor was at 66.01% as against 65.18% in the previous year.

Generation By Source



4,559 MW

Total Generation Capacity

Creating Value

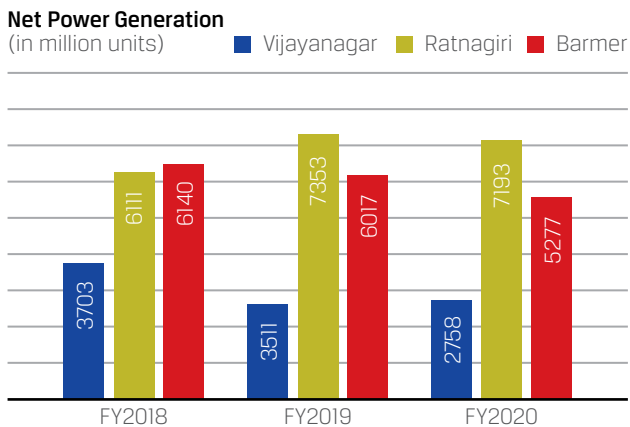
Optimum Utilisation of Resources	KPI	Trend	FY2018	FY2019	FY2020
The Total Net Generation stood at 21,252 MUs recording a decrease of 3.78%	Total Net Generation (MUs)	●	21,816	22,088	21,252
The Plant Load Factor for the year was 66.01%, which has recorded an increase of 83 bps YoY	Deemed Plant Load Factor (%)	●	64.53%	65.18%	66.01%
The current installed capacity is 4,559 MW, which has increased by 18 MW from the previous year	Installed Capacity (MW)	●	4,531	4,541	4,559

- Legend**
- Increasing Trend
 - Decreasing Trend
 - No Trend

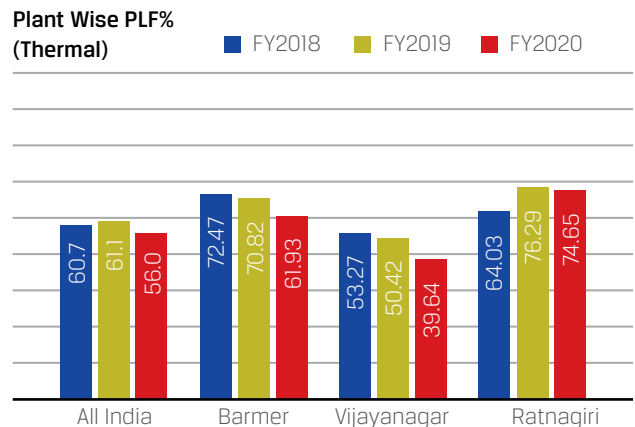
Our Plants

Thermal Power Plants

We procure primary fuels such as coal and lignite, and secondary fuels such as heavy fuel oil and Light diesel oil. We identify the risks and opportunities at the time of coal selection. Therefore, we focus on selecting coal, which has low impact on the environment, post combustion. We ensure regular maintenance and refurbishment of our plant equipment to maximise production efficiency. Furthermore, we ensure strict implementation of the standard operating procedures.



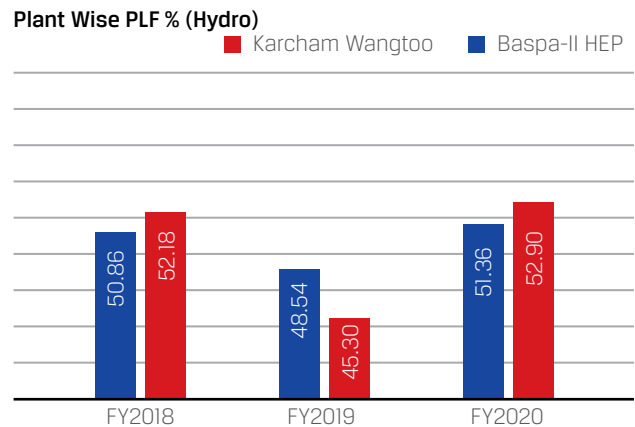
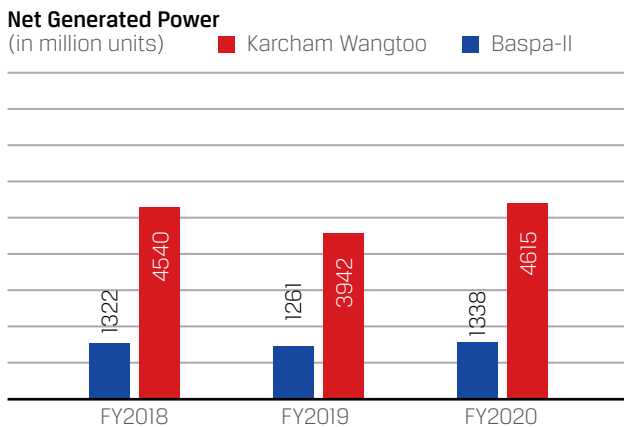
In addition to above the net generation from Nandyal Thermal Plant in FY 2020 - 58 million units



Source: CEA

Hydro Power Plants

Hydro power a renewable source of power generation, forms about 31% of our total generation capacity. With state of the art infrastructure, our Karcham Wangtoo plant, with 1091 MW installed capacity is the country's largest private sector hydro power plant.



Solar Power Plants

We have 10 MW of solar power plants, which is spread across different locations in Rajasthan, Andhra Pradesh, Maharashtra and West Bengal. Going forward, our vision to achieve 10 GW capacity over the medium term will be primarily driven by renewable energy.

13 million units

Net Solar Power Generation in FY2019-20
 Net Solar Power Generation in FY 2018-19 - 4 million units

Other Operational Assets

We have two 400 kV transmission lines in Maharashtra in Joint Venture with Maharashtra State Electricity Transmission Company Limited (MSETCL).

We have a 9 MTPA combined capacity of lignite mines in Rajasthan in a Joint Venture with Rajasthan State Mines and Minerals Limited (RSMML).

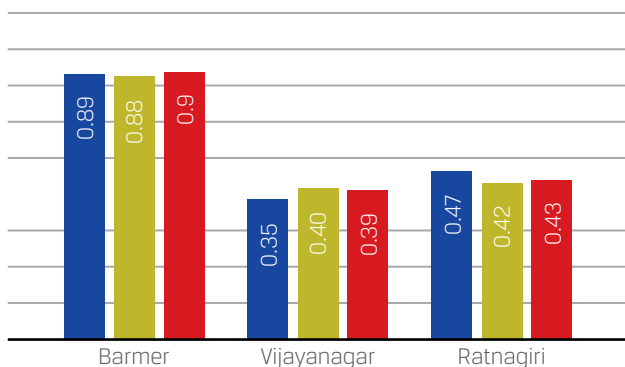
We are engaged in Power Trading since 2006.

Key Performance and Highlights

Specific Coal Consumption

(Kg/KWh)

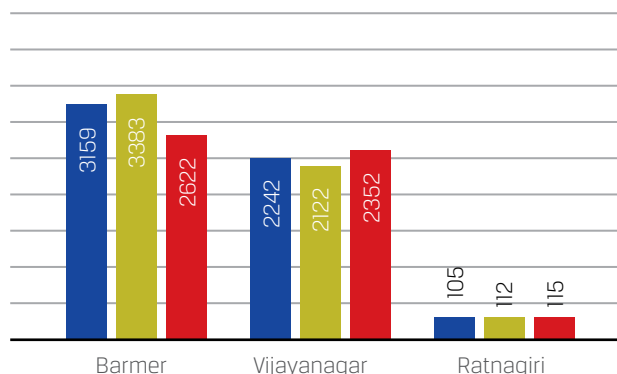
FY2018 FY2019 FY2020



Specific Raw Water Consumption

(m3/MU)

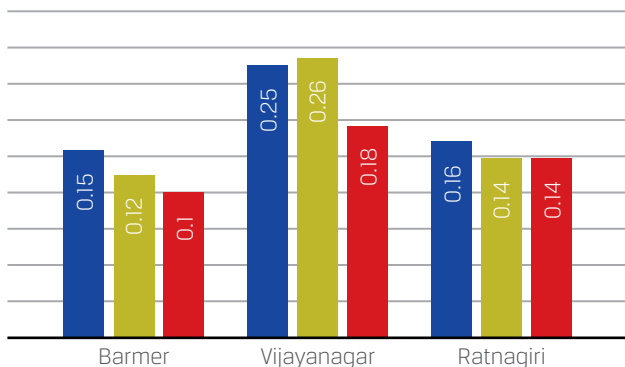
FY2018 FY2019 FY2020



Specific Oil Consumption

(m3/KWh)

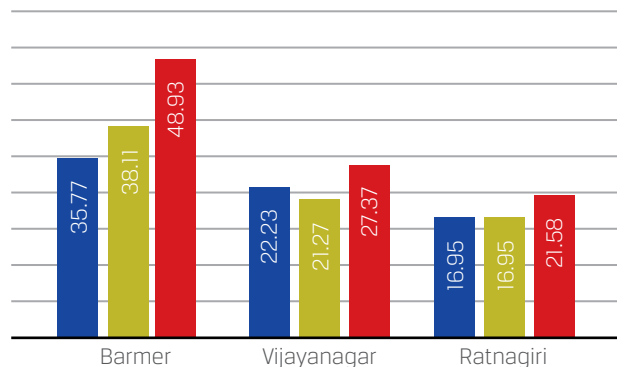
FY2018 FY2019 FY2020



Specific DM Water Consumption

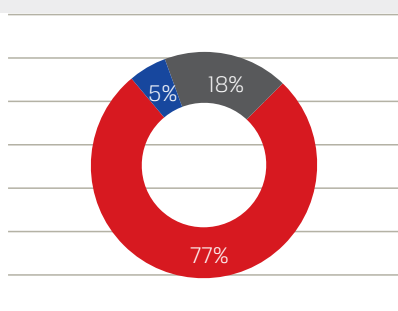
(m3/MU)

FY2018 FY2019 FY2020

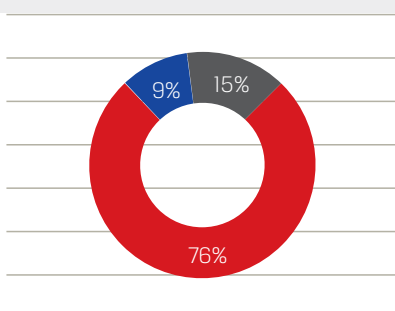


Fly Ash Utilisation Streams

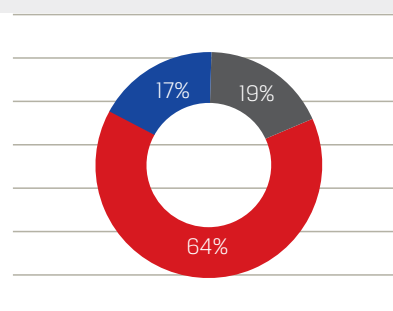
Vijayanagar



Ratnagiri



Barmer



● Cement Companies
 ● Ash Pond Bunds
 ● Brick Making
 ● RMC
 ● Cement Plant
 ● Bricks/Blocks
 ● Cement Companies
 ● Bricks
 ● Mines

Compliance Audits

Following audits are conducted across all our plants as part of compliance requirements as well as leveraging the ideal of 'continual improvement'

- Environmental Audits – Internal & External
- Integrated Management System Audit & Re-certification – External
- Health and Safety – Internal & External

Quality Certifications

For us, quality, occupational health, safety, and environmental factors play a very critical role in our production process. Therefore, we strive to maintain the best quality while also emphasising on the importance of health and safety of our workers who contribute towards the successful operations of our plants. Furthermore, we identify the impact of our production activities on the environment and address them for sustainable growth and development.

Our plants are certified to the following management systems:

- JSW Energy Limited-Vijayanagar (860 MW): ISO 9001-2015, ISO 14001-2015, BS OHSAS 18001-2007, and ISO 50001-2011
- JSW Energy Limited-Ratnagiri (1,200 MW): ISO 9001-2015, ISO 14001-2004, OHSAS 18001-2007, and ISO 50001-2011
- JSW Energy Limited-Barmer (1,080 MW): ISO 9001-2015, ISO 14001-2015, OHSAS 18001-2007, and ISO 50001-2011
- JSW Hydro Energy Limited (1,391 MW): ISO 9001-2015, ISO 14001-2015, and OHSAS 18001-2007

Recognition

Our constant efforts towards making the optimum utilisation of our resources, efficient operations, ensuring occupational safety, and minimising environmental impacts are reflected in the recognitions that we receive year after year. In FY2020, our plants were recognised with several awards.

JSW Energy Limited, Vijayanagar

During the year, the Company received the following awards:

- **'Shining Glory Award-2019'** by Green Maple Foundation, Chandigarh- Awarded on 26 May-

2019- Trophy and Certificate (Won under Environment Management-Achiever Category)- for Excellent Performance in Environmental Management

- **'Global Environment Award 2019'** by Energy and Environment Foundation, Delhi – Awarded on 23 August-2019 at Convention Centre, NDCC- New Delhi- Trophy and Certificate(under Platinum Category)- for Achievement in Latest Environmental practices and Management
- **CII National Award for Excellence in Energy Management -2019** by Confederation of Indian Industry(CII)- Awarded on 18 September-2019 at HICC(Hyderabad International Convention Centre) Hyderabad- Awarded as Energy Efficient Unit(Trophy & Certificate)- For the Energy conservation measures and Best practices adopted for conservation of Energy
- **'SEEM National Energy Management Award 2019'** by Society of Energy Engineers and Managers,- Awarded on 26 September-2019 in the Award Ceremony at Islamic Cultural Centre, New Delhi - Won Silver Award (Trophy & Certificate)- For the Energy conservation measures and Best practices adopted for conservation of Energy
- **State Level Safety Award – Best Power Boiler'** by Director of Factories, Boilers, Industrial Safety & Health, Bangalore, Govt of Karnataka for Captive Power Plant # 1 boiler - Awarded on 04 March-2020- Got "First Prize" (Trophy & Certificate) For the best safe practices adopted
- **Certificate on Excellence in Safety** to the Captive Power Plant # 2 by JSW Steel Limited during the National Safety day celebrations on 04 March 2020- For maintaining commendable safety performance during the calendar year 2019.

JSW Energy Limited, Barmer

- **"Shining Glory Award - 2019" under "Business Excellence" category** from Green Maple Foundation.
- **"Shining Glory Award - 2019" under "Women Empowerment" category** from Green Maple Foundation.
- **"Rajasthan CSR Leadership Award 2019" under "Poverty Alleviation" category.**

- **"National NGO & CSR Excellence Award-2019", for "Water & Sanitation-2019"** presented at the 6th National NGO and CSR summit-2019.
- Received **"Certificate of Appreciation for Good Practices in Safety Systems"** at 8th FICCI Safety Systems Excellence Awards for Industry 2019, New Delhi.
- **IPPAI "20th Regulators & Policymakers Retreat-2019" award**, certificate of excellence and trophy received for the Best Innovation.

JSW Energy Limited, Ratnagiri

- **CII National Award for Excellence in Energy Management -2019** by Confederation of Indian Industry(CII)- Awarded on 18 September-2019 at HICC(Hyderabad International Convention Centre) Hyderabad- Awarded as Excellent Energy Efficient Unit (Trophy & Certificate)- For the Energy conservation measures and Best practices adopted for conservation of Energy
- **The Best Operating Thermal Power Plant National award by IPPAI Power Awards – 2019** awarded on 7th December 2019 (Trophy). The award was announced at 20th Regulators & Policymakers Retreat-2019, a platform for thought-provoking discussions and creation of recommendations for the future of the Indian power sector. The objective of award is to recognise the contributions made towards energy efficiency.
- **Certificate of Appreciation from Confederation of Indian Industry (CII)** for good work in area of sustainability during CII ITC Sustainability Awards 2019. The certificate was received in January-2020
- **Declared 1st Winner Award at the 14th State level Energy Conservation Award** by Maharashtra Energy Development Agency (MEDA) for excellence in energy conservation and management.
- **Golden Bird Excellence Award-2020-** Declared winner in Gold Category on 29th November 2019 for the outstanding project on energy efficiency.