

# A Study on Linkages of Green HRM with SDG12 in Selected PSUs in India

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## ABSTRACT

Today, Green HRM is the latest catchword in organization. Green practices are developing quickly due to shifting of international regulations around global warming and climate change. Scientist and environmentalist are cautioning everyone including government and communal about the dire repercussions and deteriorating conditions that global warming is bringing worldwide. With these changes in environmental situation, India is also taking participation towards the betterment of environment. This study focuses on five Maharatna's companies based in India to implement Green practices in industrial sectors functioning inside the country and the ways these practices impose affect the enterprises to accomplish SDG12. It bargains about five Maharatna's have successfully occupied towards accomplishing the goals of SDG12 for establishing sustainable industrialise responsible consumption and production thus to improve overall productivity by reduction or minimization of waste, etc. It reveals about participating in implementation of Green practices to achieve SDG12 under 17 Sustainable Development Goals. Nowadays, major PSUs are implementing SDG12 to achieve sustainability within the organization and thus, to protect the entire world environment for betterment of the future.

*Keywords: Green HRM; Green practices; India; Linkages; Public Sector Units(PSUs); Sustainable Development Goals(SDG); Responsible Consumption and Production(SDG12)*

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## INTRODUCTION

The idea about the term Sustainable development is the model that establishes the path towards more green earth. In 1987, it was labelled as development that "meets the needs of the present generation without compromising the ability of future generations to meet their own needs" by the World Commission on Environment and Development [27]. In accordance with an innovative approach towards sustainable development, the United Nations members collectively created single list of targets on September 25, 2015, to end paucity, shield the earth along with the assurance that each individual within the society persists within affluence. Under 2030 Agenda all nations must achieve the 17 Sustainable Development Goals (SDGs) along with their 169 explicit targets within the period by 2030 so that all the SDG along with their targets are being fulfilled simultaneously [8]. The Sustainable Development Goals (SDGs) were established by the United Nations (UN) in 2015 with the aim of ending scarcity, safeguarding the globe and ensuring so as to each one's prosperous life in addition to peaceful world by 2030. They acknowledge that achieving sustainable development requires the active participation from every country and the sector of society.

Among 17 SDGs, the most important, urgent, and developing issues facing is humanity. Their 169 goals present chances to establish a framework of inclusive, available, and sustainable development in support of people and to include every social factors within a consistent, distributed, and wide-ranging scaffold. The 17 SDGs addresses a wide range of interrelated topics, such as eliminating poverty, promoting health and well-being, ensuring safe drinking water and cleanliness, encouraging gender equality, offering high-quality education, inspiring partnerships for the goals, supporting honest occupation and progress in economy, encouraging communications and industry modernization, maintaining similarity, fostering sustainable cities and communities, encouraging responsible utilization and fabrication, active against environmental fluctuations, maintaining survival in aquatic and terrestrial system, leading harmony, impartiality, and well-built place. Every goal includes distinct objectives and indicators to track advancement. Governments, organizations, businesses, and individuals worldwide are urged to take actions so as to achieve the SDGs through policy changes, investments, innovation, and sustainable practices. However In India, Green HRM is at introductory stage for most organization are trying to implement green practices for reduction of waste, expenses and consumption which helps lowering of carbon foot print in different organization [4]. We are currently halfway to their implementation. Here this study shed the light on the joint impact of Green HRM with SDG 12 in diverse organisation. It emphasizes the incorporation of SDG 12 relates to Green HRM in five different PSUs. Each PSUs belongs to different sector such as one is under Heavy industry, other belongs to Petroleum and Natural Gas, Coal, Power and Steel. Correspondingly, this study sketches its objectives.

## REVIEW OF LITERATURE

According to its definition, "Sustainable development" is "development that meets present needs without compromising the ability of future generations to meet their own needs". From 1998 to 2003, Director-General of The World Health Organization (WHO), Gro Harlem Brundtland (1987), the Norwegian Prime Minister, provided this definition. In the year 1987, she presided over the UN's World Commission for Environment and Development (Brundtland Commission) and released the "Brundtland Report", which is commonly known as "Our Common Future".

The notion of Sustainable development is intricate wide-ranging, encompassing the following principles that can be directly or indirectly related to developmental endeavours: Economic, ecological, social, and cultural sustainability are the four pillars of sustainability [27]. Today multiple programs have been launched under the banner of sustainable development, which has turned into a buzzword. Through the progression of methodical and scientific approach, materials from environmental sources are being used vigorously. Therefore, 17 goals and 169 targets have been framed by UNDP in order to shield ecological blemish. Advancement of societal, monetary and ecological proportions are the basic aims of SDG. Since everyone is interrelated and indivisible, the SDGs should be applied to all nations, including developed, developing, and least developed nations. Up to 2030, it is the responsibility of the individual countries to keep track of and evaluate the progress made in reaching the national goals and targets. There is a demotion in India's position from 115th to 120th among 165 countries starting from 2017 to 2021 [13],[16],[20].

Green human resources refers to the capability of organization to support ecological issues by accepting them and by influencing management decisions, HR practices and policies, employee training, and the enforcement of laws linked with environmental protection [23]. Additionally, it will encourage eco-friendly products and make societal members and staff aware of the uses of natural resources more efficiently. Green HR calls about promoting approaches and finding solution to problems by proper employee awareness for achieving sustainability. HRM that encourage an organization's sustainable resource usage is Green HRM [18]. Green HRM involves environmentally friendly HR programs that increase yield, low value, and modify involvement and maintenance of workers. These benefits then assist organizations in implementing distribution of job, car, online meetings, virtual interviews, reusing, and communication over telephone, virtual guidance, and other practices that lessen employee carbon footprints by using energy-efficient office spaces and electronic filing, among other things. Additionally, it will encourage eco-friendly products and make society members and staff aware of how natural resources are used more efficiently [17]. Green HRM benefit firms by lowering workers carbon costs through encouraging carpooling, providing online training, promote job sharing, increase teleconferencing, and online interviewing, as well as recycling you [28]. It is wide ranging and comprehensive functioning of the idea of sustainability to an organisation. Author, also states that, to accomplish Green HRM, the hiring process, training and development, pay structure, employee involvement, performance management system, and other procedures should be carried out within the organization [28].

### Objective

The purpose of the study:-

- To highlights the concept of GHRM and SDG 12
- To understand the linkages of SDG12 with GHRM
- To identify the links of GHRM in relation to SDG 12 in five major PSUs in India

## METHODOLOGY

The secondary data has been used as a primary source for the study. A thorough analysis of the existing reports selecting articles on Green HRM along with its sustainable practices [4] to maintain SDG has been mentioned from various websites, journals, record, and other sources such PSU's own portals (annual reports, sustainability reports).

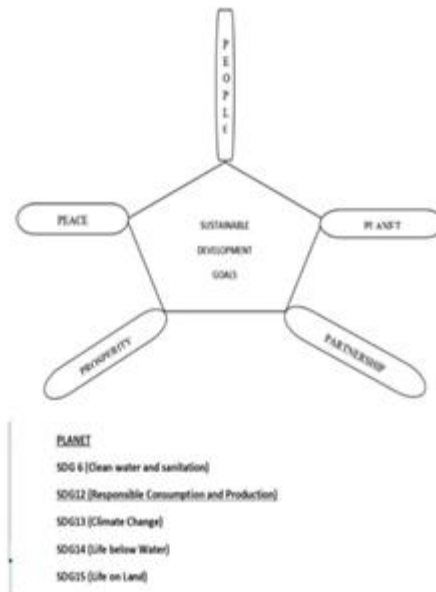
### Green HRM

International organizations promoted environmentally friendly systems or practices that necessitate sustainable growth at both the micro and macro levels. Despite of immense significance business organizations are engaged in environmental management and protection as the natural environment is vital to both the community and the organizations as a whole [29]. Over the past few decades, governments and organizations have begun to view environmental effect as a major priority [21].

Inadequate environmental management is tempted for extreme weather, rising global temperatures, melting glaciers, rising greenhouse gas emissions, encroaching oceans, swamped coastlines, and many other effects [1]. Organizations tend to take environmental awareness into account to satisfy corporate stakeholders, including legislators, business owners, community leaders, and the media [3]. Green HRM, on the other hand, emphasizes to the areas that businesses are identifying as sustainable ways to reduce their carbon footprint [2]. Modern regulations and legislation, coupled with rising pressure of market and consumer on the environment, have improved firms' knowledge and expertise in managing environmental challenges, including PSUs [9].

**SDG 12 “Responsible consumption and Production”**

Among all 17 SD goals: “People, Planet, Peace, Prosperity and Partnership” are the five pillars [26] illustrated in Fig.1. Here we will focus on SDG12, or Responsible Consumption and Production, considered under the category of ‘Planet’ which is one amongst the five pillars (P’s) of sustainable development goals. The other five P’s are clean water and sanitation, life above the land, life under water, and climatic action [26]. This study highlights the need for more research on four SDG12 targets, which are closely related to environment. According to SDG12, “Responsible consumption and production” must be applied in selected PSUs. It includes reduction of food waste, energy-efficient light bulbs or LED lights to be used, well-organized management, sustainable utilization of materials from ecological sources, mitigating inorganic waste, and administration for efficient lessening of harmful and non degradable substance, reduce global emission, save water resource by 2030 [22]. It urges businesses and government procurement to implement various sustainable practices [16].



**Fig.1. Five Pillars of Sustainable Development Goals (SDGs)**

**Linkages between SDG12 (Responsible consumption and production) with Green HRM**

The SDGs seek to "do more and better with less" for a wide range of stakeholders, including companies and development cooperation organizations. SDG 12 aims to create a sustainable infrastructure within workplace, resource and energy conservation, and responsible production and consumption considered as one amongst the 17 SDGs where different corporations are implementing at the workplace.

The term "responsible consumption" refers to using services along with associated products that accomplish the necessity and upgrade the standard of living in order to reduce the usage of natural resources, hazardous substance and contaminants dispensed throughout the span of service or product's biorhythm in order to safeguard upcoming genesis needs. Arranging different programs on sustainable consumption and production patterns are distinct in different PSUs.

For example, some PSUs are incorporating green practices into regular operations, particularly in the areas of recycling and dry waste management. Promoting the use of glass or ceramic mugs for drinks instead of paper ones, recycling office supplies like scrap paper, buying recycled paper, and switching to refillable pens are some eco-friendly steps that may be taken to lessen carbon emissions into the atmosphere. SDG 12 states that by 2030, nations must create plans for the sustainable and effective management and use of natural resources.

This includes reporting on corporate sustainability, managing the adverse effects of chemicals and e-waste, and getting rid of market inefficiencies that lead to the wasteful use of resources (such fossil fuel subsidies). India, the second most populous country occupied 2.4 percent of the planet's land area, which is home to almost 17.5% of world’s people. This calls for the creation of a thorough legal framework with the goals of enhancing resource efficiency, decreasing waste and pollution, and encouraging the adoption of technology that contributes toward renewable energy. Nowadays, PSUs are implementing different technologies to their organisation to reduce carbon footprints to protect the environment globally [11].

For Goal 12, states' SDG index scores vary from 47 to 99, while UTs' ratings fall between 50 and 95. The best-performing states and union territories are Jammu & Kashmir, Tripura, and Ladakh respectively. Twenty-three states

and five UTs were chosen for the Front Runners category (score range: 65 to 99). Conversely, Goa performed poorly in the Aspirants category (with an Index score below 50) [13], [20]. Here the Fig.2.represents the linkages between SDG 12 with GHRM in Five major PSUs in INDIA.



**Fig.2. Linkages between SDG 12 with GHRM in FIVE PSUs in INDIA**

**India’s five major PSUs implementing SDG 12 in relates with Green HRM**

Target 12 of SDG, focuses on Sustainable Consumption and Production, encourages "doing more with less" with simultaneous accomplishment of demands of the existing individuals exclusive of sacrificing those of upcoming well beings. The objectives highlighted enhance resource efficiency, sustainable infrastructure and green economies. Along with limiting waste, it also focuses on lowering pollution and deterioration. It primarily promotes the use of ecologically friendly techniques, waste minimization, sustainable chemical and waste management, and resource efficiency. Since human resources are the cornerstone of every nation’s enterprise and the state economy, employees are the backbone of any organization, and a sustainable strategy means very little if employees are not involved or aware of how to achieve it. Organizations of all sizes have a responsibility to do all they can to help to educate their employees on ways they may be able to protect the planet, and thus be responsive towards global goals and the entire onus is on HR.

India occupies approximately 18 percentage of total world’s population where nearly 2.4 percentage of earth’s area is represented by Indian geographical map, makes it to be the second most populated nation in the world. This means to have a thorough policy framework is required for attaining efficient resources, lowering waste and pollution levels, and the adoption of technologies that emphasize renewable resources [13]. Over the last few years, fruitful steps have been given by the GOI to upgrade the infrastructure that has even focused on resource allocation. The installed capacity for power generation has been rising during the past five years. In contrast to the more than twofold increase in renewable energy capacity (solar, wind and small hydro power), installed capacity in non-fossil fuel sectors has increased by 51.3%. Nowadays, different PSUs in India is also aligning their business goals with international goal in favour of environment protection.

The SDG 12 (sustainable consumption and production) in coordination with Green practices in selected PSUs or Five Maharatna’s in India are mentioned in Table: 1.

**Table: 1 (SDG 12 in Selected Five PSUs In India)**

PSUs/SDG12 ↓	Minimize Use of natural resource	4R’s (Reduce, Reuse, Recycling, Recovery)	Energy Conservation (Use of LED lights)	Awareness generation to employees	Energy auditing	Solar Plants / project
BHEL	✓	✓	✓	✓	✓	✓
BPCL	✓	✓	✓	✓	✓	✓
CIL	✓	✓	✓	✓	✓	✓
NTPC	✓	✓	✓	✓	✓	✓
SAIL	✓	✓	✓	✓	✓	✓

Here we mentioned about five major PSUs in India who implemented SDG 12 and Green practices in the organization to protect not only the environment of company but also protecting ecology globally. The illustration is as follows:

**BHEL “Bharat heavy electrical limited”**

BHEL, the largest producer of electricity generation equipment owned by the government, a CPSE’s in India. The Ministry of Heavy Industries oversees its administration. It is based in New Delhi, BHEL was founded in 1956 with the aid of Soviet technology. It gained the capability to manufacture a wide range of mechanical, electrical, and electronic equipment throughout time for use in various industries, including oil and gas, transmission, transportation, and other related fields. For the primary industry sectors of power, transmission, manufacturing, transportation, renewable energy, oil and gas, and defence, BHEL used to designs, builds, engineers, tests, commissions, and maintains a wide

range of products, services and systems. BHEL received ISO 9000 and ISO 14000 accreditations, making it the first company in the public sector to do so [5].

As a company, BHEL is cognizant of the Sustainable Development Goals (SDG12): It highlights the need to minimize the use of harmful chemicals and natural resources in order to promote sustainable growth and development. This awareness is ingrained in the management procedure with dematerialization of goods, promotes responsible waste management based on the concept of reduction, reuse, recycling, and recovery (4R's) process [5] which is considered as the part of Green HRM implement in company. These strategies optimize designing of products with low cost along with environmental footprint.

Being material-intensive business, units made significant efforts in 2019–20, such as recycling hydraulic coil in machines, reusing waste oil, reusing packing wood for product packaging, and reusing junk in shops in production units. Some of the specific activities related to Energy conservation/efficiency during the year 2019-20 includes: lowering lighting loads by replacing inefficient office and street lights with energy-efficient models; upgrading to five-star AC equipment; streamlining air compressor operations by reducing capacity; and replacing outdated, inefficient lighting with energy-efficient LED lighting systems. Numerous initiatives were undertaken to raise individuals understanding of the value of energy conservation. The Inter-Unit carried out energy audits throughout the year [6].

### ***BPCL “Bharat Petroleum Corporation Limited”***

BPCL is one of the top companies in India's petroleum industry under “The Ministry of Petroleum and Natural Gas”, Government of India. The owner of BPCL, an Indian PSU with its headquarters is located in Mumbai. It was established in 1952. Burmah Shell Group of Companies was renamed as “Bharat Refineries Limited” by GOI on January 24, 1976, that was later reframed as “Bharat Petroleum Corporation Limited” [5]. Today, the company controls triple oil refineries in the country [5] such as “Mumbai refinery” in Maharashtra, “Kochi refinery” in Kerala and “Bina refinery” in Madhya Pradesh. In addition to premium gasoline products like Speed and Speed 97, Bharat Petroleum offers a range of products including gasoline, diesel, automotive LPG, and CNG. It provides gear oil, transmission oil, specialty oil, and automotive engine oil, among other things.

BPCL, an eminent organization, is much cognizant about the goals of Sustainable Development includes SDG12, which conveys about Sustainable growth and development, greater efficiency and waste reduction go a long way towards the goal of sustainability. Several steps taken to reduce energy consumption such as the capacity of energy-efficient lighting has been raise, reduced specific fuel consumption in refineries.

This organization has made a lot of efforts towards sustainability includes some specific activities related to Energy conservation/efficiency includes: transformed conventional lights to LED lights, implemented solid waste management project, implemented online stack emission monitoring, installed solar power capacity, wind capacity and 18 MW of energy-efficient lighting capacity across the network of the company. Installed solar roof car parking shed, solar power based electric fencing Township. Awareness programmes are implements for employees such as providing training on organic farming, initiate Mission LIFE (Living in a Friendly Environment) flagship program focusing on sustainable living practices and promoting environmental stewardship. Through this initiative, BPCL aims to encourage individuals to adopt eco-friendly habits and make sustainable choices in their daily lives. Employee representatives from different departments are present suggestions on energy conservation and environment protection on regular schedule. During the year, energy audits were conducted by efficient Audit Management System [7].

### ***CIL “Coal India Limited”***

The aforementioned company authorised by the “Ministry of Coal”, is an Indian central public sector enterprise. It was founded in November 1975, headquarter is in Kolkata. It is the world's biggest producer of coal. CIL produces coal through seven of its subsidiaries such as “Eastern Coalfields Limited (ECL)”, “Central Coalfields Limited (CCL)”, “Western Coalfields Limited (WCL)”, “Bharat Coking Coal Limited (BCCL)”, “South Eastern Coalfields Limited (SECL)”, “Northern Coalfield Limited (NCL)”, and “Mahanadi Coalfields Limited (MCL)”. The eighth self owned subsidiary named “Central Mine Planning & Design Institute Limited (CMPDIL)”, offers technical assistance, setting up, and investigation services to all the rest of the existing subsidiaries. These major responsibilities fall under the administrative purview of the Ministry and are carried out by the Public Sector Undertakings, which include “Neyveli Lignite Corporation India Limited (NLCIL)” and “Coal India Ltd.” along with its subsidiaries[11][14].

As an organization, CIL is committed towards the theme of Sustainable Development Goal (SDG12), which aims to preserve biodiversity and protect the environment in order to maintain ecological balance and improve the socio cultural and economic conditions of the area in which it operates. CIL is dedicated to promote sustainable development by implementing innovative environmentally friendly mining methods, Reduce, reuse, recycle, redefine, and replace to preserve natural resources. The organization agreed to apply the best worldwide practices to all aspects of its operations, including waste management and recycling, pollution avoidance and mitigation, and raising stakeholder awareness for ongoing environmental performance improvement. The Ministry of Coal (MoC) has established a Sustainable Development Cell to optimize the sustainable use of existing resources and mitigate the negative effects of

mining in order to enhance ecosystem services. Encourage the use of renewable energy to reduce mining's carbon footprint and move closer to the objective of net zero carbon emissions [12].

All coal/Lignite PSUs now have Sustainable Development Cells (SDCs) with the following goals to enhance the nation's perception of the coal industry includes to counsel, guide, organize, and oversee the mitigating actions implemented by coal and limestone PSUs to optimize resource utilization in a sustainable manner. It is to spread sustainable best practices via articles, videos, documentaries, etc. encouraging different energy-saving techniques for mining and related operations, as well as lowering noise and emissions, suggesting actions to recycle and reuse overburden in an environmentally friendly way. Every year Environmental auditing of mines are done by expert agencies. Publishing sustainability reports on various environmental attributes. Encouraging the employees of coal companies to conduct and participate in frequent workshop, seminars and training programs for their authorities to educate in innovative methods, technologies, approaches and also global practices [10].

#### ***NTPC “National Thermal Power Corporation”***

NTPC Limited, a Central Public Sector Undertaking, formerly known as National Thermal Power Corporation in India that generates energy and engages in other operations. It is owned by Ministry of Power and Government of India, founded on 7 November 1975 by India's former Prime Minister Indira Gandhi as National Thermal Power Corporation Private Limited. The PSU's headquarter is in New Delhi. The production and distribution of power to Indian State Power Boards is the primary responsibility of NTPC. The company also manages turnkey projects and provides engineering, project management, construction management, and power plant operation and management consulting services. By 2030, NTPC plans to become a 130 GW with an installed capacity of 73,824 MW to be consider as India's largest power utility company. Singrauli, Uttar Pradesh, is home to NTPC's first super thermal power facility [15].

NTPC, a renowned organization, is well-versed in the meaning of the Sustainable Development Goal (SDG). On June 8, 2018, Global Compact Network presented the Innovative Practices Awards for SDGs, and this is one of the Top Performers. The organization engages in a variety of initiatives related to SDG 12, such as large-scale tree planting and upkeep, the installation of rooftop solar projects on the rooftops of some of its buildings, townships, and offices, Vermicomposting, a bio-methanation facility, and paper recycling equipment. The environmental strategy of NTPC is concentrates on making the best use of available natural resources, reducing waste through recycling and reuse, and using cutting-edge technologies that are part of green human resource management.

As water is the prime resource of the company, and it uses water in a sustainable manner. It monitors and continuously optimize fresh water consumption using 3R's principle (Reduce, Recycle & reuse). Reducing water withdrawal per unit generating occurs due to improving wastewater reuse and recycling. The company banned single-use plastic too. With paperless initiatives company saved 3.3 Cr of A4 size (approx) paper. It ensures efficient and optimum utilization of resources such as land, water fuel, construction materials, oils. It implemented the Energy and Efficiency Management System, reduction in Auxiliary Power Consumption to further reduce the overall energy consumption. In the company near about 8.5 lacs LED fittings have been replaced till Financial Year report 2019. It also upgraded the technologies and systems towards ensuring reduction in consumption of Ozone Depleting Substances (ODS).[19]

NTPC gives importance towards minimization of waste reduction in organization. Here energy auditing done on regular basis by the energy auditing agency. In the organisation, environmental management group come up with focused requirement (including skill training, cultural building etc.). All these Green activities are come under SDG12 are implemented with the organization [16].

#### ***5. SAIL “Steel Authority Of India Limited”***

SAIL, a central public sector enterprise under the ownership of the Ministry of Steel, Government of India. It is situated in New Delhi. It is one of India's biggest producers of steel. It spreads mostly in the eastern and central parts of India, near local raw material sources. It operates five integrated facilities and three specific steel plants that produce iron and steel. The enterprise was given management responsibility for five integrated steel mills at Bhilai, Bokaro, Durgapur, Rourkela, and Burnpur, as well as the Alloy Steel Plant and the Salem Steel Plant. It was founded on January 24, 1973, with an authorized capital of Rs. 2000crore. The year 1978 saw a reorganization of SAIL into a functioning business. It produces and markets a wide variety of steel goods [24].

SAIL, a reputable steel manufacturer, in all of its business dealings promotes clean, green, and sustainable growth. As an organization, SAIL recognises that its business activities are directly and indirectly create impact on environment and society. It committed towards promoting sustainable development encompassing environmental, societal and economic aspects related to its business activities. SAIL is well aware of the goals of Sustainable Development includes SDG 12, which conveys that for Sustainable growth and development, includes “in all of its business dealings, reducing emission of greenhouse gases, enhancing green coverage, adopting energy efficient technologies, enhancing use of green energy”. SAIL Plants and Units have the robust environment management systems and adopted the latest technologies for conservation of energy and prevention of environmental pollution. Several activities such as implementing technologies for conservation of energy, 4R's(Reduce, Reuse, Recover and Recycle) for conservation of

natural resources including water to ensure sustainable future. Company also implemented for reducing load in lighting through switching to energy efficient lighting fixtures such as LED lights etc. in office. The company make corporate sustainability report on regular basis every year. Here continual improvement of environment performance by setting challenging targets, transport reporting system and robust review mechanism. All these Green activities are comes under SDG12 are implemented with the organization [25].

## CONCLUSION

It is evident that Green HR plays a major role in the organization. HR managers take extra responsibility to take initiatives to incorporate environmental issues in the corporate mission. It studied about the need related to SDG12, which is closely related to environment. It explored the linkages of SDG 12 with GHRM to be applied in five major PSUs such as BHEL, BPCL, CIL, NTPC and SAIL in India. It revealed that all five major organizations which belongs to different sectors have been applied different GHRM activities such as minimization of the use of natural resources.

All the five major PSUs have been implemented 4R's within the organization. Different PSUs switched to energy-efficient light bulbs. Each five organizations are doing energy auditing every year too. All the major Green activities are being implemented by these five major PSUs are comes under the SDG 12, Responsible consumption and production in India. All the major PSUs are taking part in SDG12 goals to achieve the sustainability within the organization as well as to the environment. However, there is still time to meet the 2030 deadline, and India can accomplish its objectives with the support of creative solutions, supported by the involvement of stakeholders, including PSUs.

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