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# Green Finance: Advancing Sustainable Development Goals

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**ABSTRACT:-**

Green financing plays a remarkable role in achieving comprehensive, inclusive, and sustainable economic and social development by fostering a more growing environment for all living beings on Earth. This study underlines the impressiveness of green finance in advancing Sustainable Development Goals. In today's era of advancing technology, the global economy faces four major challenges: environmental change, energy constraints, financial crises, and health issues. Sustainable finance acts as a crucial mediator in reconciling the global economy with nature. Green finance can be likened to the kidneys of the human body, purifying the Earth and eliminating waste. It forms the basis for ecological development, facilitating grasp over GHGs, reduction of ozone-depleting substances, and mitigation of air and water pollution. This study emphasizes encouraging indications that embracing green financial practices can significantly influence economic growth and overall welfare. In 2017, global investments in renewable energy saw a decrease of 3%, amid ongoing concerns about potential further declines due to the continued dominance of non renewable investments in the energy sector.This trend jeopardizes the expansion of green energy necessary for energy security and meeting climate and air quality goals. Many developed and developing economies still pursue coal-friendly energy policies, potentially offsetting emissions reductions achieved elsewhere.Finance serves as the engine driving infrastructure projects, including energy initiatives. Financial institutions often favor fossil fuel ventures over green projects due to perceived risks and lower returns on green technologies. To achieve sustainable development goals, there's a pressing need to incentivize green projects and enhance investments in environmentally beneficial initiatives. This can be facilitated through new financial instruments and policies which compiles green banks, carbon market mechanisms, green bonds, fiscal policies, green central banking, green technologies, community-based green funds, collectively known as green finance.

***KEYWORDS***- *Green Bonds, Green Insurance, Green Credit Cards, Green Banks,Green Investment Funds, Green Vehicle Funds*

## INTRODUCTION:-

**"Green is a process, not a status. We need to think of 'green' as a verb, not an adjective." -DanielGolemn**

Green finance involves financial support aimed at promoting environmentally-friendly development and reducing ozone-depleting substances. It represents the integration of economic activities with ecological preservation. Modern financial innovations that focus on lowering GHGs and other environmental pollutants are central to green finance. Sustainable development addresses critical global challenges such as climate change, energy limitations, and financial instability. Green finance plays a remarkable role in reshaping economic policies worldwide.Today, alongside concerns about economic growth rates, there is increasing emphasis on the quality of growth, including its negative impacts and economic uncertainties. Climate in change and global warming, underscored in the influential Stern Report (2006), are urgent issues. Initiatives like the UN Global Compact (2000) and documentaries such as "An Inconvenient Truth" (2006) featuring Al Gore have heightened public awareness.The Paris Agreement (2015) seeks to align financial flows with pathways that prioritize low GHGs and climate resilience. Institutions like the Bank of England, led by former Governor Mark Carney, have focused on the importance of analyzing climate change risks for central banks and financial stability.Green finance encompasses structured financial activities aimed at improving environmental performance. This includes various forms of financing such as loans, debt instruments, and investments that support the extension of green projects or mitigate environmental impacts of traditional enterprises, or both. The primary objective of green resources is to internalize environmental considerations and reduce perceived risks.

Recently, India's commitment at the Conference Of Parties 26 climate summit to achieve net zero carbon emissions by 2070 underscores the potential for substantial contributions through green financing to achieve this ambitious goal.

### *Categories of Green Finance in India*

***Green Bonds***- A green bond is a type of fixed-income investment created to fund particular climate-related or environmental projects. These bonds often include tax advantages to increase their appeal to certain investors. The terms "green bond," "climate bond," and "sustainable bond" are occasionally used interchangeably. The Indore Municipal Corporation, which has topped the cleanliness survey for six years in a row, has launched the country's first green bonds to raise Rs 244 crore for a 60 MW solar plant at its water pumping station.Indore, located in Madhya Pradesh, has been recognized as India's cleanest city for the past seven years.This might have been attained through proper land-use regulation and building construction. It involves urban planning, including effective town planning, economic and social development planning, and ensuring water supply for commercial needs.

***Green Insurance-*** Green insurance encompasses insurance resources crafted to bolster environmentally sustainable practices and manage risks linked to environmental impacts. Such offerings commonly insure against liabilities stemming from the environment, support renewable energy ventures, fund enhancements in energy efficiency, and underwrite various eco-friendly endeavors. The ultimate target of green insurance is to stimulate and safeguard investments in green technologies and projects by offering specialized coverage that addresses environmental risks and ensures compliance with regulations. Its pivotal role lies in inducing sustainability through financial protection and incentives that encourage the use of environmentally conscientious behaviors and initiatives.

***Green Credit Cards-*** Green credit cards like Aspirations' Zero card plant a tree with each purchase, allowing consumers to channel their spending into green finance initiatives that provides favourable environmental impact.

***Green Banks-***Green banks function akin to traditional banks but utilize public funds to catalyze private investment and other eco-friendly projects. India's first green bank, the Indian Renewable Energy Development Agency (IREDA), was founded in 1987. IREDA is dedicated to promoting, developing and fostering financial assistance for renewable energy projects. "It operates as a government-owned corporation under the Ministry of New and Renewable Energy (MNRE)."

***Green Loan-*** A green loan is a specialized type of financing given by financial institutions to support projects that yield environmental benefits or boost up speed to attain sustainability goals.Key features include funding exclusively for projects meeting environmental criteria, aiming for measurable environmental outcomes such as lower carbon emissions or improved resource efficiency. Some green loans require certification of the project's environmental impact for transparency. They often offer favorable terms like lower interest rates to incentivize sustainable investments and may require borrowers to report on the project's environmental performance. Overall, green loans facilitate capital mobilization towards sustainable development, encouraging both businesses and individuals to pursue environmentally responsible projects in line with global efforts to find out change in climate and promote sustainability. REC Limited has secured a Green Loan covered by SACE, amounting to approximately 60.5 billion Japanese Yen. This marks the first-ever Yen-denominated loan in India and the first Green Loan supported by the Italian Export Credit Agency SACE in the country. The Green Loan Facility aims to finance projects that adhere to stringent environmental criteria, foster renewable energy initiatives, and aid in reducing carbon footprints.

***Green Vehicle Funds-***Green vehicle funds are financial resources, subsidies, grants, or incentives provided by governments, organizations, or financial institutions to induce the adoption of environmentally friendly vehicles. These funds offer financial assistance through subsidies, tax incentives, or low-interest loans to reduce vehicle costs and support charging infrastructure. Governments globally use these funds to reduce fossil fuel dependence, enhance urban air quality, and meet climate goals. Ultimately, green vehicle funds drive market demand, foster innovation in vehicle technology, and advance sustainable transportation systems worldwide. The government launched a Production Linked Incentive (PLI) scheme aimed at the automotive industry in 2021, with a budget of Rs. 25,938 crore.

***Green Investment Funds-***Green investment funds are specialized financial instruments that focus on investing in ecologically sustainable businesses and projects. They allocate capital to sectors such as green buildings and waste management etc..India is increasing its expenditure on infrastructure, particularly in green initiatives. According to a recent CRISIL report, India is projected to invest nearly Rs 143 lakh crore in infrastructure over the next seven fiscal years until 2030. This amount significantly surpasses the Rs 67 lakh crore spent in the

previous seven fiscal years starting from 2016-17. From total Rs 143 lakh crore, approximately Rs 36.6 lakh crore will be allocated to green investments. Interestingly, this represents a fivefold increase compared to the period from FY17 to FY23. Within the green investment segment, renewable energy projects will attain the largest share of Rs 30.3 lakh crore, followed by transportation with Rs 6.3 lakh crore. Looking ahead, it is estimated that green investments will further increase to Rs 67 lakh crore between fiscal years 2024 and 2030. CRISIL's report highlights India's commitment to investing Rs 36.6 lakh crore specifically in green infrastructure during the FY24-30 period.


***LITERATURE REVIEW:-***

**Nenavath and Mishra (2023**) This research examined how green finance and financial technology impact sustainable financial progress, using data from Indian states between 2010 and 2021. Employing panel regression and a two-step GMM approach to address endogeneity issues, the study depicts that green finance dominantly contributes to quality economic growth by improving financial structures, effectiveness, and environmental protection. Additionally, fintech enhances green finance's impact on financial structures and ecological safety but does not Impact its relationship with economic effectiveness. The paper suggests that policymakers and the Indian government should integrate fintech with green finance, develop environmental disclosure frameworks for state governments, and establish to encourage sustainable finance in the private sector.

**Khan, Akbar, Nasim, Hedvičáková, and Bashir (2022**)This research significantly enhances the literature by analyzing how green finance affects environmental sustainability. It uses GDP, investment in renewable energy, R&D funding for eco-friendly projects, and public-private partnerships in renewable energy initiatives to represent the extension of green finance. The study reveals a notable geographical clustering effect in green finance development, highlighting considerable regional differences.

**Ranjan, Ghosh, and Nath (2021)**This paper examined the progress of sustainable finance around the world and in India. We utilize various data sources to evaluate public awareness (Google Trends) and financing options (bank credit and bond issuances) for green initiatives.The findings indicate that despite improvements in public awareness and financing opportunities in India, enhancing information management systems and fostering greater coordination among stakeholders could facilitate sustained economic growth that is environmentally and socially responsible in the long term.

**Guest. (2021)** described India as a center for sustainability financing and green taxonomy, which aims to increase awareness of green sectors and mitigate greenwashing. Green finance includes: 1) funding green investments in environmental products and services,preventing environmental and climate damage; 2) supporting public green practices that induce environmental projects and initiatives; and 3) establishing a sustainable financial chain focused on green financial funds.

**Sharif Mohd and Vijay Kumar Kaushal (2018)**defined that green financing has the remarkable role in reducing green house emissions. India has greater potential to maintain green infrastructure needed for sustainable financing.

**Akgun, et al.** (**2015**) This study tried to address this question through three main stages: providinga current overview, identifying key influencing factors, and developing scenarios for sustainable development. To achieve these goals, we utilized the pentagon model and conducted multi-criteria analysis, specifically regime analysis. Data were assembled from field surveys conducted across 60 rural areas in Europe and 17 in Turkey. The findings indicate differing future priorities among rural residents, with European communities showing a stronger focus on sustainable development compared to Turkish villages, where economic development remains a primary concern.

## ***OBJECTIVES OF THE STUDY:-***

- To understand commitments done by several financial Institutions for renewable energy.
- To know Climate-Adjusted Estimate of Infrastructure Needs.

## ***RESEARCH METHODOLOGY:-***

This study is descriptive in nature.The research paper gathers relevant secondary data from variety of sources such as Government publications, Reports and Publications of Asian Development Bank,CRISIL report,official websites etc.

## ***DISCUSSION & FINDINGS:-***

India has pledged to achieve its Nationally Determined Contributions (NDC) objectives, aiming to reduce its emissions intensity by 33-35 percent by 2030 compared to 2005 levels and increase the share of renewable energy (RE) to 40 percent of total installed electric power capacity by 2030. The government estimates that around US$ 4.50 trillion (US$ 450 billion per year) will be needed over the next decade to fulfill targets for

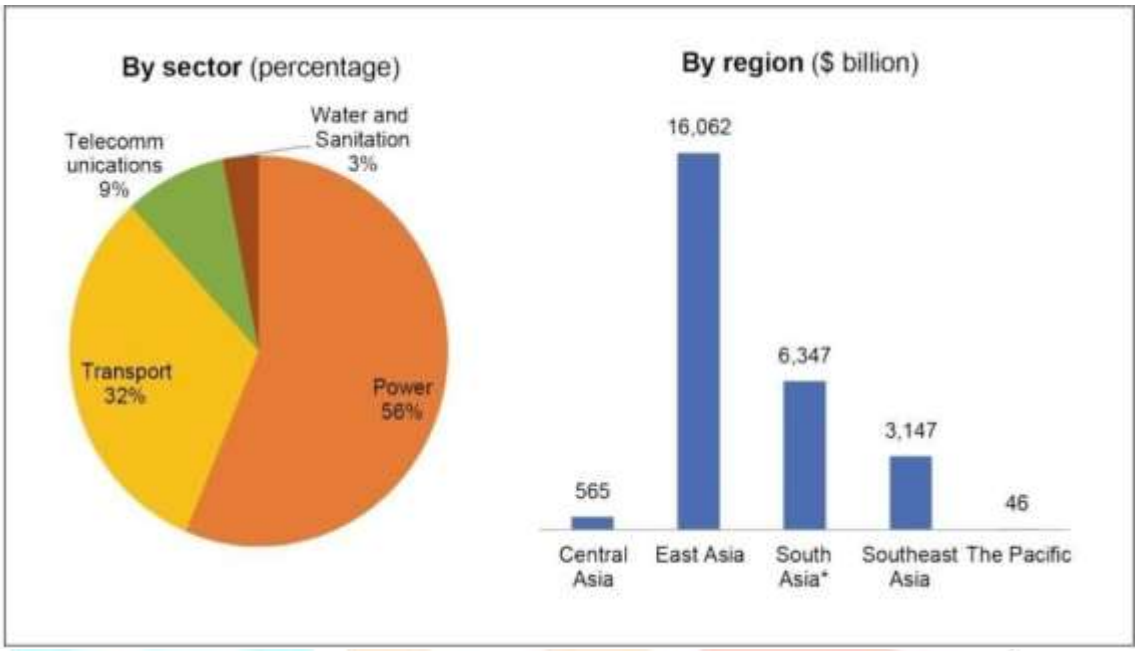
renewable energy and urban sustainability. In the 2015 Union Budget, the Indian government set a goal of reaching 175 GW of renewable energy capacity by 2022. Various private and public banks, along with non-banking financial institutions, have committed approximately $2570 million for financing environmentally friendly initiatives.

***Figure I upveils the funds committeed by several financial institutions.***


***(Source:Report on Meeting Asia's infrastructure Needs,published by Asian Development Bank)***

In the developing world, the greatest need for infrastructure investment is in Asia, where an estimated $26 trillion is required between 2016 and 2030. This translates to an annual investment of $1.7 trillion to sustain growth, alleviate poverty, and address climate change impacts. Excluding considerations for climate change mitigation and adaptation, the basic estimate for required investment would amount to $22.6 trillion, averaging $1.5 trillion per year.Of the total climate-adjusted investment needed during this period, $14.7 trillion is earmarked for power generation, $8.4 trillion for transportation infrastructure, $2.3 trillion for telecommunications, and $800 billion for water and sanitation projects. (Asian Development Bank; ADB 2017) Figure 1 illustrates the Asian Development Bank's assessment of the climate-adjusted investment required for Asia's development from 2016 to 2030.

***Figure 2: Climate-Adjusted Estimate of Infrastructure Investment Needs by Sector and byRegion for Development of Asia and the Pacific* (2016–2030)***




***(Source:Report on Meeting Asia's infrastructure Needs,published by Asian Development Bank)***

From 2016 to 2030, Developing Asia will require $26 trillion in investments, averaging $1.7 trillion annually, to sustain growth, eradicate poverty, and address climate change (climate-adjusted estimate). Excluding climate change costs, the baseline estimate stands at $22.6 trillion, necessitating $1.5 trillion per year.Of the total climate-adjusted investment needs during this period, $14.7 trillion is allocated for power infrastructure and $8.4 trillion for transportation. Telecommunications investments are projected at $2.3 trillion, with water and sanitation requiring $800 billion.East Asia will encompass 61% of the climate-adjusted investment requirements through 2030.The Pacific leads in investment as a percentage of GDP, requiring 9.1%, followed by South Asia at 8.8%, Central Asia at 7.8%, Southeast Asia at 5.7%, and East Asia at 5.2% of GDP. Currently, the region invests approximately $881 billion annually in infrastructure for 25 economies, covering 96% of the region's population. The infrastructure investment gap, considering climate mitigation and adaptation costs, amounts to 2.4% of projected GDP over the 2016-2020 period.

## ***CONCLUSION:-***

In the modern era, sustainable development is increasingly considered as a crucial topic due to emerging environmental challenges. Nations worldwide are deeply concerned about rapid environmental changes and escalating pollution levels. Preserving the Earth and fostering a harmonious relationship with it are imperative. To achieve progressive sustainable development:

- ❖ It is essential to identify and pursue green opportunities, assessing their alignment with sustainable financing.
- ❖ Financing should prioritize projects that minimize waste generation and promote recycling into compost and other materials.
- ❖ Increased investment is needed in all green initiatives.
- ❖ Raising awareness among rural and urban populations at the grassroots level is critical.
- ❖ Establishment of green projects is essential.
- ❖ Planting trees wherever possible is vital.
- ❖ Encouraging developers to construct green buildings should be prioritized.

- Financing should support eco-friendly products and services.
- Microfinance with low interest rates should be expanded to facilitate the production of green products.
- Investment in rainwater harvesting, solar lights, and other renewable energy sources is crucial.
- Proper management and disposal of drainage systems are necessary.

This study underscores the importance of green financing for national development. Global warming poses significant challenges, with potential future impacts becoming increasingly uncontrollable if sustainable financing measures are not properly enhanced and implemented today. Green financing is highlighted as a pivotal strategy to abundantly lessen greenhouse gas emissions and mitigate the influence of natural calamities caused by these emissions.

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