

# Shubham Kumar (22GG10048)

(All Data collected from the official annual report of BHEL “ <https://www.bhel.com/annual-reports> ”)

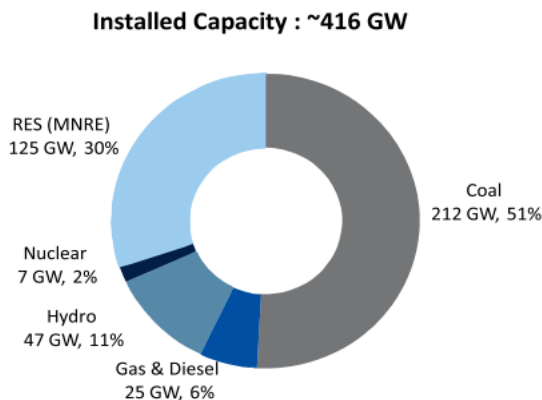
## VISION AND MISSION AND PRODUCT

BHEL Vision: To be a global engineering leader enhancing stakeholder value.

BHEL Mission: Innovate, compete, and excel in power, industry, and transportation sectors globally, providing reliable and cost-effective solutions.

Products: BHEL is a key player in designing, manufacturing, and servicing power generation equipment, transmission systems, and industrial products.

## COMPETITION FOR THE COMPANY



*As on March 31, 2023*

*Source: Central Electricity Authority (CEA), Ministry of Power*

Major competition for the company in the recent future is its coal operation. While the focus on renewables will continue, however coal-based power plants are expected to remain the mainstay of India's power generating capacity in the coming years, in view of their suitability for continuous & round-the-clock operation, availability of technology and the large domestic reserves of coal.

While the focus on renewables will continue, coal-based power plants are expected to remain

vital for India's power needs due to continuous operation suitability, available technology, and ample coal reserves. BHEL, a key player in this sector, anticipates a revival in orders for high-efficiency supercritical power plants. Despite recent muted ordering levels, BHEL sees a positive trend with a good order pipeline for coal-based power plants.

In the hydro power segment, BHEL has secured orders and expanded its customer base. Looking ahead, BHEL aims to capitalize on thermal sector opportunities by offering Advanced Ultra Supercritical technology and clean coal solutions. The company is also expanding its Spares & Services business.

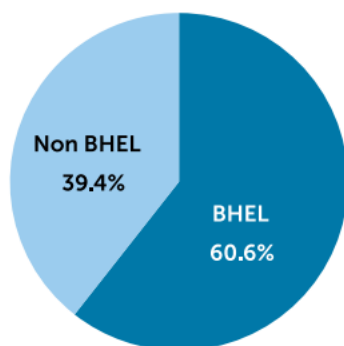
To ensure grid stability amidst renewable integration, BHEL is customizing solutions for flexible operation of coal-based thermal power plants. The company has demonstrated success in this area and received multiple orders. Diversification initiatives include focusing on clean coal, transportation, defense, and aerospace segments.

In rail transportation, BHEL secured a significant order for "Vande Bharat Express," marking success in diversification. The company is gearing up for upcoming opportunities in semi-high-speed trainsets and higher rating electric locomotives. In defense and aerospace, BHEL received the highest order booking, indicating its role in indigenization efforts.

Emerging areas like coal gasification and green hydrogen are part of BHEL's growth strategy. The company has developed Pressurized Fluidized Bed Gasification technology and aims to commercialize it.

#### Generation - Utility (Coal & Lignite)

1,182.05 BU (FY 2022-23)



Additionally, BHEL is exploring opportunities in green hydrogen, aligning with the National Green Hydrogen Mission.

Efforts to enhance organizational capabilities include resource augmentation, partnerships, and technology development, reinforcing BHEL's position in adjacent business areas.

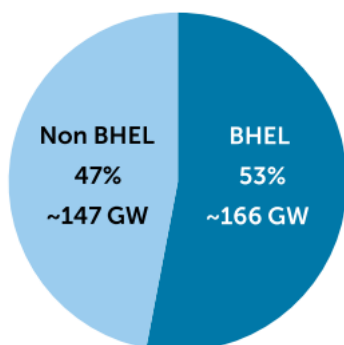
### **BUSINESS MODEL AND PROFITABILITY PROSPECTS (ENERGY SECTOR)**

BHEL, established in 1964, has been a significant contributor to India's power sector. In FY 2022-23, BHEL achieved a capacity addition of 1,580 MW in utility power projects, constituting 100% of India's total commissioning for Thermal, Hydro, and Nuclear Sets. Notable achievements include the synchronization of projects with limited BHEL scope and the commercial operation of the 2x660 MW Maitree Super Thermal Power Project in Bangladesh.

In the supercritical thermal power segment, BHEL commissioned 30 supercritical Steam Generators (SGs) and 23 supercritical Turbine Generators (TGs) by March 31, 2023. The company also dispatched its 44th Nuclear Steam Generator for the Gorakhpur Atomic Power Project, reinforcing its position in the Nuclear Power segment.

#### Installed Capacity - Utility\*

3,13,567 MW (March 31, 2023)



*\*Includes Thermal, Nuclear & Hydro; Excludes Solar, Wind and Bio-Power; Based on capacity at the time of installation*

BHEL maintained a lion's share in India's installed thermal capacity, nuclear power generation capacity, and hydro power generation capacity by the end of FY 2022-23. The company's supplied sets contributed to 60.6% of the country's total coal and lignite-based utility generation.








BHEL's supplied subcritical plants, including Bakreshwar-2 and Singrauli-1, demonstrated outstanding performance, ranking among the top 5 in India in terms of Plant Load Factor (PLF) based productivity.

Looking ahead, BHEL is strategically positioned to capitalize on opportunities in the thermal sector, emphasizing enhanced EPC capabilities, emission reduction solutions, and spares and services business. The company is actively involved in the development of Advanced Ultra Super Critical (AUSC) technology and endeavors to play a crucial role in reducing greenhouse emissions.

BHEL's focus extends to diversification into areas like coal to chemicals, carbon capture, and utilization and sequestration technologies. The company is committed to sustainability, as evident in its commissioning of the country's first utility-scale thermal power plant with an Air Cooled Condenser (ACC), significantly reducing water consumption.

In conclusion, BHEL's robust performance, strategic initiatives, and focus on sustainability position it well for future growth and contribution to India's energy landscape.

### **ACKNOWLEDGEMENT AND RECOGNITION**

Customer	Appreciated BHEL for	Customer	Appreciated BHEL for
 NTPC and its JVs/ Subsidiaries	<ul style="list-style-type: none"> <li>Individual team members received appreciation for Boiler Modification Works of Unit-1 of NSTPS within stipulated time.</li> <li>Successful trial operation &amp; COD of Unit-3 boiler &amp; ESP of NPGC (MW)</li> <li>Overhauling of Unit-2 of Bongaigaon.</li> <li>Early completion of maintenance works of Darlipalli 2X800 MW</li> <li>Completion of Shut down work (Dismantling &amp; Erection of service transformer and associated bus ducts) of Unit-2 of Kahalgaon FGD &amp; ESP R&amp;M</li> </ul>	 MAHAGENCO	Complete overhauling of HPT Module & Annual overhaul work of Unit-7 of Chandrapur
		 CSPGCL	COH work done in U#1 DSPM Korba site
		 WBPDCL	Record plant load factor in subcritical units of Bakreshwar, Santaldih and Sagardighi.
 TANGEDCO	<ul style="list-style-type: none"> <li>Successful completion of Boiler hydrotest with zero leakage at Udangudi site 2X660 MW</li> <li>Successful completion of Non Drainable Hydro test and RH Hydro test along with pipe lines without any leakage in North Chennai Stage-III 1X800 MW</li> <li>Rectification of defects in control valve servo motor (RHS) of Unit-2 of North Chennai Stage-II 2x600 MW</li> </ul>	 NPCIL	<ul style="list-style-type: none"> <li>Winning Project Safety Runner-up Shield by prestigious customer on occasion of 52st National Safety Day – 2023</li> <li>Successful mechanical testing along with effort and time savings for rework of erected pipes of TG piping of Kakrapara site</li> </ul>
		 UPRVUNL	<ul style="list-style-type: none"> <li>Complete overhauling of Generator of Unit-11 of Obra site</li> <li>Services work at Unit-6 of Parichha TPS as well as Unit-3 of Anpara TPS</li> </ul>

### **BUSINESS MODEL AND PROFITABILITY PROSPECTS (INDUSTRY SECTOR)**

In FY 2022-23, the Industry Sector, a key player in various sectors of the Indian economy, achieved significant milestones. With a focus on Transportation, Defence & Aerospace, Transmission, Renewables, Oil & Gas, Captive Power Plant, Industrial Products, Battery Energy Storage, and e-Mobility, the sector secured orders worth ₹9,537 Crore, marking the highest order booking in the last 13 years.

#### Transportation:



WAG-9H electric locomotive for Indian Railways supplied by BHEL

BHEL, a pioneer in rail transportation, has been integral to India's rail growth for over six decades.

Notable achievements include securing an order for 80 sets of "Vande Bharat" trainsets valued at ₹23,000 Crore, and receiving orders for Electric and Diesel-Electric locomotives.

#### Transmission:



DC Hall of  $\pm 800$  kV, 6000 MW UHVDC link between the Western Region Grid (Raigarh, Chattisgarh) and the Southern Region Grid (Pugalur, Tamil Nadu) successfully implemented by BHEL

As India transitions to greener energy, BHEL addresses the demand for reliable transmission networks.

Achievements include securing orders for substation packages, GIS substations, transformers, and contributing to the successful implementation of a 6,000 MW UHVDC link.

#### Defence and Aerospace:



BHEL aligns with the "Make in India" initiative, focusing on self-reliance in the defence sector.

Capabilities encompass precision manufacturing, engineering, and design for Defence equipment, including offerings such as Super Rapid Gun Mount, Integrated Platform Management System (IPMS), and aerospace applications.

Looking ahead, BHEL aims to capitalize on emerging opportunities, focusing on technology upgrades, manufacturing advancements, and strategic collaborations. The company remains well-poised to contribute significantly to India's rail transportation, power transmission, and defence sectors.

## **ANALYSIS OF FINANCIAL PERFORMANCE**

### **1.8.1 BHEL Standalone Financial Statement Review:**

Bharat Heavy Electricals Limited (BHEL) reported its standalone financial results for the fiscal year 2022-23. The key highlights are as follows:

Financial Results:

#### **Total Income:**

Particulars	2022-23	2021-22
Revenue from contract with customers	22136	20153
Other operational Income	1229	1058
Other Income	515	368
Total Income	23880	21579

In 2022-23, the total income was ₹23,880 Crore, showing an 11% increase from the previous year's ₹21,579 Crore.

Revenue from contracts with customers reached ₹22,136 Crore, up by 10% from the previous year.

Insight: The growth is attributed to the company's focus on project execution, especially in construction and project-related activities.

#### **Other Operational Income:**

Particulars	2022-23	2021-22
Other operational income	1229	1058

BHEL achieved its highest level of other operational income, reaching ₹1,229 Crore

during the year.

Insight: This indicates diversification and additional income streams beyond core operations.

#### **Other Income:**

Particulars	2022-23	2021-22
Interest income	421	303
Dividend on investment in joint venture – BGGTS	26	30
Profit on sale of units of Mutual Fund / items of PPE, Govt. grants & others	68	35
Total	515	368

Other income stood at ₹515 Crore, with interest income being a significant component.

Insight: The major share of other income is from interest, boosted by income tax refunds and gains from disinvestment.

#### **Expenses:**

Particulars	2022-23	2021-22
Cost of Raw Materials consumed	5875	5062
Purchases of Bought Out Items	4658	4142
Civil, erection & engineering expenses	5421	4793
<b>Sub total</b>	<b>15954</b>	<b>13997</b>
(Accretion)/Decretion in inventories of finished goods, work in progress and scrap	(57)	525
<b>Total</b>	<b>15897</b>	<b>14522</b>
Material cost % of revenue	72%	72%

Material Consumption, Erection, and Engineering Expenses:

- Material cost accounted for 72% of revenue.

- The company maintained material costs at the same level as the previous year despite challenges like commodity price volatility.

Insight: Efforts in cost optimization and focus

on higher-margin areas contributed to maintaining material costs.

#### **Employee Benefits Expenses:**

Particulars	2022-23	2021-22
Employee benefits expenses	5701	5517
No. of Employees	29536	30758

- Employee benefits expenses increased marginally by 3%.

The company reduced manpower by about 4%.

Insight: Despite marginal cost increases, strict control over variable expenses and workforce reduction were implemented.

#### **Other Expenses:**

Various categories of other expenses were controlled, with manufacturing, administrative, and sales & distribution expenses restricted at lower levels than the previous year.

Insight: Stringent control mechanisms and a focus on cost optimization positively impacted the bottom line.

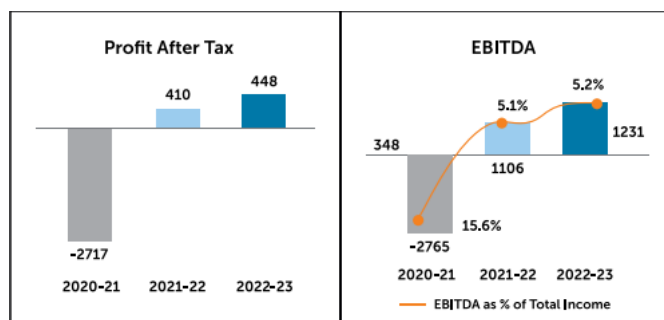
#### **Finance Costs:**

Particulars	2022-23	2021-22
Discount & other expenses on commercial papers	51	139
Interest expense	309	60
Un- winding of provisions	161	156
<b>Total</b>	<b>521</b>	<b>355</b>

- Finance costs increased in FY 2022-23 due to higher interest rates globally and increased borrowings.

Insight: The global economic scenario and higher borrowing impacted finance costs, leading to a rise.

### Profitability:



- BHEL achieved a 10% increase in topline, with Profit After Tax reaching ₹448 Crore, aided by efforts in taxation and net withdrawal of provisions.

Insight: Despite challenges, the company achieved growth in both revenue and profitability.

### Other Comprehensive Income:

- Other comprehensive income includes gains and losses on defined benefit plans.

Insight: Re-measurement gains/(losses) on defined benefit plans contributed to other comprehensive income.

### Financial Position:

Particulars	March 31, 2023			March 31, 2022		
	PPE	Intangible	Total	PPE	Intangible	Total
Gross carrying value	6621	328	6949	6331	309	6640
Less: Accumulated depreciation / amortisation	4212	261	4473	3995	247	4242
<b>Net carrying value (net block)</b>	<b>2409</b>	<b>67</b>	<b>2476</b>	2336	62	2398
CWIP & intangible assets under development	345	9	354	422	9	431
Total			2830			2829

Property, plant, and equipment (PPE) and intangible assets showed a net carrying value of ₹2,476 Crore.

Equity investments, trade receivables (net), cash & cash equivalents, and deferred tax assets were also reported.

Insight: The financial position indicates the company's asset values, equity investments, and liquidity.

### Segment Performance:

BHEL operates in two segments: Power and Industry. Both segments reported positive bottom lines.

Insight: The diversified business segments contribute positively to the overall financial performance.

### Joint Venture Companies:

Particulars	March 31, 2023	March 31, 2022
Cash & cash equivalents	1561	733
Deposits having maturity more than 3 months but not more than 12 months	4852	6211
Earmarked bank balances & FD against margin money	230	210
Total	6643	7154

BHEL has joint ventures like BHEL-GE Gas Turbine Services (BGGTS), NTPC BHEL Power Projects (NBPPL), Raichur Power Corporation (RPCL), and Power Plant Performance Improvement (PPPII).

Insight: The financial performance and status of each joint venture company are summarized, providing a comprehensive view of BHEL's diversified interests.

### Consolidated Financial Statement (CFS):

Particulars	For the year ended	
	March 31, 2023	March 31, 2022
Revenue from operations	23365	21211
Profit /(loss) before tax	479	470
Profit /(loss) after tax	477	445
Other comprehensive income/ (loss)	(17)	77
Total comprehensive income / (loss)	461	522

CFS prepared in accordance with Ind AS -110 and Ind AS 28 indicates a consolidated view of BHEL's financial performance.

Insight: The consolidated financial statement provides a holistic view of the entire group's financial health.

### Fund Position and Liquidity:

- Cash generated from operations, net cash flow from working capital changes, and net cash flow from operating, investing, and financing activities are provided.

Insight: The company experienced positive cash generation from operations, but working capital changes impacted the overall cash flow position.

### Segment Performance (Consolidated):

Particulars	2022-23		2021-22	
	Power	Industry	Power	Industry
Segment revenue	17499	4637	15361	4792
Segment results	1400	433	1949	(39)
Segment capital employed	18300	3094	17100	3440

- The consolidated segment performance includes both power and industry segments.

Insight: This section offers insights into the performance of various segments at a consolidated level.

In summary, BHEL's standalone financial statement for 2022-23 reflects a mixed performance with revenue growth, controlled expenses, and challenges in finance costs. The diversified business segments, joint ventures, and consolidated financials provide a comprehensive overview of companies finances.

### SHAREHOLDING PATTERN OF BHEL (data taken from"

<https://www.bhel.com/distribution-shareholding-pattern-30092023>)

Share price -180.45 (+8.45)/4.15%

Promoters-63.17%

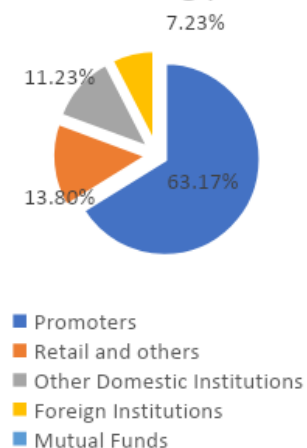
Retail and others-13.80%

Other Domestic Institutions-11.23%

Foreign Institutions-7.23%

Mutual Funds-4.57%

Share holding percent





## PROFIT AND LOSS STATEMENT (Screenshot for reference)

### Standalone Statement of Profit and Loss

For the year ended March 31, 2023

(₹ in Crore)

Particulars	Note	Page	For the year ended March 31, 2023	For the year ended March 31, 2022
<b>INCOME</b>				
Revenue from operations	22	226	23364.94	21211.09
Other income	23	227	514.81	367.81
<b>TOTAL INCOME</b>			<b>23879.75</b>	<b>21578.90</b>
<b>EXPENSES</b>				
Cost of raw materials consumed			5875.28	5062.40
Purchases of Bought out items			4657.33	4141.75
Civil, erection and engineering expenses			5421.08	4792.61
Consumption of stores & spares			404.18	271.44
"Changes in inventories of finished goods, work in progress and Scrap"	24	227	(57.15)	525.64
Employee benefits expense	25	228	5700.63	5516.84
Other Expenses	26	228	647.03	162.49
Finance costs	27	231	521.43	354.72
Depreciation & amortisation expense	3.1 4.1	206 211	260.34	314.06
<b>TOTAL EXPENSES</b>			<b>23430.15</b>	<b>21141.95</b>
<b>PROFIT BEFORE TAX</b>			<b>449.60</b>	<b>436.95</b>
<b>Tax expenses</b>	28	232		
a) Current tax			(111.22)	(77.13)
b) Deferred tax			113.27	103.84
<b>PROFIT FOR THE YEAR (A)</b>			<b>447.55</b>	<b>410.24</b>

## FINANCIAL RATIOS

Sl. No.	Particulars		2022-23	2021-22	2020-21	2019-20	2018-19
<b>XII Financial Performance Ratios</b>							
1	Return on Net worth	%	1.63	1.52	(9.63)	(4.82)	3.77
2	Return on capital Employed	%	4.13	3.44	(14.45)	(0.59)	8.43
3	EBITDA margin	%	5.16	5.12	(15.64)	1.58	9.04
4	Operating Profit margin	%	(0.28)	0.33	(23.01)	(5.79)	4.50
5	Revenue per employee	₹ in lakhs	75	66	51	61	83
6	Revenue per rupee of employee benefit expenses	₹	3.88	3.65	3.03	3.78	5.35
<b>XIII Balance Sheet Ratios</b>							
1	Current ratio	Ratio	1.29	1.30	1.39	1.45	1.67
2	% liquidation of current year net billing	%	86	86	82	73	59
3	Trade receivable (no. of days)	Days	102	107	152	198	190
4	Inventory (no. of days)	Days	111	119	161	159	97
5	Assets Turnover	Times	0.40	0.38	0.32	0.37	0.48
<b>XIV Per Share data</b>							
1	Earning per share	(₹)	1.29	1.18	(7.80)	(4.23)	3.33
2	Net worth per share	(₹)	78.29	77.46	76.06	83.80	90.27
3	Market Price per share (BSE) as at year end	(₹)	70.13	49.35	48.75	20.80	74.90
4	Market Price to Book Value	Ratio	0.90	0.64	0.64	0.25	0.83
<b>XV Segment Revenue</b>							
	Power Segment	₹ in crore	17499	15361	11386	14960	23474
	Industry Segment	₹ in crore	4637	4792	4910	5530	5949
	<b>Total</b>	₹ in crore	<b>22136</b>	<b>20153</b>	<b>16296</b>	<b>20491</b>	<b>29423</b>
<b>Segment Share</b>							
	Power Segment	%	79	76	70	73	80
	Industry Segment	%	21	24	30	27	20

### MY ANALYSIS:

I believe investing in the company is a good idea. Here's why:

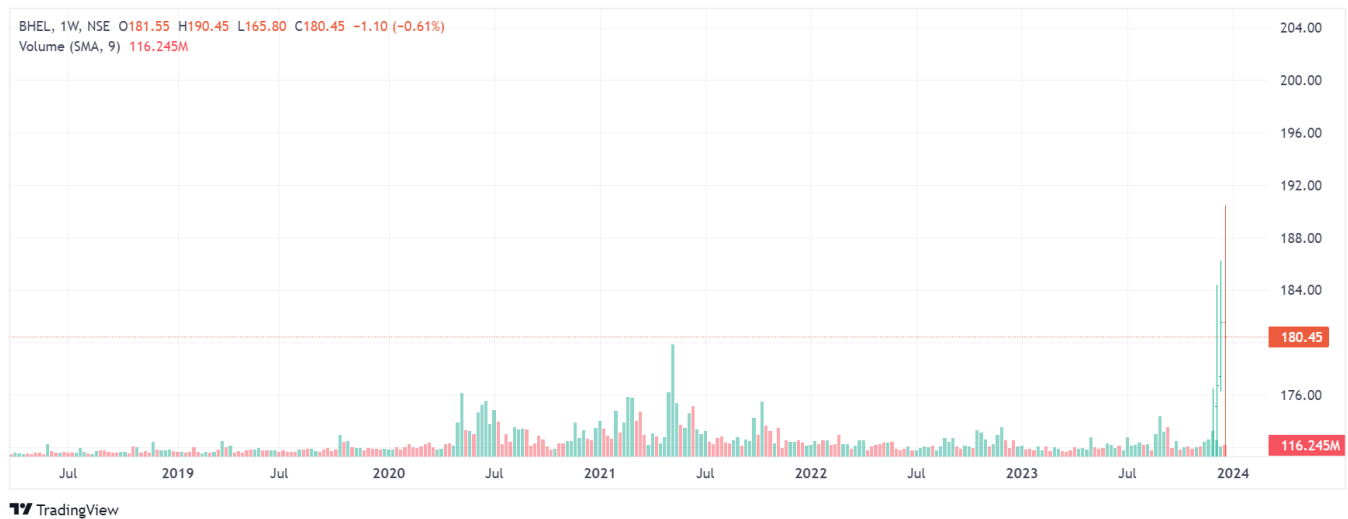
- 1) The company's revenue has gone up to 22,136 crores rupees.
- 2) The percentage of other expenses compared to revenue has decreased to 6.6%.
- 3) The company is EBIDTA positive.
- 4) A project-focused approach has improved cash collection.
- 5) It's a leader in energy production (55% market share).
- 6) It has several partnerships with government enterprises.
- 7) There's healthy year-over-year growth.

### Concerns:

Earnings per share have declined.

### Final thoughts:

Investing in BHEL seems wise due to government support, robust revenue, and its strong fundamentals. It's a good long-term investment.



Peace out:)