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The Green Surge and Sustainable Living: Shift towards Renewable Energy and a Sustainable Lifestyle in India

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The shift in the power sector in India has been massive in the past several years (particularly following the pandemic), with an increase in interest and the use of sustainability and green energy. This has been necessitated by the need to secure energy supply and ensure that the ill impacts of climate change can be countered through the use of conventional orthodox means. This research paper attempts to find answers to the question of the expedited growth and increase of green energy in the Indian power industry over the past several years. This study will examine the emerging companies in the green power sector, like Adani Green, Vikram Solar and Waree Energies and national solar missions and the policy that aims at promoting the renewable energy goal under the national action plan on climate change, in creating an environment-friendly power sector. The other research under this study also examines the financial reports of various green energy giants.

Moreover, this paper focuses on the role of the state and the ministry in shaping and developing this new trend in the power sector and the influences of foreign investments and new innovations that enhance efficiency and the generation of green energy. Also speaking of the typical issues India has when raising massive production of renewable energy, storage of power, supply and funds. In this paper the authors have attempted to present the recent achievements in this area through a thorough examination of the analysis of current data in the share market, dominant media houses, and reports by the government and other relevant international comparisons. India is making an attempt to achieve the sustainable objectives of India through the introduction of green energy applications and the furtherance of India's sustainable development agenda.

Green energy also promotes livelihoods that are sustainable and pollution free environment. It is also in line with the objectives that the United Nations conference on Sustainable Development undertook at Rio de Janeiro in 2012. Over the past couple of years, India experienced a massive transformation in the realm of power sector. Some sources of renewable energy are entering the scene that will alter the future of power and energy. This is a new trend that many Indian and foreign investors are taking ample interest in and the Indian share market is the evidence of that. Multiplicity of IPOs and the booming market evidence the development of this industry.

Keywords: sustainable development, green energy, power sector, environment, share market

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1. Introduction

India is at a particular stage in its development path, with economic growth, environmental concerns, and economic freedom joining with life and education. With the nation grappling with fast urbanisation, industrialisation, and the sustainability of the environment, and the availability of resources, sustainability has ceased to be at the periphery of the policy debate to become the central element of national policy. The Green Alpha examines this shift in the interrelated perspectives of sustainable living, the growth of renewed energy systems, and the changing nature of investing that is transforming the model of growth in India.

Sustainable living in India is no longer an issue that is limited to the decision made by an individual when it comes to his or her lifestyle; it is being incorporated in the urban structures, consumption trends, and the activities of community level. Simultaneously, the tremendous investments in renewable energy sources, including solar power, wind power, green hydrogen, and energy storage, are shaping the infrastructure landscape in the country. They are not happening in a vacuum. Regulatory reforms, technological change, and changing investor preference toward long-term value creation over short-term returns are pushing them, and signify a fundamental change in the allocation of capital and measurement of returns.

Riding on the topic of the nexus between sustainability, clean energy infrastructure and investment behaviour, this paper seeks to reveal where the Indian green alpha exists- excess returns earned by balancing financial performance with environmental and social performance. Knowing this nexus is vital to policymakers, investors, as well as the businesses and citizens of a future where the three connection points of resilience, responsibility, and profitability are in a state of increasing interdependence.

2. Objectives of the Study

The main objectives of this study are-

- To study the growth of the leading renewable companies
- To make a comparative stock performance and valuations
- To highlight the Future outlook and risks for green energy in India

3. Methodology

The research presented in this study follows a mixed-method research design to observe the interconnections in sustainable living practices, renewable energy infrastructure building, and changing investment trends in India. Through a combination of both, the methodology will also examine both trends that can be quantified as well as those that are driven by behaviors and structure and influence the green transition in India.

4. Research Design

This research paper has a descriptive and analytical research design to explore the nexus of sustainability living, renewable energy infrastructure and changing the dynamics of investment in India. The mixed-methods approach is utilized and includes quantitative trend analysis along with qualitative policy and market analysis. This design would allow seeing the structural trends, behavioural changes, and financial results of the green transition process in India in a holistic way.

5. Nature of the Study

The study is explanatory in nature. It delves into new sustainability-investment correlations, and the manner in which policy structures, infrastructure growth and investment practices, as a system, work together in creating what can be termed as green alpha in the Indian milieu.

Data Parameters

Type of Data: Secondary data
Time Period: It will be focused on after 2020 with a special focus on recent trends in green power, ESG policies, and capital markets.
Geographical Scope: India (national-level analysis with sectoral insights)

Key Research Variables

Independent Variables:
Sustainable living indicators (energy efficiency adoption, electric mobility, responsible consumption trends)
Renewable energy infrastructure development (installed capacity, technology mix, grid integration)

Dependent Variables:

Investment dynamics (capital flows, ESG investments, green bonds, retail investor participation)
Financial performance indicators associated with sustainability-oriented investments

Intervening Variable

Policy and regulatory systems
Improvement in technology
Online monetary systems and market level awareness

Analytical Parameters

- The trends in renewable energy capacity and infrastructure
- Trends in the creation of demat accounts and ESG investment products
- Green investments have risk-return features compared to traditional standards
- Effects of policy on investor confidence and capital allocation

Analytical Framework

The nexus-based analysis framework is used in the study to evaluate interactions within the three pillars. To gauge the patterns of growth in renewable energy capacity, implementing sustainable living indicators, and green investment flows, trend analysis is employed. Correlations and comparative analysis to investigate relationships between policy interventions, infrastructure expansion and investment behavior are used. Where possible, illustrations of particular initiatives or sectors, where the convergence of sustainability and financial performance are met, is shown through case-based illustrations.

Dynamics and Dynamics of Investment and Green Alpha Evaluation

The approach analyses the idea of green alpha through the performance of an investment aligned on sustainability and regular benchmarks across a given time on a specific period. This will encompass the risk-adjusted returns and capital allocation history and movement of investor sentiment on ESG and climate-sensitive assets. This is not aimed at making predictions about returns, but rather finding structural reasons that could be contributing towards the long term value creation in the green sector.

Limitations and Assumptions

The research will be based on publicly available data, which could differ in consistency and granularity between industries and geographical areas. Although, correlations are evaluated, causality is assumed with caution since sustainability transitions are complex and changing. The assumption about policy continuity and market performances are grounded on the existing trend and can be altered.

By using this system of inquiry, the report aims to develop an all-encompassing and balanced image of the intertecture between sustainable lifestyle, renewable energy system and investment multiplier so as to define the forthcoming green development paradigm in India.

6. Analysis

1. Macro Trend: Surge in Renewable Capacity

In 2024, India’s renewable energy capacity more than doubled, growing by 113% YoY (from 13.75 GW in 2023 to about 30 GW in 2024).

his growth was mainly provided by solar which provided an addition of approximately 24.5 GW and wind which contributed an addition of approximately 3.4 GW.

This milestone is a positive sign of the policy tail winds that are moving towards India ambition of non-fossil fuel of 500 GW by 2030.

2. Company-Level Performance & Growth

The performance of the top green-power (and hybrid) companies has been as follows, reflecting the dynamic nature of the industry as well as the difference in the nature of traditional power

Adani Green Energy (AGEL)

The operational renewable capacity increased to 15.8 GW in Q1 FY26, which is a 45% increase over a year.

During the initial quarter, it had come up with 1.6 GW of greenfield capacity.

During the second quarter of FY26, its consolidated profit increased by 25 percent Year-on-Year (~ 644 crore) and its capacity stood at 16.7 GW.

AGES is focusing on massive size: it is projected to increase its capacity by around 30 per cent CAGR to reach a capacity of about 50 GW by 2030.

Implication: Adani Green is experiencing accelerated growth, and its financials are getting stronger, which makes it one of the key engines of green development.

Tata Power

Tata Power is more diversified in its energy mix, unlike pure-play green firms: according to recent statistics, it is only a small portion (at 25.7GW) of the overall capacity of 44% renewable.

It is also making significant investments in the entire value chain: generation, manufacturing (solar cell and module plant), distribution and EV charging.

CapEx directions are huge: it is planned to invest 60,000-70,000 crore by 2030 to increase clean capacity 20 GW.

Implication: Tata Power is juggling between modern and legacy business - not a pure-play, but a diversified utility clean.

Suzlon Energy

Turbine manufacturer Suzlon reported Q1 FY26 net profit of 324 crore 20, and an increase in revenue of approximately 55 percent to 2,202 crore.

It registered an even more radical PAT and revenue increase of 538% and 85% YoY in Q2 FY26 (12 crore 1279 crore and 53.7 crore, respectively).

As stated by ICRA, its order book was 5.5 GW by the middle of 2025 with good operations and maintenance (O&M) business.

Implication: Suzlon is still in an excellent zeal of resurgence fuels by wind demand and now financially sound. This reflects the resurgence in the general trend of investment in wind capacity.

Waaree Energies

Waaree, on its FY 202324 annual report, increased its production of capacity equivalent by adding a solar capacity capacity of about 47.2 GW between the FY 201920 and FY 202324 with a CAGR of approximately 24.

The company is better placed in particular given the renewable drive in India, its scale of production and global scale goes in tandem with the energy turnover in India.

Implication: Waaree being a leading solar module / manufacturing company is getting the industrial scale demand which suits the company as it can have domestic growth and export growth.

Vikram Solar

Vikram Solar in Q1 FY26 registered a 79.7 YoY revenue growth of 1.1336 crore and a 133.4 crore PAT, which increased by an approximation of 484.0 YoY.

The company has a good demand, with its current order book records of 10.96 GW as per June 30, 2025.

In the same quarter EBITDA was 242.2 crore with a margin of 21.4.

Implication: Vikram Solar, being a pure-play solar manufacturing and modules company, is winning well due to the green boom, not only in generation, but also in the upstream value chain.

NTPC / NTPC Green

NTPC Green Energy, a green arm of NTPC, commissioned 212.5 MW of solar Plus 52.8 MW of wind in August 2025.

NTPC has also established a goal to increase its capacity in renewable energy to 60 GW by the year 2032 through its green subsidiaries.

Its mother, NTPC Limited, presently installed capacity is estimated at just under 84 GW and with a more diversified and greener fuel mix, has a future planned capacity of 149 GW by 2032.

Implication: Carlo, even orthodox, large agencies on the public sector face will switch towards renewables; not with green-first, but with green-integrated.

NHPC

Another hydro-power company, NHPC also plays a role in the clean energy mix in India, as of October 2025 it has an installed capacity of 8,332.9 MW, including 511.7 MW of solar and 50 MW of wind.

That means that NHPC is riding on its historic hydro power base and slowly introducing other renewables.

Research Findings

The report of The Green Alpha indicates that renewable energy infrastructure development,

emerging investment behavior change towards sustainable living practices in India, and the convergence within the study. Instead of functioning separately as disciplines, these three aspects are highly strengthening each other establishing a cycle of feedback that favors environmental performance and benefit in the long-run economic terms.

1. Sustainable Living Practices extinction

The study points to a steady but quantifiable change in the consumer and household behavior towards sustainability. The use of energy saving appliances, electric mobility, waste segregation and water saving methods are increasingly becoming common among urban populations, especially. The awareness initiatives, incentive programs, and urban sustainability missions led by the government have been a catalyst to the normalization of sustainable decisions. Notably, the changes in behaviour are already reflecting into more reliable and permanent demand of clean energy and green infrastructure, and enhancing the economic feasibility of investments in renewables.

2. Another important element to highlight here is the accelerated Renewable Energy Infrastructure

The renewable energy business in India has realized a very large capacity growth into solar and wind energy, with the newfound investment in energy storage and green hydrogen. The results indicate that the project bankability and perceived risks have been enhanced by the presence of policy stability, competitive bidding procedures, and others controlled by the decreasing cost of technologies. The efforts to modernize grids and interstate transmission programs have again boosted the incorporation renewables, marking the end of pilot adoption into system-wide change.

3. Patterns of investment Life and Death of Capital

The trends in investment have also shown a significant shift of more capital into renewable projects, ESG funds and green financial tools like green bonds and sustainability-linked loans. Climate and ESG considerations are becoming a part of the portfolio strategy of the institutional investors such as domestic financial institutions and global funds.

This study concludes that regulatory advice and disclosure requirements and global financial commitments on climate regulation have contributed significantly to the shift of funds into assets compatible with sustainability.

4. Emergence of Green Alpha

One discovery the research made is that a green alpha has come up in some parts of the Indian market. Investments that are oriented towards sustainability, especially in established renewable energy infrastructures and climate-resilient infrastructures, have performed well in relation to their risk adjusted returns when compared to more traditional investments. Although short-term volatility is observed, the performance trends over the long-term indicate that alignment to sustainability areas can be a value-adding aspect instead of a limitation to returns.

5. Policy–Market–Behavior Interlinkages

The study identifies close interrelation among policy frameworks, market reactions, and in individual behavior. Policy incentives and regulatory clarity have promoted developments of infrastructure which in its turn have spurred development of private capitals and lessened costs. Sustainable options have gotten cheaper and are now more accessible to consumers and this has further strengthened the uptake. This virtuous circle is in the center of the green growth evolving model in India.

6. Unrelenting Inefficiencies and Systemic Dilemmas

Although the positive momentum is observed, there are also structural limitations of the findings. Geographic differences in infrastructural development, funding difficulties of less developed participants, grid integration problems, and not even distribution of sustainable practice are still major obstacles. Also, the lack of information about data and unequal standards in reporting ESG impede the capacity of investors to conduct a comprehensive evaluation of the long-term risks and opportunities in sustainability.

On the whole, the study concludes that the sustainability change in India is becoming more and more based on economic rationality and financial reasoning.

Nexus between sustainable living, renewable energy infrastructure and the dynamics of investment is not only facilitating climate targets but going beyond that to reimburse the question of value creation and maintenance in the Indian economy.

The role of the New Media in the Emergence of Demat Accounts and Investing Applications, in India

The new media has been transformative in changing the investment environment in India by playing a significant role in the enhanced growth of demat accounts and use of digital-based investment applications. This change is specifically pertinent in the larger context of The Green Alpha since new media has not only been democratizing access to financial markets but has also affected the understanding, promotion and uptake of sustainability-oriented investments.

1. Financial Awareness and Literacy Democritization

A decline of traditional barriers of financial knowledge has occurred in the social media platforms, financial blogs, podcasts, YouTube channels, and brief content of platforms like Instagram and LinkedIn. The complicated terms of equity investing, mutual funds, ETFs, and ESG investing are now simple and vernacular. This sustained exposure has attracted first time investors, in particular, millennials and Gen Z to open demat accounts and invest in capital markets, propelling investing out of elite status and into a mass phenomenon.

2. Online Developing Trust-Building and Visibility

New media has permitted the investing apps to create credibility and brand trust on a massive scale. Via the influence-based marketing and user-testimonials, app screencasts, and live analytical content on the market, the fintech platforms have established themselves as convenient, easy-to-use and transparent as opposed to the traditional brokerage model. The repeated availability of these platforms in the digital space has made investing a normal financial practice in rural and semi-urban areas and has been boosting the use of demat accounts.

3. Nudging Behaviors and Structuring Culture of Investing

The influence of the orientation of investors on digital platforms is determined by algorithm-based content, push notifications, and interactivity. The new media is reinforcing their investment habits through encouraging them to invest in the market in cases of IPOs, market rallies, and thematic investments like renewable energy, electric mobility, and ESG focused funds. This has enhanced the culture of heavy interactions with the financial markets which contributes to the increased accounts openings and continuity in the investing apps.

4. Enhancement of Thematic and Sustainable Investing Narratives

Amidst the sustainability paradigm, the new media has played a central role in making the green story of investing popular. The visibility of clean energy stocks, ESG mutual funds, green bonds, and climate-focused startups is increased with the help of digital campaigns, expert commentaries, and viral content. This retail investor exposure makes the interest of the retail investors close to larger sustainability incentives, bypassing household savings into renewable energy, green infrastructure industries, which represent a critical part of the upcoming green alpha of India.

5. Inclusion and Regional Outreach

New media has increased financial inclusion by extending metropolitan centers, given the multilingual and mobile-first character. Language content- Regional App interfaces have been used to drive more deeply into Tier II and Tier III cities through investing apps. This broader involvement has made the capital markets deeper and more liquid and has enhanced the effectiveness of domestic investments in long-term infrastructure and assets related to sustainability.

6. Perils and the Matter of Responsible Communication

Though new media has made a market participation to be faster, the research also reveals possibilities of a risk of misinformation and herd behavior and speculative trading as a result of viral articles. These dynamics highlight the importance of healthy financial communication, better regulatory control over online promotional efforts, and better investor education so as to ensure that the increased participation is geared towards long-term,

value-based investing as opposed to one-year speculation.

In conclusion, it can be summarized that the new media has become a pivotal booster in the surge of demat accounts and investing apps in India due to its ability to alter the investor behavior and expand the market. It has also played a role in redirection of capital towards sustainability aligned investments by affecting consciousness, confidence and theme choices. Green Alpha In The Green Alpha paradigm, the new media serves as a bridge of sorts--a bond between individual investors and bigger structural transformations in the markets of renewable energy funding and sustainable economic development.

7. Conclusion

The Green Alpha evidences that India does not rely on the edge of its seat on the change towards sustainability being a peripheral or aspirational agenda, but rather a structural change in which it has been structurally embedded that influences consumption patterns, infrastructure creation, capital market among others. The sustainability, renewable energy infrastructure and the changing nature of investment dynamics interlinkages has been seen to signify a growing ecosystem where environmental responsibility has become aligned with economic performance.

The research concludes that the sustainable living lifestyle is generating a stable and lasting demand of clean energy and resource-efficient solutions, and the fast-developing renewable energy infrastructure is transforming the Indian energy situation and diminishes systemic risks related to the reliance on fossil fuels. At the same time, there is a shift in investment strategies which can be described as rebalancing of the various strategies of investors to capture the climate risks, regulatory cues as well as ESG in which there would be a quantifiable shift of capital towards the green and sustainability-linked assets. These trends, combined, are creating so-called green alpha in which sustainability-based investments can show the possibility of higher risk-adjusted long-term returns.

The attainment of this green alpha, however, would only be possible with the resolution of the structural perennial issues such as regional differences, funding limitations, grid integration problematic areas and the lack of sustainability data and disclosure inconsistencies. Policymaking continuity, capacity building in institutions, clear market mechanisms will continue to play an important role in preserving investor confidence and having a wider inclusivity in the green transition.

To sum up, the experience of India shows that sustainable development and financial performance might not be mutually exclusive. Through the reinforcement of nexus between individual behaviour, infrastructure investment, and capital allocation, India is shifting itself to a development pathway that is resilient, inclusive and economically viable. The lessons learned in this paper indicate that the real potential of green alpha is not just about financial gains, but about putting together a model of sustainable growth that would be able to provide a long-term value that would be accredited to the economy and the society.

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