ESG PRINCIPLES AS DRIVERS OF GREEN TRANSITION: CASE OF CPEC RENEWABLE ENERGY PROJECTS

Contents

Abstract

This research report delves into the transformative potential of environmental, social, and governance (ESG) principles in driving the shift towards sustainable practices, specifically within renewable energy projects under the China-Pakistan Economic Corridor (CPEC). Through a comprehensive mixed-methods approach involving desk research and workshop with key stakeholders such as SECP, State Bank, Chinese enterprises, commercial banks, and more, this study uncovers the pivotal role that ESG principles can play in shaping the planning and execution of CPEC renewable energy projects. The findings showcase that the integration of ESG principles into project planning and monitoring processes is vital for the success of these projects, leading to significant positive impacts. However, there are some challenges associated with implementing ESG principles, including a lack of awareness among project stakeholders and the need for more robust regulatory frameworks. The report concludes that ESG principles have the potential to act as powerful drivers of the green transition, but their success depends on their proper integration into project planning, monitoring, and reporting processes. By doing so, CPEC renewable energy projects can effectively contribute to a sustainable future while also ensuring that they meet their economic and social objectives.

Introduction

Investors and businesses have become increasingly concerned over the past decade with ensuring they adhere to ESG (Environmental, Social and Governance) standards. Not only are large financial institutions beginning to evaluate the potential influence of social and ethical considerations in their investing plans, but many private investors do so as well. MSCI indices and FTSE indices are just two of the many examples of grading systems developed to assess businesses' ESG performance with inputs from a wide range of policymakers and organisations throughout the world.

Additionally, the Global Reporting Initiative (GRI) is a comprehensive reporting framework developed by business and industry associations to encourage corporations to assess their performance in social, environmental, and economic areas, and many companies are voluntarily reporting their ESG performance using GRI. So many new companies are springing up to build and manage ESG databases for corporations.

The importance of ESG investing is growing in Pakistan as the country's economy develops. The Securities and Exchange Commission of Pakistan (SECP) made significant changes to its laws in 2013 to require listed businesses to publish their ESG performance, which had a profound impact on Pakistan's financial environment. Even though ESG considerations may have seemed unusual to Pakistani investors before 2013, by 2015 they had become increasingly central to the investment landscape. As ESG investing has grown in popularity in Pakistan, experts have sought to identify corporations that are engaging in the activity.

The shift towards a green energy transition is intrinsically linked to the incorporation of ESG principles. Thus, it follows that companies with a better ESG rating should prioritise green transition funding if given the chance. It is more important than ever to invest in the green transition, and a higher ESG rating is the best predictor of companies undergoing a successful green transition.

When it comes to the renewable energy projects under the China-Pakistan Economic Corridor (CPEC), the idea of ESG investments is less popular. Therefore, a systematic intellectual discourse on ESG is needed to overcome the paucity of discussion surrounding ESG as a driver of the green transformation in relation to CPEC renewable energy projects.

There is an immediate need to incorporate the concept of ESG as a whole into the CPEC investment decisions, and then optimise them through mutual consultations between governments and industry experts. This is because when we compare CPEC renewable energy projects to some of the most successful renewable energy projects globally, we find that they do not cover the whole spectrum of ESG factors.

Renewable energy projects in Pakistan that are part of CPEC will benefit from the application of ESG principles because the application of such principles is likely to lead to an improvement in the distribution of wealth, reduction in environmental harm, and a reduction in poverty. The focus of this paper is on CPEC renewable energy projects, which are not only considered important drivers of the green transition and future growth but also serve as a benchmark for international collaboration, sustainability, public-private partnerships, and shared benefits between China and Pakistan.

Keywords

ESG, sustainable development goals, responsible investments, CPEC, green transition

Literature review

Since the 1960s, there has been a noticeable increase in the investor community's interest in sustainable investments. Later on, the idea of ESG investing was conceived, and it was first included in the report entitled "Principles for Responsible Investment (PRI)" (United Nations 2006). The findings made it necessary for companies to incorporate ESG considerations into their financial analyses.

This assessment of the literature is an attempt to identify the gaps in the existing literature on CPEC in terms of the work done on the incorporation of ESG principles in energy projects. Qualitatively analysed articles on CPEC outnumber quantitatively analysed articles. While looking into how well ESG principles may be implemented into CPEC energy projects, there are a number of ancillary concerns that need to be addressed first.

The first concern relates to the evidence of ESG being a driver of the global green energy transition. The second concern is whether there is sufficient demand for ESG principles and whether companies will be more likely to invest in CPEC green energy projects based on ESG considerations. The third concern is whether or not the Chinese government will permit the use of multi-party agreements in the implementation of CPEC's clean energy initiatives.

With respect to the first concern, Puttachai et al. (2022) discovered a robust correlation between ESG factors and energy transitions. It stands to reason that a country with a higher ESG rating would be wise to allocate more of its resources to expedite the green transition. During the green transition period of a country, corporate green innovation is crucial. According to Tan, Yafei & Zhu (2022), ESG ratings considerably increase both the number and quality of green innovation within corporations through the mediating effects of reduced financial constraints and increased environmental consciousness.

In response to the second concern, investors should consider ESG factors as part of the whole investment process (Mehwish et. al. 2022). To put it simply, ESG analysis is useful because it improves companies' bottom lines (Jamil et. al. 2022). The findings of Almeyda et. al. (2019) are consistent with this approach, as they discovered a positive association between the environmental component and the Return on Capital (ROC) and stock price of the firm. Results demonstrate that greater transparency about ESG information could increase financial performance, and the authors also find that there is no significant association between the social component, the governance factor and the financial performance of a firm.

While all agree that there is a connection between ESG principles and improved corporate performance, the direction and magnitude of the correlation is up for debate. When studying the effect of socially responsible investing on the market value of a company, for instance, Landi and Sciarelli (2019) discovered a statistically significant negative impact. The Chinese as well as Pakistani governments have, on various occasions, expressed their desire for multiparty arrangements in CPEC energy projects. This arrangement, as per analysts, will create synergies in terms of pooling resources and expertise needed to pave the way for Pakistan's green transition.

Duan et. al. (2022) estimated that Pakistan's journey towards a green transition is possible if CPEC energy projects increase green energy production by 13% every year as opposed to 5% which is being produced currently. Whether Pakistan can afford to move entirely towards green energy is questionable. For instance, Bilal et. al. (2022) argues for a blended energy production model of 'renewables coupled with thermals' and states that developing countries like Pakistan can not afford to shut their thermal power plants completely.

Saetra and Henrik (2021) has classified the Sustainable Development Goals (SDGs) according to ESG criteria, aiming to provide a better understanding of the goals and how they can be achieved. With this categorization, Saetra and Henrik (2021) seek to provide a framework for businesses and governments to understand the goals better, creating practical applications to help achieve them.

The concept of ESG investing is relatively new when it comes to the CPEC energy projects. Thus, intellectual discourse on ESG when it comes to CPEC energy projects is completely missing. While there is not yet a wealth of literature on ESG and CPEC energy projects, the potential for such projects to have an impact on our environment and society calls for further study. This should include experts from both the public and private sectors, as well as civil society, in order to ensure that all stakeholders have a chance to weigh in on the issues and to come up with strategies to ensure that ESG principles are upheld when it comes to CPEC energy projects.

Research Objectives

1. To investigate the role that ESG principles play in driving the transition to green energy in the context of the CPEC renewable energy projects.
2. To analyse the effectiveness of current ESG standards and guidelines in promoting sustainable development and reducing negative environmental impacts associated with renewable energy projects under CPEC.
3. To identify challenges and opportunities for incorporating ESG principles into the development and implementation framework of CPEC.

4. To provide recommendations for improving the integration of ESG principles in the planning, development, and operation of renewable energy projects in CPEC to drive sustainable development.

Research questions

1. How do ESG principles contribute to the transition to green energy in the context of the CPEC renewable energy projects?
2. To what extent have current ESG standards and guidelines been effective in promoting sustainable development and reducing negative environmental impacts associated with renewable energy projects under CPEC?
3. What are the challenges and opportunities for incorporating ESG principles into the development and implementation framework of CPEC renewable energy projects?
4. What recommendations can be made to improve the integration of ESG principles in the planning, development, and operation of renewable energy projects in CPEC to drive sustainable development?

Research Methodology

The chapter discusses the research design, data collection, and data analysis method employed in the study.

Research Design

The research design for this study was descriptive. The study aimed to explore the role of ESG principles in driving the transition to green energy within the context of CPEC renewable energy projects. Additionally, the study sought to analyse the effectiveness of current ESG standards and guidelines in promoting sustainable development and reducing the negative environmental impacts associated with the renewable energy projects under CPEC.

The descriptive research design was chosen for the study as it allowed for an in-depth analysis of the research objectives and questions. This design was particularly useful because the topic has not been investigated in-depth, and there was a lack of prior knowledge and understanding. By using this approach, we were able to identify the key themes, concepts, and relationships, based on which the recommendations were provided.

Data Collection

The study employed a two-pronged data collection approach. Firstly, a desk review was conducted, which involved a systematic review of literature and other relevant sources such as reports, articles, and academic papers. The aim of the desk review was to identify key concepts, theories, and trends related to ESG principles and their application to renewable energy projects under CPEC.

Secondly, a workshop was organised with key stakeholders involved in renewable energy projects under CPEC, such as policymakers, industry experts, environmental organisations, and financial institutions. The workshop provided valuable insights into the challenges and opportunities associated with incorporating ESG principles into the development and implementation framework of CPEC renewable energy projects.

The combination of desk research and a workshop provided a comprehensive approach to data collection, enabling a thorough understanding of the challenges and opportunities related to ESG principles in renewable energy projects under CPEC.

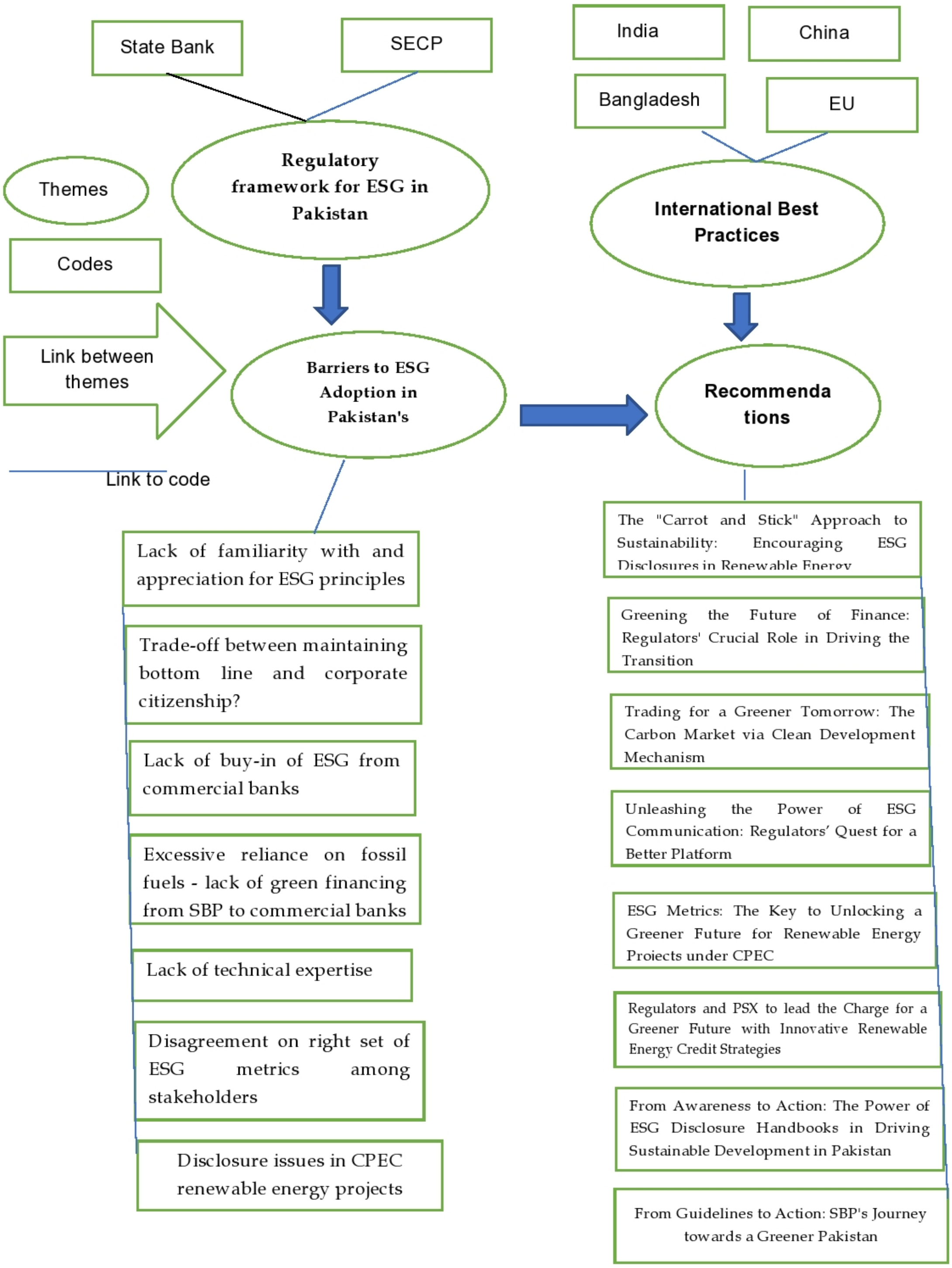
Data Analysis

Thematic analysis was employed as the primary method of data analysis in this study. Thematic analysis is a qualitative research technique that involves identifying patterns or themes within qualitative data, such as transcripts or interview data. The technique involves coding, categorising, and interpreting data and is widely used in social sciences research.

The data collected through desk research and workshop activities formed the primary dataset for this research study. To analyse the data thematically, a qualitative analysis software tool, NVivo, was used and deductive analysis was done. NVivo is a widely used software tool for qualitative research data analysis that facilitates the process of coding, categorising, and analysing qualitative data. The software tool helped to simplify the process of data analysis and made it possible to manage and organise large datasets efficiently.

The transcribed data was coded to identify key themes and insights related to the research objectives and questions. The coding process involved reviewing the transcripts and identifying recurring themes or patterns within the data. The identified themes were then categorised, labelled, and organised into a coherent and structured dataset.

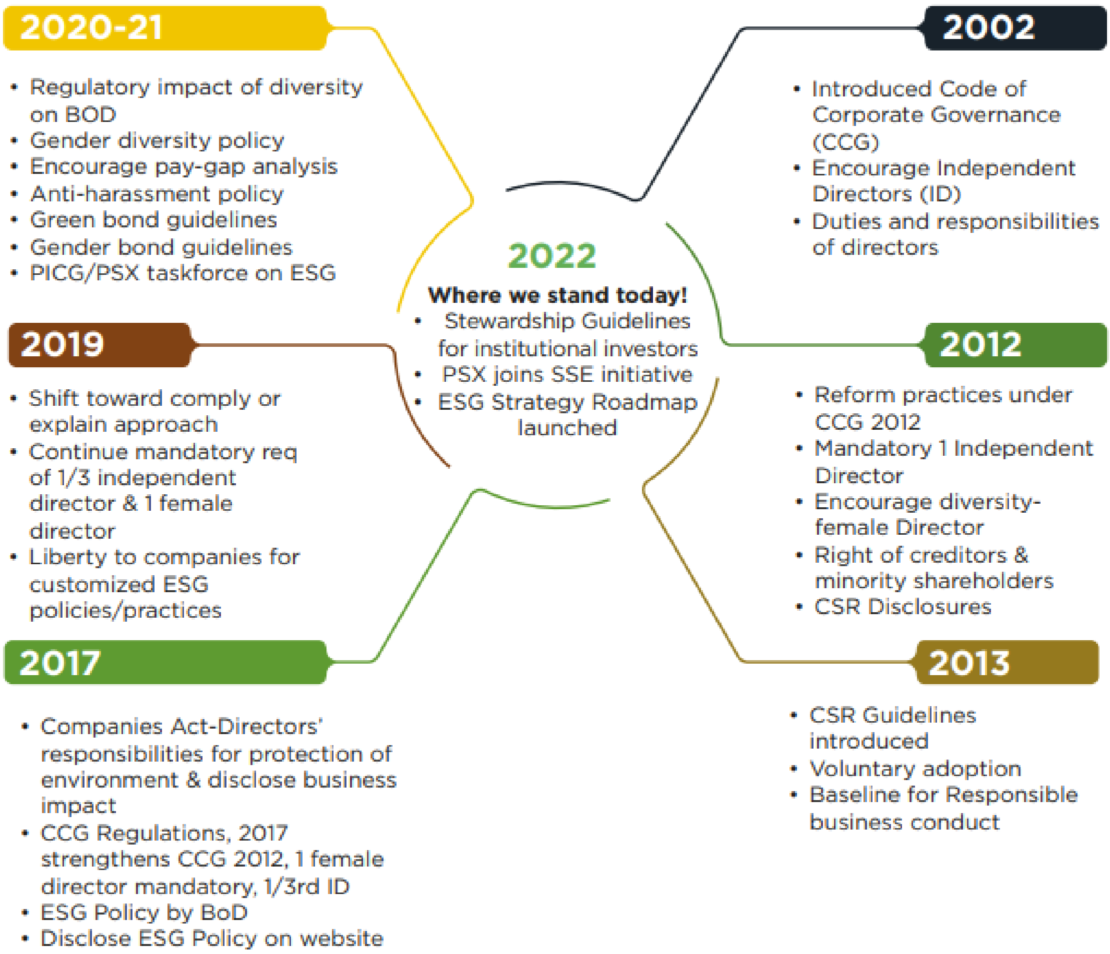
Key codes and themes generated using Nvivo



Discussion

Regulatory framework for ESG in Pakistan

The SECP has taken a leap into a brighter, greener future with the publication of a game-changing position paper on the "ESG Regulatory Roadmap" (SECP, 2022). This move showcases SECP's dedication to sustainability and promoting eco-friendly investment strategies (SECP, 2022). The "Listed Companies Regulations" ensure that directors are held accountable and must establish an ESG policy while also publicly disclosing their ESG endeavours (SECP, 2022). With ESG becoming a prevalent aspect in the business world, SECP has acknowledged the significance of collective efforts towards a sustainable ecosystem. The ESG Regulatory Roadmap serves as a beacon of hope, offering a clear path towards ESG excellence and a more sustainable capital market.



Around $120 billion flowed into sustainable investments in 2021 and ESG continued to stay on top of the corporate agenda in 2022. (SECP Position Paper, 2022) The SECP is paving the way for sustainable ESG investments in Pakistan with a comprehensive roadmap and real-time monitoring platform, "SECP Sustain". SECP is also planning to launch ESG guidelines and funds, and assess the industry's progress with ESG impact assessments. (ESG Regulatory Roadmap, 2022) Here are the key considerations of the ESG roadmap developed by SECP.

The SECP's publication of the ESG Regulatory Roadmap is a significant step toward promoting sustainability and eco-friendly investment strategies in Pakistan, particularly with regards to CPEC renewable energy projects. The focus on holding directors accountable and requiring the establishment of an ESG policy as well as public disclosure of ESG endeavours is commendable; however, it is important to consider the effectiveness of the measures outlined in the Roadmap and the extent to which they will drive meaningful change in the market. Effective implementation and enforcement of the ESG Regulatory Roadmap will require careful consideration of the regulatory bodies' capacity to monitor and enforce compliance, including investments in training, technology, and resources. To encourage compliance with ESG regulations, market participants, including Chinese enterprises, may need a mix of incentives and penalties, such as tax breaks for compliance and fines for non-compliance. It is essential to assess the Roadmap's impact on economic, social, and environmental factors, such as the environmental benefits of increased focus on renewable energy in CPEC, while ensuring that ESG regulations align with global and regional standards, such as the UN SDGs and TCFD, to maintain competitiveness and attract investment. Finally, it is crucial to consider the larger context of ESG regulations and practices worldwide and ensure that Pakistan's ESG regulatory framework is aligned with international best practices to demonstrate a commitment to ESG issues.

The International Finance Corporation (IFC) has joined forces with the State Bank of Pakistan (SBP) to bring ESG (Environmental, Social, and Governance) principles to the forefront of banking in Pakistan. (IFC, 2018) The IFC is providing expert guidance to help SBP and the banking industry enhance their environmental risk management and responsible lending practices. This strategic partnership between IFC and SBP builds on their shared commitment to sustainable banking and aims to increase the adoption of green finance products. With SBP having already established green banking guidelines and IFC boasting a successful history of promoting ESG-focused banking, this collaboration is poised for success. IFC has collaborated with 150 financial institutions across 15 countries, invested $5.7 billion in over 200 projects, and dedicated $1.2 billion to supporting private sector development and financial access for small businesses in Pakistan. (IFC, 2022)

Barriers to ESG Adoption in Pakistan's Business and Financial Sectors

Investors, businesses, and government agencies all suffer from a lack of familiarity with and appreciation for ESG principles. Because of this information gap, ESG principles are not being implemented to their full potential and stakeholders are not making educated decisions. Educating stakeholders on ESG principles and the value of including them in decision-making is essential for resolving this issue. It has been difficult to put ESG principles into practice since authorities like SECP have no place to publicly discuss their suggestions for doing so, as the SECP has not been able to enforce ESG requirements on the companies listed on the Pakistan Stock Exchange (PSX) due to a lack of adequate financial, human, and technical capacity.

Companies face many constraints when it comes to ESG considerations. Companies are expected to meet certain standards with regards to environmental protection, responsible social practices, and sound corporate governance. In the case of Pakistan, meeting ESG criteria can be particularly challenging, as the country's regulations are still largely inadequate when it comes to areas such as consumer protection, anti-corruption and labour standards. This means that many of the companies operating in Pakistan are not properly incentivized to comply with ESG regulations, as their current practices are often based on traditional methods which may be outdated or less ethical than what is considered to be socially and environmentally responsible. Therefore, it is essential for the Government of Pakistan to step in and create an enabling environment that provides incentives for companies to adopt more responsible practices, by introducing laws and regulations that can ensure their compliance with internationally accepted ESG standards.

There is a lack of buy-in from commercial banks when it comes to ESG reporting. This has been an issue for some time, and there is still a gap between those in the finance sector who see ESG as an important factor in their investments, and those who fail to see the value in having strict standards for how companies report their environmental, social and governance practices. This lack of buy-in is a problem that needs to be addressed in order to encourage sustainability and corporate responsibility. Going forward, it is important for the finance sector to work towards a more unified approach to ESG reporting that reflects the importance of sustainable investing practices and takes into account the need for greater transparency in how companies are dealing with environmental and social issues. If this unified approach is achieved, it will not only provide a more comprehensive view of how companies are operating, but also create a greater incentive for businesses to adhere to higher standards.

Commercial banks have recently been facing problems in securing renewable energy financing from the State Bank of Pakistan. This is due to the country's lack of renewable energy incentives and its reliance on fossil fuels for power generation. The lack of renewable energy incentives has caused commercial banks to become less interested in providing financing for renewable energy projects, as they are unable to recuperate their investments from the government or other sources in a timely manner. Moreover, the absence of a coherent national policy on renewable energy has discouraged many investors from participating in renewable energy projects, leading to further difficulty in financing these initiatives. This has had an adverse effect on the renewable energy sector in Pakistan, as the country's goal to produce thirty percent of its electricity through renewable sources by 2030 has become increasingly difficult to achieve as a result. In addition to this, the lack of tax incentives and subsidies has been a hindrance to the renewable energy sector in Pakistan and has not only led to decreased foreign investment, but has also made it difficult for domestic investors to invest in renewable energy projects.

Regulators like the Securities and Exchange Commission of Pakistan and the State Bank of Pakistan have done very little to enhance the technical expertise and capacity building of commercial banks when it comes to ESG compliance and reporting. The lack of focus on technical expertise and capacity building by regulators has made it difficult for banks to take the initiative in making sure their ESG compliance and reporting are up to the standards set by investors and stakeholders. This is a big missed opportunity, as more and more investors and stakeholders are looking to move their money into organisations that focus on environmental, social and governance (ESG) issues.

When it comes to selecting the right metrics for ESG reporting, the regulators and corporate entities face the issue of subjectivity. This subjectivity can lead to a wide range of possible interpretations and conclusions, which can make it difficult for both sides to decide on the most appropriate metrics for ESG reporting. As such, when it comes to selecting the right metrics for ESG reporting, it is important for both regulators and corporate entities to remember that subjectivity can be a double-edged sword. It is important to keep in mind that while subjectivity can complicate the process, it is also beneficial in the sense that it allows companies to find metrics that best align with their overall objectives and values. Furthermore, in addition to finding the most appropriate metrics for ESG reporting, it is important for both regulators and corporate entities to consider the importance of accuracy when reporting on those metrics. This is because accurate reporting on ESG metrics provides the most reliable source of information for investors and stakeholders, allowing them to make better-informed decisions about their investments.

When it comes to Chinese enterprises working on CPEC renewable energy projects, their understanding of ESG (Environment, Social and Governance) practices has improved significantly over the last few years. This has been largely due to the recognition by Chinese enterprises that successful CPEC projects must be conducted responsibly and sustainably, while balancing economic and social needs with environmental protection. For example, China Three Gorges Corporation has actively engaged with local stakeholders on CPEC projects in order to develop an understanding of the social and environmental impacts while also responding to local people’s concerns. They have implemented numerous sustainability initiatives in the communities, such as providing healthcare services, building schools and roads, creating jobs, and investing in local education. This kind of proactive approach to ESG in CPEC projects has provided Chinese enterprises with the opportunity to gain greater local acceptance and improve relationships with host countries. But, despite the clear advantages of these initiatives, the overall sustainability of CPEC renewable energy projects still remains in question due to the lack of public data disclosure and transparency of ESG-related information.

Sustainability at the Forefront: China, Bangladesh, India and EU’s Commitment to ESG Progress

As the world continues to strive for a greener future, China stands at the forefront of progress. The Environmental, Social, and Governance (ESG) landscape in the country is brimming with potential, as it undergoes a rapid transformation driven by a steadfast commitment to sustainability. China's recent declaration of its goal to reach net zero carbon emissions by 2060 has only reinforced this trajectory, making it a leader in the global quest for a more sustainable future. ((ESG Driving Change in China | Bank of China, 2022) The ESG landscape in China presents an exciting arena for research and investment, as it continues to evolve and offer new opportunities to those who embrace its positive changes.

China's top corporations and government-supported think tanks have crafted a standards list featuring over 100 metrics, incorporating both international sustainability benchmarks and unique "Chinese characteristics," including corporate charity, to offer a simplified yet distinctive approach to measurement. ((Bloomberg, 2022) This new guidance encourages the disclosure of critical ESG initiatives that influence the long-term sustainability of Chinese companies, such as those related to environmental protection, labor and human rights, diversity and inclusion, corporate governance, safety and health management. This new guidance is a crucial step for Chinese companies to make more transparent and reliable ESG information available for investors, and it serves as a reminder that ESG practices are integral to the performance of any company in the 21st century. (Bloomberg, 2022) China's new standards list shows its dedication to ESG principles, which can help ensure that CPEC's renewable energy projects are handled responsibly and with an eye toward the future.

The combination of China's large consumer market and fast-growing technology and service sectors has attracted global investors, but the country's low ranking on environmental, social, and governance (ESG) ratings compared to other emerging markets has been a concern. (White & Lewis, 2023) Sustainalytics, a sustainable rating agency, downgraded three Chinese tech companies on its watchlist, Tencent, Weibo, and Baidu, to the category of "non-compliant with UN principles" in October, signalling a potential ESG reckoning for Chinese companies. The sustainability rules common in western jurisdictions are at odds with the realities on the ground in China, making it difficult for international investors to balance their investment decisions with ESG ratings.

China's 14th Five-Year Plan for Renewable Energy Development outlines a bold vision for a greener future, with a goal to ramp up renewable energy generation by 50% and secure 33% of the country's electricity consumption from clean sources by 2025. This plan, if successfully executed, has the potential to significantly reduce carbon emissions, equivalent to almost a quarter of China's total emissions in 2020. (Feng et al. (2022)

Despite its efforts to transition towards renewable energy and tackle its carbon emissions, China's reliance on fossil fuels and focus on speed-based economic growth pose significant challenges in achieving its ambitious energy targets. (NAMBIAR (2022) To truly succeed in its energy transition, China must focus not only on renewable energy sources, but also on incentivizing the adoption of renewable energy technologies and investing in research and development for more efficient clean energy solutions. This includes offering more subsidies and tax incentives to stimulate demand for renewable energy products, as well as investing in long-term research projects and development of advanced energy storage technologies

Bangladesh has seen numerous regulatory efforts aimed at promoting ESG reporting, led by the Bangladesh Bank. The central bank introduced the concept of ESG reporting through its 2008 circular and established a sustainable finance policy in 2020. (Siddiqui (2022) The Bangladesh Securities and Exchange Commission also issued Corporate Governance Guidelines, but they are limited in scope and do not address broader ESG concerns. Despite these initiatives, ESG reporting remains lacklustre in Bangladesh due to the prevalence of family ownership and a lack of incentives for transparency.

Global Reporting Initiative takes the forefront in spearheading sustainability reporting, illuminating a path for businesses to embrace the internationally recognized GRI Standards. (GRI - Setting the Building Blocks for Reporting in Bangladesh, 2022) With unwavering commitment, GRI guides a cohort of companies towards a sustainable future, shining a light on the significance of sustainability reporting. By doing so, GRI fortifies Bangladesh's position on the global map as a progressive hub for sustainable business practices. Similarly, Multinational companies are taking steps towards sustainability, with BAT Bangladesh leading the charge. Munim (2022) The company actively promotes ESG through various platforms and has recently published its inaugural ESG Report to inspire transparency and collaboration across the industry. The transition from CSR to ESG highlights the importance of collective effort between corporate and regulatory entities to achieve shared sustainability goals.

In 2009, Bangladesh established the Climate Change Trust Fund as part of its commitment to global efforts to address climate change. (Climate Change Trust Fund Act, 2010 (Act No. LVII of 2010) | ESCAP Policy Documents Management.) A close examination of Bangladesh’s energy consumption patterns reveals that the majority of its emissions stem from the energy sector. (Abusiddique. (2022) Despite being responsible for less than 1% of global carbon emissions, Bangladesh is one of the most climate-vulnerable countries (How The Climate Crisis Is Impacting Bangladesh, 2021), with its population of 160 million people at risk of the impacts of sea level rise and extreme weather events. To address this challenge, Bangladesh has set a target of generating 40% of its energy from renewable sources by 2041 and has cancelled ten coal-based power facilities worth $12 billion in foreign investment, making it a leader in the transition to a more sustainable future. (Karim (2021)

In India, the Securities and Exchange Board of India (SEBI) has taken a proactive approach towards promoting sustainability and corporate social responsibility among the country's top 1000 companies. In an effort to enhance transparency and accountability, SEBI has made it mandatory for these companies to submit a Business Responsibility and Sustainability Report (BSRS) that reflects their efforts in Environmental, Social, and Governance (ESG) matters. (SEBI | SEBI Issues Circular on “Business Responsibility and Sustainability Reporting by Listed Entities,” 2021) The introduction of this mandatory reporting system by SEBI is a significant step towards integrating sustainability considerations into business operations and decision-making processes. The BSRS report is expected to provide stakeholders, including investors, customers, and regulators, with valuable insights into a company's ESG performance, and its efforts to manage social and environmental risks and opportunities. The implementation of the BSRS report is also expected to drive innovation and competitiveness among companies as they strive to meet the ESG standards set by SEBI. This will not only benefit the companies and their stakeholders but also the country's economy and the environment. In the long term, it is hoped that the mandatory ESG reporting system will become an industry norm and pave the way for the development of a sustainable business culture in India.

Similarly, Bombay Stock Exchange, a pioneering leader in sustainability indices, has partnered with five other major exchanges in the Sustainable Stock Exchanges (SSE) initiative to drive ESG disclosure and performance among listed companies, working collaboratively with investors, companies, and regulators. (Bombay Stock Exchange (BSE) Commits to Promoting Sustainability, 2012) BSE, with its launch of the BSE-GREENEX Index in 2008, demonstrated its commitment to sustainability, now elevated with its role in the SSE, fostering a greener future for finance. (Bombay Stock Exchange (BSE) Commits to Promoting Sustainability, 2012)The S&P BSE 100 ESG Index is a tool designed for sustainable investing practices, tracking the performance of 100 companies listed on the Bombay Stock Exchange that meet specific Environmental, Social, and Governance (ESG) criteria. (S&P BSE 100 ESG Index - Asia Index Pvt. Ltd.,) It uses a proprietary scoring system to evaluate companies and provide a performance profile comparable to the S&P BSE 100. This index offers individuals and institutions an opportunity to invest in companies making a positive impact on the world while maintaining a similar risk and performance profile to the S&P BSE 100.

Europe is leading the charge in the global movement towards sustainable and ethical investing, driven by a steadfast commitment to a net-zero economy and a desire for good corporate governance. The continent has become renowned for its comprehensive laws around ESG (environmental, social, and governance) standards, fueled by a series of high-profile corporate scandals that have shaken public trust. From the Danske laundering saga to Wirecard, these events have spurred a reactionary drive for better governance and accountability. ((Scandal at Danske Bank Explained - Corporate Governance Institute, 2022) (Poltz (2022) Financial institutions are being called upon to increase their transparency and disclosure standards to ensure that these kinds of occurrences don't happen again. This has had the effect of raising the standards of financial regulation and introducing measures such as additional due diligence checks to prevent money laundering and other illicit activities

The EU's Corporate Sustainability Reporting Directive (CSRD), passed in 2022 with overwhelming support from the European Parliament and replacing the Non-Financial Reporting Directive (NFRD), is set to take effect and change the way corporate responsibility is measured by requiring companies to publish their environmental impact along with their financial data, addressing a gap in the ESG (environmental, social, and corporate governance) industry.(David Duffy, CEO and co-founder, Corporate Governance Institute & David Duffy, CEO and co-founder, Corporate Governance Institute, 2023) The CSRD has been praised for bringing an unprecedented level of transparency to corporate sustainability reporting and allowing investors to better understand the impact their investments are having on the environment.

The EU aims to deploy 100 GW of renewable energy by 2024 through its €300 billion REPowerEU strategy, as part of efforts to reduce dependence on fossil fuels and promote clean energy security. EU Commission President Von der Leyen called on developed nations to address the fossil fuel crisis and provide $100 billion in annual climate finance. Segal and Segal (2022) The plan seeks to fund innovation in clean energy technology, improve energy efficiency, and promote public-private partnerships. ESG investments are expected to play a major role in the financing of these initiatives as they can deliver long-term returns with a positive environmental and social impact.

CPEC renewable energy project's key metrics

CPEC renewable energy projects have incorporated following key metrics into their operations.

Metrics	Rationale	Evidence
Carbon emissions	Carbon emissions are a key metric of sustainability in renewable energy projects under the China-Pakistan Economic Corridor (CPEC) as it is a crucial factor in mitigating climate change and reducing the impact of human activities on the environment. By tracking carbon emissions, project developers assess their impact on the environment and work to reduce emissions through the use of cleaner energy sources and energy-efficient technologies.	Eco-friendly initiatives under CPEC, brimming with renewable energy, anticipate a yearly decrease of approximately 3.5 million tonnes in carbon dioxide emissions, painting a brighter future for our planet. (Beijing Review, 2022)
Renewable energy generation	Renewable energy generation is another key metric of sustainability in	• 1000MW Quaid-e-Azam Solar Park (Bahawalpur)

	CPEC renewable energy projects as it directly affects the amount of greenhouse gas emissions that are produced. By increasing the amount of energy generated from renewable sources, the projects can help to reduce the dependence on fossil fuels and reduce the negative impact on the environment.	• 50 MW Hydro China Dawood Wind Farm, Gharo, Thatta • 100MW UEP Wind Farm, Jhimpir, Thatta • 50MW Sachal Wind Farm ,Jhimpir, Thatta • 100MW Three Gorges Second and Third Wind Power Project
Waste management	Waste management is also an important metric for sustainability as it affects the local environment and communities. Effective waste management practices reduce the negative impact on the environment and promote health and safety for workers and local communities. By tracking waste management practices, project developers ensure that waste is handled in a responsible manner, reducing the risk of environmental contamination and harm to human health.	
Health and safety practices	Health and safety practices are critical to sustainability in CPEC renewable energy projects as they directly affect the well-being of workers and local communities. By tracking	• China Three Gorges (CTG) is giving prime importance to the health and safety practices by organizing emergency drills and educating its employees on such issues[1]

[1] This point was discussed by N.A Zuberi, Senior Advisor, CSAIL

	and implementing effective health and safety practices, project developers reduce the risk of accidents, injuries, and illnesses, ensuring a safe and healthy work environment for all involved.	
Community engagement	Community engagement is essential for sustainability in renewable energy projects as it ensures that local communities are consulted and their needs and concerns are addressed. This promotes social responsibility and helps to build trust and support for the project, reducing the risk of opposition and ensuring its long-term success.	● Free medical camps, schools, and hospitals in localities
Human rights policies	Human rights policies are also a key metric of sustainability as they ensure that the rights of workers and local communities are protected and respected. By having in place clear human rights policies, project developers ensure that they are operating in a responsible and ethical manner, reducing the risk of exploitation and promoting social justice.	● Preference of locals for employment opportunities

Recommendations to incorporate ESG principles to ensure green transition

The "Carrot and Stick" Approach to Sustainability: Encouraging ESG Disclosures in Renewable Energy

For a sustainable future to thrive, a delicate equilibrium must be struck between rewards and consequences. Incentives can spur action but may not guarantee lasting change. A "carrot and stick" strategy that blends both incentives and penalties is the key to long-term sustainability success.(The Diplomat, 2017) By combining positive reinforcement with negative consequences, we can foster environmentally conscious behaviour and pave the way for a brighter, greener tomorrow. When it comes to encouraging ESG (Environmental, Social, and Governance) disclosures in renewable energy projects, the "carrot and stick" approach can be a powerful motivator. Companies that take the initiative to disclose their ESG metrics to the public are often showered with praise and financial incentives. Conversely, those who aren't as forthcoming with information about their environmental, social, and governance practices may face severe repercussions like fines, lawsuits, or a loss of investment. This fine juggling act encourages companies to prioritise ESG reporting, which, in turn, promotes greater sustainability, builds trust with stakeholders, and propels progress towards a greener future.

Greening the Future of Finance: Regulators' Crucial Role in Driving the Transition

Regulators, such as the State Bank of Pakistan and the Securities and Exchange Commission of Pakistan, hold a vital key in unlocking a greener future by enhancing the Environmental, Social, and Governance (ESG) capacity of commercial banks. By setting targets and guidelines for lending and investing, enforcing disclosure and reporting requirements, and providing financial incentives, such as subsidies and tax breaks, regulators can incentivize banks to finance environmentally friendly projects and foster a more sustainable future. This not only aligns banks with the goals of the green transition but also provides transparency and accountability to the public. With regulators taking the lead, the future of finance can be transformed into a beacon of sustainability and progress towards a greener tomorrow.

Trading for a Greener Tomorrow: The Carbon Market via Clean Development Mechanism

The Clean Development Mechanism (CDM) is a game-changer in the fight against climate change. It connects the dots between developed and developing countries by allowing the exchange of Certified Emission Reduction (CER) units. Developed nations can invest in emission reduction projects in developing nations, earning CERs as compensation. These CERs are a valuable currency in the global carbon market, as they permit a set amount of extra CO_2 emissions. Pakistan is among the many nations poised to reap the benefits of the CDM. Not only does it receive support for green initiatives and earn CERs for revenue, but it also attracts investment from socially responsible financial institutions. The resulting influx of funds can be channelled into infrastructure and community projects, fostering a more sustainable and prosperous future for its citizens. As awareness grows around ESG (Environmental, Social, and Governance) investing, the CDM presents a valuable opportunity for countries to not only reduce emissions but also demonstrate their commitment to sustainability. The CDM is a win-win solution that benefits both the planet and its people.

Unleashing the Power of ESG Communication: Regulators' Quest for a Better Platform

Companies must be run in an environmentally and socially responsible manner, and regulators like Pakistan's Securities and Exchange Commission (SECP) are essential to this end. However, the SECP does not have an appropriate channel through which to convey its position and expectations on ESG issues to the business community at this moment. The SECP faces a significant obstacle in its efforts to advance ESG initiatives and effect positive change in the business world as a result of this. To effectively convey its narrative, offer guidance and support to companies, and ultimately drive the adoption of ESG practises across the corporate sector, the SECP needs a dedicated platform for ESG communication.

ESG Metrics: The Key to Unlocking a Greener Future for Renewable Energy Projects under CPEC

When it comes to reducing the impact of climate change and increasing sustainability, the renewable energy sector is indispensable. However, the CPEC projects' transition to green practices is hampered by the absence of appropriate metrics for ESG (Environment, Social, and Governance) disclosure. The development of appropriate metrics is crucial because they will provide a transparent, quantifiable way to evaluate the effects of such projects on ecosystems, communities, and governance. There are a wide variety of ESG metrics that can be applied to Pakistan, from carbon emissions and water usage to community involvement and workplace safety. The renewable energy sector in Pakistan can make significant progress towards a more sustainable future if these metrics are incorporated into disclosure processes. The work at hand, however, is more complicated than it appears at first glance. Due to the potential influence of subjectivity, the development of such metrics calls for careful thought. To get to the bottom of things, we need metrics that are specific to Pakistan's needs in order to gauge the actual success of its renewable energy initiatives.

Regulators and PSX to lead the Charge for a Greener Future with Innovative Renewable Energy Credit Strategies

The regulators and the Pakistan Stock Exchange need to become trailblazers in the quest for a greener future. By doling out Renewable Energy Credits (RECs), they can act as catalysts in fostering a thriving sustainable ecosystem. These credits are the perfect nudge companies need to embrace renewable energy sources like solar and wind power. Not only do they provide recognition for eco-friendly endeavours, but they also give birth to a thriving market for clean energy. By incentivizing companies to adopt sustainable practices, this revolutionary approach to green development will pave the way for a brighter, healthier world, free from the shackles of carbon emissions.

From Guidelines to Action: SBP's Journey towards a Greener Pakistan

In 2017, the State Bank of Pakistan (SBP) embarked on a green mission with the release of its Green Banking Guidelines, yet the extent and scope of these guidelines remain a mystery. SBP must align its guidelines with the national climate change goals, addressing challenges such as credit risk management and capacity constraints to fully understand the impact of green financing in Pakistan. Hussain (2020) To this end, SBP must ensure that credit allocation for green banking initiatives should be guided by explicit financial and environmental objectives and a sustainable framework for risk management should be established to address environmental and financial risks associated with green financing. Additionally, SBP must make sure that green financing activities are conducted in accordance with international principles and standards, such as the Equator Principles, to promote better corporate transparency and disclosure.

From Awareness to Action: The Power of ESG Disclosure Handbooks in Driving Sustainable Development in Pakistan

The Japan Exchange Group and Tokyo Stock Exchange, with the support of institutional investors, released the ESG Disclosure Handbook 2020 linking ESG issues to corporate value, while Japan's Financial Services Agency also released a revised Stewardship Code, urging institutional investors to adopt its principles voluntarily and publicly disclose their commitment. (SECP, 2022) The Pakistan Stock Exchange needs to ignite a revolution in sustainable development with the publication of an ESG Disclosure Handbook. In collaboration with key players in the field, this landmark guide will enlighten companies on the critical role that environmental, social, and governance (ESG) disclosure plays in creating a sustainable future. The ESG Disclosure Handbook will not only provide education, but will also serve as a beacon for measuring the progress towards a greener tomorrow. The China-Pakistan Economic Corridor's renewable energy projects will soar to new heights with the help of this handbook, providing a crystal-clear framework for transparency and accountability in the development and execution of these projects, further propelling the country towards a cleaner and more sustainable energy landscape.

Conclusion

The study explored the role of ESG principles in driving the green transition in the context of CPEC renewable energy projects. By incorporating ESG principles such as stakeholder engagement, environmental protection, social responsibility, and governance into project planning and management, the study found that these principles can contribute significantly to achieving sustainable development goals and transitioning to a green economy. However, the study also identified some challenges that need to be addressed, including greater awareness and understanding of ESG principles among stakeholders, effective regulatory frameworks, and access to financing. These findings have important implications for policymakers, project developers, investors, and other stakeholders involved in renewable energy projects, and highlight the need to integrate sustainability considerations into project planning and implementation to achieve a more sustainable and equitable green economy.

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