



SHARE PRICE BEHAVIOR & RISK

ANALYSIS REPORT

Company Name: Tata Power Company Limited

Current Market Price: INR 408.65

Business: Power generation, transmission & distribution of electricity

NSE: TATAPOWER | BSE: 500400

Period Covered: May '21 to May '26



TATA POWER

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1. Executive Summary

This report presents a statistical and market-based analysis of the share price behaviour of Tata Power Company Limited (“Tata Power”) over the historical five-year period (May’21 to May’26). The objective of the report is to evaluate the company’s share price trends, volatility characteristics, market sensitivity, and broader risk profile through quantitative and qualitative analytical techniques.

The analysis indicates that Tata Power has demonstrated strong long-term price appreciation, primarily supported by structural growth in India’s power and renewable energy sector, increasing investor optimism toward clean energy transition, and the company’s strategic expansion into renewable generation, EV infrastructure, and integrated energy solutions.

Statistical analysis of historical return behaviour suggests that the stock exhibits moderate to high volatility and significant sensitivity toward broader market movements. Return based regression analysis indicates a positive correlation with the Nifty 50 Index, while the estimated beta coefficient exceeding unity reflects an aggressive market-linked risk profile relative to the benchmark index.

Furthermore, the report identifies that the share price movements are influenced not only by macroeconomic and market-wide developments, but also by sector-specific developments including renewable energy policies, infrastructure expansion, and investor sentiment surrounding India’s energy transition ecosystem.

Risk assessment through Value at Risk (“VAR”) analysis further highlights the stock’s exposure to short term market volatility and downside fluctuations under stressed market conditions. Despite these risks, Tata Power remains strategically positioned to benefit from long term structural trends including rising electricity demand, electrification, renewable energy adoption, and energy infrastructure modernisation.

Overall, the analysis suggests that Tata Power represents a strategically evolving energy enterprise with strong long term sectoral positioning, while simultaneously exhibiting elevated market sensitivity and volatility consistent with growth-oriented businesses.

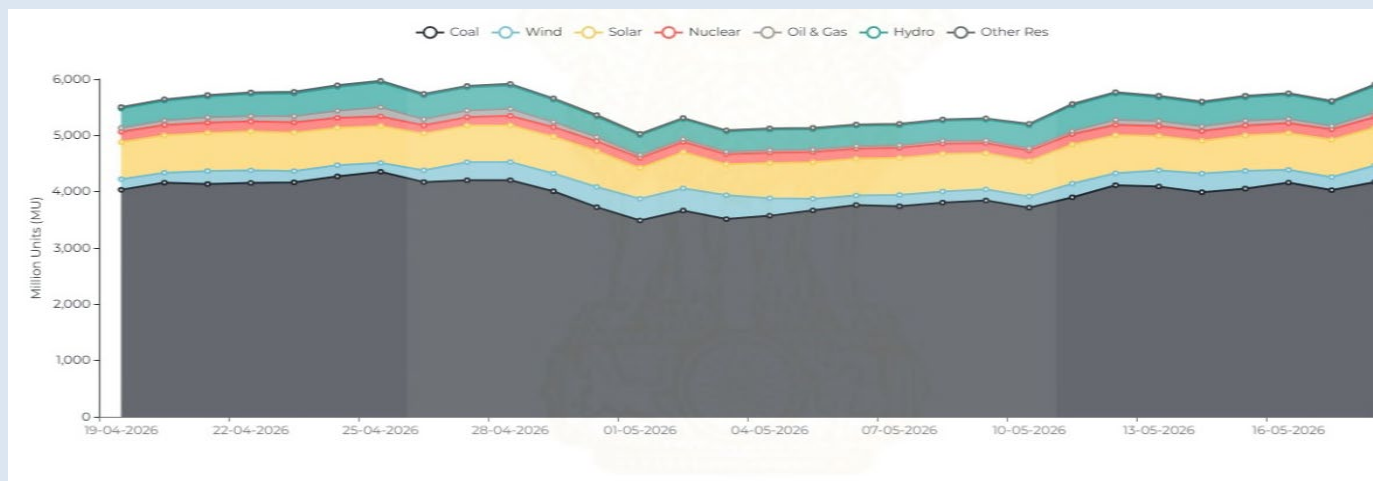
2. Industry Overview

The **power sector** serves as the primary engine of India's macroeconomic momentum, exhibiting a direct correlation with industrial GDP growth and expanding urban and rural infrastructure. India's power sector, historically characterised by capital intensity, fossil fuel dependence, and strong state control, is undergoing its most significant structural transformation since the Electricity Act, 2003. This transition is being driven by rapid urbanisation and industrialisation, electrification of mobility, and a sustained rise in per capita electricity consumption.

The sector is witnessing robust demand expansion, with peak power demand surpassing 260 GW, placing increasing pressure on grid infrastructure while simultaneously creating large-scale investment opportunities. As the world's third-largest producer and consumer of electricity, India is expected to attract over **USD 460+ ¹billion** in investments over the next decade, particularly across renewable energy and transmission infrastructure.

At the same time, the sector is expanding beyond conventional electricity supply into a broader energy ecosystem, with increasing focus on distributed generation, storage, EV infrastructure, and energy solutions. This evolution is gradually shifting the industry from a centralised, supply driven model to a decentralised and demand-oriented framework.

In this evolving landscape, the sector's transition toward decarbonisation, decentralisation, and digitalisation is creating significant long-term opportunities for integrated players such as Tata Power, which are strategically aligned with emerging energy trends



Source Wise- Daily Electricity Generation Trend

¹ <https://www.ibef.org/industry/power-sector-india>

3. About Tata Power

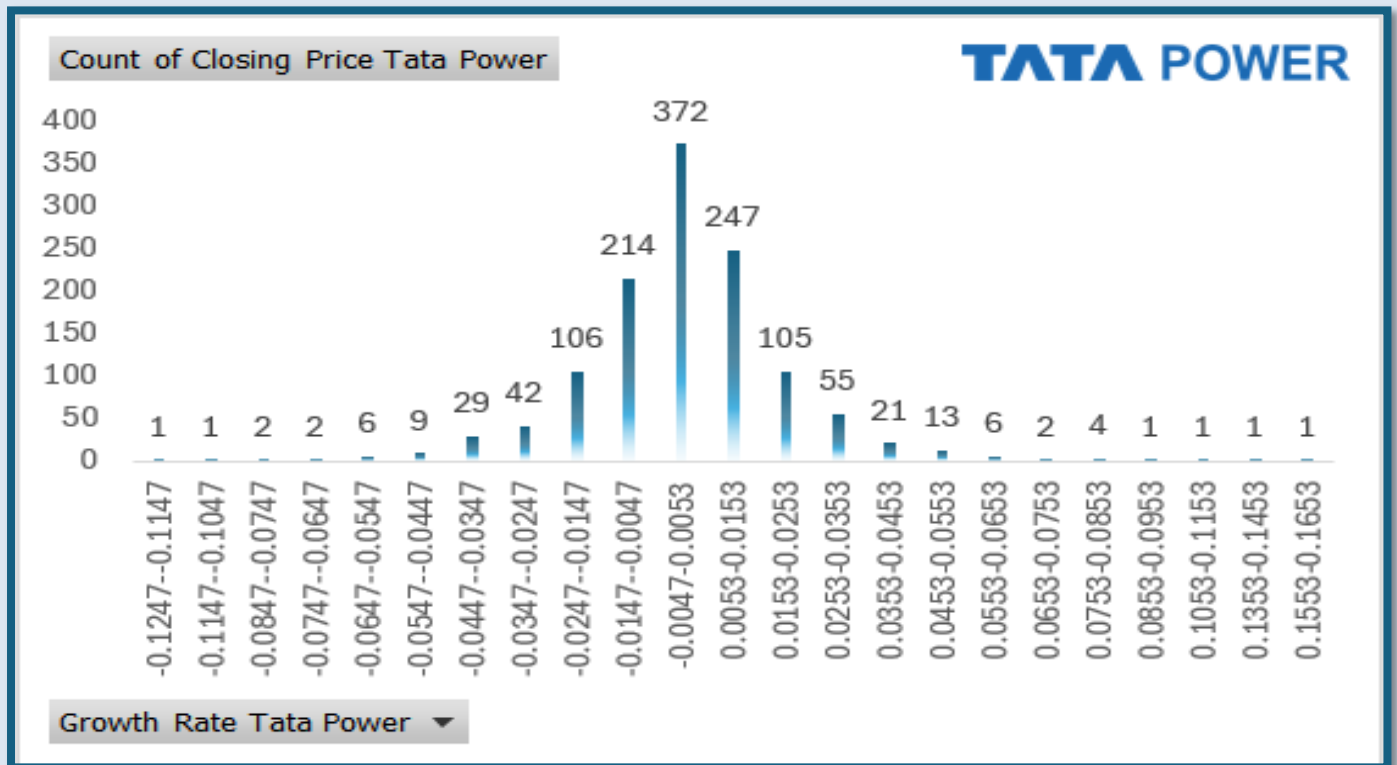
Incorporation Date	18 th September, 1919
Founder	Dorabji Tata
Product/Services	Power generation, transmission & distribution
Market Capitalisation	~1,32,176 Cr
Total Assets	1,75,171,28 Cr*
Total Equity	47,538.07 Cr
Revenue from Operations	62,428.59 Cr
Promoter's Holding	46.86%
Public Holding	53.14%

*Consolidated financial statements for the year ended 31st March, 2026

Recent News & Updates:

- Tata Power and Druk Green Power Corporation Sign MoU to Build Skill Development Ecosystem for the Development of 5,000 MW Clean Energy Capacity
- Tata Power and Keppel, through a consortium partnership, collaborate with Tata Realty & Infrastructure to deploy Large-Scale Cooling-as-a-Service Solution at Intellion Park, Chennai
- Tata Power and University of Warwick Forge Strategic Alliance in New Energy Systems Innovation
- Tata Power Renewables Marks First Commercial project in Ladakh, Installs 50 kilowatt-peak Solar Rooftop at Hotel Barath, Leh
- Tata Power Reports Strong Q4 FY26 & Annual FY26 PAT Growth
 - Q4 FY26 Revenue stood at ₹ 15,962 crore; EBITDA grows to ₹ 4,216 crore, up 10% YoY
 - FY26 Revenue stood at ₹ 63,681 crore; EBITDA grows to ₹ 16,090 crore, up 11% YoY
 - Core Business delivers strong performance backed by improved operational efficiency with Revenue growth of 13%, EBITDA growth of 27% & PAT* growth of 34% YoY in FY26
 - Renewables business Profit after tax (PAT) stood at ₹ 406 crore in Q4 FY26: FY26 PAT* rises to ₹ 1,994 crore, up 59% YoY

4. Growth Rate Analysis

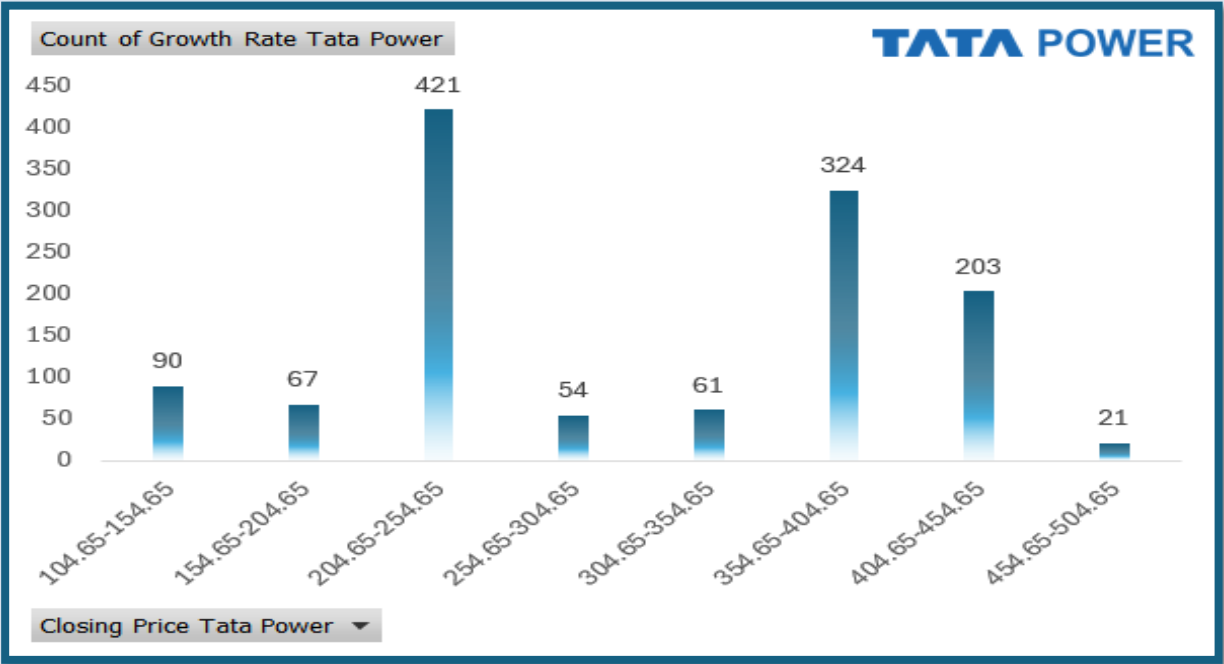


At the current price of ₹408.65, Tata Power has delivered nearly return of 281% over the past five years. The chart illustrates the frequency of growth rates (%) in the stock price during this period. It reflects a near normal probability distribution, indicating that returns within the **range of -2.47% to 2.53%** occur most frequently.

Tata Power's sharpest single-day corrections highlight its vulnerability to systematic, as well as un-systematic risks. On October 19, 2021, the stock underwent a 10.71% correction due to **aggressive profit booking** following a multi-month rally that had left the Power Index heavily overbought. Conversely, the June 4, 2024 correction of 12.47% was an entirely systemic macro shock, **driven by market-wide panic selling** and liquidation after early Lok Sabha election vote counts fell short of highly optimistic exit poll projections, including follow-up sharp declines on 24th February 2022 due to Russia-Ukraine war (Technical corrected the very next day), and broad-based profit booking on 12th February 2024.

The share **surged 30% in the month of October 2021**, because of **market optimism** building up around Tata Power over the statements made by the chief executive to raise & make an investment in renewable energy following the interest by the Indian government in the Indian renewable energy. Following up, on the 5th April 2022, the share price surged 8.59% due to an announcement of official commissioning of massive 300MW solar plant in Gujarat, **featuring India's largest single-axis solar tracker system**.

5. Market Price Analysis



The chart presents the distribution of Tata Power’s share price over the past five years. During this period, the stock recorded a peak closing price of ₹485.50, while the benchmark Nifty 50 reached a high of 26,328.55. In this context, a detailed examination of Tata Power’s share price movements enables a deeper understanding of its performance dynamics and underlying market behaviour.

Section-A: Consolidation Phases:

The company established its most prolonged historical balance zone (204.65- 254.65), spending **421 trading sessions**. This prolonged stay indicates a multi-month institutional accumulation block where supply and demand were highly balanced. Following a structural breakout, the equity formed a secondary value area, spending **324 trading sessions** consolidating gains and building a launchpad for future price expansion.

Section-B: Breakout Phases:

The initial structural breakout from the historical baseline where the stock rallied from ₹163.75 to ₹214.30 was fundamentally catalysed by the **strategic announcement** of the company's aggressive **expansion into renewable energy in late 2021**. Between late **2023 and early 2024**, the Indian capital markets aggressively priced in exponential growth for **companies integrated into the Electric Vehicle (EV) value chain**. Capitalizing on this sector wide momentum, Tata Power’s equity price decoupled from its standard trading bands. Over a concentrated six-month period, the stock surged by 76.2% ascending from ₹254.95 in November 2023 to ₹449.25 in April 2024.

Relative Valuation (Based on P/E)

Peer Companies	Average ² Share Price	PAT Attributable to Equity	No. Of Share Outstanding (Cr)	Market Cap (Cr)	P/E Multiple
Adani Power	₹ 351.60	₹ 12,834.30	1928.47	₹ 6,78,050.02	52.83x
JSW Energy	₹ 504.46	₹ 2,239.31	175.62	₹ 88,592.19	39.56x
NTPC	₹ 343.28	₹ 27,052.52	969.67	₹ 3,32,865.94	12.30x
Torrent Power	₹ 1,372.81	₹ 2,416.43	50.39	₹ 69,176.60	28.63x
Median					34.09x
PAT (Tata Power)					₹ 5117.56
Shares Outstanding (Tata Power)					319.61
Intrinsic Value (Tata Power)					545.92

Market Price as on 31 st March 2026	₹ 378.75
Valuation Decision	UNDER-VALUED

Based on the P/E valuation approach, Tata Power's estimated intrinsic value stands at ₹545.92 per share, compared with its market price of ₹378.75 as of 31 March 2026. This suggests that the stock is trading at a discount of around 30.6%, indicating potential undervaluation.

The company's long-term growth outlook remains supported by several structural factors, including India's increasing focus on renewable energy, rising electricity demand, and a supportive interest rate environment.

In the near term, however, market sentiment has been affected by the ongoing geopolitical tensions involving the United States and Iran. Higher crude oil prices and increased global uncertainty have created pressure on equity valuations, which may delay the stock's movement toward its estimated intrinsic value.

Despite these short-term challenges, the broader implications of such geopolitical developments strengthen India's need for greater energy security and reduced dependence on imported fuels. This trend aligns well with Tata Power's growing presence across renewable energy, solar manufacturing, transmission, distribution, and electric mobility infrastructure.

Considering both the valuation gap and the company's strategic positioning within India's energy transition, the stock appears attractively placed for investors with a medium- to long-term investment horizon, **subject to individual risk appetite and investment objectives.**

² FY 2025-26 Average Share Price

6. Descriptive Statistics

Particulars (Price terms)	Tata Power Company Limited	Market Index (Nifty 50)
Mean	303.32	20804.79
Median	273.10	19993.20
Mode	205.85	25910.05
Standard Deviation	99.55	3423.64
Standard Error	2.83	97.19
Kurtosis	-1.34	-1.54
Skewness	-0.09	0.07
Range	380.85	11130.85
Minimum	104.65	15197.70
Maximum	485.50	26328.55

The above table shows the comparison of different statistics variables between Tata Power Closing price, and Nifty 50 Closing Price during the period of last 5 years.

Central Tendency:

Tata Power reported an average closing price of ₹303.32, with a median of ₹273.10, indicating that a significant portion of observations lies below the mean. In contrast, the Nifty 50 exhibited a higher mean (20,804.79) relative to its median (19,993.20), suggesting a marginal upward bias. The relatively closer alignment between mean and median in both datasets indicates broadly symmetric distributions, though slight deviations exist.

Volatility:

Tata Power demonstrates substantial price variability, with a standard deviation of ₹99.55. However, when compared proportionally, the Nifty 50 exhibits greater absolute volatility (SD: 3,423.64), reflecting broader market-wide fluctuations. Importantly, Tata Power's volatility is significant relative to its price level, indicating higher stock-specific risk compared to the diversified index.

Dispersion Accuracy:

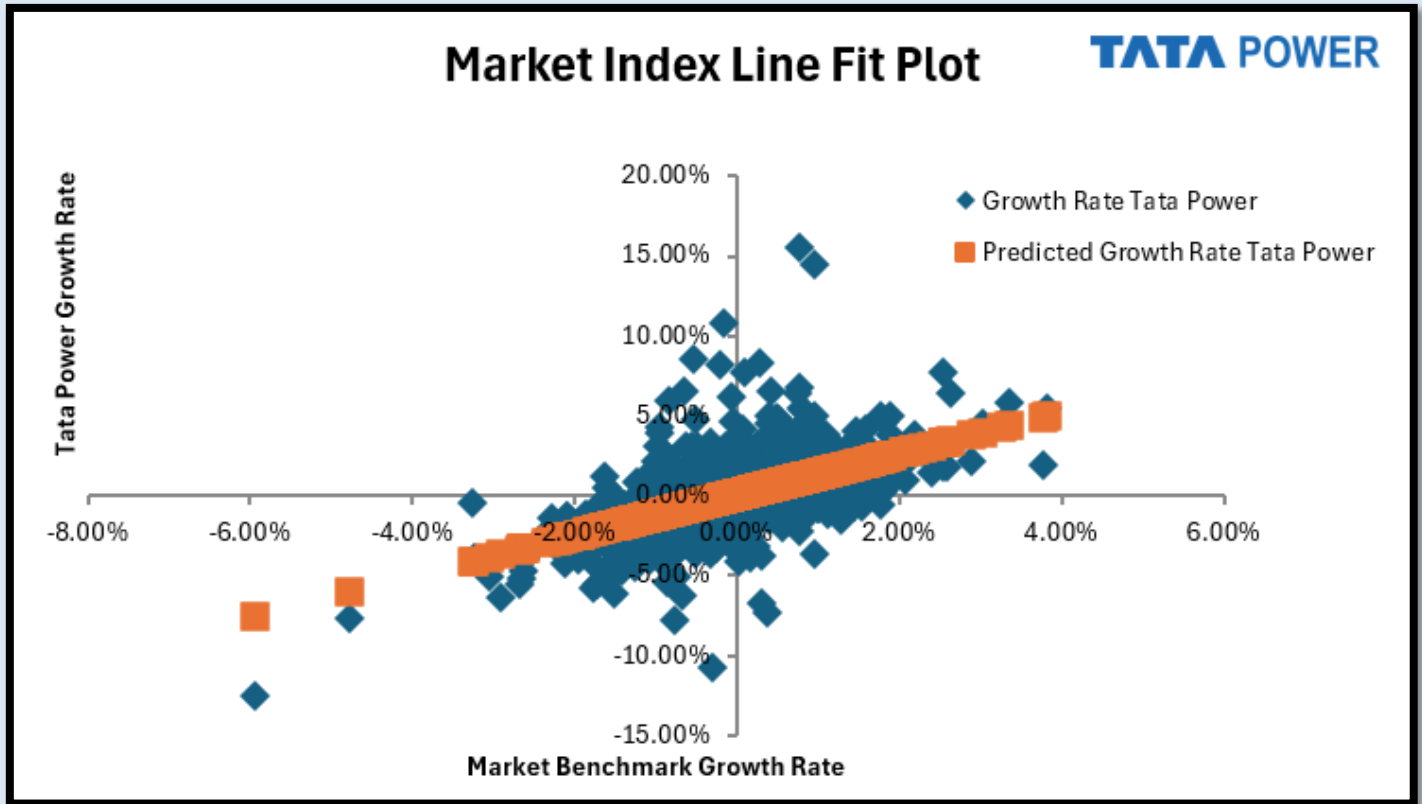
The standard error for Tata Power (2.83) is considerably lower than that of the Nifty 50 (97.19), implying that the sample mean of Tata Power is estimated with greater precision. This is expected given the scale difference, but also suggests relatively stable sampling consistency in Tata Power data.

Distribution Shape (Skewness & Kurtosis):

Both Tata Power (-0.09) and Nifty 50 (0.07) exhibit near-zero skewness, indicating approximately symmetric statistical distributions with no significant tail bias. Additionally, both series show negative kurtosis (Tata Power: -1.34; Nifty: -1.54), suggesting a **platykurtic distribution**. This implies a lower probability of extreme price movements than a standard normal assumption.

7. Correlation Analysis between Market & Tata Power

- Return Based Regression Analysis



The return-based regression analysis indicates a moderate positive relationship between Tata Power's stock returns and the broader market (Nifty 50), with a correlation coefficient of 0.5318 and an R^2 of 0.2828. This implies that approximately 28.28% of the variation in Tata Power's returns is explained by movements in the market index, while the remaining variation is attributable to firm-specific factors and other idiosyncratic influences.

Compared to price-based regression, which may overstate the strength of the relationship due to common time trends, return-based analysis eliminates such distortions and provides a more accurate and statistically robust estimate of systematic risk and true market co-movement.

Regression equation: $R_i = \alpha + \beta (\text{Market Return}) + \epsilon$

R_i = Tata Power Return

α = Return independent of market movement (Intercept)

β = Slope Coefficient

R_m = Independent Variable (Market return)

ϵ = Unsystematic error term

8. Beta (Sensitivity of Stock to Market)

Beta is a measure of stock's volatility in relation to the broader market benchmark (Nifty 50). It quantified how sensitively the share price is expected to react to macro-driven market cycles. A beta of 1 implies the share moves in perfect tandem with the market; higher the beta indicates the higher volatility, where the beta less than 1 signals a more defensive & less volatility

Approaches to Calculate Beta:

Regression Beta	Bottom-Up Beta
Derived from historical return relationship with market	Derived from peer group fundamentals
Backward-Looking	Forward-looking approach
Reflects historical market sensitivity	Adjusted for leverage and business mix

- Regression Approach

$$\text{Beta} = [\text{Covariance (Tata Power, Market)} / \text{Variance (Market)}] = 1.2781$$

The beta coefficient of 1.2781 indicates that Tata Power exhibits **higher sensitivity** to broader market movements relative to the benchmark index, and macroeconomic shifts. Because the coefficient is greater than 1.0, the stock does not merely track market trends, it amplifies them.

From a corporate valuation perspective, the regression-derived beta provides a statistically sound baseline for measuring systematic risk. However, given its inherently backward-looking nature, it is prudent to complement this estimate with a forward-looking, peer-based Bottom-Up Beta approach. Such an approach enables a more accurate reflection of anticipated changes in financial leverage and asset mix, thereby enhancing the reliability.

- Bottom-Up Approach

Comparable Companies: The following comparable companies are being considered taking into considerations various factors including the business operations, market capitalisation, and business segments. [Tata Power has the consolidated debt to equity ratio as 1.62, with the market capitalisation of 1,32,176 Cr].

Companies	Market Capitalisation (Cr)	Installed Capacity (Aprx. MW)	Debt- to-Equity ³
Adani Power Limited	₹ 6,78,050.02	~15,000	0.81
JSW Energy Limited	₹ 88,592.19	~11,000	2.20
NTPC Limited	₹ 3,32,865.94	~80,000	1.32
Torrent Power Limited	₹ 69,176.60	~4,800	0.67

Companies	Beta	Un-Levered Beta
Adani Power Limited	1.4156	0.7821
JSW Energy Limited	1.2687	0.3965
NTPC Limited	0.9204	0.3967
Torrent Power Limited	0.9542	0.5714
Average Beta		0.5367

Re-levering the same results in the Beta as per Bottom-Up Approach: 1.4061

Note: The Regression Beta represents an ex-post statistical estimate derived from the historical covariance of a security's returns with the market benchmark over a defined time horizon. It captures the market's realized assessment of the firm's systematic risk under prevailing conditions, inherently reflecting the capital structure, liquidity dynamics, and macroeconomic environment during that period. However, as it is based purely on historical price movements, it may embed temporary distortions, cyclical effects, and market inefficiencies. In contrast, the Bottom-Up Beta is an ex-ante, fundamentally driven measure that isolates the firm's underlying business risk by deriving an unlevered beta from a comparable peer group. This unlevered beta is subsequently adjusted using the company's current target or actual capital structure to compute a relevered beta, thereby aligning the risk estimate with present financial leverage.

The divergence between the two arises because regression beta reflects historically realized systematic risk under past conditions, whereas bottom-up beta constructs a forward-looking estimate based on current fundamentals, normalized industry risk, and adjusted leverage assumptions.

³Financial statements for the year ended 31.3.2026 (Consolidated basis)

9. Risk Analysis

Value at Risk (“VAR”):

To assess the downside risk associated with Tata Power’s stock, a VAR analysis has been performed using the historical simulation method based on daily returns. The 1 day VAR at a 95% confidence level is estimated at approximately 3.16%*, indicating that there is a 95% probability that the stock will not decline by more than 3.16% in a single trading day under normal market conditions.

This measure provides a quantitative estimate of potential short-term losses and highlights the stock’s exposure to market volatility. Given the company’s relatively high Beta, the VAR estimate further reinforces its sensitivity to market movements and susceptibility to downside risk during periods of heightened volatility.

Confidence Level	VAR
95.00%	-3.16%
99.00%	-5.31%
99.50%	-6.33%
100.00%	-12.47%

**The VAR has been estimated using the historical return distribution reflecting the stock’s standalone downside risk. Additionally, a beta-adjusted approach based on market returns indicates a 95% VAR of approximately 1.38%, representing a theoretical estimate of risk driven by broader market movements.*

Despite favourable long-term fundamentals, the company remains exposed to various risks including regulatory changes, execution delays, debt-funded capital expenditure pressures, commodity price volatility, interest rate movements, and broader market corrections:

- **Regulatory Risk:** The power sector remains highly regulated, and adverse tariff revisions or policy changes may impact profitability.
- **Capital Intensive Nature:** Expansion into renewable energy and infrastructure requires substantial capital expenditure, potentially increasing leverage pressure.
- **Interest Rate Risk:** Rising interest rates may increase financing costs and affect future project viability.
- **Commodity Dependency:** Coal prices and fuel supply disruptions may affect operational margins in thermal power operations.
- **Market Volatility:** The stock exhibits high sensitivity to broader market cycles, reflected through its beta exceeding 1, thereby increasing exposure to systematic market corrections.

10. Strategic Positioning

Tata Power is strategically positioned to benefit from India's accelerating transition toward renewable and sustainable energy infrastructure. The company has gradually evolved from a conventional utility business into an integrated energy solutions provider with increasing exposure toward renewable generation, rooftop solar solutions, EV charging infrastructure, and energy transition technologies.

India's rising electricity demand, rapid urbanisation, electrification of transportation, and policy emphasis on clean energy expansion are expected to create long-term structural growth opportunities for the sector. In this context, Tata Power's diversified business model and strong execution capabilities position the company favourably within the evolving power ecosystem.

Under the bullish scenario,

Tata Power may continue benefiting from India's accelerating renewable energy transition, expanding electricity demand, and increasing policy support toward clean energy



infrastructure. Continued execution of renewable capacity additions, EV charging expansion, and transmission investments could strengthen long-term earnings visibility and improve investor sentiment toward the company. Furthermore, sustained government focus on decarbonisation, favourable regulatory support, and increasing institutional capital allocation toward ESG and renewable linked businesses may contribute toward higher market participation and long-term valuation expansion.

Under the bearish scenario, Tata Power may face pressure from execution delays, rising capital expenditure requirements, leverage related concerns, regulatory uncertainties, and broader macroeconomic weakness. The company's relatively high beta indicates elevated sensitivity toward market corrections and liquidity driven volatility.

Additionally, slower than expected renewable project execution, adverse tariff revisions, rising financing costs, commodity price fluctuations, or weakening investor sentiment toward infrastructure and renewable sectors could adversely affect future share price performance and increase downside risk exposure.

11. Conclusion

The analysis of share of Tata Power Company Limited indicates that the price demonstrates strong alignment with long-term structural trends within the Indian power and renewable energy sector. Statistical analysis reveals substantial market-linked behaviour, supported by a strong positive correlation with the broader market and an aggressive beta coefficient exceeding unity.

Over the last five years, the company has experienced significant price appreciation driven by renewable energy expansion, EV ecosystem integration, and increasing investor confidence toward India's energy transition theme. Simultaneously, the share has also exhibited heightened sensitivity toward macroeconomic volatility and systemic market corrections.

From a strategic perspective, Tata Power's diversified operational structure, renewable energy initiatives, and integrated energy ecosystem position the company favourably for long-term growth opportunities. However, sustained value creation will depend upon prudent capital allocation, execution efficiency, regulatory stability, and the company's ability to manage sector-specific and macroeconomic risks effectively.

Overall, Tata Power represents a strategically evolving energy enterprise with substantial long-term growth potential, while simultaneously carrying elevated market sensitivity consistent with high growth transition oriented infrastructure businesses.

12. Key Statistical & Financial Concepts

Particulars	Meaning
Market Capitalisation	Market Capitalisation refers to the total market value of a company's outstanding equity shares, calculated by multiplying the current market price per share by the total number of shares outstanding
Normal Probability distribution	Normal Probability Distribution is a statistical distribution in which data is symmetrically distributed around the mean, forming a bell-shaped curve where most observations cluster around the average and probabilities decrease as one move away from the mean
Volatility	Volatility measures the degree of fluctuation in a stock's price or returns over time.
Standard Error	Standard Error measures the precision of the sample mean estimate relative to the population mean
Skewness	Skewness measures the degree of asymmetry in the distribution of a dataset around its mean
Kurtosis	Kurtosis assesses the extent of extreme outcomes in stock returns, indicating the likelihood of rare but significant deviations from the average
Regression Analysis	Regression Analysis is a statistical technique used to examine the relationship between a dependent variable and one or more independent variables, enabling the estimation of how changes in the independent variable impact the dependent variable
Beta	Beta measures the sensitivity of a stock's returns relative to movements in the broader market
Levered Beta	Levered Beta measures a company's total risk, including both business risk and financial risk arising from the use of debt.
Correlation Coefficient	Correlation Coefficient measures the strength and direction of the linear relationship between two variables, with values ranging from -1 to +1
Systematic Risk	Systematic risk refers to market-wide risk arising from macroeconomic, economic, political, or financial factors that affect the overall market and cannot be eliminated through diversification.
Un-systematic Risk	Unsystematic risk refers to company-specific or industry-specific risk arising from factors such as operational performance, management decisions, regulatory issues, or business disruptions
R-Squared	R-Squared measures the proportion of variation in a dependent variable that is explained by the independent variable within a regression model. A higher R^2 indicates stronger explanatory power of the model.

Disclaimer: This report has been prepared (based on historical 5 year data), solely for educational, academic, research, and informational purposes based on publicly available information, historical market data, and statistical analysis methodologies. The contents of this report do not constitute financial, investment, legal, accounting, tax, or professional advisory services, nor should they be interpreted as a recommendation or solicitation to buy, sell, or hold any securities or financial instruments.

Readers and investors are strongly advised to conduct their own independent due diligence and seek professional consultation before making any investment or financial decisions.

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Data Sources:

Financial Statements | NseIndia.com | Wikipedia | Ibef.org | Powermin.Gov.in | Newsonair.gov.in