

GREEN ADOPTION AND ORGANIZATION PERFORMANCE: ASSESSING THE EFFECT OF ENVIRONMENTAL PROACTIVITY

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ABSTRACT

Since the Industrial Revolution, human economic activities have added a huge amount of Greenhouse Gases (GHGs) into the environment. The rise in environmental pollution, the global average temperature, and sea level now present an alarming situation all over the world, requiring action by all concerned. It is in this regard that the present work has been undertaken with a focus on identifying and examining the drivers for their influence on organizations' green adoption and sustainable performance. Through random sampling, primary responses were obtained from the managers of 103 organizations based in India. The use of step-wise regression analysis on cross-sectional data yielded findings that establish a significant impact of three out of five drivers, namely organization characteristics, public policy, and technology characteristics, on green adoption by organizations. The results also support a positive and significant impact of green adoption on economic, social, as well as environmental performance of organizations.

The practical suggestions outlined in the study can be used by organizations to adopt and promote green programs as a profitable endeavor for their sustainable growth in the future.

Keywords: Environment Deterioration, Green Adoption, Organizations, Green Strategies, Sustainable Performance

INTRODUCTION

The world today is facing the problem of climate change, global warming, rising sea levels, environmental pollution, groundwater depletion, and the mass extinction of rare species. At a global level, shrinking rainforests and a constant rise in air pollution and the global average temperature have transformed the geographical landscape of the world. According to the forecast by the United Nations High Commissioner for Refugees (UNHCR), around 250 million to 1 billion people will have to leave their homes by the year 2060 because of climate change. Rising pressure on

agricultural lands and extensive deforestation due to haphazard infrastructure development have resulted in a significant change in the natural environment. Ever since the industrial revolution, development has almost entirely relied on the burning of fossil fuels, emitting huge volumes of greenhouse gases (GHGs) into the atmosphere. A report published by the World Coal Association in (2019) suggested that around 41 percent of electricity is generated from coal globally. In the case of India, it is around 62 percent of total electricity production. This is further substantiated by the “Energy Statistics” report published by the Ministry of Statistics and Programme Implementation (MoSPI) in 2019, which revealed the industrial sector to be the largest consumer of electricity in India, accounting for a total of 42 percent of overall electricity consumption.

The above statistics present an alarming picture and make it clear that green adoption is almost indispensable for the holistic and sustainable progress of humanity. Business organizations play a pivotal role in this regard by not only utilizing resources efficiently and switching to cleaner production but also by persuading consumers to adopt sustainable consumption (Erdila, 2013).

THEORETICAL FOUNDATION AND LITERATURE REVIEW

Organizations’ Focus on ‘Green’

As highlighted by Karna et al. (2003), until now, environmental protection has been considered the sole responsibility of the government. In

India, the “Go-green” movement has largely been a government-initiated movement, and the majority of organizations adopt greener practices either due to pressure from the government and environmental lobbies or to save themselves from penalties and legal suits (Laheri et al., 2014).

The growing problem of carbon emissions, toxic waste release, groundwater contamination, and increasing cases of industrial diseases are forcing organizations to adopt eco-friendly measures. According to Sarkar (2012), the legally binding targets set up by policymakers to curb environmental pollution encourage organizations to adopt green practices.

Several studies have unearthed the positive implications of implementing green strategies at the organizational level. For instance, Alniacik & Yilmaz (2012) and Trott (2013) point out the first-mover advantage that green marketing strategies provide to organizations to improve their brand image and build a competitive position in the market. Implementation of green practices by organizations not only provides increased profitability, cost reduction, and efficient utilization of resources but also results in creating a positive social impact through environmental innovation. Realizing this, companies are actively adopting green practices and using eco-certifications such as logos and labels to add value to their brands and subsequently enhance their reputation and market share (Sarkar, 2012). However, on the other hand, organizations must be very cautious while presenting their green marketing efforts to the public as they can easily be viewed as ‘greenwashing,’ which will adversely affect the organization’s profitability (Szabo and Webster, 2021).

The contributors of 'Green'

Various models and theories have been propounded by previous researchers to understand the green adoption process by organizations. These models provide the basis to identify important drivers that influence green adoption. For instance, while the Organizational Motivation theory by Herzberg (1968) explains how the desire to achieve sustainability in performance motivates establishments to switch to eco-friendly technologies, Freeman & Reed's (1983) Stakeholder theory differentiates between stakeholders for their influence on an organization's behavior to implement sustainable solutions.

Integrating technology acceptance with other dynamics of organization and environment, Baker's (1990) Technology Organization Environment (TOE) theory posits that the likelihood of an organization's adoption of environment-friendly solutions depends on its type of technology use and environmental beliefs. Barney (1991) added the Resource-Based View (RBV) according to which knowledge-based resources define the capabilities of an organization, support restructuring business processes, and help organizations achieve sustainability and better environmental performance. Taking it further, Hart (1995) in the Natural-Resource-Based View (NRBV) framework stated the competitive advantage generated by organizations that adopt eco-friendly measures in their business operations.

The Triple Bottom Line model (TBL) propounded by Elkington (1998) gives similar emphasis to sustainability by explaining sustainability as an intersection of three

different pillars: economic, environmental, and social. This has been further strengthened by the Belief-Action-Outcome Framework of Melvite (2010) which refers to the societal, organizational, and psychic states that form environmental beliefs and affect an organization's decision or action to behave in an environmentally-responsible manner.

Based on the above discussion and review of existing literature, the present study identifies five broad drivers that influence green adoption by organizations. A brief description of these factors is provided below.

1. Industry Characteristics

Concentration of firms in a particular geographical location, supply chain management, and vertical and horizontal integration of firms define the industry characteristics. Steg & Vlek (2009) have found that polluting firms prefer to set up their plants in underdeveloped countries with lenient environmental regulations. Since green adoption depends upon the availability of resources, a strong supply chain and linkage of firms help in capturing efficient distribution channels and ensuring easy availability of resources, thereby accelerating green adoption. In this regard, Mahapatra & Gustavsson (2008) have found that the integration of existing and potential networks of suppliers, producers, and users of green products and services impacts the green adoption process in an industry.

2. Organization Characteristics

Organization characteristics include the size of the firm, organizational capacity

based on annual turnover, human resources (number of employees), organizational culture, research and development (R&D) expenditure, and competitors' green practices. The ability to finance green adoption directly depends on the size of the firm. As opined by Wakjira & Ramulu (2018) and Luthra et al. (2016), a weak financial position often creates hindrance in the implementation of sustainability measures, and so small-scale firms with restricted availability of funds are less likely to adopt eco-friendly solutions. It is also seen that employees' lack of environmental awareness, absence of adequate skills or training can slow down the green adoption process (Sommerfeld et al., 2017). In other words, an organization's learning capabilities also have a likely impact on its ability and willingness to adopt green practices (Wang et al., 2021a). On the other hand, strong support from top-level management, an eco-friendly culture, organizational values, and competitive intensity to use eco-activities as a brand differentiator prompt organizations to go for green adoption (e.g., Sarkar, 2012; Davis, 2017).

3. Technological Characteristics

A technology is characterized by its price, productivity, performance, compatibility, simplicity, testability, observability, and perceived risk. Adoption of green technology depends upon its perceived usefulness and involves sequential stages with various levels of scrutiny and cost-benefit analysis. Rogers (2003) explains simplicity and compatibility to be the two significant drivers of technology

adoption. Furthermore, the mass adoption of innovative technology depends upon its testability and perceived risk.

4. Public Policy

Policymakers set legally binding targets for protecting the environment and adopt various measures to promote green adoption by organizations, such as environmental norms and regulations, green certification, stimulus expenditure, utility rebates for using green technologies, state and local grants, and other public incentives. Li & Just (2018) have talked about some government policies and instruments that have been formulated to encourage the adoption of green technologies. For example, Energy Star label and energy efficiency standards on electrical appliances, tax incentives and utility rebates for renewable energy plants, and green certifications for eco-friendly infrastructure development (Green Highway projects of India). According to Glaser (2009), proactive government support through monetary incentives promotes green adoption and plays an important role in encouraging the adoption of innovative technologies by organizations (Elmustapha et al., 2018). Wang et al. (2021b) further point out that the aggressiveness of government regulations should consider the level of competition in the industry. In industries where the competition intensity is high, more aggressive government regulation would encourage more firms to adopt a green technology once it has been invented, but at the same time, it will discourage a firm from developing it.

5. Environmental Awareness

Green adoption is the best practice that an organization can perform to achieve superior and sustainable capabilities. This also requires environmental awareness and the installation of green organizational values. At a broader level, environmental awareness exhibits organizations' awareness of environmental degradation, display of environmental concern, as well as their responsible measures of environmental protection.

The Outcome: Sustainable Performance

Sustainability can be understood as an internal reform in an organization that connects green practices with business operations (Grant, 2007). Trianni et al. (2017) stated that though sustainable measures result in improved financial performance, its implementation often requires a trade-off between environmental and monetary goals. The choice becomes challenging as organizations generally assign more importance to financial targets than sustainability. Proofread version:

In accordance with the existing literature, the sustainable performance of organizations can be broadly categorized into three groups, namely economic performance, social performance, and environmental performance (see Table 1). A brief description of these performance indicators is provided below.

Economic Performance

Economic performance is measured through the financial information presented in income

statements, balance sheets, and cash flow statements of organizations. The economic performance of organizations is assessed through an increase in sales revenue, profitability, market share, share price, and return on investment, as well as cost reduction as a result of the adoption of green measures. Empirically, the study by Masoumik et al. (2015) found a significant relation between green adoption, environmental, and financial performance. They further bifurcated the financial performance into tangible (such as a rise in market share, reduction in production cost, and increased productivity) and intangible parameters (i.e., improved product quality, clean corporate image, and legitimacy). Farza et al. (2021) point out that green innovation drives resource efficiency and boosts corporate reputation, thereby enhancing financial performance.

Social Performance

Green adoption involves the protection of the environment that benefits the society. Organizations' social performance is a measure of non-financial variables, which comprise an increase in customer loyalty, social audit scores, and a reduction in employee absenteeism due to the commitment of the organization towards society.

Environmental Performance

A sustainable business model focuses on reducing the negative impact on the environment, which can be measured by assessing organizations' adoption of eco-friendly production processes such as waste reduction and recycling,

environmental performance ratings, pollution control, environmental training programs, reduced energy consumption, and reduced carbon emissions.

Objective of the Study

The present study has been undertaken with a two-fold objective: (i) assessing the impact of various drivers on green adoption by organizations, and (ii) examining the impact of green adoption on the sustainable performance of organizations.

METHODOLOGY

The present quantitative cross-sectional study has been undertaken with the help of both primary as well as secondary data. While the published government documents, official press releases, academic reports of various government departments, Ministries, and specialized agencies, and public documents of the International Energy Agency (IEA), the World Bank, and UNFCCC served the secondary data requirement, a well-structured questionnaire was used to collect the primary response from a sample of all those organizations that are based in India and had participated in the Carbon Disclosure Project (2020). *Using the probability sampling method, organizations were first segregated based on sector (manufacturing and non-manufacturing), and a random selection of 175 firms was made. Middle-level managers of these organizations were then contacted through emails and telephone calls. Of the surveys mailed, 103 responses

(58.9% response rate) from the managers of 68 manufacturing firms and 35 non-manufacturing firms were received. The detailed composition of sample firms is provided in Table 3.

The questionnaire was categorized into four sections that sought information related to the organization (such as type, size, location, and number of employees), green practices, and performance indicators. Table 2 provides a summarized view of the scales along with their source.

A pilot testing of the questionnaire was conducted to assess the relevance of questions. For this purpose, questionnaires were cross-checked by one senior faculty member of the University of Delhi, with expertise in the area of marketing research. Furthermore, two middle-level managers were interviewed for the pre-test, and based on their suggestions, some similarly-worded questions were removed from the final version of the questionnaire. Adopting measures from previous studies (see Table 1), a five-point agreement-disagreement Likert scale was employed to quantify the responses. The data gathered was entered into SPSS 27.0 version for further analysis using statistical techniques.

*Carbon Disclosure Project (2020) is published by not-for-profit charity with the same name in which India has secured the 5th position. The report measures the commitments to science-based targets (SBT) and actions undertaken by corporates to reduce their carbon emission.

Table 1: Sample Composition

Manufacturing Sector	No. of Firms	Non-Manufacturing Sector	No. of Firms
Type of Firm		Type of Firm	
Food & beverage processing	6	Financial Services	21
Automobiles & Components	4	Media, telecommunications & data center services	3
Electrical & electronic equipment	8	Intermodal transport & logistics	2
Garments & Textiles (yarn, cloth, synthetic fabrics)	3	Bars, hotels & restaurants	2
Oil & gas processing	7	Construction	1
Metal smelting, refining & forming	9	Coal mining and Oil & gas extraction	2
Cement	4	IT & software development	4
Chemicals	10		
Biotech & Pharma	11	Total	35
Thermal power generation	6		
Total	68		
Employees		Employees	
100-1000	17	100-1000	11
>1000	51	>1000	24
Annual Turnover		Annual Turnover	
100-1000Cr	20	100-1000Cr	9
>1000Cr	48	>1000Cr	26
Annual R&D Expenditure		Annual R&D Expenditure	
2-5%	47	2-5%	25
>5%	21	>5%	10

(Source: Data Collection)

Table 2: Measures used in the Study

Construct	Indicators	No. of Items	Source	Alpha	Validity
Industry Characteristics	<ul style="list-style-type: none"> ● Concentration ● SCM ● Vertical and horizontal integration ● Society 	6	Banerjee et al., 2003	0.883	0.571
Organizational Characteristics	<ul style="list-style-type: none"> ● Size ● Culture ● Type of competition ● Turnover ● R&D ● No. of Employees 	10	Wakjira & Ramulu, 2018	0.836	0.502

Construct	Indicators	No. of Items	Source	Alpha	Validity
Technological Characteristics	<ul style="list-style-type: none"> ● Price ● Productivity ● Performance ● Complexity ● Testability ● Compatibility ● Perceived Risk 	9	Akman & Mishra, 2015	0.956	0.543
Public Policy	<ul style="list-style-type: none"> ● Environmental norms and regulations ● Green certification ● Stimulus expenditure ● Utility rebates ● State and local grants ● Public incentives 	5	Carberry et al., 2017	0.925	0.586
Environmental Awareness	<ul style="list-style-type: none"> ● Environmental Concern ● Environmental Awareness ● Environmental Responsibility 	3	Arnocky et al., 2007; Wakjira & Ramulu, 2018	0.826	0.524
Green Adoption	<ul style="list-style-type: none"> ● Prefer to adopt green initiatives ● Take efforts to understand the damage non-green activities can cause to environment 	2	Chang & Fong, 2010	0.788	0.629
Economic Performance	<ul style="list-style-type: none"> ● Sales Revenue ● Cost Reduction ● Profitability ● Market Share ● Share Prices ● Return on Investment 	7	Rejikumar, 2016; Sirsly & Lametrz, 2008	0.890	0.514
Social Performance	<ul style="list-style-type: none"> ● Customer Loyalty ● Employees absenteeism ● Social Audit Score 	4	Carberry et al., 2017; Wakjira & Ramulu, 2018	0.811	0.546
Environmental Performance	<ul style="list-style-type: none"> ● Environmental Performance Ratings ● Waste Reduction & Recycling ● Environmental Training Programs ● Energy Consumption ● Carbon Emission 	6	Roberts, 2009	0.856	0.513

(Source: Literature Review and Data Analysis)

ANALYSIS AND FINDINGS

Before applying statistical analysis to the data set, the reliability and validity were assessed for all the measures. The Cronbach alpha value exceeding 0.700 and within-factor correlation greater than 0.5 respectively indicated the presence of reliability and convergent validity. Furthermore, only 162 violations were found out of 1824 possible comparisons, thus supporting discriminant validity.

Impact of Drivers on Green Adoption

The five primary drivers were analyzed for their impact on organizations' green adoption through step-wise multiple regression. The

results in Table 3 depict the best linear combination of three factors, namely technological characteristics, public policy, and organization characteristics, that explain green adoption by organizations (Adj. R2 = .834, F = 171.498, p < .05). Furthermore, technological characteristics ($\beta = .752$) emerge as the main predictor (highest beta weight) followed by public policy ($\beta = .410$). In consonance with the findings of some previous studies, the results of the present work also reveal a negative impact of organizational characteristics ($\beta = -.261$) on green adoption. Due to their insignificant impact, two independent variables, namely industry characteristics and environmental awareness, were excluded from the model.

Table 3: Model Summary of Stepwise Multiple Regression Analysis

Model B		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Adj. R2	F	Sig.*
		Std. Error	Beta						
		-0.38	.203		-.188	.851	.817	457.785	.000 ^b
Step1	Technological Characteristics	1.004	.047	.905	21.396	.000			
		-.011	.197		-.054	.957	.827	245.496	.000 ^c
Step2	Technological Characteristics	.522	.190	.471	2.749	.007			
	Public Policy	.474	.182	.447	2.612	.010			
		.737	.392		1.880	.063	.834	171.498	.000 ^d
Step3	Technological Characteristics	.835	.235	.752	3.557	.001			
	Public Policy	.435	.179	.410	2.427	.017			
	Organization Characteristics	-.438	.200	-.261	-2.193	.031			

(Source: Data Analysis), *sig.<0.05

a. Dependent Variable: Green Adoption

b. Predictors: (Constant): Technology Characteristics

c. Predictors: (Constant): Technology Characteristics, Public Policy

d. Predictors: (Constant): Technology Characteristics, Public Policy and Organization Characteristics

Excluded Variables: Industry Characteristics and Environmental Awareness

2. Impact of Green Adoption on Sustainable Performance

The results of the regression analysis once again reveal a significant impact of green adoption on the three components of sustainable performance, namely economic, social, and environmental performance. Furthermore, out of the three, green adoption is found to have the maximum impact on social performance ($\beta = .802$), followed by environmental performance ($\beta = .790$) and economic performance ($\beta = .785$).

A closer assessment of the mean values for the aspects comprising the three performance indicators helps in assessing the positive impact of green adoption on specific organizational activities. For instance, with respect to economic performance, the adoption of green practices significantly reduces the cost of operation of businesses due to an increased focus on waste reduction, recycling, and energy efficiency (mean = 4.27). An improved image achieved through a green focus and a premium price charged for green products and services further generates increased sales revenue (mean = 4.22), profitability (mean = 4.31), and market share for firms, paving the way for a subsequent increase in an organization's share prices (mean = 4.19) and return on investment (mean = 4.24).

Similarly, on the social front, not only does customer loyalty for the brand increase (mean = 4.27) when an organization offers green products and services, but its employees also feel motivated when they associate themselves

with an environmentally responsible organization, thus reducing absenteeism (mean = 4.29). Furthermore, private sector organizations are now taking an active part in social audit surveys and are investing more in green initiatives, thereby improving organizations' social audit performance (mean = 4.17).

Lastly, green adoption by organizations helps them to reduce their waste generation (mean = 4.30), energy consumption (mean = 4.32), carbon footprint (mean = 4.22), and improve their overall environmental performance ratings (mean = 4.28). Regular and well-planned environmental training programs make employees sensitive to the environment (mean = 4.35), which further results in an organization's better environmental performance. In all, it may be inferred that green strategies adopted by organizations at the right time and in the right place exert a significant positive impact on the sustainable performance of organizations and help them to efficiently achieve their objectives.

Table 4a: Impact of Green Adoption on Sustainable Performance

Variable	β	t	Sig.
GA \square EP	.785	12.735	0.000
GA \square SP	.802	13.502	0.000
GA \square ENVP	.790	12.965	0.000

(Note: $p < 0.05$, GA: Green Adoption EP: Economic Performance SP: Social

Performance ENVP: Environmental Performance)

(Source: Primary Data)

Table 4b: Mean Assessment of Sustainable Performance

Statements	Mean	Std. Deviation
Economic Performance (mean= 4.245)		
Sales Revenue	4.22	.625
Cost Reduction	4.27	.641
Profitability	4.31	.674
Market Share	4.24	.686
Share Price	4.19	.642
Return on Investment	4.24	.618
Social Performance (mean= 4.243)		
Customer's Loyalty	4.27	.660
Absenteeism	4.29	.717
Social Audit	4.17	.666
Environmental Performance (mean= 4.294)		
Environmental Performance Ratings	4.28	.648
Waste Reduction & Recycling	4.30	.698
Environmental Training	4.35	.696
Energy Consumption	4.32	.689
Carbon Emission	4.22	.609

(Source: Primary Data)

CONCLUSION AND IMPLICATIONS

The biggest problem of environmental deterioration makes it imperative for all stakeholders to take active action in curbing the situation. In addition to taking measures and supporting the government in its environmental programs, the Indian corporate sector has also been making efforts to imbibe greenness in its systems and processes to the extent possible. This paper sheds light on this important aspect by delving into organizations' green adoption behavior in detail. The findings establish a significant and differential impact

of three out of five antecedents, namely technology characteristics, public policy, and organization characteristics, on the adoption of green by organizations. While the impact of technology and public policy is found to be positive, the results reveal a negative beta value for organization characteristics. This is perhaps because these comprise the variables that are internal to a firm (such as size, culture, competition, and turnover) and thus influence its financial position and the level of green adoption. Thus, it can be inferred that green practices cannot be implemented arbitrarily and under competitive pressure and should be aligned in accordance with the nature and size of an organization.

The study results also establish a positive and significant impact of these drivers on the economic, social, as well as environmental performance of organizations. However, despite efforts being taken in this respect, there still remains a gap in complete attainment of green objectives. The present study provides some useful suggestions that can be considered by the corporate sector and policymakers for better implementation of such programs in the long run.

To begin with, there is a need for top management commitment and support towards the adoption of green marketing practices and green agendas. Appointing special green officials such as 'chief green officers' and 'General Managers-Environment' to make key decisions regarding green policies and systems can be a useful step in this direction. Besides this, 'green champions', having the necessary authority and adequate understanding of the organization,

should also be selected among the executives to administer effective implementation of green programs.

Second, the adoption of green strategies requires modifications and sometimes a complete overhaul across different aspects of the organization, primarily marketing, including packaging, labeling, pricing, distribution, and promotion. For this, it is suggested that management involve all units and departments of the organization in developing a holistic strategy to implement green initiatives. Table 5 provides a brief idea of some of such green activities that can be adopted by organizations. Alongside, it would help if regular programs are organized to prepare, train, and sensitize the internal workforce about the benefits and challenges involved in the implementation of green strategies. However, one should not see green marketing strategy as a tool for increasing sales but as a part of ethical business practices that should be followed by every organization deriving resources from the environment. Furthermore, organizations need to avoid the practice of greenwashing by giving a false impression of being environmentally responsible.

Lastly, it is seen that a majority of firms adopt green practices only as a result of government or regulatory pressure. A few firms, particularly in the manufacturing sector, even fail to comply with environmental regulations, resulting in the imposition of heavy penalties or closure of such units. A more stringent approach is therefore required by the government to ensure the implementation of environmental laws by organizations. Moreover, big companies with high turnover

and access to capital for investment are usually more inclined to adopt green practices. The cost involved in using green technology acts as a hindrance for small companies, making them uninterested in initiating such activities. For better penetration and feasibility of green adoption across all sectors and industries, it is important that the government provides more incentives and subsidies to small and medium-scale enterprises. The findings of the present work also reveal a significant and positive impact of public policy in promoting green adoption, which reasserts that a suitable policy design and implementation can help towards the attainment of sustainable development goals by all.

In sum, it can be inferred that there is a need to adopt a balanced approach whereby organizations work in synergy with other stakeholders, the government and non-government organizations, civil society, and academic institutions to promote green programs as a profitable endeavor for sustainable growth.

LIMITATIONS AND FUTURE SCOPE

Sufficient efforts have been made to make this study as comprehensive as possible. However, there still remain some gaps that can be addressed by future researchers. Considering the feasibility of the research, the present work has focused on only the most important drivers, identified with the help of previous studies, of green adoption by organizations. The possibility of some other factors which may influence an organization to either accept or reject green adoption cannot be

denied. Also, though organizations from both the manufacturing and non-manufacturing sectors have been included in the sample, the analysis has not been performed across sectors

or industries. As green practices may vary with respect to differences in organization characteristics, future studies in this regard may yield further interesting insights.

Table 5: Suggested Green Activities

Areas	Green Strategies
Lighting	<ul style="list-style-type: none"> • Use of maximum daylight • Proper illumination to carry operations safely and efficiently. • Installation of efficient lamps and sensors to turn on the light only when necessary.
Air ventilation System	<ul style="list-style-type: none"> • Installation of optimum size of air compressors and elimination of leakages in the air compressed system • Designing air ventilation systems based on localized distribution and providing a safe and productive ambient for the workplace.
Input/Raw Materials	<ul style="list-style-type: none"> • Substitution of toxic and other harmful materials both for nature and human beings with lesser or a non-toxic option. • Adjustment in the production process to reduce the use of scarce raw material • Minimizing waste
Operations	<ul style="list-style-type: none"> • Adoption of Bio-remediation and Bio-mining • Green Supply Chain Management • Extended Producer Responsibility
Machinery	<ul style="list-style-type: none"> • Replacing inefficient machineries • Setting green criteria for the purchase/ design of new machinery • Substitution of noisy machinery (low noise purchasing policy)
Emission	<ul style="list-style-type: none"> • Elimination of the harmful contaminants in the environment that pollute land, water and air. • Setting emission limits • Continuous monitoring of emission
Employees Training	<ul style="list-style-type: none"> • Creating awareness about energy conservation. • Green orientation program for employees • Providing training to employees on the consequences of non-compliance with environmental procedures
Marketing	<ul style="list-style-type: none"> • Green Advertisements • Eco-labeling • Eco-branding • Training of sales representatives to promote eco-friendly products
Green Bonds	<ul style="list-style-type: none"> • Raising funds for supplement R&D on green projects

(Source: Conceptualized by the Authors)

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