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CSR Disclosure and Sustainable Development: A Study of Indian Maharatna Energy Sector Companies

Dr. Rashmi Agrawal[1] & Sarita Gautam[2]

[1]*Assistant Professor, Netaji Shubhash Chandra Bose G.G.P.G College Aliganj Lucknow, U.P.*

[2]*Research Scholar, University of Lucknow, Lucknow, U.P.*

Corresponding Author – Dr. Rashmi Agrawal

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Abstract:

The present research aims to explore how selected Maharatna energy companies around India report their corporate social responsibility (CSR) activity and areas as sustainability issues within 2022-205. The current study focuses on BHEL, NTPC, REC, PFC and POWERGRID energy companies and analyzes their CSR performance on such areas as environmental, employees, and social aspects, and human rights and corruption issues. In order to identify how much information on CSR issues is reported by the given energy companies, a simple content analysis of the information provided in the companies' reports and websites was undertaken. The results of the content analysis of CSR disclosure practices by the selected energy companies show that they performed rather differently in terms of disclosing their CSR initiatives. While BHEL showed the highest level of CSR disclosure (91,67%), NTPC accounted for only 16,67%. Overall, the level of CSR disclosure by the selected energy companies increased over the analysed period, specifically in 2025. The results of the present study contribute to a better understanding of how Maharatna energy.

Keywords: Corporate Social Responsibility, CSR Disclosure, Sustainable Development, Maharatna Companies.

Introduction:

The responsibility of a company towards the society and the environment along with its main goal of earning profit is called the Corporate Social Responsibility (CSR). Put simply, CSR is the concept of a business helping people, communities and the environment impacted by its operations to improve their lives. CSR may include activities related to education, healthcare, skill development, rural development, women empowerment, environmental protection, sanitation and social welfare. The CSR concept is given statutory recognition in India under Companies Act, 2013, s. 135 mandating that eligible companies spend a specified percentage on CSR activities that have been approved. But CSR is not just about meeting this spending mandate; it is also about bringing long- term and substantial gains to society and in supporting sustainable development. Therefore, CSR is a greater responsibility of the companies to grow in a responsible, ethical and sustainable way Corporate Social Responsibility (CSR) is a business model where companies voluntarily integrate social, environmental, and ethical considerations into their operations and interactions with stakeholders. Today, businesses are also expected to contribute to the welfare of society and protect the environment. CSR means that companies take responsibility for the impact of their business activities on employees, communities, society and the environment. In India, CSR has become more important after the introduction of Section 135 of the Companies Act, 2013, which requires eligible companies to spend at least 2% of their average net profits of the previous three years on specified CSR activities.

Public sector companies have an especially important role in CSR because they are owned or controlled by the government and operate in areas that directly affect society and the economy. Among them, Maharatna companies are some of the largest and most important public sector enterprises in India. Energy-related Maharatna companies such as BHEL, NTPC, REC, PFC and POWERGRID play an important role in electricity generation, transmission, financing and infrastructure development. Their operations have a direct connection with economic development, employment, communities and the environment. Therefore, their CSR activities are important not only for fulfilling legal requirements but also for supporting wider social and sustainable development goals.

CSR activities of energy companies can contribute to areas such as education, healthcare, skill development, rural development, women empowerment, environmental protection, sanitation and community development. These activities can improve the quality of life of people living in and around the areas where companies operate. At the same time, energy companies face important environmental and social challenges. Issues such as pollution, climate change, resource use, displacement of communities and sustainable energy development make it necessary for these companies to look beyond financial performance.

The concept of sustainable development is closely connected with CSR. Sustainable development means meeting the needs of the present generation without harming the ability of future generations to meet their own needs. Therefore, CSR should not be viewed only as an expenditure that companies are legally required to make. Instead, it can be used as a way to create long-term social, economic and environmental benefits. For example, spending on skill development can improve employment opportunities, investment in education can build human capital, and environmental projects can help protect natural resources. This research studied to understand whether Maharatna energy companies are doing more than simply fulfilling the mandatory CSR spending requirement under the Companies Act, 2013. These companies have a major role in India's energy sector and their operations can directly affect people, communities and the environment. Therefore, it is important to examine how they use CSR to address social and environmental needs through activities such as education, healthcare, skill development, rural development, women empowerment and environmental protection. The study is also important because spending money on CSR does not automatically mean that CSR is effective. What matters is where the money is spent, what type of projects are undertaken, whether activities are continued over time, and whether they contribute to long-term social and environmental improvement. By studying these companies, we can understand whether CSR is mainly being treated as a legal obligation or as a strategic contribution to sustainable development.

Although previous studies have extensively examined Corporate Social Responsibility in relation to corporate performance, disclosure, governance and social development, an important research gap remains in understanding CSR practices beyond the mandatory spending requirement in Indian Maharatna energy companies. Existing literature has largely focused on CSR expenditure and disclosure, while comparatively limited attention has been given to the nature, consistency and coverage of CSR practices across different social, environmental and ethical dimensions. In particular, limited empirical evidence is available on selected Maharatna energy companies such as BHEL, NTPC, REC, PFC and POWERGRID using a multi-year comparative approach. Furthermore, the relationship between CSR practices and broader sustainable development objectives has not been sufficiently explored in the context of Indian public-sector energy companies. Therefore, the present study attempts to address this gap by examining CSR practices and disclosure across environmental matters, employee and social issues, and human rights and anti-corruption issues during 2022–2025, with particular emphasis on whether these companies

are moving beyond mandatory CSR spending towards broader contributions to sustainable development.

Review of Literature:

The existing literature highlights that Corporate Social Responsibility (CSR) plays an important role in promoting sustainable development in the energy sector by addressing economic, social, environmental, and ethical concerns. The energy sector is particularly vulnerable to corruption because of large investments, government involvement, public procurement, licensing, and control over natural resources. Corruption can increase energy costs, reduce operational efficiency, create environmental and social problems, delay infrastructure projects, and negatively affect consumers, local communities, companies, governments, and financing institutions. Studies suggest that CSR can help reduce these risks by promoting transparency, accountability, ethical behaviour, stakeholder participation, responsible governance, environmental protection, and community development. However, the effectiveness of CSR largely depends on the strength of legal institutions, regulatory enforcement, corporate governance, and transparency. International initiatives such as the UN Global Compact, GRI Guidelines, OECD Guidelines, and the UN Convention against Corruption further encourage responsible and anti-corruption practices among energy companies. The literature therefore suggests that CSR should not be viewed merely as philanthropic or mandatory expenditure but as a strategic mechanism for improving corporate integrity and supporting sustainable energy development. However, limited research has examined how CSR practices of Indian Maharatna energy companies contribute to corruption-risk mitigation and sustainable development, particularly through their CSR expenditure, disclosure, governance, and stakeholder-oriented activities. This gap provides a basis for further research in the Indian energy sector.

The study examined the effect of mandatory Corporate Social Responsibility (CSR) disclosure on firm profitability and social outcomes using evidence from China. The study used China's 2008 CSR disclosure mandate as a natural setting and applied a difference-in-differences research design to compare firms affected by the mandate with those that were not. The findings showed that mandatory CSR disclosure resulted in a decline in firm profitability, suggesting that firms incurred additional costs when they changed their behaviour in response to CSR reporting requirements. However, the study also found positive social and environmental outcomes, particularly reductions in industrial wastewater and SO_2 emissions in cities more strongly affected by the disclosure requirement. Thus, the study concluded that mandatory CSR disclosure can encourage firms to adopt more socially and environmentally responsible practices, although these benefits may involve costs to shareholders. The study is important for CSR research because it demonstrates that CSR disclosure can influence actual corporate behaviour rather than merely improving transparency.(Chen et al., 2018)

The study examined whether the nature and purpose of Corporate Social Responsibility (CSR) disclosure have changed over time. The study compared CSR disclosures of Fortune 500 companies from the late 1970s with those of 2010 and found that the breadth of both social and environmental disclosure had increased significantly**.** However, the study also found that legitimacy-related factors continued to influence CSR disclosure, suggesting that companies may use disclosure not only to provide useful information to stakeholders but also to maintain their corporate image and legitimacy. Further, the study found that CSR disclosure was not positively valued by investors, challenging the view that CSR disclosure necessarily provides direct value to shareholders. The authors therefore argued that, although CSR reporting has expanded considerably, its underlying motivation may not have changed substantially and may still be influenced by legitimacy and reputation

concerns. The study is particularly relevant to CSR disclosure research because it highlights the difference between greater disclosure and meaningful accountability and suggests that increased CSR reporting does not automatically mean greater transparency or better social and environmental performance.(Cho et al., n.d.)

The study analysed 130 German companies and 470 firm-year observations using content analysis based on the Global Reporting Initiative (GRI) framework. The authors found that CSR disclosure was significantly influenced by company visibility, shareholder structure, relationship with US stakeholders, firm size, and industry membership. Higher profitability was found to be associated particularly with greater environmental disclosure, while companies operating in environmentally sensitive or polluting industries disclosed more CSR information. The findings were largely explained through political cost theory, which suggests that firms voluntarily disclose CSR information to reduce political and societal pressures, such as increased regulation, taxation, environmental concerns, and stakeholder criticism. The study is important because it demonstrates that CSR disclosure is influenced not only by a company's willingness to act responsibly but also by its economic characteristics and stakeholder pressures. This study provides a useful basis for examining whether similar firm-specific and governance factors influence CSR disclosure among Indian Maharatna companies.(Verbeeten, 2011)

According to Carroll, businesses are first expected to be economically responsible by producing goods and services and remaining profitable; they must then fulfil their legal responsibilities by complying with laws and regulations. Beyond legal compliance, companies are expected to behave ethically by doing what is fair and responsible even when it is not legally required. Finally, philanthropic responsibility involves voluntary activities that contribute to community welfare and improve society. Carroll also connected these responsibilities with the stakeholder perspective, emphasizing that companies should consider the interests of employees, customers, owners, communities, suppliers, and other stakeholders. The study argued that CSR should therefore extend beyond profit-making and legal compliance towards ethical behaviour and voluntary contributions to society. Carroll's model provides a strong conceptual foundation for understanding CSR as a multi-dimensional responsibility and remains highly relevant for examining CSR practices, stakeholder engagement, and sustainable development in companies(Carroll, 1961)

The study investigated the relationship between CSR disclosure and various financial and non-financial characteristics of firms. The findings showed that company size and industry category were significantly associated with the level of CSR disclosure, while corporate reputation, reflected through awards and social ratings, also played an important role in influencing disclosure practices. The study highlights that larger and more visible companies tend to disclose more CSR information because of greater stakeholder expectations and reputational pressures. It also contributes to the Indian CSR literature by identifying important determinants of CSR disclosure before the introduction of mandatory CSR requirements under the Companies Act, 2013.(Kansal et al., 2014)

The study analysed disclosures relating to community development, human resources, physical resources and environment, and products/services. The findings revealed that all three companies gave considerable attention to human resource-related issues, while the overall level of disclosure across the four social areas showed an increasing trend during the study period. The study further found significant differences in the percentage of CSR-related content reported across the years. Among the companies, Coal India Limited recorded the highest level of disclosure (6.21%), followed by SAIL (5.25%) and ONGC (3.34%). The study demonstrates that Maharatna companies increasingly incorporated social and environmental information into their annual reports, highlighting the growing importance of

CSR disclosure and stakeholder communication in Indian public sector enterprises.(Ram & Das, n.d.)

The study combined qualitative and quantitative approaches and analysed CSR practices of 30 randomly selected companies from different sectors, using information from annual reports and company websites for 2020–2021. The findings suggest that although CSR can create additional costs for companies, it can also provide important benefits such as improving corporate reputation and brand value, attracting investors, supporting long-term profitability, improving employee performance, protecting the environment, addressing human-rights concerns, and strengthening relationships with NGOs. The study therefore highlights that CSR should not be considered only as an additional corporate cost but also as a tool for creating long-term value for companies and society. This study is relevant to CSR research because it demonstrates how CSR theory is translated into actual corporate practices and provides a basis for examining CSR implementation and disclosure in different sectors and countries.(Research-turk & Sönmez, 2021)

The study identified five major dimensions of CSR**:** environmental, social, economic, stakeholder, and voluntariness dimensions**. T**he findings showed that most existing definitions were broadly similar and consistently emphasized the relationship between business activities and wider societal responsibilities. He argued that the major difficulty with CSR is not the absence of a common understanding of its basic elements, but rather the way CSR is interpreted and socially constructed in different contexts. The study provides an important conceptual foundation for CSR research because it demonstrates that CSR extends beyond economic objectives and includes responsibilities towards stakeholders, society, and the environment. This framework is particularly relevant for analysing CSR practices and disclosure of Indian Maharatna companies, as their CSR activities can be examined across these different dimensions(Dahlsrud, 2008)

Objective of The Study:

1. To examine the extent of CSR disclosure among selected Maharatna energy companies.
2. To analyse the CSR disclosure practices in relation to sustainable development.

Empirical insight into the non-financial transparency practices of energy sector Maharatna companies:

The first part of the study discusses the role, importance, benefits, possible negative effects, and challenges associated with Corporate Social Responsibility (CSR). The findings suggest that, although CSR activities may have some limitations, they generally have a positive influence on investors and other stakeholders in their decision-making. Therefore, an empirical study can help to understand how actively companies implement CSR practices. In this study, CSR practices can be examined through three major areas: environmental responsibility, employee and social issues, and human rights and anti-corruption practices. The study is particularly relevant in the context of Indian Maharatna companies because these enterprises have a significant role in economic and social development. By examining their annual reports, CSR reports, sustainability reports, and other publicly available disclosures, the study can assess the extent to which CSR activities are implemented and reported. The purpose is to understand whether CSR practices go beyond mandatory requirements and contribute to broader social, environmental, and sustainable development objectives.

This part of the study explores whether the selected energy sector maharatna companies managed to apply the above mentioned any type of CSR projects for their stakeholder. The results also indicated in a tabular form from below and indicated with a ‘box ticking style’. Symbols ‘1’ and ‘0’ assigned to the three areas of the CSR projects for each of selected companies. Here, ‘0’ refers to ‘no availability’ of the CSR projects and ‘1’ refers to ‘availability’ of the CSR projects in the annual report or webpages of companies.

The sample size of this work will be created by choosing energy sector companies from the Maharatna companies of central public sector undertaking of India. In order to strengthen and to obtain more effective result from this empirical research, the selection will be determined randomly from different companies. In particular, this selection will be done among companies those have a potential negative impact on environment or society while carrying out their commercial activities. These companies are as follows:

- Bharat Heavy Electricals Limited
- National Thermal Power Corporation Limited
- Rural Electrification Corporation Limited
- Power Finance Corporation
- Power Grid Corporation of India

All information obtained throughout this study is primary and reflects the 2022,2023, 2024, 2025 data of these companies in their annual report or on their webpages. In this study, these five companies have been evaluated in the following tables in terms of whether they have managed to apply any abovementioned CSR activities in their annual report or on their webpages. The main aim of this research is to understand the implementation level of the CSR projects of Maharatna companies of energy sector.

Table 1: The Availability of the CSR Projects in Randomly Selected Companies' Annual Reports

The CSR Projects	**Environment Matters**				**Employees and Social Issues**				**Human rights and Anti – corruptions issues**			
Companies												
Year	**2022**	**2023**	**2024**	**2025**	**2022**	**2023**	**2024**	**2025**	**2022**	**2023**	**2024**	**2025**
1. BHE Ltd.	1	1	1	1	1	1	0	1	1	1	1	1
2. NTPC Ltd.	0	0	0	0	0	0	1	1	0	0	0	0
3.RECLtd.	1	1	1	1	1	0	0	1	0	0	0	0
4.PFCORPORATION	0	0	0	0	1	1	1	1	1	1	0	1
5. POWER GRID CORPORATION OF INDIA	1	1	1	1	0	0	1	1	1	1	1	1

Analysis and Discussion:

The CSR disclosure data of the five selected public-sector energy companies—**BHEL, NTPC, REC, PFC and POWERGRID**—were analysed for the period **2022–2025** using three CSR dimensions: environmental matters, employees and social issues, and human rights and anti-corruption issues. A binary scoring method was used, in which 1 represents the presence of disclosure and 0 represents the absence of disclosure in the annual report or company.

The results show that the level of CSR disclosure is different among the selected companies. BHEL has the highest score of 91.67%**,** followed **by** POWERGRID with 83.33%**.** PFC recorded 58.33%, while REC recorded 41.67%**.** NTPC had the lowest score of 16.67%**.** This means that BHEL and POWERGRID provide information about a wider range of CSR activities, while NTPC and REC provide comparatively less information under the areas considered in this study. Looking at the different CSR areas, environmental matters and employee and social issues each have a disclosure level of 60%**.** Human rights and anti-corruption issues have a disclosure level of 55%**.** This shows that companies give slightly more attention to environmental and social matters than to human rights and anti-corruption issues.

BHEL shows a strong and consistent pattern of disclosure. It reported environmental information in all four years and also reported human rights and anti-corruption information in

all four years. POWERGRID also performed well, with environmental and human rights-related information reported throughout the study period. PFC mainly focused **on** employee and social issues**,** while REC showed greater focus on environmental matters. NTPC had comparatively limited disclosure under the three areas used for this study. The year-wise results show that CSR disclosure improved in 2025**.** The overall disclosure increased from 53.33% in 2022 to 80% in 2025. The biggest improvement was seen in human rights and anti-corruption issues, where all five companies reported information in 2025.

Overall, the analysis shows that the selected public-sector energy companies are reporting CSR activities, but their reporting practices are not the same**.** Some companies provide detailed information in several CSR areas, while others report only selected areas. Therefore, there is a need for more regular, clear and complete CSR reporting so that stakeholders can easily understand what companies are doing for society, employees and the environment.

The findings reveal that CSR disclosure practices among the selected public-sector energy companies vary considerably across companies, years and CSR dimensions. BHEL Ltd. recorded the highest disclosure score of 91.67%, followed by POWERGRID at 83.33%, whereas NTPC Ltd. recorded the lowest score of 16.67%. At the thematic level, environmental matters and employee and social issues achieved the highest disclosure level of 60% each, while human rights and anti-corruption issues accounted for 55%. The overall disclosure score of 58.33% indicates a moderate level of CSR disclosure among the selected companies. The year-wise analysis further shows an improvement in disclosure practices, particularly in 2025, when the overall disclosure level increased to 80% from 46.67% in 2023. The most notable improvement was observed in human rights and anti-corruption disclosures, which reached 100% in 2025. These findings shows that CSR reporting among public-sector energy companies is gradually becoming broader and more comprehensive, although significant differences remain in the extent to which individual companies disclose information across different CSR dimensions. The findings also show that companies tend to focus on different CSR areas. Some companies give greater attention to environmental matters, while others provide more information about employees, social development or ethical practices. This difference may be related to the companies' business activities, reporting practices and the way CSR information is presented.

The results shows that standardisation of CSR disclosure can improve comparability between public-sector companies. If companies report their environmental, social, human rights and anti-corruption activities using similar indicators, stakeholders such as investors, government agencies, employees and local communities will be able to better understand and compare their CSR performance. Thus, the study concludes that although the selected companies are increasingly disclosing CSR-related information, there is still a need for more consistent, transparent and comprehensive CSR reporting. The improvement observed in 2025 is encouraging and may indicate a gradual movement towards broader CSR disclosure practices.

Conclusion:

The study examined the CSR disclosure practices of five selected public-sector energy companies—BHEL, NTPC, REC, PFC and POWERGRID—during the period 2022 to 2025. The analysis focused on three major areas of CSR disclosure**:** environmental matters, employee and social issues, and human rights and anti-corruption issues. The findings show that CSR disclosure varies considerably among the selected companies. Among the companies studied**,** BHEL recorded the highest CSR disclosure score of 91.67%, followed by POWERGRID with 83.33%**.** PFC recorded a moderate score of 58.33%, while REC recorded 41.67%. NTPC had the lowest score of 16.67% based on the selected indicators. These results indicate that some companies provide relatively wider and more regular CSR information, while others disclose

information in fewer CSR areas. The category-wise analysis shows that environmental matters and employee and social issues had the highest disclosure level of 60% each, while human rights and anti-corruption issues recorded 55%. This indicates that environmental and social concerns receive comparatively greater attention in CSR reporting. However, ethical and governance-related issues such as human rights and anti-corruption also appear to be gaining importance. The year-wise analysis shows an encouraging improvement in CSR disclosure. Overall disclosure increased from 53.33% in 2022 to 80% in 2025**.** The strongest improvement was observed in 2025, particularly in the area of human rights and anti-corruption issues. This suggests that CSR reporting among the selected companies is gradually becoming broader and more comprehensive. The study concludes that CSR disclosure among selected public-sector energy companies is improving, but it is still not uniform across companies or CSR areas. There is a need for companies to provide more consistent, clear and comparable information about their environmental, social, employee, human rights and ethical activities. Better standardisation of CSR disclosure would improve transparency and help stakeholders understand and compare the social and environmental contributions of different public-sector companies.

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