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The implementation of the Equator Principles environmental and social obligations on renewable energy projects: an exploratory study

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Energy Leadership

Johannesburg, 30 September 2025

ABSTRACT

The financial sector provides necessary capital and funding that is required to drive economic growth as well as contributing to the agenda for a sustainable society. In recognition of this role, commercial banks adopt Equator Principles (EPs), a financial institution benchmark to identify, assess and manage the environmental and social risks in projects they fund.

As it is with other funded projects, renewable energy projects that are financed by an Equator Principle Financial Institution (EPFI) are required to adhere to EPs. This is because the EPs obligations extends to all projects the EPFI funds as a secondary requirement to the project companies and this is through a loan agreement. When it comes to project development is South Africa, the mature legislative process provides clear mapping on its regulatory processes and compliance thereof. However, the EPs because of their self-regulatory and voluntary nature, do not provide adequate information regarding how a renewable energy company could take on their secondary responsibility to adhere to EPs.

The aim of this study was therefore to explore the implementation of the Equator Principles' obligations in renewable energy projects.. A qualitative research approach in the form of interviews with representatives from the renewable energy companies, the commercial banks and independent industry specialists was followed. The research questions explored whether renewable energy companies lacked understanding of the Equator Principles (EPs), whether such a lack of understanding created challenges in their implementation, and what mitigation measures could help these companies manage the social and environmental risks addressed by the EPs. . The study revealed that there was lack of understanding by the renewable energy companies, that this lack of understanding affected implementation of EPs within the projects by the operational teams. The study suggested training, upskilling by the EPs as one of the mitigations that could see the objectives of the adherence of EPs being met.

KEYWORDS

Adherence, Renewable energy, Equator Principles, Independent Power Producer, Equator Principle Financial Institution, wind farm, environmental and social impacts, funding, social and environmnetal impact, operational phase, operational project team members.

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DECLARATION

I, Mantwa Mathebula, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Energy Leadership at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name:Mantwa Mathebula Signature: 

Signed at Centurion

On the 30 day of September 2025

DEDICATION

In memory of my late grandparents, Frans Motlatso Mashapa and Mabashimane Peggy Molepo , who believed in me and gave me the gift of education.

ACKNOWLEDGEMENTS

To the Almighty Father, only you know the beginning and the end, thank you.

To my husband and my beautiful three children, Motheo Akani, Eyana Tsebo and Rapelang Oarenang Moribula, for allowing me yet another chance to grow, pursue my academic goals, continue to pave the way and set a standard of what it means to be a good steward of this life while becoming the best version of yourself.

To my supervisor, Dr Tsele Moloi, thank you for the patience and guidance.

To my family and friends, I am because you are, it takes a village they say.

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This study would have not been if it was not of everyone who directly or indirectly contributed to the success of this paper, especially all participants. My heartfelt gratitude for your consent, time, patience, guidance and well wishes.

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CHAPTER 1. INTRODUCTION

1. Overview of the Equator Principles

The financial services sector is increasingly recognised by policy makers as an economic sector that has a significant bearing on sustainable development. Several companies ranging from infrastructure development, mining firms, industrial manufacturers to small retail businesses depend upon the financial services sector for funds to start or expand their operations (Richardson, 2005).

Until the 80's, the preoccupation with development finance, compliance institutions, governance authorities and policymakers did not fully recognise the nexus between financial markets and sustainability (Warford & Partow, 1989). External market forces have changed the way in which financial markets value a business. For example, it was during this period in the 80's that the Sullivan Principles were imposed by some companies that had dealings with the South African Apartheid government, which resulted in those companies withdrawing from South Africa. This was based on moral standing of the entities rather than financial grounds. Similarly, we are seeing a shift in the way in which business is valued based on whether they are sustainable from an environmental perspective.

The origins of the Equator Principles (EPs) can be traced back to the 1990s, when a major shift in the art of financing project investments occurred. Until that stage, the main banks for project finance had been Multilateral Development Banks (MDB), such as the World Bank, European Investment Bank, and the Asian Development Bank. It was the involvement of MDBs in projects that caused negative environmental externalities which led to increased lobbying from Non-Governmental Organizations (NGOs) in the 1980s (Bank-Track, 2004). In 2003, ten international private lending institutions developed and adopted a set of voluntary guidelines as a way of encouraging private financial institutions to consider social and environmental issues before funding projects, thus managing the associated risks (Wright, 2012).

The EPs are a set of principles that provide a benchmark and a risk management framework for financial institutions that finance large scale infrastructure and industrial projects. The ten principles that make up the EP are based on the International Finance Corporation Performance Standards (IFCPS) and World Bank Group Environmental, Health, and Safety Guidelines (EHSG) (World Bank, 2024). Adopting

the EP is voluntary, and the adopting financial institutions are referred to as Equator Principles Financial Institutions (EPFIs). EPFIs use the EP to guide them in determining, assessing and managing environmental and social risks in projects that can have a significant impact on people and the environment (The EP, 2022).

In recent years, funding for large-scale development projects shifted from international development agencies to private financial institutions. Initially, commercial banks included minimum or no environmental criteria in their loan agreements (Hardenbrook, 2007). This discrepancy between the environmental standards of the World Bank financing agreements and those of private financial institutions allowed projects that did not meet the required World Bank environmental standards to seek private sector funding. As a result, environmental standards for projects in countries with poor environmental regulations relied heavily on private commercial entities. This reliance on private financial institutions led to the construction of projects with devastating environmental impacts (Hardenbrook, 2007).

It was due to the willingness of commercial banks to finance projects with probable negative environmental and social consequences that many banks involved in project finance became targets of NGO-led public campaigns whose aim was to undermine the reputation of the banks (Amalric 2005). It was the company ABN Amro that became pivotal in the inception of the EPs. It was confronted with reputational concerns after financing a mining project in Papua New Guinea that had contaminated local water supplies. It was this event that triggered ABN Amro's to seek guiding principles for avoiding environmental and social risks in project lending. Together with three other major project lending institutions (Barclays, Citigroup and WestLB), they approached the International Finance Corporation (IFC) to discuss their experiences. As a result, these banks came together and prepared draft principles which later became the EP. The first 10 banks, coming from 7 countries, also to be known as Equator Principles Financial Institutions (EPFIs), adopted the EPs on 04 June 2003 (Amro, 2003).

The Equator Principles apply to bank project finance, a long-term financing primarily used for infrastructure and development projects. The loan agreement is put in place and contain provisions which generally exceed the environmental regulatory requirements of the host countries. These second-order agreements are between private parties, rather than governmental organisations. They are second order because "they are entered into in response to the existence or absence of first-order

government regulatory requirements" (Hardenbrook, 2007). The compliance is with the EPFI while the obligation is passed on to the funded project under the loan agreement. As a result, there is an indirect responsibility on the borrower to adhere. To date, nearly 137 financial institutions in 38 countries have signed up to the Equator Principles and regarded as Equator Principles Financial Institutions, (The EP, 2022). These institutions are committed to the EP and will not finance, or otherwise support, projects that do not comply with these principles (Finger *et al*.,2017). The body through which EPFIs are organised is the EP Association, an unincorporated organisation that was formed on July 1, 2010. The Association is responsible for the management, administration and development of the EP, which it coordinates through a steering committee and working groups.

2. Context of the Study

2.1 Overview of the Energy Regulatory Framework in South Africa

With a population of 60.8 million people (Enerdata, 2024), South Africa is a middle-income country with the second-largest economy in Africa and well-developed financial and legal sectors. The country is the biggest and most developed economy in Sub-Saharan Africa but has experienced stagnation in the past few years (CIF, 2022). The economy has encountered multiple difficulties including varying GDP growth, high levels of unemployment, and an energy crisis. During the ten years leading up to 2022, the average actual GDP expansion was around 1.0% at 0,6% growth per year (Enerdata 2024; Independent Evaluation Office, 2024), which was less than the typical rate of 3.0% in Sub-Saharan Africa.

In 2012, the Government introduced the National Development Plan (NDP) 2030. The NDP was introduced with the intent of addressing inequality, unemployment, and poverty, and achieve sustainable energy by 2030 (Independent Evaluation Office, 2024).

The NDP underpins the objective of the South African government to invest in strong networks of economic infrastructure designed to support the country's medium- to long-term economic, social and environmental goals. The vison of the energy sector as defined in the NDP is the Integrated Resource Plan (IRP) which proposes a diverse energy mix to meet the country's electricity demands by 2030 (IPP-projects, 2024). The IRP further holds the objective to guarantee the security of electricity provision by balancing supply and demand, taking into account the environment and overall supply cost (DMRE, 2024).

South Africa generates more than 265 TWh per annum from 45 GW of installed capacity, with its electricity generation mostly reliant on coal. The country's electricity sector is dominated by the state-owned, vertically integrated utility, Eskom. Eskom is currently responsible for almost all generation, transmission and approximately half of the distribution network, with the remaining half distributed through 179 municipalities that buy bulk supplies of electricity from Eskom (Eberhard *et al*., 2017).

2.2 Renewable Power Producing Procurement Programme (REIPPPP)

As part of the IRP implementation, the government of South Africa commenced with the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) in 2011 (NDC Partnership, 2024; Eberhard & Naude, 2017). REIPPPP is a competitive tender process that was specifically designed to unlock the private sector investment in the generation of renewable energy for the country. The main goal of the programme is to obtain electricity from both renewable and non-renewable sources in the private sector. Moreover, the programme is intended to aid in the overall development of the country, its goals of job creation, uplifting society, and expanding economic ownership (IPPPP, 2024).

2.2.1 *Independent Power Producer*

An Independent Power Producer (IPP) is a business entity formed by multiple investors with the intention for it to compete or build and run a standalone power plant. Normally, the IPP company framework might include Black Industrialists, alongside other South African shareholders and community trusts that represent the local communities. A balance in the country's balance of payments and the transmission of skills and expertise are normally evident in where these projects are based, with overseas investors also bringing foreign direct investment (FDI).

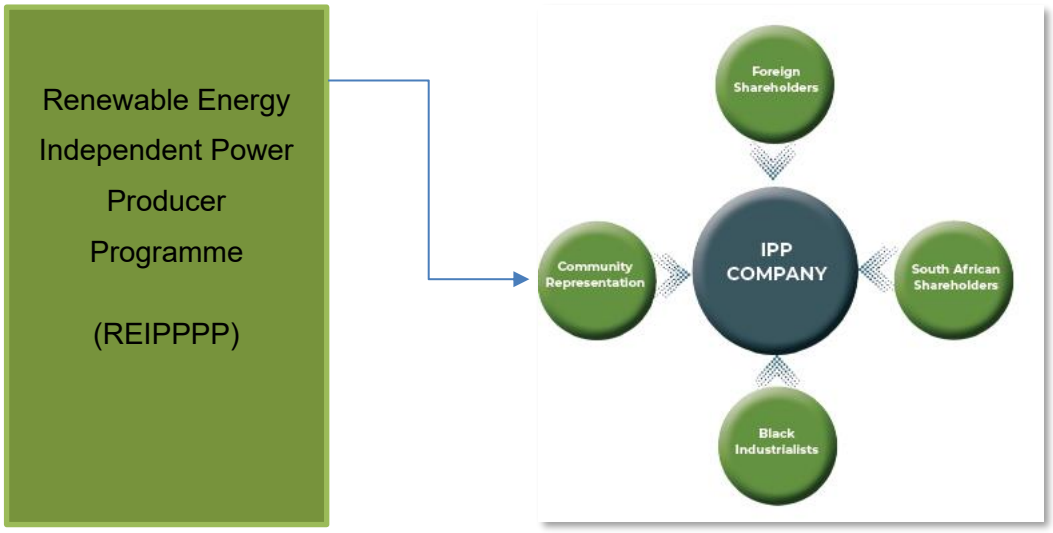


Figure 1**:REIPPPP Key Stakeholders(Source: *IPPPP Quarterly Report* | *Quarter 4 2023/24*)**

2.2.2 *The Procurement Programme*

The South Africa Renewable Energy Independent Power Producer Programme (REIPPPP) is a competitive tender process (see Figure 1) which is established for the purpose of injecting private sector investment through renewable energy (Eberhard, 2017). This procurement programme was given effect by the relevant capacity allocations in the IRP by the Minister of Mineral Resources and Energy (in consultation with the National Energy Regulator of South Africa (NERSA). The programme's mandate is to secure electrical energy from the private sector for renewable and non-renewable energy sources while contributing to the broader national objectives of job creation, social upliftment and broadening of economic ownership (IPP-projects, 2024).

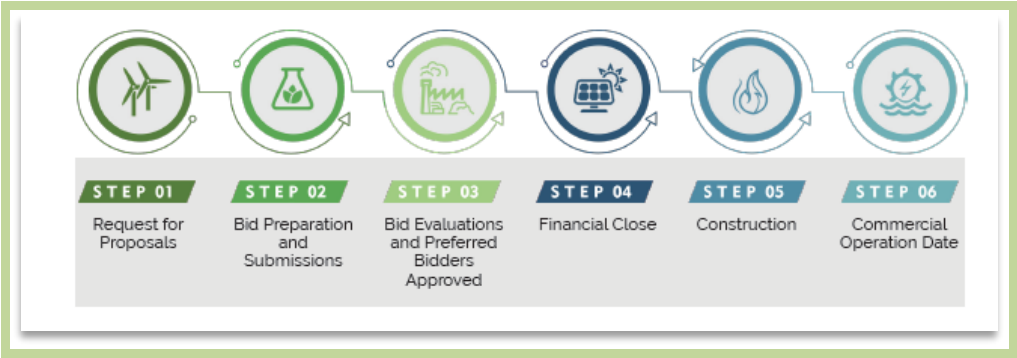


Figure 2: REIPPPP Process (Source: *IPPPP Quarterly Report | Quarter 4 2023/24*)

There are also different stakeholders at different phases of the procurement and implementation process of the REIPPPP process, and they are highlighted in Table 1 below.

Stakeholder	**Phase of the Value Chain**	**Role**
Government (DMRE)	• Bid Phase • Financial Close • Operational Phase	• Custodian of the policy and strategy • Mandates the IPPO (Independent Power Producer Office) to manage and monitor
IPP	• Bid Phase • Financial Close • Operational Phase	• Bidder of the project • Partners with lenders to achieve the financial objectives of the project • Enters into PPA term with off-taker • Implements and operates the projects.
Lenders	• Financial Close • Operational Phase	Project Financing of the IPP, provides financing (i.e. debt) for the project/s.
Eskom	• Financial Close • Operational Phase	Off-taker, Eskom purchases the electricity from IPPs.

Table 1: REIPPPP process and stakeholders (Source: *Author*)

2.2.3 *Renewable Energy (Wind Technology)*

Greenhouse gases (GHG), including CO_2 emissions are associated with the conventional provision of energy services and are a major cause of climate change. Globally, coal is the second largest primary energy source used worldwide (preceded by oil), and the first source for power generation. In terms of electricity generation or supply, South Africa is highly dependent on coal-fired power plants contributing over 80% and therefore energy supply is carbon dioxide-intensive (Adebiyi & Moloi, 2024). South Africa is rated the 13th largest emitting country in the world and the largest emitting country on the continent of Africa (Africa Check, 2021). In response, the country has embarked on efforts to reduce CO_2 emissions whilst simultaneously developing renewable energy sources.

Wind energy generates the highest energy yield affecting the smallest physical scale as compared to other renewable sources such as solar and bio-energy. The turbine (Fig 4) consists of the rotor, nacelle, tower and the foundation unit (Savannah, 2011). Using wind to generate electricity is a sustainable way to utilize natural resources and has minimal impact on the environment in terms of greenhouse gas emissions. A wind farm is also considered a Clean Development Mechanism (CDM) project because it fulfils all global criteria for promoting low carbon technologies, which is a financial mechanism aimed at encouraging their development (Savannah; 2022).

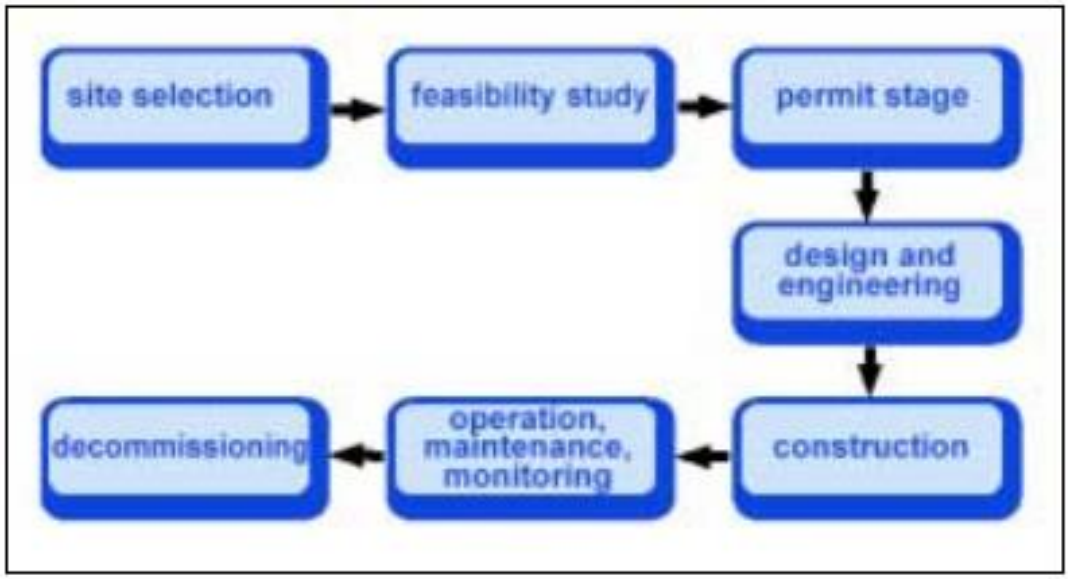


Figure 3: Wind Farm Project Development(Source: Ranchin *et al*., 2004)

2.2.4 *Renewable Energy Financing*

The government of South Africa considers the use of renewable energy as a contribution to sustainable development. Most renewable energy sources are indigenous and naturally available, and the use of renewables therefore strengthens energy security (DoE, 2015). The country also has a sophisticated and well-regulated banking and financial sector, and its stock exchange is the 19th largest in the world and largest in the continent (JSE website, 2023).

In South Africa, the IPP market represents more than R361 billion in attracted investments with 8.8 GW of installed capacity as of 2024, and approximately R277.2 billion for projects that have since reached Financial Close in the REIPPP programme. Key achievements include R3.6 billion of realised Enterprise Development and Socio-Economic Development contribution, R92.3 billion actual BEE spend as well as R74.9 billion of actual local spend (IPPPP, 2024). Investments of this magnitude presents an opportunity for any lender to thrive in the stability and success of the REIPPP Programme which has allowed many of the South African commercial banks and equity funding entities to play a significant role in funding renewable projects (Eberhard *et a*l., 2016).

Renewable energy (RE) is a highly innovative, evolving industry and capital intensive in nature, therefore driven by appetite of niche investors. The RE industry is considered a low risk, high capital intense industry. According to Ayorinde et al. (2024) the successful implementation of renewable energy project is also affected by other factors such as stakeholder engagements, social impacts and other critical success factors. It is therefore important to note that despite achievements in utilising renewable finance effectively and benefiting local communities and economies, renewable energy projects still encounter obstacles such as regulatory barriers, capacity limitations, and investment risks. To ensure the ongoing success of renewable energy projects, it is essential to tackle these obstacles, utilise key success factors, and involve both stakeholders and the community.

The majority of the projects between Bid Window 1-3 of the REIPPPP were project finance. Eberhard (2014) states that the programme did not only attract diverse domestic and international developers, but sponsors and equity shareholders who also played a significant role in the funding of these projects. Up until the 3rd Bid Window, Eberhard (2014) reported that majority of the debt funding was provided by commercial banks (ZAR 57bn) with a balance from the Development Finance Institutions (DFIs) and pension funds. In a highly liquid sector, the commercial banks were able to provide long term debt of 15–17-year periods.

Project finance is defined broadly as a method of funding in which the lender primarily looks at the revenues generated by a single project, both as the source of repayment and as security for the exposure (Papadopoulos, 2009). For the period from Bid Window 1-3, it is reported by Eberhard (2014) that 80% of the debt was locally sourced, which is quite impressive. Project finance may take the form of financing the construction of a new capital installation or refinancing an existing installation with or without improvements. In such transactions, the lender is usually paid solely or almost exclusively out of the money generated by the contracts for the facility's output, such as the electricity sold by a power plant (Hansen, 2006). The borrower or project company is usually a Special Purpose Entity (SPE) that is not permitted to perform any function other than developing, owning and operating the installation. The consequence is that repayment depends primarily on the project's cash flow and on the collateral value of the project's assets. Figure 3 below provides an overview of project finance.

	Project finance
Borrowing entity	Single Purpose Entity (SPE)
Collateral for financing	Project assets and its contract agreement
Effect of financial flexibility	Non-existent or very reduced as regarding the sponsor's flexibility
Accounting treatment	Off-balance sheet
Main variables considered for screening	Future cash flow and business risks
Sustainable leverage	Depends on cash flow generated by the project
Source of repayment	Only profit generated from the project

Figure 4: Project finance overview (Source: *Adapted from Gatti 2003*)

In addition, it is important to state that the project finance loan is provided to the SPE that has been established to undertake a single project as a legally independent project company and not have credit history. The SPE is one of the shareholders of the joint venture and no shareholder is obligated to repay debt under project financing principles. Financial arrangements are made by setting aside the cash flow generated by the project itself as the primary source of repayment based on the rights and obligations of risk sharing among all project shareholders (Fight, 2005). The SPE has a limited project life and distributes cash flows to equity investors and lenders rather than retaining them as retained earnings gain (Yescombe, 2002).

There is also another mechanism exercised by lenders which may be through syndication where there is risk sharing and the debt finance is normally provided by more than one bank. This allows banks to reduce their project risk exposure by allocating an amount that is lower than what they may have allocated if they had financed the project individually and completely (Nguyen, 2007).

3. Research Problem

Environmental and social risks are increasingly shaping the investment decisions of financial institutions. While banks rarely produce direct environmental impacts, their lending and investment activities are often linked to commercial operations and large-scale projects that can contribute to environmental degradation and social challenges (Marco, 2011). These risks can significantly affect project financing, where loan repayments depend heavily on the project's cash flows and the collateral value of its assets (Papadopoulos, 2009).

Renewable energy projects financed through debt by an Equator Principles Financial Institution (EPFI) are required to comply not only with local legislation but also with the Equator Principles (Haack *et al.*, 2012). The Equator Principles (EPs) are a set of voluntary guidelines adopted by financial institutions to ensure that the projects they finance adhere to sound environmental management practices and are executed in a socially responsible manner, even in the absence of strict local regulations. The EPs are based on the environmental and social standards of the International Finance Corporation (IFC) and aim to manage environmental and social risks associated with project financing.

Failure to adhere to the Equator Principles can expose projects to substantial risks, such as reputational damage, legal liabilities, and challenges in securing future financing. Projects that fail to comply with the EPs may experience delays or cancellations, along with a withdrawal of support from financial backers (Equator Principles Association, 2020). Additionally, non-compliance can attract heightened scrutiny from stakeholders, including non-governmental organisations (NGOs), leading to public criticism and increased pressure on the project and its financiers (Haack *et al.*, 2012; Hansen, 2006).

Although the Equator Principles (EPs) were established as a global risk management framework to help financial institutions identify, assess, and manage environmental and social risks in project financing (Equator Principles Association, 2020), evidence suggests that their implementation within the renewable energy sector particularly among Independent Power Producers (IPPs), remains uneven and often poorly understood (Wright & Rwabizambuga, 2006;). The EPs require project developers to comply with stringent environmental and social safeguards as a precondition for obtaining finance from Equator Principles Financial Institutions (EPFIs).

In practice, renewable energy operators are often well versed in national environmental and social (E&S) legislation and regulatory frameworks. While such familiarity is essential, the overlap between local legal requirements and the EPs' funding obligations can create ambiguity about the scope and distinct expectations of each framework . This is not inherently problematic; however, when the distinctions between local regulatory compliance and international financing standards are not fully understood, it can inadvertently complicate the consistent application of the EPs.

Several studies highlight persistent gaps in both the conceptual understanding and the practical application of these obligations by project developers and operators (Contreras & Orea, 2019; Huang, Ding, Ding, & Xie, 2022). In the context of rapidly expanding renewable energy projects, these gaps may create significant risks: inadequate implementation of Equator Principles (EP) requirements may undermine environmental and social protections, expose projects to reputational and financial liabilities, and hinder the credibility of both IPPs and EPFIs (Scholtens & Dam, 2007).

Despite the critical role that IPPs play in driving the global energy transition, there is limited empirical research on how well renewable energy operators understand the EP framework, the challenges they encounter in its implementation, and the strategies that can strengthen compliance. This study addresses this knowledge gap by examining the level of understanding and implementation of the Equator Principles' environmental and social obligations among renewable energy operations teams. By identifying the key barriers and proposing practical measures to enhance compliance, the research seeks to inform both project developers and financial institutions, thereby contributing to more robust environmental and social risk management in renewable energy financing .

4. Purpose of the study

The purpose of this study is to investigate whether Independent Power Producers (IPPs) have a clear understanding of the Equator Principles (EPs), particularly their significance in project financing and environmental and social management, as intended by Equator Principles Financial Institutions (EPFIs).

The research sought to clarify the gaps in understanding and implementation of the EPs among IPPs and propose strategies to enhance compliance with these environmental and social obligations. It also offers recommendations to improve IPPs' understanding and implementation of the Equator Principles, ensuring that EP requirements are met.

5. Research objectives

The main objective of this study was to explore the implementation of the Equator Principles' environmental and social project obligations from limited but diverse stakeholders that makes the renewable energy operations team.

1. Explore the conceptualisation and understanding of EPs environmental and social obligations by the renewable energy operations team.
2. To explore how EPs environmental and social obligations are being implemented by the renewable energy operations team.
3. Explore the challenges faced in the implementation of EPs environmental and social obligations by the renewable energy operations team.
4. Explore the recommendations or remedies to the challenges of the EPs environmental and social obligations by the renewable energy operations team.

6. Research questions

1. How do renewable energy operations project team members conceptualise and understand Equator Principles?
2. How do renewable energy operations team members implement the EPs to ensure the adherence to the environmental and social obligations?
3. What are the challenges faced by the renewable energy operations team in ensuring that the implementation of EPs address the environmental and social obligations?
4. What are the recommendations or remedies to the challenges to understand and implement the EPs environmental and social project obligations?

7. Significance of the study

Private funding through banks is pivotal in promoting and advancing renewable energy markets, contributing significantly to sustainability and economic development. The engagement of South African commercial banks with voluntary environmental and social standards, such as the Equator Principles (EPs), reflects their proactive role and commitment to both international and national sustainability objectives (Chonco, 2009).

This study is significant because it sought to clarify the understanding of EP obligations among commercial banks and to support renewable energy projects in grasping their secondary obligations as financed entities under Equator Principles Financial Institutions (EPFIs). By examining how well project teams comprehend and apply these EP requirements, the study aims to enhance strategies for effective compliance. The ultimate goal is to improve the capacity of projects to meet EPs standards, benefiting both financial institutions and project companies. This will contribute to more effective environmental and social management practices and support the overarching goals of sustainable and responsible investment.

8. Definition of terms

Equator Principles: A financial industry benchmark for determining, assessing and managing environmental and social risk in projects.

Equator Principle Financial Institution: Financial institutions have voluntarily adopted the Equator Principles.

Loan agreement: A document that sets out the Equator Principles obligation as they relate to the specific projects.

Renewable Energy: Energy from a source that is not depleted when used, such as wind or solar power.

REIPPPP: Renewable Energy Independent Power Producer Procurement Programme

Sustainable lending: Financing decisions that take into consideration the **environmental, social, and governance (ESG)**.

Wind Farm: a place with wind turbines that use the wind to make electricity.

9. Assumptions

Equator Principles adherence relies mainly on passive or interactive monitoring (Sarro, 2012). The EPFIs potentially gain reputational benefits irrespective of their actual practices. Even when the primary motivation of the signing up as an EPFIs may not be to actively adhere to EPs, the EPFI may gain good publicity from just by their association with the being a signatory They may imitate or mimic the behaviour of good EPFIs, while project-affected communities suffer from a lack of effectiveness and practical failure of the EPs. Irresponsible institutions might claim benefits of enhanced reputation and a reduced threat of government regulations with no intention of implementing their commitments to EPs (Mace & Chen, 2010). This means that those EPFIs that are not fully committed to quality execution through these principles may to resort to just minimum ardency, a tick box exercise or even passive collaborative strategies with their clients or projects they are financing.

In addition, the biggest areas of criticism with EPs are accountability, transparency, implementation and compliance monitoring of them. Several civil society groups also criticised the EPs for not providing a sufficient description of public consultation processes in relation to controversial projects (Meyerstein, 2011). While legislative processes on development of project are clear or role players, compliance requirements and engagement channels for the ultimate intended goals, the voluntary nature of the EPs pose a difficulty with those who are participants in the projects.

The EP implementation and adherence by funded projects remains one of the most guarded concepts in literature, for an example, the Bank-Track website reports that project name information is reported on the Equator Principles website on a bank-by-bank basis meaning it is not possible to search the EP website to find out which banks financed which project.

10. Structure of the report

This research study will be comprised of 5 chapters:

- Chapter one comprises an outline of the background to the problem, the research problem and objectives, the significance of the study, delimitation, definition of terms and assumptions.
- Chapter two will offer a literature review.
- Chapter three will focus on research methodology.
- Chapter four will concentrate on presentation of findings.
- Chapter five includes discussions.
- Chapter six will include conclusions and recommendations.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

The purpose of this section is to explore literature in this research field by reviewing available national and international body of work by recognised experts and scholars. The research seeks to explore the understanding and implementation of the Equator Principles by wind energy projects. Therefore, the rapid review will allow for assessment of known implementation practices and use methods to identify, research, understand and appraise existing literature regarding this topic.

In order to conceptualise and understand the research problem further, this literature review section is structured as follows:

1. Firstly, an overview of the Equator Principles, contextualising the EPs to regulatory framework in South Africa and project finance for renewable energy projects.
2. Secondly, to understand the Equator principles by reviewing the existing EP principles which provides guidelines on how projects should engage and use the EP documentation in practice.
3. Lastly, this section will seek to understand how EPs are implemented and what the challenges and hindrances exist in this regard.

The literature review is therefore based on the following main themes:

- Introduction to EPs.
- Understanding the EPs.
- Implementation of EPs and the challenges.

2.2 Introduction to Equator Principles

The Equator Principles are a voluntary code of conduct, “representing a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making” (EP, 2006, pp1). They area code of conduct that was drawn up under the auspices of the World Bank Group (through the International Finance Corporation (IFC)) and which is adopted voluntarily by banks. The principles are largely based on the guidelines and policies of IFC, previous IFC safeguards and the latest IFC performance standards have formed the basis of EPs adoption and revision.

Their intention is to ensure that the projects that the EPFI finance are developed in a socially responsible manner that reflects sound environmental management practices (Papadopoulos, 2009). EPs are directed primarily towards private, commercial lending in developing countries and emerging economies where borrowers rely more heavily on external project finance than is the case for businesses and governments in OECD countries (Richardson, 2005). The term ‘Equator’ was chosen to take into consideration, the northern and the southern hemispheres and represent the balance between the industrialized countries, developing countries and emerging markets (Wörsdörfer 2015). The basis for the EP was the commitment to the minimum standards of the already existing World Bank and IFC guidelines and policies (The Equator Principles, 2006).

2.2.1 Equator Principles Applicability

The EPs applies to project finance advisory services and project finance where the total project capital costs are US$10 million or more. Project related corporate loans where the loan tenor is a minimum of two (2) year, client has an indirect or direct effective operational control and the individual commitment by the EPFI is at least US$50 million before sell-down or syndicate. Project related finance and acquisition finance where the project scope has not changed materially, was financed as per the EPs and the project completion has not happened at the time of the loan agreement execution (EP, 2022).

2.2.2 Equator Principles Approach

The project finance and project related corporate loans are the stringent and the EPFI will finance only the projects that meet the relevant requirements of the principle 1-10. There are reasonable measures taken to ensure that the E&S continue to be included in the negotiated and new financing documents as far as project related refinance and [project related acquisition financing. For the project finance advisory services and bridge loans, it is the client's discretion to seek long-term financing, but it is the EPFI's responsibility to introduce the adherence of the EPs requirements that comes with the financing prior to acceptance by the client. It is the EPFI that then guides the client on how to adhere to the EPs. The project undergoes categorisation and if in category A or B will follow the EIA process or undergo an Independent Review with an Environmental and Social Consultant (EP, 2022).

2.3 Understanding the EPs

The Equator Principles are based on the eight IFC Performance Standards on Environmental and Social Sustainability, see Table 3 (The EP, 2006). The EPs are in their nature, an evolving set of principles since they are very interactive and therefore subject to continuous monitoring and review to ensure delivery in quality for those they serve. To date, the EPs have been revised four (4) times, starting in 2006 where they were revised so as to address environmental and social gaps and critique received up to that stage as well as to align them with the updated IFC policies (Eisenbach, *et al*., 2014). The existing revision is EP4 came into effect in 2020, which was aimed at focusing more on EG (NRF, 2020).

The Equator Principles, as an association, has made great efforts in ensuring that the EPFIs are not navigating the process unaided. There are a number of tools available on the Equator Principles website to enable EPFIs understanding of their obligations and responsibilities and how to go about complying with those. A summary of the available tools will be outlined in the next sections (EP, 2013).

Principle	Description and actions	Typical examples
1. Review and categorisation	Project categories: A: significant impacts B: limited impacts that can be mitigated C: minimal/no impacts	Most projects (e.g. renewable energy) are classified as B. Large-scale mining operations are typically A.
2. Environmental and social assessment	Category A and B projects require a full environmental impact assessment (EIA).	EIAs are done before finance is sought and include specialist input, e.g. bat and bird studies for wind farms.
3. Applicable environmental and social standards	Country-specific and mostly: – IFC Performance Standards* – World Bank Group Environmental, Health and Safety Guidelines	General guidelines and industry-specific guidelines prescribe minimum performance levels and standards.
4. Management system and action plan	Projects must have environmental and social management systems and action plans in place for identified issues.	The management system gives effect to the Principles; the action plan is an agreed roadmap to address non-compliance gaps.
5. Stakeholder engagement	Projects need to show effective and ongoing stakeholder engagement. This is usually done during the initial EIA process, but can continue throughout a project's life.	Reports need to be communicated in the local language and encourage feedback.
6. Grievance mechanism	Projects may require a grievance mechanism to manage and resolve potential grievances.	These must be tailored to the unique environmental and social risks involved.
7. Independent review	An independent consultant acting for the bank (i.e. not for the project) needs to assess all steps for compliance with the Principles.	Project lenders appoint their own adviser to assist in the due diligence of a proposed project.
8. Covenants	Lenders need to include certain minimum provisions and covenants in loan documentation, relating to compliance with the Principles.	These include compliance with local environmental laws, applicable standards, action and reporting.
9. Independent monitoring and reporting	Projects must be monitored by an independent consultant working for the lenders.	Advisers report annually on compliance, including reviewing data and site visits.
10. Reporting and transparency	Information and annual reports must be publicly available.	Equator banks must report annually.

Source: Adapted from the Equator Principles (Source: www.equator-principles.com)
*IFC = International Finance Corporation; in respect of environmental and social sustainability

Table 2: Ten (10) Equator Principles

2.3.1 The Equator Principles Guidelines

One of the guidelines provided for the understanding and implementation of the EP is contained in the “Equator Principles” document itself. The documents provide a strong EPFI commitments to be considered and these are considered even in the “Preamble” where (EP, 2013), the EPFI by virtue of adoption:

- Commit to working in partnership with their clients to identify, assess and manage environmental and social risks and impacts in a structured way, on an ongoing basis.
- Commit to implementing the Equator Principles in their internal environmental and social policies, procedures and standards for financing Projects. It is further strongly stated that Project Finance or Project-Related Corporate Loans to Projects where the client will not, or is unable to, comply with the Equator Principles will not be funded.
- Clearer definitions regarding application and reporting are also provided in this document, i.e., within the “statements of principles” - Principle 1 - Review and Categorisation, initial steps of when a project is received by the EPFIs for financing until, the process of review and due diligence it undergoes, and the ultimate annual reporting of environmental and social aspects is outlined in this document.

The gap in this guideline is how the actual clients are introduced in these phases of the transaction. The guideline places much emphasis on the EPFI, however lack to impose clearer cascading mechanisms on the project companies. While this is true, it may be argued that the EPs are indeed by design limited to EPFIs.

The nine commitments presented in the guidelines are both substantive (concerning what standards will be applied to project finance) and procedural (concerning how transactions are to be prepared, reviewed and monitored (Carbonell, 2005). These are presented more as obligatory project mandates to be implemented by both the project and by the client.

2.3.2 The Equator Principles Association Governance Rules

This is a governance document setting out the rules of the unincorporated association of Equator Principles Financial Institutions (EPFIs) and provides them with guidance to existing and prospective EPFIs on the processes for the administration, development and management of the Equator Principles and of the Association, which shall be known as the Equator Principles Association (EP Association Governance Rules, 2017). This document serves as rules of engagement for all existing and prospective EPFIs however most of the literature available, fails to directly link the bank' obligations to their responsibility to guide the clients they finance.

2.3.3 The Equator Principles Implementation Note

Another supporting document on the EP website is the Equator Principles Implementation Note, this document contains selected information and examples to support the understanding of the requirements in, and implementation of, the Equator Principle for the user. It is a merely a guideline and Equator Principles Financial Institutions are encouraged in this document to make implementation decisions based on their institution's policy, practice and procedures (Equator Principles Implementation Note, 2014).

2.3.4 Available tools for understanding Equator Principles

Although this user guide is for the EPFI and limited to Principle 7 of the EPs, it is one of the most elaborate documents found in the supporting documents for implementing EPs. The guidance serves as a dual mandate for Environmental and Social Consultants to support their engagement with EPFIs when undertaking a Review as required under Principle 7 of the EP and for EPFIs to assess whether a review delivered by a consultant adequately meet the EP criteria (The EP, 2017).

It is to be noted that the EPFIs will assess a proposed project or project based on the EIA prepared for that project. If there is not an EIA, the EPFI may require the developer / borrower to conduct an EIA where the EPFI will compare the EIA against the EPs, IFC Standards and the World Bank Guidelines and prepare an action plan setting out where the EIA falls short of the EPs / IFC Standards and World Bank Guidelines. The EPFI will then stipulate an action plan the developer will need to take to align itself with these requirements (The EP, 2014).

In addition, the EPFIs may have requirements for a Review which are specific to a particular project, but this document serves as a good base for both parties to ensure understanding, implementation and compliance of the EPs. One other important role this guideline serve is that the Consultant undertaking the Review must plays a critical role in understanding when a Project does or does not meet the applicable Environmental and Social Standards and where is does not, guide the EPFI to address the gaps through to bring the Project into compliance with the EP (EP, 2017).

2.3.5 Guidance for EPFIs on Incorporating Environmental and Social Considerations into Loan Documentation

This guidance document has been prepared for use by EPFIs and aim to assist EPFIs in incorporating environmental and social considerations into loan documentation, as appropriate (EP, 2014). This will be one of the documents considered extensively for throughout this study and it must be understood whether the loan requirements include not only implementation and adherence but a step-by-step clear guide of walking the client though comprehension of the principles. For an example there is a concept of “Due Diligence” addressed extensively in this document and this refers to dialogue, screening and analysis of proposals prior to the approval of a loan. It is highlighted that the projects will not be penalise for lack of understanding, effective implementation or noncompliance, implying that there are mechanisms that may be customised for each EPFI to ensure client participation (Watchman, 2005a).

2.4 Implementation of EPs and adherence

2.4.1 Equator Principles Implementation

The first step (Table 2) in implementing the EPs for any project is what is called project categorisation. The categorisation of projects is based on the associated potential E&S risks and/or impacts and is defined as:

- **Category A** – For projects with potential significant adverse E&S risks and/or impacts that are diverse, irreversible or unprecedented.
- **Category B** – For projects with potential limited adverse E&S risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures.
- **Category C** – For projects with minimal or no E&S risks and/or impacts.

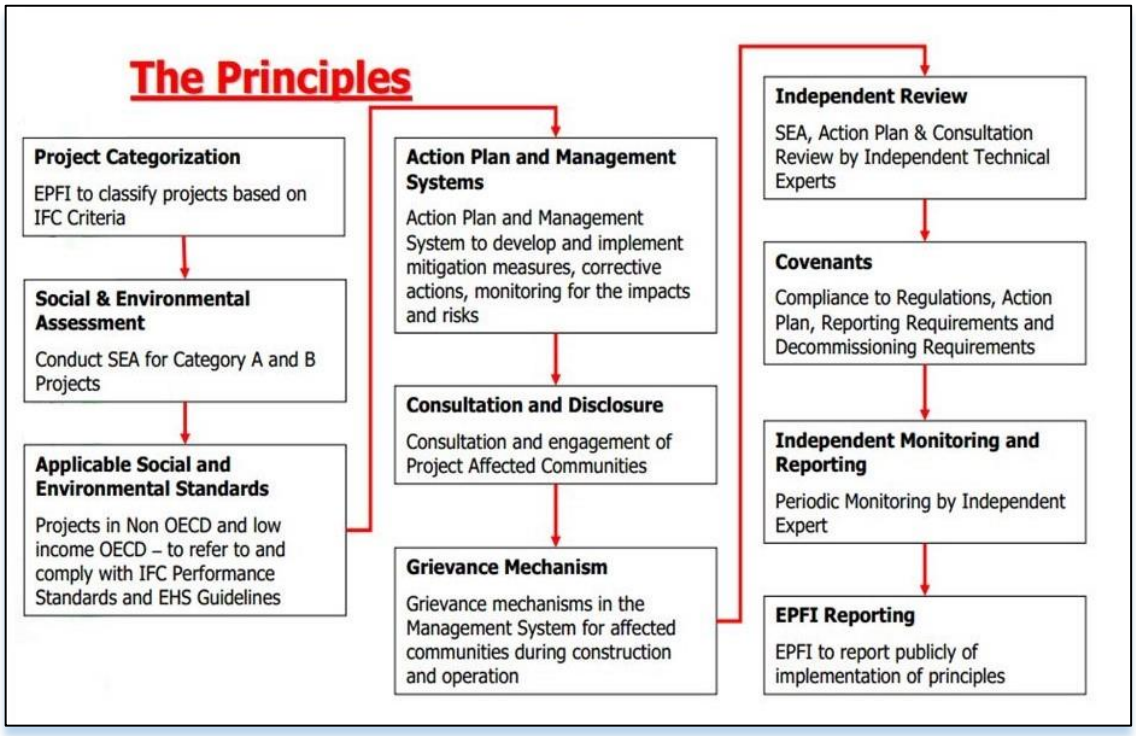


Table 3: The EP steps (Adapted from: https://slideplayer.com/slide/6361050/)

The initial categorisation is crucial because it triggers the level of due diligence to be undertaken. It is based on a preliminary assessment of the potential environmental and social risks of a project without considering mitigation measures. It is worth insisting on the fact that project categorisation (A, B or C) does not constitute a rating of the project's E&S performance nor a way of pre-selecting or excluding projects based on E&S concerns. In that sense, a project initially categorised as "A" will trigger a high level of due diligence resulting in the implementation of adequate mitigations measures that will eventually lower the level of E&S risks initially assessed (BNP Paribas, 2016).

It is crucial to recognize that project categorization may evolve between different phases of the lending process before the project is officially signed. This evolution can occur as new information regarding environmental and social (E&S) risks becomes available during the due diligence phase (Equator Principles Association, 2020). However, once a transaction receives internal approval such as a green light from the credit committee of the Equator Principles Financial Institution (EPFI) the project’s categorization remains fixed and is not subject to further modification (International Finance Corporation [IFC], 2012). This process is supported by the framework established by the Equator Principles, which outlines the procedures for assessing and managing E&S risks (Chonco, 2009; Marco, 2011). The role of these standards in influencing project categorization and risk management is well-documented, highlighting the importance of thorough due diligence in the early stages of project financing (Papadopoulos, 2009; Haack, Smith, & Thompson, 2012).

Based on the identified project risks and the extent of related impacts, the Equator Principles require the client to carry out mitigation measures, in a comprehensive and structured manner, through the implementation of Environmental & Social Management Plans (ESMP), in order to comply with the applicable E&S standards throughout the Life of the project. An Action Plan (AP) may also be negotiated with the borrower to address gaps identified and ensure compliance with EP requirements. An overarching Environmental and Social Management System is also defined and implemented by the project company to address the management of the actions described in the ESMP and AP (Haack *et al.*, 2012).

For projects Located in “Non-Designated Countries”, in addition to host country Laws, regulations and permits, the assessment process evaluates compliance with the IFC Performance Standards and World Bank Group EHS Guidelines, considered as good international industry practices (BNP Paribas, 2016).

One of the major strengths of the EPs is the contractual obligation for the client under the financing documents to regularly demonstrate its compliance with the proposed Action Plan as well as with the relevant laws, regulations and permits, through the inclusion of covenants and other conditions in the project's contractual structures. For the most sensitive projects, an independent consultant is mandated by the EPFI to review and monitor the project's E&S documentation and performance, during the planning, design, construction and operation phases, over the life of the loan (Haack *et al.,* 2012). It will be part of the study to understand if whether the client or project companies understand the Action Plan and the intention to assist them in secondary adherence to the EPs.

2.4.2 Equator Principles Adherence

The available literature has revealed that at least in most cases, adherence with EPs cascade down from the financial institution to borrower with much consequence potentially borne by the financial institution. This thread in literature seem to then place a heavy responsibility on both parties to ensure full understanding on the implementation of the EPs (Yeomans, 2005).

The gaps remain that EP implementation and project adherence remain one of the most guarded concepts both in academic literature and the EP public material. For an example, the Bank-Track website reports that project name information is reported on the Equator Principles website on a bank-by-bank basis meaning it is not possible to search the EP website to find out which banks financed which project (Bank-Track, 2004).

Bank-Track is a non-governmental organization working in the field of private sector banks and, using direct action, lobbying, and research focuses primarily on the work of private sector banks and their involvement in projects that are a risk to the environment, society, or human rights. It seems to be the only institution that has closely monitored the evolution, implementation, and compliance of the Equator Principles (Bank-Track, 2004).

Bank-Track understands the following about the EP compliance; that each EPFI is required to publicly disclose the names of projects that are financed under the principles as a project finance arrangement and have reached financial close in the previous year. This is however subject to obtaining client consent, to applicable local laws and regulations, and to no additional liability for the EPFI because of reporting in certain identified jurisdictions" (EP III, 2013). Bank-Track has done this by (Bank-Track, 2019):

- actively engaging with the EP Association and individual EPFIs on the implementation and strengthening of the principles;
- providing support to communities that are affected by projects financed "under Equator";
- assessing compliance of specific projects financed under EPs and acting when projects appear not compliant; and
- training civil society groups on the use of the EPs in advocacy work. In the banking sector, risk seem to be the main driver, and this leaves little room for error by EPFIs. So generally, the main issues of implementation and compliance are suggested to be directly from lack of understanding, implementation, or oversight by the client. This is not today risks mentioned above are not connected in any way from the client should be guarding against. Every risk that the bank is exposed to will directly impose same to the client, however with different consequences.

2.4.3 Challenges of the Implementation

2.4.3.1 Local Environmental and Social Legislation

The EIA process in South Africa (SA) is regulated by the National environmental Management Act 107 (NEMA, 1998) and with Department of Environmental Affairs (DEA) as the custodians (Molepo, 2016). The EIA is defined as an anticipatory, participatory, integrative environmental management tool that has the objective of providing authorities with an indication of the likely consequences of their decisions relating to new developments (Wood, 1999). Wood (1999) further explains EIA as the tool to evaluate the possible effects likely to arise from a development which will significantly affect the natural, social and man-made environment.

The National Environmental Management Act (Act 107 of 1998; as amended) defines environmental impact assessment (EIA) as the procedure which ensures that environmental and social impacts of projects are identified and assessed before authorisation is considered. The main objective is to avoid or minimise negative effects from the beginning of a project rather than trying to mitigate them later. Lee (2000) defines Environmental Assessment as a policy tool to reduce the negative environmental and social consequences of development activities and to promote sustainable development. It refers to both the assessment of individual development projects, known as Environmental Impact Assessment (EIA) and the assessment of policies, plans and programmes, known as Strategic Environmental Assessment (SEA).

The Environmental Social Impact Assessment (ESIA) which the equivalent of an EIA is a requirement under International Finance Corporation (IFC) Performance Standard 1. The IFC is one of World Bank group responsible for servicing financing of the private sector. The ESIA requirement specifically form part of the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) and theses are technical reference documents with general and industry-specific examples of good international industry practice. IFC uses the EHS Guidelines as a technical source of information during project appraisal (IFC, 2021).

2.4.3.2 Available resources to guide project companies

Although the subjects of Project Financing and Sustainable Development are beginning to capture the attention of both academic and business practitioners, there is still little academic research within the corporate social accountability literature that examines issues surrounding the social and environmental responsibilities of financial institutions and their accountability for these responsibilities (O'Sullivan and O'Dwyer, 2007). This study seeks to contribute towards addressing this gap (Chonco, 2019).

2.5 Conclusion on Literature Review

The reviewed literature revealed several motivations and factors attributed to influencing the implementation of equator principle and overall bank' position on sustaining development and environmental and social risk management. The inception of sustainable lending was identified as that coming from NGOs but as development finance improves, the nature of EPs response to environmental and social management prove to serve EPFIs at the reputational and profitable levels.

The overall regulatory framework on development of renewable projects environmental and social obligations in line with Equator Principles was reviewed. The Environmental Impact Assessment as part of the local legislation was found to be closely linked to what EPs seek to achieve. The EIA framework is used as tool to evaluate the possible effects likely to arise from a development which will significantly affect the natural, social and man-made environment (Wood,1999). The linkage of EIA and EPs is closely linked.

A full review of the EPSs, tools available for understanding and implementing the principles was also evaluated. The EP is in its 4th iteration and provides users and adopters with a range of guideline of how to implement the principles in practice. There are guidelines on understanding the EPs within the document itself while the Equator Principles Association Governance Rules is a governance document setting out house rules for EPFI. Other documents included Equator Principles Implementation Note, Available tools for understanding Equator Principles (Projects) and Guidance for EPFIs on Incorporating Environmental and Social Considerations into Loan Documentation (EP, 2006). Details of how these documents benefitted or are communicate to the project companies to not only assist the EPFIs is not clear in literature.

The available literature has revealed that project companies have a secondary responsibility to the EPs. With the primary responsibility heavily on the EPFI, it seems that in most cases the EPFI where aware of their responsibility. The secondary responsibility of the EPFI still suggested equal responsibility in ensuring the banks remained true to their EPFI obligations. This means that it is also vitally important to ensure that project companies funded by EPFI fully understand and can implement the EPs (Yeomans, 2005).

CHAPTER 3. RESEARCH METHODOLOGY

The aim of this chapter is to set out the methodological approach that was undertaken to explore the implementation of the Equator Principles environmental and social project obligations from different stakeholders that makes the renewable energy operations team. This chapter will present the aim of this research, and the methodological approach adopted. It will present the sample which was selected and will set out the method used for data collection along with the process of data analysis. Finally, it will discuss any ethical issues and limitations associated with this study.

According to Leed and Ormrod (2001), a preferable research approach where there is an attempt to interpret a phenomenon is a qualitative study. They further indicate that qualitative approach assists in gaining deeper insights on a phenomenon with consequential developments in theoretical perspective and new concepts. This research approach was relevant as Meyerstein (2011) discusses the complexity of Equator Principles as accountability, transparency, implementation, and compliance monitoring of them. In addition, qualitative research was appropriate for this study as its primary focus of is to explain, understand, explore and discover the different feelings, attitudes, values, beliefs, perceptions and experiences of a group of people as discussed by Kumar (2011).

The methodology took into consideration limited but diverse stakeholders forming part of the Equator Principle funded renewable energy project, with a focus on the operational phase of the project. These include the bank' representatives, the operations team members and independent project representatives. The projects were pre-selected based on an official request one of the IPPs, the names of the selected projects are OysterBay Wind Farm in the Eastern Cape and Garob Wind Farm in the Northern Cape. The study followed an exploratory qualitative approach where primary data collection through semi-structured interviews and potential document reviews was conducted. The semi structured interviews allowed for flexibility and probing in order to elaborate or clarify vague response (Leedy &Ormrod ,2001). The interviews included one intro and one outro or follow up interviews.

All representatives were interviewed at their place of work while others responded to the interview guide questions via virtual interview. Secondary data collection was also considered in a form of reports that are publicly available. Data organisation, coding, analysis and interpretation will be conducted via a qualitative software NVIVO.

3.1 Research design

This study followed an exploratory, qualitative research design in the form of a case study. Creswell and Cresswell (2018) argued that to complement a qualitative research method, researchers can use a case study method. According to Tellis (1997), a case study is appropriate where a holistic an in-depth investigation is required. This is possible because a case study approach is designed to bring out details of participants using multiple sources of data. This is because earlier studies that examine the problem addressed by this study are limited. Exploratory research design is a valuable approach when exploring “new ground” in research and enables a latter more in-depth or quantitative examination (Creswell & Creswell, 2017).

In addition, in a case study Yin (1984) believed that there were three conditions for the design of a case study, the type of research question posed (what or how), the extend of control an investigator has over actual behavioural events (no control) and the degree of focus on the contemporary events although historic information can be used.

3.2 Research approach

Astalin (2013) presents three kinds of qualitative data as interviews; (i.e., open-ended questions), observations (i.e., fieldwork descriptions of activities) and documents (i.e., written materials and other documents from organizational records, reports etc). Consistent with a case study approach, documentation, archival records, interviews, direct observation, participant observation, and physical artifacts are identified by Yin (1994) as six primary sources of evidence. Data collection in this study included interview as a primary source as there was a limitation with secondary data collection. In an effort to validate the data collection, probing during the interviews was also used. Yin (1994) argues that no single source should be used over another and that a case study should use as many sources as relevant to the study as possible and that these methods should rather be complementary or even used as a tandem. This also enhances validity and reliability of the case study (Mangena, 2021).

3.3 Data collection methods

Data collection for this study included interview, as mentioned above the secondary data collection limitations will be discussed in the next sections. Interviews are the most vital data collection sources for case studies according to Yin (1994) and several types of interviews such as open-ended, focused or structured can be used by the researcher. Creswell (2009) explains that the researcher can conduct face to face interviews, telephone interviews, or engage in a focus group interview with participants where participants are at least six to eight in each group and agrees that interview questions can be unstructured, open-ended or as intend to obtain opinions from the participants.

3.4 Sample size and sampling method

3.4.1 Population

The rational for the selection of the sample size may include a number of factors, however a researcher' goal should be to define the size consistent to the questions of the study and conceptualisation. The sample size definition should be relevant and conceptually clear (McGregor, 2020). The total participants of the study was sixteen (14) and included; (6) project team members responsible for the operational phase of the projects, (8) financial institution representatives who work on the Equator Principles for the two selected wind energy projects. The limitation with a qualitative study is that a whole population cannot be included and rather a sample was chosen.

3.4.2 Sample and sampling method

For this study, the population comprised all key stakeholders directly involved in the implementation of the Equator Principles (EPs) within the two selected wind energy projects. This population included:

- members of the project teams responsible for the operational phases of the projects, and
- representatives of the financial institutions applying the Equator Principles to these projects.

From this population, a sample of sixteen (16) participants were purposively selected. The sample consisted of:

- Six (6) project team members, and
- Eight (8) financial institution representatives who specifically work on the application of the Equator Principles for the two selected wind energy projects.

The decision to work with this sample size was guided by the research questions and conceptual framework, following the principle that in qualitative research the adequacy of the sample is determined by the richness and relevance of the data rather than by statistical representativeness (McGregor, 2020; Patton, 2015). A sample of sixteen participants was considered sufficient to capture a diversity of perspectives from both project and finance stakeholders while remaining feasible for conducting in-depth, semi-structured interviews.

It is recognised that, as with most qualitative studies, it is neither feasible nor necessary to include the entire population. Instead, purposive sampling was used to identify participants who could provide detailed, experience-based insights into the implementation of the Equator Principles. This approach aligns with qualitative research practice, where the aim is depth of understanding rather than breadth of coverage (Creswell & Creswell, 2018; Patton, 2015).

Only 1 introduction was conducted and no outro follow up or close-out interviews were conducted. These included interviews with a limited team of key representatives from the commercial banks funding the projects, the key operations team members responsible for the project' adherence to the EPs and the selected independent representatives from banks' technical advisory team and an independent representatives responsible dealing with compliance of EPs and this included the legal representatives and environmnetal consultant, a total of 13 interviewees, see below:

- Representatives from each commercial bank funding the projects (a total of 2 banks). These included one (1) environmental, (1) social representatives and (1) project/transaction lead in charge of the EPs administration and implementation for each of the wind energy projects. The interview took place virtually.

- The operational and management team for each of the wind energy projects (a total of 2 projects). The approach was to have three (3) key representative from operations and maintenance (O&M), Environmental, Social representatives as well as the Site Manager. Interviews took place virtually.
- One (1) Independent representatives who formed part of the operations team for each project.

The representatives selected were 14 in total and only 13 were interviewed. Although the sample size might be limited within this part of the value chain, those representatives selected are the precise and only individuals working on the adherence of the EPs within those sites and EP transactions.

3.4.3 Interviews

The researcher conducted a in-depth individual interviews to explore the participant' perspectives on the implementation of the EPs. The interviews were mostly used to gather data from people by asking questions by means of which the researcher tries to elicit information from the person being interviewed (Kumar, 2011) in a semi-structured format. Open-ended interviews were useful as the researcher wanted to explore any new issues in depth. In addition, this approach assisted with providing context to other data (such as outcome data), offering a more complete picture of what is happening and why.

3.5 The research instruments

This study employed semi-structured, in-depth individual interviews as the primary research instrument. Semi-structured interviews were chosen because they provide a balance between the consistency of a pre-prepared interview guide and the flexibility to explore emerging themes in greater depth. This flexibility is particularly valuable when investigating complex, context-specific phenomena such as the implementation of the Equator Principles (EPs) in wind energy projects and the broader renewable energy financing landscape. Compared with structured questionnaires or surveys, semi-structured interviews enable the researcher to probe participants' experiences and professional judgments, thereby producing richer, more nuanced data (Bryman, 2016).The interview guide (see Appendix 1) was developed directly from the four objectives of the study and was organised into two key sections:

- Section A, Participant Profile: This section captured the professional background of each informant, their experience with the Equator Principles, involvement in wind energy projects and the renewable energy programme, and their role within the financing market. Establishing these details was critical to situating each participant's insights within the context of project financing and EP implementation, and to assess the credibility and relevance of their perspectives (Patton, 2015).

- Section B, Core Research Questions: This section comprised four primary open-ended questions, each mapped directly to one of the research objectives. An additional prompt at the end invited participants to share any other comments they considered relevant to the study.

During the interviews, follow-up probing questions were used where necessary to clarify ambiguous responses or to elicit deeper insights. As noted by the University of Wisconsin (2006), probing is a key technique for achieving in-depth understanding and addressing vagueness, yet it cannot be fully planned in advance because the need for clarification typically emerges dynamically during the interview.

The exclusive use of semi-structured interviews rather than alternative instruments such as surveys or focus groups was guided by the exploratory and interpretive nature of the research. The aim was to capture the professional judgments and experiences of stakeholders including project teams, financial institutions, and independent representatives involved in the implementation of the Equator Principles. Semi-structured interviews provided the required depth and flexibility to capture these diverse, context-dependent perspectives while ensuring that all respondents addressed the core objectives of the study (Creswell & Creswell, 2018; Bryman, 2016).

3.6 Procedure for data collection

A data collection procedure must be linked to what type of data one needs in order to respond to the research questions (Gontcharov, 2019). There are a number of data collection methods and according to McGregor 2019, the most common include observation, individual interviews and focus groups.

This study followed the individual interviews where the researcher conducted in-depth interviews using an interview guide, probe and follows (McGregor, 2019). The study will also collected secondary data through review of documentation relevant to the research.

3.7 Data analysis and interpretation

Qualitative data takes into consideration volumes of data that must be handled properly so that the analysis with the right tools provide accurate results in response to the objective of the study (Mangena, 2019). In addition, Edmond and Kennedy (2000) points out that there must be protocol to analyse the data and that include interrogation of the research questions, the design, documented, text or audio records.

During interviews the information was recorded, transcribed and then analysed by presenting each finding under planned themes. Identifying main themes in data from interviews (Rosala, 2022).

The data was collected by the researcher and the results organized in various categories. The study will used the transcription method for organizing data, analyzing, and interpretation.

3.8 Validity and Trustworthiness

The criteria used to justify quantitative research is not the same as that of qualitative, based on Lincoln and Guba (1985), qualitative research focuses on trustworthiness which simply questions whether the researchers' findings can be trusted and uses the criteria of transferability, credibility, dependability and confirmability (Korstjens & Moser, 2017). Collection of primary data with probing and literature findings to triangulate the study was followed and this assisted in enhancing credibility.

3.9.1 Transferability

The degree in which the qualitative research can be transferred to other participants or context is called transferability, an equivalent to generalisability (Bitsch, 2005). This study explored and addressed the transferability judgement by providing thick description and conducting purposeful sampling.

3.9.2 Credibility

Creswell, (2009) relied on feedback from the participants to ensure credibility of results. This involved taking the final report, or description of themes, back to the respondents to determine whether the respondents felt that these themes were accurate. Lincoln and Guba (1985) consider this technique to be critical in establishing credibility. Although the description of themes or reports were not taking back to the respondents, the researcher probed numerously and even something rewording the questions to make sure the respondent were representing their answers accurately. This strategy was conducted to clarify any uncertainties as to the findings and to enhance the validity of the results. It is important that participants are included as mutual constructors of the findings (Lincoln & Cuba, 1985).

3.9.3 Dependability

According to Bitsch (2005), dependability refers to “the stability of findings over time” (p. 86). According to Anney (2012), dependability “involves participants’ evaluation of the findings, interpretation and recommendations of the study such that all are supported by the data as received from informants of the study” (P.13).

3.9.4 Confirmability

Anney (2012) defines confirmability as “the degree to which the results of the inquiry could be confirmed or corroborated by other researchers” (p.15). Through a number of methods, confirmability, in this case an audit trail is able to demonstrate process and products from the researcher (IBID). To ensure reliable audit trail, this study will used the verbatim quotes and transcribed documents from the interviewee.

3.9 Ethical considerations

This study will be subject to ethical considerations with the intention of recognizing and protecting human rights. The active participation of members in collection of primary and secondary data is voluntary, however prior to their engagement, the participants will be required to sign consent letters.

Mouton (2001) highlights the right to privacy, stating that respondents have the right to refuse to be interviewed or to answer certain questions. Therefore, the participants will be briefed adequately in order to encourage active participation and minimise chances of withdrawal. In addition, the participant will be made aware that they also have a right to terminate the consent agreement at any stage of the research

CHAPTER 4. PRESENTATION OF FINDINGS

4.1 Introduction

The purpose of this chapter is to present and analyse the findings of the study. The study had three research questions. Firstly, it sought to understand how renewable energy operations project team members conceptualised and understand Equator Principles; secondly, how renewable energy operations team members implemented the Equator Principles to ensure the adherence to the environmental and social risks; and thirdly, what the challenges were faced by the renewable energy operations team in ensuring that the implementation of Equator Principles addressed the environmental and social risk. Lastly, the study probed for recommendations or remedies to the challenges to implement the EPs environmental and social project obligations.

Data was collected through an online interview process. A total of 14 respondents were identified and sent interview requests, ultimately 13 were successfully interviewed. Responses to the interview guide are summarized to reflect the findings. A complete analysis of the responses (for ease of interpretation are themed as groups) follows in the remainder of this chapter. A requirement for participants was work experience and knowledge Equator Principles and REIPPPP with a minimum of two years to ten years' experience.

4.2 Demographic data

As stated in Chapter 3, there were 14 targeted participants and only 13 were analysed. Section A of the interview guide provided the profiles of the respondents while section B provided the responses to the 4 primary research questions.

Target	Number of Participants	Roles
Equator Principle Financial Institutions (EPFIs) (two commercial banks)	4	Two (2) Transaction Leads, Head of E&S Environmental, and Social Risk Manager
Project Companies	6	Head of HSEQ (Health, Safety, Environmental Specialists, Health and Safety Specialist and two (2) Site Managers and two (2) Social/Sustainability representatives
Independent Parties	3	Lender' Technical Advisor (LTA), Environmental consultants, Legal representative.

Table 4. Profile of respondents

The interviews were conducted with two (2) of the selected EPFIs, two (2) wind project companies and a selection of independent parties from either the EPFI or project company. The targeted participants where those who either directly worked on the Equator Principles reporting on the two identified wind projects or those that had experience with Equator Principles, REIPPPP and/or similar transactions. The reachable participants where 13 out of a total of 14 identified, giving a completion rate of 92% participation. This included (6 out of 6) targeted participants for the project company, (3 out of 3) independent parties, with (5 out of 6) from the EPFIs.

The Figure 6 below highlights the profiles and experiences from the two (2) selected EPFIs.

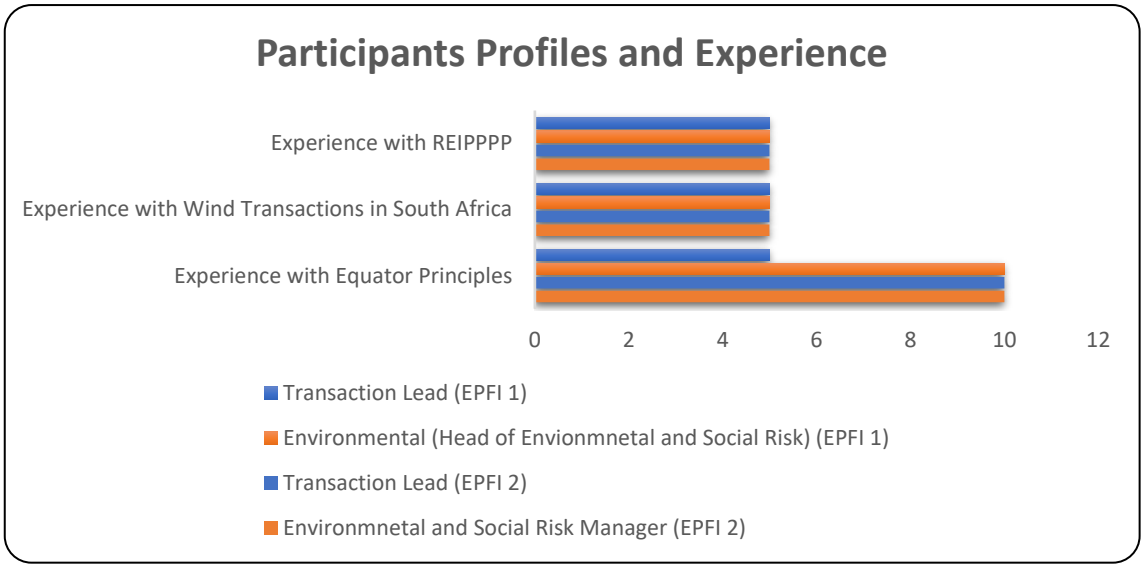


Figure 5: EPFIs Participants Profiles and Experience in EPs

The two (2) EPFIs selected represented the lenders who funded the selected two (2) wind projects. The participants had to have been involved in a Wind transaction, REIPPPP and EPs for minimum 0-2 years up to 10-above. A total of six (6) participants were selected with five (5) respondents, and for ease of reference the lenders are represented as EPFI 1 and 2 respectively (Fig 6). The respondents included two (2) Environmental Representatives (EPFI 1 Head of Environmental and Social Risk and EPFI2 Environmental and Social Risk Manager) and 2 Transaction Leads from both EPF1 and 2 with over 5 years' experience in working on project financing (EP), REIPPPP wind projects.

The Figure 7 and 8 below shows the profiles and experiences from of Project 1 and 2 participants which included the Head of HSEQ, Sustainability Analyst (social representative) and a Site Manager for Project Company 1 while for Project Company 2 the respondents included the Health, Safety, Environmental Specialist, Sustainability Manager (Social) and a Site Manager.

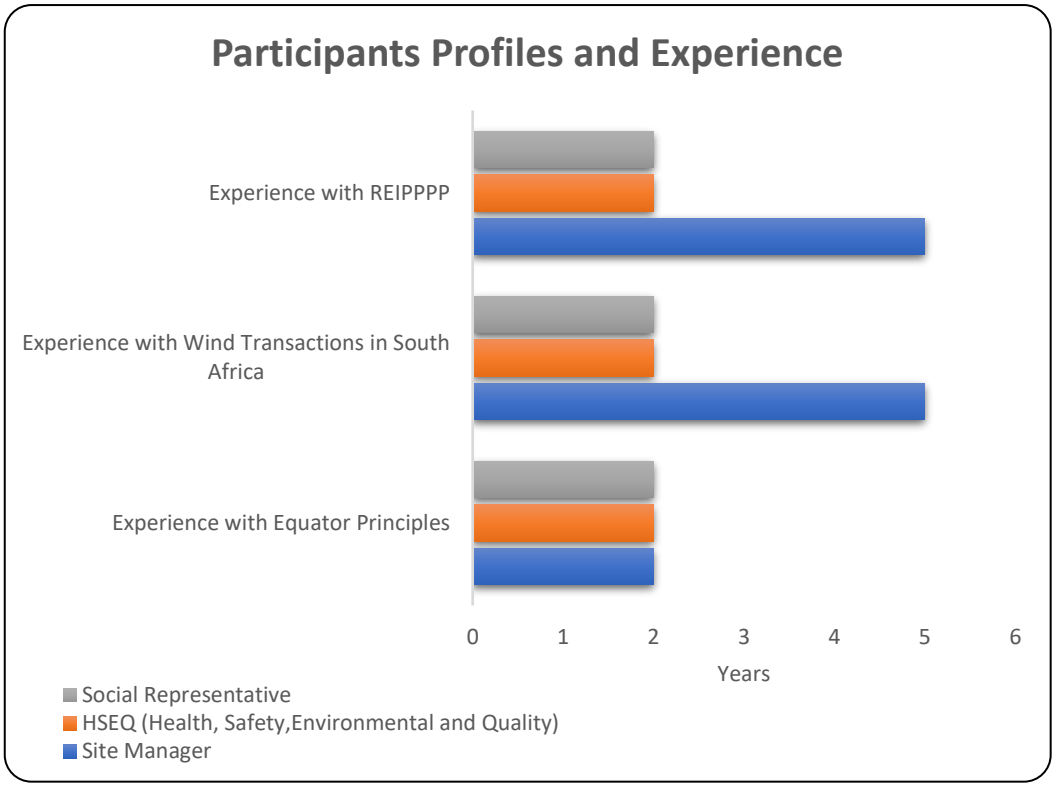


Figure 6: Project Company 1 Participants Profiles and Experience in EPs

The participants profiles and experience for the project companies are referred to as Project 1 (Fig 7) and Project 2 (Fig 8) for ease of reference. The participants had to have been involved in a wind transaction, REIPPPP and project financing (EPs) for minimum 0-2 years up to 10-above. There was 100 percent participation with a total of 6 participants with 3 successfully interviewed respondents for each project. The respondents included the Head of HSEQ, Sustainability Analyst (social representative) and a site manager for Project Company 1 while for Project Company 2 the respondents included the Health, Safety, Environmental Specialist, Sustainability Manager (Social) and a Site Manager. The Head of HSEQ and the Sustainability Analyst for Project Company 1 had a range of 5-10 years' experience in working on project financing (EP) REIPPPP wind projects while the Site Manager was quite new in the field and had 2 years and below. Project Company 2 had the HSEQ Specialist and Sustainability Analyst' experience in working on project financing (EPs) and REIPPPP at 2 years and below with the Site Manager experience at more than 5 – years in wind transactions and REIPPPP and 2 and below in working with EPs.

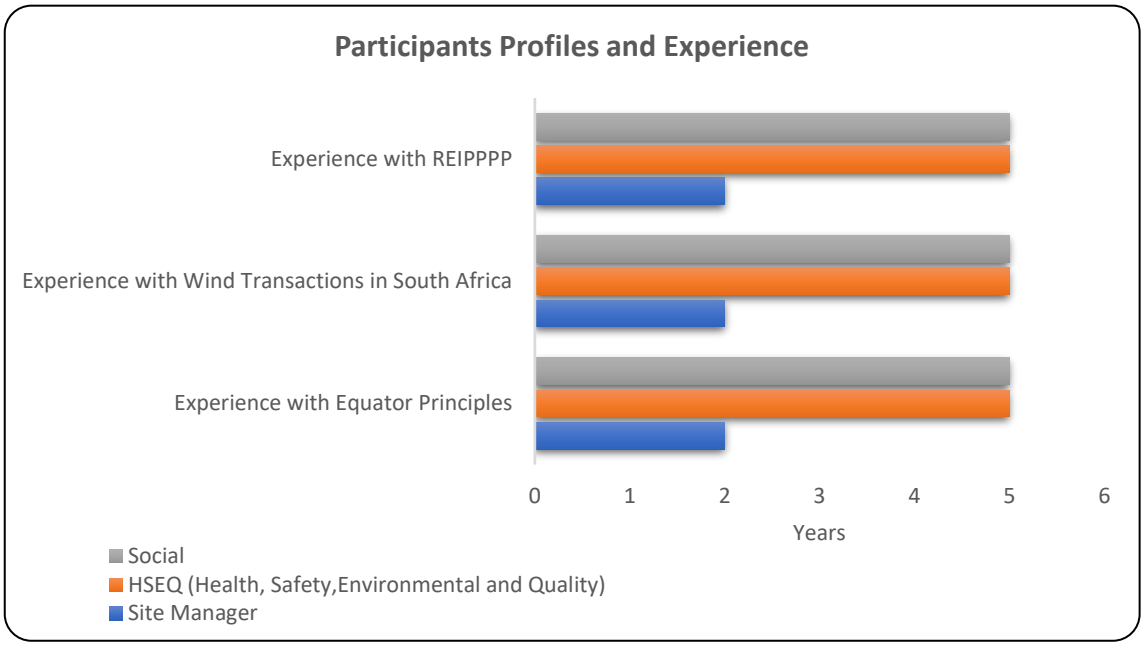


Figure 7: Project Company 2 Participants Profiles and Experience in EPs

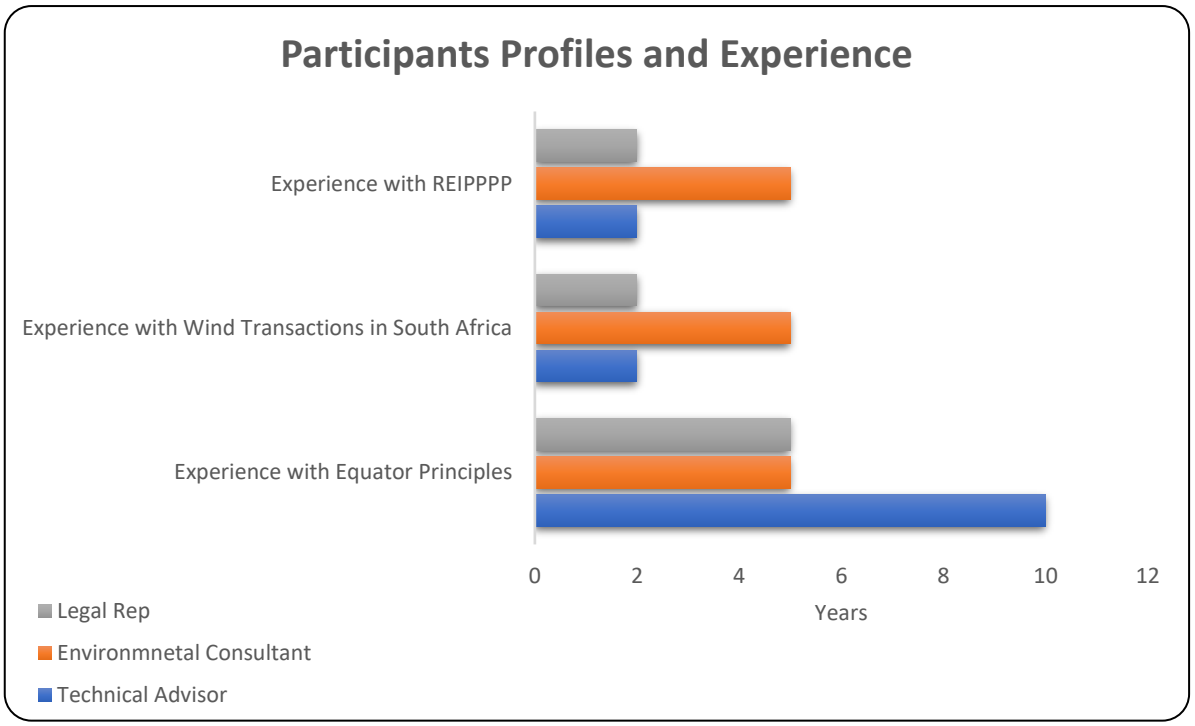


Figure 8: Independent participants profiles and experience in EPs

Similarly to the Project Companies and EPFIs, the independent participants (Fig 9) had to have been involved in Wind transaction, REIPPPP and project financing (EPs) for minimum 0-2 years up to 10-above and had to hold an independent position within Project 1 or Project 2 or both. The independence party means "*not influenced or controlled by others in matters of opinion, conduct*". There was a total of 3 respondents with 3 successfully interviewed participants. The respondents included the Project Company' attorney, EPFI 2 "Lender's Technical Advisor" and the Independent Environmental Consultant.

4.3 Categorisation of findings

The data that was collected through the interview process was organised into various themes. Below is the categorisation of the themes per research question followed by the discussion and alignment with literature.

Research Question	Main Themes
How do renewable energy operations project team members conceptualise and understand Equator Principles?	Limited understanding by the operational team members where they interpreted EPs as corporate sustainability or stakeholder management.
	EPs are understood and interpreted by EPFIs as central to performance.
	Independent parties revealed that EPs may be viewed as a tick-box exercise to appease EPFIs or close the projects while there is no understanding of what EPs environmental and social obligations are.
How do renewable energy operations team members implement the EPs to ensure the	Stakeholder coordination (internal within operational project team members);

adherence to the environmental and social obligations?	Clear process, roles and responsibilities for the successful implementation of EPs;
	Even with the voluntary nature of the EPs, project companies relied on local legislation to understand and implement EPs. The last theme under implementation would be the importance of the pieces of legislation and the role those legislations play and how it informs best practice of EPs.
	Stakeholder coordination (internal within operational project team members);
What are the challenges faced by the renewable energy operations team in ensuring that the implementation of EPs address the environmental and social obligations?	Capacity and Understanding of EPs
	Regulatory Confusion
	Reporting Duplication
	Communication Gaps between Corporate and Operational Levels
	Lender Liability and Financial Risks
	Different implementation needs at different phases on the project lifecycle.

Table 5: Theme Categorisations

4.4.1 Research Question 1

- *How do renewable energy operations project team members conceptualize and understand Equator Principles*?

The first objective of the study was, to establish the renewable energy project team's conceptualisation and understanding of the equator principles of environmental and social risks. This question was posed to all respondents from the two project companies, two EPFIs, and the 3 independent parties. The findings highlight a notable difference in understanding between these groups.

Project Companies' Perspective

The site managers and Health, Safety, Environment, and Quality (HSEQ) representatives, demonstrated varying levels of conceptualising and understanding of the EPs.

Site Manager (Project Company 1)

"I think specifically issues to do with environmental and social projects applications are attended by the corporate sustainability department or the companies that they are appointing, we call them the Stakeholder Relations Managers. With my experience from two to three years within this space, I don't think that the site team is adequately involved in terms of the implementation or understanding of these principles."

Is it corporate sustainability, is it stakeholder management, the site manager interpretation demonstrated limited or even lack of understanding of what the team considers EPs to be. It is evident in the response that EPs may be understood as a corporate sustainability duty or a key function for and by the stakeholder management. This limits EPs merely to social issues rather than the full responsibility for social and environmental risks to be managed under the objectives of the EPs.

The comment made by the Site Manager further confirmed lack of understanding not only by the project team members at the operational level but corporate as well. The non-integration and lack of communication by the operational team, corporate team and external parties in this case the stakeholder management team confirms this understanding gap.

The HSEQ Representative (Project Company 1)

The HSEQ representative also confirmed what the site manager observed by highlighting plainly that:

"Equator Principles are quite vast, and you find that the team understands a certain portion, but there are areas, especially on the environmental side, where they may not fully understand their part."

EPFIs' Perspective

On the contrary, the EPFIs showed a much stronger comprehension of the Equator Principles. These institutions demonstrated a structured approach to ensuring compliance with the EPs from the project's inception to its operational phase as published and guided in the EP documentation publicly available on their website. According to the EPFIs and as prescribed, the EPs are applied early in the project origination process to assess whether a project triggers the minimum criteria for applicability. These criteria include aspects such as the nature of the financial products, the tenure of the loan, and the environmental and social risks involved.

Head of E&S

"We have separate teams that understand EPs in detail, and from a basic principle. The commitment to social and environmental risk mitigation is central to the performance of projects we fund."

The core deliverable for any EPFI funding is ultimately performance of the asset or project in line with their requirements and in this case EPs. Performance is also pinned by an adequate understanding of what the project team members should be adhering to in detail. The important point made by the Head of Environmental and Social (E&S) further underscores the EPFIs' understanding of the Equator Principles and their systematic approach by the project team to ensuring adherence. With dedicated teams focused on the Equator Principles, these institutions prioritize social and environmental risk mitigation, which is central to the successful performance of the projects they finance.

In addition, understanding EPs at an inception or origination phase the under Principle 1, reflects a clear and structured approach to addressing environmental and social risks, ensuring that projects meet the necessary applicability criteria and align with the objectives of the Equator Principles framework.

Independent Parties

Independent parties, such as consultants and advisors, highlighted the importance of aligning the understanding of the Equator Principles with project realities. These independent parties often support the project teams in ensuring compliance with the principles by contextualising them for specific projects.

One independent party emphasised the need for more comprehensive education and guidance for project teams, especially those at the operational level, who may not fully grasp the broader scope of the EPs.

Environmental Consultant

“There’s a gap between compliance and understanding. Often, EPs become a tick-box exercise rather than a holistic, integrated approach. Consultants are brought in to help contextualize and guide teams through the necessary steps to ensure compliance, but this doesn’t always translate into deep understanding across all team members.”

Legal Representative

“It's more of a tick-box exercise. I've found that the focus is what the lenders want to incorporate into the facilities agreement or into the loan terms. We're just trying to appease the lenders so as to get to the closing.”

The findings reveal a concerning, gap between compliance and understanding of the Equator Principles (EPs) within the operational teams. There is a suggestion by both the Environmental Consultant and Legal representative that principles are often reduced to a tick-box exercise, with teams focusing on meeting the minimum requirements for the sake of the lenders rather than integrating the principles into their overall approach to environmental and social risk management.

There was a concern by the Environmental consultant that even in the presence of their technical support to the operations project teams, this support does not always lead to a deeper or even shared understanding among all team members. The challenge with this “crutch approach” is that lack of EPs understanding has the potential to breed implementation issues and therefore non-adherence to EPs.

Conclusion

The themes that were identified within Research Question 1 and to be discussed in the next chapter include:

- Limited understanding by the operational team members and interpreted EPs as corporate sustainability or stakeholder management.
- EPs are understood and interpreted by EPFIs as central to performance.
- Independent parties revealed that EPs may be viewed as a tick-box exercise to appease EPFIs or close the projects while there is no understanding of what EPs environmental and social obligations are.

4.4.2 Research Question 2

- *How do renewable energy operations team members implement the EPs to ensure adherence to the environmental and social risks**?***

The second question of the study was to explore how EP's environmental and social obligations, were being implemented by the renewable energy operations team to ensure adherence to the environmental and social risks. This question was also posed to all respondents from the 2 projects companies, 2 EPFIs and the 3 independent parties. The question served as a follow-up and provided probing on whether there was a direct or indirect correlation between lack of **understanding and implementation**.

The link between understanding and implementation of the Equator Principles (EPs) is important as it was already stated above that a gap exists in the understanding of the EPs among key operational team members, such as site managers and HSEQ representatives. In addition, the gaps in understanding pose a challenge where implementation process is fragmented between the operational teams including the corporate or head office support. This section explored how the renewable energy operations team members implemented the Equator Principles, took into consideration what was identified in the section above on understanding, and how this ultimately impacts adherence to environmental and social risk management.

Project Company

There was a clear correlation noted between lack of understanding and implementation. The operational team lack, or limited understanding also presented an internal stakeholder capacity challenge where the operational team members expressed that they were not empowered enough by the corporate colleague or construction colleagues to be able to roll out the obligations for the EPs at site level or during the operational phase of the project. There seemed to be no handover from construction to operations, clear communication specifically of EPs during operations or what roles and responsibilities the operational team on site had**.**

Site Manager (Project Company 2)

"I think it boils down to one or two questions, one being if the site-based team is fully conversant with what is required to be implemented then, it's easy to implement. If it's not shared with the operation team to indicate that these are some of the obligations that from a corporate level, we are required to implement then it will be much more difficult."

A contrast was presented by the EPFIs in terms of understanding the implementation process as well as the roles and responsibilities for implementation of EPs.

Principle 1 speaks to review and categorisation (Environmental Impact Assessment phase), central for the EPFI to decide whether the EPS are applicable, the roles and responsibilities of different internal and external stakeholders and to what extent. Principle 1 speaks to the applicability and thresholds within the funding scope showing proof of early and clear and systematic outline and process of understanding and implementing the EPs. There is a clear understanding on what the 1st step of implementation is with the EPFIs, that as well as the roles and responsibilities of each of the project team members to ensure adherence of the EPs. It affirms that with understanding, implementation is easier.

Environmental and Social Risk Manager

"What we really start off with in our origination process is to understand whether or not the Equator Principles are applicable to a particular deal. We check whether it's an applicable financial product, such as a project finance loan or corporate loan, and whether the project triggers the minimum requirements for EPs. The origination team and relevant consultant to be used are quite conversant with the process."

In addition to the stakeholder understanding on implementation, the project companies seemed to also have a process to follow which they were convinced was an approach towards the implementation of the EPs. The implementation approach raised three (3) concerns, the process the project companies are following, the roles and responsibilities of those implementing the EPs, as well as the confusion between regulatory obligations and those of the EPs.

Site Manager (Project Company 1)

"The principles are already implemented during construction, now it's just a matter of the operations. The SRM, PSC, and ECOs, are in place."

This "process" re-introduced a recurring theme which was first noted in Research Question 1 where there seemed to be confusion between industry best practices, legal compliance and adherence to the EPs. The sited process included the active participation of a number of external stakeholders (SRM, PSC, and ECO) in implementing EPs. For the purpose of understanding this process and whether it was relevant to the implementation of EPs, we explored the definition of these roles in their context.

SRM – "Stakeholder Engagement refers to IFC Performance Standards provisions on external communication, environmental and social information disclosure, participation, informed consultation, and grievance mechanisms. For the Equator Principles, Stakeholder Engagement also refers to the overall requirements described under Principle 5". Therefore in this context, an SRM is a role or function appointed by the funded projects to deliver requirements under Principle 5.

PSC – “A Project Steering Committee is a governing body of key stakeholders tasked with overseeing and supporting a project to ensure the attainment of its goals. Project steering committees are commonly known as stakeholder boards, senior leadership teams, project working groups, or project oversight committees”. A PSC is not a legitimate or legislatively recognised forum, the local or district municipality is ultimately the only legitimate and formal structure and projects should receive direction and guidance on whether the PSC is recognised or not and what the terms of reference are. In this context, the PSC as a legitimate forum is aimed to be one of the many vehicles for Principle 5 to manage stakeholders.

ECO – “The ECO is an independent quality controller and undertakes environmental inspections and compliance audits and compiles monthly audit reports”. In this context, an ECO is responsible for monitoring the Environmental Authorisation (EA) which is an outcome of Principle 2 Environmental and Social Independent Assessment. The important point here is that **the ECO is only appointed during construction and not operations.**

As mentioned above, there seems to be a misunderstanding from the site manager on what legal compliance, best practice and EP adherence is. There is also a disconnect the different phases of the projects versus the role of the construction and operational team members. From the definitions provided above we can summarise the following:

- The external stakeholders or roles are indeed applicable as part of the value chain to implementing EPs;
- The SRM is an important part of Principle 5 and can provide support functions in most of the principles where information sharing around projects is relevant; and
- The ECO is critical for Principle 2, however not relevant for the operational phase of the project.

Although there was not much noted with the respondents regarding the clear confusion when it comes to regulatory obligations vs EPs, it was the independent representatives and EPFIs that also noted this trend.

The environmental legislative framework in South Africa is sound, and frameworks for Environmental Authorisation (NEMA) monitoring applied through self-regulation mechanisms like EPs can help manage the environmental and social risks and adhere to EPs. The Environmental Authorisation together with the Water-use License are two of the key permits for any renewable projects depending on the impact so it is a legal requirement for the operational teams to be aware of these permits as well as monitor their compliance. Also, since the respective legislations are quite interactive in nature, most team members have participated in an audit for one of these permits. These two permits are also known to comprehensively cover and deal with matters of both environmental and social impact and hence they are confused with EPs.

Environmental and Social Risk Manager

"So, when it comes to just NEMA and the National Water Act (NWA), mostly on NEMA, these guys they know upfront, you know, what's the business case for environmental and social risk management and why they need to do and so the implementation of the EP requirements is an added layer as there are differences but so many similarities."

However, the Environmental Consultant emphasised this overlap as a key benefit by using the legislative overlap to meet the EP requirements or at least align with them. This is because in many cases, the environmental and social risks associated with renewable energy projects are already addressed through local legislation, such as the National Environmental Management Act (NEMA) in South Africa.

Environmental Consultant

"The environmental legislative framework in South Africa is sound, and frameworks for Environmental Authorisation (NEMA) monitoring applied through self-regulation mechanisms like EPs can help manage the environmental and social risks and adhere to EPs."

While the contrast of this confusion affirms lack of understanding of EPs implementation by the operational project team members, it also shows that from the independent representatives and EPFIs viewpoint this can also surprisingly assist the projects in meeting its obligations for EP implementation at some level. The roles of the internal and external stakeholder in achieving implementation at some level could not be ignored. While the ECO supports the implementation of the EPs only during construction, it was the site manager that highlighted this, insinuating that operations team members transition with the projects. The inclusion of the ECO services as those that supported

the project to meet the environmental obligation of the project confirmed this link between construction and operational phase. The same can be said about the SRM, this role is quite active during both the construction and operational phase and supports the projects in meeting social obligations which by default would assist the project in meeting the EPs.

Site Manager (Project Company 1)

"We appoint the Environmental Control Officer (ECO) and the Stakeholder Relations Manager (SRM), and they engage with the local community, identifying needs and establishing what we call Project Steering Committee (PSC) in a project so that the project can meets its environmental and social needs."

4.4 Conclusion

The implementation of the Equator Principles in renewable energy projects is a complex and multifaceted process. While EPFIs generally have a strong understanding and therefore easier comprehension of the EPs implementation, project companies seem to have experienced implications associated with lack of understanding. There were, however, advantages when it came to project companies' familiarity with the local legislations and implementation of EPs. The relationship as well as the roles and responsibilities between internal stakeholders and external when implementing EPs was also noted.

The themes that were identified within Research Question 2 and to be discussed in the next chapter include, note the first 3 themes are consistent directly or indirectly with those from Research Question 1:

- Stakeholder coordination (internal within operational project team members);
- Clear process, roles and responsibilities for the successful implementation of EPs;
- Even with the voluntary nature of the EPs, project companies relied on local legislation to understand and implement EPs. The last theme under implementation would be the importance of the pieces of legislation and the role those legislations play and how it informs best practice of EPs.

4.4.3 Research Question 3

- *What are the challenges faced by the renewable energy operations team in ensuring that implementation of the EPs addresses the environmental and social risks?*

The third research question of the study was to explore the challenges faced in the implementation of EP's environmental and social obligations by the renewable energy operations team. Themes already recorded in research question 3 highlighted confusion when it comes to EPs, local legislation and best practice with two more themes that were regarding the stakeholder coordination as it related to internal corporate team members and the operational team members. These themes were also picked up even in the interview phase, where it had seemed that implementation was indeed a challenge, nonetheless the research question 3 was still relevant to complete the observations as well understand if these themes were confirmed. The third question was also posed to all respondents from the 2 project companies, 2 EPFIs and the 3 independent parties.

As mentioned already another recurring challenge across project companies was the coordination of information or lack of effective communication between the corporate level and the operations team members which created implementation issues. One of the site managers noted that clear communication and instructions from corporate regarding roles and responsibilities. As a result, the implementation of the EPs was not consistently integrated into daily operations.

Site Manager (Project Company 1)

"I think if there could be a clear communication that is filtered down to operations teams to indicate the responsibilities specifically relating to the Equator Principles. If nothing has been communicated as in this case, there are certain areas you will definitely miss."

The Social Representative (**Project Company 1**) over and above the communication challenges, further cited that there were issues around organisational support and accountability within the value chain.

"Our company has dedicated departments that focus on environmental, social and sustainability but with this, no one takes ownership of a specific EP. There isn't an organizational positioning of some of these EPs or standards, and that's sometimes gets jarred in the context and in the implementation or practice."

Although project companies may have dedicated departments focused on sustainability, environmental, and social aspects, no one department or individual appears to take full ownership of EP compliance. This internal stakeholder fragmentation creates challenges in ensuring that EPs are fully integrated into the company's operations.

The **Social Representative (Company 2)** also added to these internal coordination challenges highlighting that:

"There are some mechanisms and levers that are used internally but how much they have cascaded and have synergies with the Equator Principles, I struggle."

In addition to what was raised in research question 2 around the overlap and confusion challenge with legislation and best practice versus implementation of the EPs, a new theme emerged, and this was regarding duplication of efforts in reporting.

Social Representative (Company 2)

"First one for me is the duplication in terms of environmental reporting and then the EPFIs Annual Monitoring Report, especially when the EPFIs prescribe information that is already contained in a different report to be included in a certain way."

This lack of coordination between different reporting systems seems to have resulted in further confusion, inefficiencies and potential increases the workload for the operations team (reinventing what they have).

The EPs are voluntary and self-regulated, whereas local legislation such as the **National Environmental Management Act (NEMA)** in South Africa provides mandatory compliance. This discrepancy often leads to confusion about whether the EPs are being met or if compliance It could also be in instances where the operational team members do not comprehend the requirements that the wheel is reinvented instead of integrating existing information.

In addition, EP implementation in its nature hinges on understanding the legislation, best practices and reporting, so reporting is central to your implementation. Principle 1-3 as foundational standards for implementation may consider existing reports that may or could be integrated to meet the EPFIs requirements on their reporting. Some project companies would not necessarily wait for funding to start with their ESIA (Principle 2) or Stakeholder Engagement (Principle 5) or even Principe 6, which is the grievance mechanisms. Although this may be the case, these documents terminology may not be consistent with the EPs and therefore contribute to this duplication.

The **Head of Social & Environment** emphasised same that project companies need to be able to interpret the local legislation and know how to use it as an advantage to meet the EPs, it ultimately the responsibility of the project companies to implement and adhere to the EPs, how they do it is their prerogative based on the guidelines provided or through local legislation.

"The challenge is when the project companies report on implementation, they sometimes refer to adhering to the EPs by virtue of meeting the requirements of the Environmental Authorisation or internal procedures, but it is always unclear if those meet the EP requirements, just the local regulations or both."

An additional challenge raised by the Environmental Consultant included the fact that in reality there is not much happening on renewable sites during operations as compared to construction or even development phase. So much emphasis is placed during development and construction phase where information has to be in place and boxes has to be ticked in order for the project to be developed, and funded. So there is in reality emphasis placed at different phases of the project and maybe why there are so many gaps on both the EPFIs and project company side.

Technical Lead (Project Company 1)

"Some of the developers, rush to finance an this is where you find that the project at preparation is not really ready, fully 100% ready to be EP compliant, it only met the regulatory requirements."

Head of Environmental and Social

“We have long list of requirements, so the project companies are happy to reach financial close, but it became difficult for the EPFIs to keep up with implementing all of those actions contained in the Action Plan or Condition Precedents (CPs).”

In addition, the Head of Environmental and Social highlighted that by-passing or focusing on closing projects is not to their advantage as it creates issues for the project companies to implements EPs during both the construction and operational phase.

Head of Environmental and Social

“If EPs are not met during the Financial Close phase, we keep on receiving lot of waivers. This start is a definite recipe for disaster for the implementation phase for a project that had never initially even fully met the EPs.”

The EPFI risk management also seeks to address liability as the financial risk is often tied to project performance of the project rather than the overall business’s creditworthiness. Given the non-recourse nature of project finance, the financial institutions rely heavily on the project's generated revenues for loan repayment. This raises concerns about the potential for loan defaults if a project fails to meet environmental and social obligations under the EPs, which may be caused by initial waivers where these project companies were always aided by EPFIs to meet the loan requirements but not independent enough to roll out the long and sustainable implementation strategy for the operational team.

The **Environmental Consultant** highlighted a very uncommon view, to say yes there project companies renewable energy operational teams may not understand or know how to fully implement the EPs that maybe the question should be asked on how much really can be implemented during the operations of the renewable energy farm. There are not many opportunities as compared to development and construction phase.

Environmental Consultant

“On most operational sites, you don't get the opportunities to implement most of these principles because I mean on an operational renewable energy site, there's not much happening and if there is, the team might just correct it if something goes wrong. So, I don’t think they understand what needs to be implemented. It’s not defined properly initially, and I think that's one of the biggest challenges.”

Conclusion

In conclusion, the implementation of the Equator Principles faces numerous challenges at the operational level. Key obstacles include a lack of capacity and understanding of environmental management systems, regulatory confusion, duplication in reporting, and insufficient communication between internal and external stakeholders as well the co-ordination thereof. Furthermore, the absence of clear ownership of EP compliance and the complexities of project finance contribute to weak implementation of the EPs, ultimately hindering effective management of environmental and social risks. These challenges underscore the need for better integration of EPs into both organizational practices and project finance structures, with greater clarity, communication, and accountability.

The following themes were identified as significant barriers to effective EP implementation:

1. Capacity and Understanding of EPs.
2. Regulatory Confusion.
3. Reporting Duplication.
4. Communication Gaps between Corporate and Operational Levels.
5. Lender Liability and Financial Risks.
6. Different implementation needs at different phases on the project lifecycle.

CHAPTER 5. DISCUSSION

5.1 Introduction

The purpose of this chapter is to discuss the findings of the study on the following 4 research questions:

- How renewable energy operations project team members conceptualised and understood Equator Principles?
- How do renewable energy operations team members implement the Equator Principles to ensure the adherence to the environmental and social risks?
- What the challenges were faced by the renewable energy operations team in ensuring that the implementation of Equator Principles addressed the environmental and social risk?
- Recommendations or remedies to the challenges to understand and implement the EPs environmental and social project obligations.

5.2 Demographic data analysis

Research (Nguyen, 2007) shows that EPFIs specifically, have made significant progress in understanding their responsibility from the inception of the EPs. It was through the theoretical lens by Hall (1997) and Agger (1992) where they found that publicly disclosed information by the EPFIs on the EP integration from 2003-2006 was shallow and did not explicitly report on the substantial environmental and social impact by the EPFIs (Andrew, 2007). However, it becomes very apparent that EPFI experience on the EPs has had time to evolve and it showed in the years of experience from all the EPFI respondents, all had a minimum of 5 years with interaction with project finance of renewable energy where EPs had to be implemented.

The majority of the EPFI participants had 0-2 years' experience with dealing with EPFIs, concerning was the actual site managers for both these projects that has less than 2 years' experience on implementation of the EPs. The EPFIs through the EP website and EP Association have a number of tools designed from its inception to ensure that they are implementing the EPs. These resources assist the EPFIs to understand their obligations and responsibilities and how to go about complying with those (EP, 2013). So, although the operational project team members may not have the tools and resources for EPs, none of the participants mentioned these resources, even from the EPFIs themselves.

The EP 4 2020 guidelines are clear on the requirement of the environmental consultant and lender's technical advisor participation for the relevant phase of the projects. Principle 1 deals with Categorisation for when a project is suggested for project financing on whether the project is category A, B or C. The EPFI will with the support of an environmental consultant or technical advisor evaluate Principle 2 to 10, supporting with EPFI' s due diligence and overall determination of the Equator Principles compliance (EP4, 2020). The EP4 guidelines are very specific on the procurement and experience of the advisors and consultants to be used by the client and these include the client ESIA Advisor which must be "*experienced with the requirements for ESIA as applied to Project financing, knowledgeable of the environmental and social aspects of the Project sector type and have a good understanding of the requirements of applicable national laws relative to the environmental and social assessments*". There is also guidance on the International ESIA Consultants with "*experience in the Project's host country, experience with the Project type/sector, Relationship/ collaboration with national consultants and experience with the implementation of the Applicable Standards*". The Host Country Environmental and Social Consultants are "*required where a national environmental assessment is required under law for Project permitting and approvals*" and therefore must have experience in the host country laws.

The experience with the Independent Parties on EPs was a minimum 5 years and max 10 years and above. Although the legal representative and lender's technical advisor had max two (2) years in the REIPPP space, the difference was just a different sector and mostly due to being less than 2 years in the organisation and role in the project team as well.

The above presented data is derived from reputable and experienced participants that were selected carefully through existing renewable energy projects in operational phase Therefore, the data is considered informed and reliable. In addition, and according to Von Soest (2023), having participants of sufficient experience and relevant qualifications in the subject matter strengthens or validates the correctness of the information they provide.

5.1 Main themes

5.2 Discussion of Research Question 1

The findings from this study highlighted critical differences in how various stakeholders project companies, EPFIs, and independent parties conceptualized and understood the Equator Principles (EPs). This section will discuss these findings in relation to the themes identified, while also contrasting these views, drawing inferences, and referencing key concepts from literature to support the analysis.

- ***Limited Understanding by Operational Team Members***

The first key theme identified is the limited understanding of the Equator Principles by the operational teams. The responses from the site manager and the HSEQ representative underscored that EPs are often seen as the responsibility of corporate sustainability or stakeholder management, rather than as a core operational requirement for managing environmental and social risks. This lack of understanding is particularly evident when the operational team perceives EPs as a corporate sustainability responsibility, relegating them to a narrow scope that mainly addresses social issues. The site manager's comment indicating that the team is not adequately involved in implementing or understanding EPs points to a disconnect between the operational and corporate teams. This mirrors findings in previous research that show a lack of integration between environmental and social risk management and the actual project execution phase (Brockington *et al*., 2018; Stephens & Searle, 2013). Interestingly, the HSEQ representative corroborates this view, highlighting that while some areas of the EPs are understood, others, particularly on the environmental side, are not fully grasped. This reflects broader challenges within industries where environmental and social sustainability principles are often viewed as an additional layer of complexity that does not always align with operational realities (O'Neill et al., 2020). The gap between understanding and application can often lead to ineffective risk management during the implementation phases of projects (Parker & Bullock, 2020).

- ***Stronger Understanding by EPFIs***

In contrast, the EPFIs (Equator Principles Financial Institutions) demonstrate a stronger and more structured understanding of the EPs. EPFIs employ dedicated teams to ensure compliance with the principles, and they are systematically integrated into the project lifecycle from the very beginning, during the origination phase. The Head of E&S from an EPFI emphasized that EPs are central to project performance and that a clear understanding of the principles is crucial for mitigating social and environmental risks.

This systematic approach aligns with best practices observed in financial institutions that prioritize the management of environmental, social, and governance (ESG) risks in their project financing (Noya & Lohre, 2019). By embedding EPs into the origination process, EPFIs not only assess whether projects meet the criteria for applicability but also ensure that the projects' environmental and social risks are assessed and managed upfront, thus minimizing risks to the lenders and the projects. The emphasis on the origination phase reflects a wider trend in financial institutions, which seek to manage ESG risks early to avoid costly delays or reputational damage later in the project (Aldersey-Williams & Esser, 2020). Thus, EPFIs' strong understanding of the principles helps them ensure that projects meet the environmental and social risk management standards outlined in the EP framework.

However, this clear and structured understanding at the financial institution level contrasts sharply with the operational-level knowledge gaps observed earlier. This misalignment raises concerns about whether operational teams are adequately prepared or equipped to adhere to the EPs, despite EPFIs' robust risk management protocols. According to Fraser & Liddle (2021), without operational-level buy-in and understanding, even the most comprehensive financial institution frameworks may fall short in ensuring successful implementation of environmental and social safeguards.

- ***"Tick-Box" Compliance***

Another significant theme identified by both independent parties (consultants and advisors) and project team members is the reduction of EPs to a “tick-box” exercise. This is highlighted by both the Environmental Consultant and the Legal Representative, who express concern that EPs are often treated as a compliance formality to meet the minimum requirements set by EPFIs, rather than as a holistic framework for managing environmental and social risks. The legal representative’s perspective, that EPs are a way to satisfy the lender’s requirements and finalize the project, suggests a superficial approach to the principles.

This theme echoes findings from other studies that show compliance-based approaches to environmental and social safeguards often result in minimal engagement with the underlying principles of the Equator Principles (Fitzgerald & Jay, 2017). The focus on checking boxes rather than integrating the principles into the operational fabric of projects has been linked to poor implementation and ineffective risk management (Jones & Stewart, 2019).

Furthermore, the Environmental Consultant underscores that even with expert guidance, operational teams often fail to fully understand the broader scope of the EPs, resulting in a disconnect between compliance and true risk mitigation. The reliance on external consultants to fill this gap might create a dependency culture, where operational teams do not develop their own internal understanding and capacity to manage risks independently (Parker *et al*., 2022). This highlights the danger of a compliance-driven mindset, where the importance of truly embedding environmental and social considerations into the project is diluted.

5.3 Discussion of Research Question 2

The findings of Research Question 2 provided critical insights into how renewable energy operations team members implemented the Equator Principles (EPs) to ensure adherence to environmental and social risks. In this section, we explore key themes, contradictions, and inferences drawn from the findings, linking them to Research Question 1 for greater context.

- **Stakeholder Coordination (Internal Coordination within the Operational Project Team)**

A recurring theme, consistent with Research Question 1, was the lack of internal coordination among operational team members. Respondents from the project companies indicated that limited understanding of the EPs led to fragmentation in the implementation process. This misalignment created a significant barrier, particularly during the transition from the construction to the operational phase. A site manager noted the importance of clear communication from corporate to on-site operational teams, suggesting that when EP obligations are not shared or clarified, implementation becomes difficult. While the project companies highlighted internal coordination challenges, the Environmental and Social Risk Manager from the EPFIs reported a strong internal process for understanding and implementing EPs. This shows that the lack of understanding and the subsequent challenges are more pronounced within the project companies compared to the EPFIs, who possess a better grasp of the process.

This lack of stakeholder coordination was found to be directly tied into Research Question 1, where it was noted that project companies struggle with understanding and aligning their operations with EP requirements. This was also in line with Chonco (2009) study, where one of the banks recognized that the limited understanding of social and environmental risks by stakeholders (both internal and external) potentially hindered the implementation of EPs. This was primarily because the risks were complex to measure and consequently, prior to implementing EPs, the bank encounters obstacles in persuading clients about the significance of embracing this preventive strategy.

The confusion between construction and operational roles further exacerbated the issue.

- **Clear Process, Roles, and Responsibilities for Successful EP Implementation**

One of the consistent themes in this research was that the EPFIs were all adequately aware of their EP roles and responsibilities. In the study conducted by Chetty (2019), it was possible for the entire group of participants to comprehend the sequence of steps involved in a specific operation. In this case, the EPFIs respondents explicitly stated the process from inception to operational phase. There was also a distinction made of how the EPs and related activities related to funding projects are managed. In pursuit for streamlined implementation, EP guidelines outline and provide step-by-step guidance on which steps the EPFI should follow (EP, 2020). The EPFI respondents affirmed that specific prerequisites are established prior to finalizing the funding agreement with the project companies where action plans are outlined. Additionally, the banks asserted that they enlist the help of Environmental Consultants to oversee and advise clients in compliance with EPs and local regulations.

For the project companies though the same was not the case, there seemed to be no adequate capacity on both the understanding and implementation of the EPS. A literature review in the field of the Equator Principles highlighted that the guidelines of the Equator Principles exist without appropriate accountability, monitoring and auditing systems (Worsdorfer, 2017). In Chetty 2019, it was found that all financial institutions maintain the belief that they have a legal obligation to ensure that any projects financed by the institution are environmentally and socially responsible. However, it was also unanimously agreed by all respondents that the financial institutions cannot bear sole responsibility for project outcomes. Instead, this responsibility is placed on the project company.

The operational team respondents provided some level of process they viewed was for implementing EPs and sighted issues regarding role clarity between the corporate and site based operational team members. As an example, roles such as the Stakeholder Relations Manager (SRM) and Environmental Control Officer (ECO) were mentioned as crucial for implementation, however there seemed to be confusion about their roles and responsibility across the project phases. A response from the site manager for Project Company 1 seemed to mix the obligations of the EPs with those of industry best practices, such as stakeholder engagement and environmental compliance. The site manager appeared to assume that roles like SRM and ECO, which are critical during construction, automatically carried over into the operational phase. However, these roles

were not always applicable or not pronounced once the project entered operations. This misunderstanding of role applicability and responsibility suggests a gap in the implementation process, especially concerning the operational phase.

This finding aligns with the confusion between regulatory obligations and EP adherence discussed in Research Question 1, where project companies struggled to distinguish between mandatory legal frameworks (e.g., NEMA, Water-use Licenses) and voluntary EP requirements. The overlap of regulations and EPs allowed some project teams to rely on the familiar legal framework to guide their actions, but it does not fully address the EPs' additional layers, which are often overlooked.

- **Reliance on Local Legislation to Understand and Implement EPs**

A critical theme under the implementation of EPs was the reliance on local legislation, particularly in South Africa, where the Environmental Authorization and Water-use Licenses align closely with the requirements of the EPs. This may also be due to the lack of compliance enforcement by the EPFIs at the operational level. According to Chetty 2019, while the cancelling of the loan was an option for the EPFI for a non-performing project or if the clients were found to be negligent, the preferred method was to engagement with the client and remedial action to rectify wrongdoings rather than resorting to taking a more punitive approach. None of the respondents from both the EPFIs and operational project companies mentioned cancelling the loan but rather mentioned efforts that the EPFIs and operational project companies would follow to remedy and rectify any negligence on their part.

In addition, several respondents from both the EPFIs and project companies acknowledged that local legislation, such as the National Environmental Management Act (NEMA), already covered many of the environmental and social risks addressed by the EPs. This overlap meant that some project teams could rely on these legal frameworks rather than fully embracing the EPs. While project companies seemed to rely heavily on local legislation to meet environmental and social requirements, independent respondents (e.g., EPFIs, Environmental Consultants) acknowledged the benefits of aligning EPs with these frameworks. They suggested that while there were similarities between the legal framework and EPs, the voluntary nature of the EPs required additional layers of compliance and management, which could be missed if the team relied solely on legislation.

This theme further connects with Research Question 1, where it was noted that the project companies often confused regulatory obligations with EP requirements. The overlap of local legislation and the EPs was both a challenge and a potential advantage. On the one hand, it simplified compliance for the operational teams, but on the other hand, it masked the need for a more systematic and comprehensive approach to the voluntary EPs. Schepers (2011) noted that the EPs are in need of reinforcement as almost it relies on passive monitoring where the project companies are responsible for their own compliance process, preparation of ESMP, ESMS, conduct their own stakeholder engagement and is responsible for grievance management (Sarro, 2012).

In addition to passive monitoring nature of the EPs, it was found that variation in capacity building and implementation, coupled with minimal disclosure, could potentially lead to criticism of EPFIs for inadequate industry performance. Similarly, Baloyi (2020) found that in South Africa, the EPs lack necessary resources such as capacity, policies, funds and structure. It was, Fonseca *et al*. (2017), Khosravi *et al*. (2018), Marshall *et al*. (2005) and Nadeem and Hameed (2010) who stressed the necessity of appropriate resources, including financial, technical, and human resources, in effectively managing an EIA system and its follow-up activities which would also benefit the understanding and implementation of EPs for the project companies. In addition, according to Thombre (2011), due to the significant role of the banking industry in providing financing for businesses and industries, it is necessary to create a sense of accountability and responsibility within the sector. This entails implementing stringent verification measures in order to minimise the potential risk of reckless lending practices and sense of compliance behaviour for project companies.

5.4 Discussion of Research Question 3

Research Question 3 delved into the challenges faced by renewable energy operations teams when implementing the environmental and social obligations of the Equator Principles (EPs). This question was posed to respondents from two project companies, two EPFIs, and three independent parties. Themes previously identified in other research questions, such as confusion regarding EPs, local legislation, and best practices, were revisited and confirmed in this stage. We discuss below, the themes identified, including stakeholder coordination and information gaps that emerged during the interviews.

- **Coordination and Communication Challenges**

A recurring challenge was the lack of effective communication between corporate teams and operational staff within the project companies, which resulted in inconsistent implementation of the EPs. Site managers expressed that clearer communication regarding roles and responsibilities was needed to ensure proper integration of the EPs into daily operations. Additionally, there was a suggestion that communication and handover be tied to KPIS of site manager as it will make it easier for the information to be filtered down and achieve the objectives for implementation of EPs. And this is the clear targets to say that it has to be achieved within a specific period of time.

Schepers (2011) also noted that variation in capacity building and implementation, coupled with minimal disclosure, could potentially lead to criticism of EPFIs for inadequate industry performance. Baloyi (2020) found that in South Africa, the EPs lack necessary resources such as capacity, policies, funds and structure. It was, Fonseca *et al*. (2017), Khosravi *et al*. (2018), Marshall *et al*. (2005) and Nadeem and Hameed (2010) who stressed the necessity of appropriate resources, including financial, technical, and human resources, in effectively managing an EIA system and its follow-up activities which would also benefit the understanding and implementation of EPs for the project companies. In addition, according to Thombre (2011), due to the significant role of the banking industry in providing financing for businesses and industries, it is necessary to create a sense of accountability and responsibility within the sector and their clients. This entails implementing stringent verification measures in order to minimize the potential risk of reckless lending practices.

- **Organisational Support and Accountability Issues**

While both the project company and EPFIs reported dedicated departments for environmental, social, and sustainability efforts, there was often no clear ownership of the EPs from the project company side. Hence it may have been this fragmented internal responsibility made it difficult to implement the EPs effectively across the organization.
Empirical studies have identified that while both project companies and Equator Principles Financial Institutions (EPFIs) often establish dedicated departments for environmental, social, and sustainability efforts, the absence of clear internal ownership of the Equator Principles (EPs) within project companies can hinder effective implementation (IFC, 2021; UNEP FI, 2022). This fragmented responsibility can lead to challenges in integrating EP requirements across organizational processes, resulting in inefficiencies and increased risk exposure (World Bank Group, 2018).

The Equator Principles Framework (EP, 2020) emphasizes the necessity for EPFIs to incorporate EPs into their internal environmental and social policies, procedures, and standards for financing projects. However, the onus is also on project companies to align their internal structures accordingly to ensure seamless adherence to EP requirements (Equator Principles Association, 2023). Case studies have demonstrated that projects with well-defined internal ownership structures for EP compliance tend to navigate environmental and social risk assessments more efficiently (IFC, 2020; KPMG, 2019). For instance, a project company that established a dedicated team responsible for EP adherence was able to streamline its environmental and social impact assessments, leading to more effective stakeholder engagement and timely project approvals (UNEP FI, 2022). Conversely, companies with fragmented responsibilities often faced delays and increased scrutiny due to inconsistent application of EP standards (World Bank Group, 2018).

This centralized approach can facilitate consistent application of EP standards within the internal organisation itself, improve communication between the EPFIs and project companies, and enhance overall project sustainability outcomes. By establishing clear internal ownership, project companies can better integrate the Equator Principles into their operational frameworks, ensuring more effective and efficient project development processes (Equator Principles Association, 2023).

- **Duplication of Efforts in Reporting**

Another theme that emerged was with regards to the duplication of reporting efforts. For example, and according to the operational team members, the same information was being requested for both environmental reports and EPFIs' annual monitoring reports, leading to inefficiencies and confusion within the operations team. This overlap was especially problematic when it came to reconciling EPs with local regulations.

Empirical studies have highlighted challenges in implementing the Equator Principles (EPs), particularly concerning the duplication of reporting efforts and the confusion between regulatory and lender reporting. While many reports emphasize that the misalignment of reporting frameworks leads to inefficiencies, some studies argue that the overlap is not inherently problematic, as regulatory and lender reporting serve different purposes and can be managed through integrated compliance strategies (World Bank Group, 2018; Sullivan & Jayanti, 2021). The Equator Principles Activity Report (2023) also provides case studies showing that companies often struggle to reconcile local environmental regulations with EPFIs' environmental and social due diligence requirements, leading to reporting fatigue and resource strain. However, some scholars argue that this challenge is often an issue of internal management rather than a flaw in the reporting requirements themselves. According to McKinsey & Company (2020), organisations that have well-structured internal compliance teams and data management systems experience fewer difficulties in aligning regulatory and financial reporting. This suggests that while duplication is a challenge, it may be exacerbated by poor internal coordination rather than the inherent structure of EP reporting.

Further complicating matters, the lack of standardized reporting guidelines exacerbates confusion (IFC, 2020; Sullivan & Jayanti, 2021). The Equator Principles Guidance Note (2020) underscores the need for EPFIs to integrate environmental and social compliance into loan documentation to ensure consistency and clarity. None of the project companies mentioned or referred to any of the EP available resources suggesting that they were even not aware of it.

In conclusion, while environmental regulatory reports and EP lender reports may contain overlapping information, their distinct purposes necessitate clear differentiation (Sullivan & Jayanti, 2021). Literature agrees that inefficiencies arise from this overlap, but some studies challenge the notion that duplication is the core issue, instead pointing to internal organizational weaknesses as a greater challenge which was the case with this study.

- **Challenges in Understanding and Implementing Legislation**

In South Africa, government mainly plays the role of a regulator in the renewable industry. The EP model is a voluntary framework that is not legally binding and relies on self-regulation at least by the EPFI. According to Mikadze (2012), it lacks minimum entry criteria and definite performance benchmarks. This aligns with the observation of this study where a key barrier to EP implementation was confusion over local legislation and the overlap between these laws and EPs. The discrepancy between voluntary EP requirements and mandatory local legislation often led to uncertainty about compliance.

Additionally, there is a lack of transparent and independently monitored metrics. The Principles do not establish any entitlements or responsibilities, therefore guaranteeing the absence of obligatory duties or penalties. The issue of lack of accountability is present at various levels: individual project, organisational, and institutional. O'Sullivan and O'Dwyer (2009) recognise this issue, stating that it has negative consequences for affected communities, local stakeholders, and EPFIs. Irresponsible business activities not only harm the legitimacy of financial institutions but also create a discrepancy between social values and current practices, potentially damaging the reputational capital of a company.

There may also be a contrasting view that operational project companies do not necessary take EPs seriously as there are no apparent consequences to non-adherence. For an example contravening a NEMA legislation can get the project a fine up to R10 million, imprisonment up to 10 years, administrative penalties such as compliance notices and cease orders and even civil liabilities including environmental management orders and civil claims (NEMA, 1997). While for EPs, there are no formal penalties and consequences are primarily reputational. Although there may be loss by project companies to access to EPFI financing, this is not a typical outcome and EPFIs are more inclined to support operational team members to meet their EP commitments.

- **Emphasis on Development and Construction Phases**

The respondents from the project company confirmed that development and construction phases of these renewable energy projects received more attention regarding EP compliance, while the operational phase often saw less focus. The development and construction phases of renewable energy projects have traditionally received more attention regarding Equator Principles (EP) compliance, while the operational phase often saw less focus. Studies agree with this observation that EP compliance is crucial during the initial stages of project development when risks are most visible and regulatory approvals are being sought but there was lack of follow-through in the operational phase, where risks are still present but are less immediate (IFC, 2021; UNEP FI, 2022). Additionally, the operational phase should not be neglected, as the sustainability of renewable energy projects is ultimately measured by their performance throughout their entire lifecycle, not just during construction. According to the Equator Principles Guidance Note (2020), EPFIs must consider incorporating post-construction environmental and social monitoring as part of loan agreements to ensure that sustainability is maintained over the project's operational life.

In conclusion, the respondents' confirmation on more focus during construction revealed a disadvantage during the operational phase which led to implementation gaps.

- **Lender Liability and Financial Risks**

In project finance, the SPE as the borrower, the project depends more on future profitability and loan repayment depends on the project itself rather than business credit (Yescombe, 2002). All these factors indicate that, in the worst-case scenario, lenders must be prepared for serious loan defaults. According to Papadopoulos (2009), project finance loans are a type of funding that is considered as non-recourse. This means that the lender relies on the generated revenues of a specific project as the main source for loan repayment. As such, there is a risk for lenders to not receive payment in case of project closure caused by social or environmental factors. This consequently highlights the importance of "lender liability," as stated by Conley and Williams (2011). Therefore, it's both risky and dangerous to for both the project companies and the lenders to have personnel that is not capacitated to manage the requirements and implementation of the EPs. To have personnel as important as a site manager, not capacitated enough to manage the EP requirements.

In addition, it is important to note that although EPs are voluntary in nature, the lender liability may still be considered under the National Environmental Management Act (NEMA), duty of care section. This section dictates that individuals must take measures to prevent or reduce significant pollution or degradation to the environment (Nupen *et al*., 2019). It is the responsibility of anyone who causes, has caused, or may cause such harm to comply with this duty by implementing corrective actions and the concept of "lender liability," which identifies those who can be held accountable for significant pollution or

Both the EPFI and project companies need to ensure adherence to the EPs (Hardenbrook, 2007) and efforts on both parties must be made. A project that leads to environmental harm could result in financial liabilities for the project company, affecting their loan repayment capability. Even more importantly for EPFIs as Coulson and Dixon (1995) argue that, due to the shift towards strict liability in environmental cases, EPFIs might be seen as having some level of oversight or influence on the actions of the borrowers, making them potentially liable in legal matters.

- **Limited Opportunities for EP Implementation During Operations**

The frequency of this theme was not adequate enough to elaborate on. There was however a focus point by the environmental consultant that there is a real lack of opportunities to implement EPs during operations.

CHAPTER 6. CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions and recommendations drawn from the study. This study revealed critical views into the implementation of Equator Principles (EPs) in renewable energy projects, highlighting significant gaps in understanding, application, and adherence of EPs among stakeholders.

6.2 Conclusion on the conceptualisation and understanding of EPs environmental and social obligations by the renewable energy operations team.

The purpose of the research question 1 was to explore the conceptualisation and understanding of EPS environmental and social obligations by the renewable energy operational teams. The study revealed that there was a fundamental lack of understanding of EPs and the implications of EPs non-adherence. While the EPFI considered the EPs central to performance, there was a limited understanding by project companies as they interpreted the EPs as corporate sustainability and confused its adherence to local environmental legislation. The independent parties agreed that there was lack of understanding by project companies and suggested that EPs were viewed as a tick-box exercise (Mace & Chen, 2010). As noted by Chetty (2019), this lack of understanding may undermine the effective risk management and adherence to environmental and social obligations. The gap in knowledge can also lead to reputational damage, particularly in contexts like the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), where compliance is crucial for maintaining stakeholder trust and securing future projects (Appiah-Opoku & Bryan, 2013).

The findings suggest that the operational teams, despite being directly involved in project execution, lack the necessary understanding of the Equator Principles to effectively integrate them into daily project activities. This gap is critical, as it can lead to inadequate risk management and potential failure to comply with EPs, resulting in reputational and financial risks for the project and financial institutions involved. On the other hand, EPFIs' detailed understanding and structured approach to managing environmental and social risks from the outset provide a stronger foundation for ensuring compliance (EP, 2024). The compliance of EPs lies with the EPFI while the obligation is passed on to the funded project under the loan agreement. As a result, there is an indirect responsibility on the project companies to adhere to EPs (Hardenbrook, 2007). From the onset the EPFIs

teams are arranged not only to focus on the operations of the project but to fully manage the project companies to ensure that the project does not default on the loan agreement which hinges on the environmental and social performance of the project. According to the Equator Principles Guidance Note (2020), EPFIs must consider incorporating post-construction environmental and social monitoring as part of loan agreements to ensure that sustainability is maintained over the project's operational life.

However, the disconnect between the EPFIs understanding and the operational teams' limited comprehension could undermine the effectiveness of the EPs framework and what the EPFIs are trying to achieve if not properly addressed. Literature revealed a number of tools that are available for the EPFIs to manage the implementation of EPs, the "Client" as referred to in these documents applies to the project companies. The clear responsibilities between the EPFIs and Clients and the responsibility of the EPFIs to the Client is also quite clear in these documents, however none of these documents were even mentioned by the respondents from the project company. The supporting documentation list includes, but is not limited to, the following:

- The Equator Principles Implementation Note;
- Guidance note;
    - To support effective consistent application of the equator principles;
    - For EPFIs on incorporating environmental and social considerations into loan documentation;
    - On the selection and scope of work for lender's independent environmental and social consultants;
    - For consultants on the contents of a report for an independent ESDD review
    - The equator principles association governance rules;
- Tools to enhance access to effective grievance mechanisms & enable effective remedy; and
- Good practice note for environmental & social agents.

Moreover, the application of these tools guidelines could support tendency of project companies to view EPs as a "tick-box" compliance requirement rather than a meaningful tool for risk management. The way EPs are perceived had direct impact on how project companies integrated them across the project lifecycle. The available resources (https://equator-principles.com/resources/page/2/) on the EP website could bridge the

gap for project companies on how to understand the EPs and locate their responsibility for effective implementation. This availability of adequate information also assumes that a comprehensive training by the EPFIs and awareness programs for operational teams to bridge the understanding gap and foster a deeper integration of the EPs into their daily operations (Wright & Shaw, 2020) could be beneficial in achieving the goal for managing environmental and social obligations.

6.3 Conclusion on how EPs environmental and social obligations are being implemented by the renewable energy operations team

Research question 2 sought to explore how environmental and social obligations are being implemented by the renewable energy operations team. The findings revealed a strong inference regarding the implementation of the EPs and lack of understanding by project companies in implementing the EPs.

According to the Equator Principle 4 (EP4, 2020), there is clear commitment by the EPFI to ensure that project companies understand and are committed to the successful implementation of EPs, "*Project Finance Advisory Services and Bridge Loans Where the EPFI is providing Project Finance Advisory Services or a Bridge Loan, the EPFI will make the client aware of the content, application and benefits of applying the Equator Principles to the anticipated Project. The EPFI will request that the client confirms its intention to adhere to the requirements of the Equator Principles when subsequently seeking long term financing.* ***The EPFI will guide and support the client through the steps required to apply the Equator Principles***". Yeomans (2015) reports that adherence with EPs cascade down from the EPFIs to borrower with much consequence potentially borne by the EPFIs, so it is in the best interest of both parties to ensure adherence of EPs.

As highlighted in the discussion, lack of understanding of the EPs by operational teams significantly hampered implementation thereof. This gap in understanding was particularly problematic when transitioning from development, construction to operations, where roles and responsibilities were not effectively handed over or clarified. It suggests that a clearer communication plan and better knowledge transfer between project phases are needed to ensure smooth EP implementation. According to World Bank Group, 2018, this fragmented responsibility can lead to challenges in integrating EP requirements across organisational processes, resulting in inefficiencies and increased risk exposure.

The other finding included the perceived and real overlap between local legislation and EP requirements which in this case helped ease implementation, especially because local regulations already addressed many of the environmental and social risks.

However, it must be noted that the EPs' voluntary nature also means there are additional obligations that go beyond legal compliance or are at the EPFIs discretion. For an example the Equator Principle 4, states the following: *"**Where the applicable standards are not met to the EPFI's satisfaction, the client and the EPFI will agree to an Equator Principles Action Plan (EPAP)**"*

The Equator Principle 4 states further to say:

For all Projects, where a client is not in compliance with its environmental and social covenants, the EPFI will work with the client on remedial actions to bring the Project back into compliance.

This is not the case with legislation where penalties are quite clear, the project is either in compliance of not with severe repercussions even for first time offenders.

In addition, even in the case where here is an overlap, the environmental and water legislations do not fully substitute the need for EP-specific actions. Therefore, for successful implementation of the EPs, project companies would still need to fully understand the distinctions between mandatory legal requirements and the additional expectations of the EPs for effective implementation. The limited applicability of some roles (i.e. ECO during operations) indicates a potential gap in how external stakeholders' roles are defined and ultimately consistently integrated into the lifecycle of the project for the benefit of EP implementation. The findings from Research Question 2 reveal that while some progress is made in implementing the EPs, significant barriers exist, particularly due to a lack of understanding and internal coordination. This challenge is compounded by the confusion between legal compliance and voluntary EP adherence, which many project companies face. However, there is also a recognition that the overlap between local legislation and the EPs can facilitate some aspects of implementation therefore benefiting the projects. Ultimately, the success of EP implementation depends on clearer communication, a more comprehensive understanding of the EPs' unique obligations, and a better coordination of roles across project phases.

An example is how ICO successfully integrated the Equator Principles into their operational Procedure. The procedure allows the user to identify different stages of the value chain, from Screening of the Project right up to Monitoring and Reporting which is the operational phase. It also outlines in every stage what EP should be adhered to, demonstrating that project companies can incorporate EPs into their processes. Another example is the PI Model Framework (http://www.unepfi.org/positive-impact/positive-impact/) an example of a model that aimed at implementing the Principles for Positive Impact Finance (PI). In this example, an effort by the UN Environment, the model uses project finance transaction and outlines the strategies for assessing both positive and negative impacts of projects as per EPs and outlines the clear process of how both EPFIs and the project companies can achieve correct implementation of EPs for their traction. The framework provides an example of step-by-step of a successful implementation that could benefit both, proving that efforts by EPFIs to share frameworks or step-by-step guide could support the project companies to implement EPs.

6.4 Conclusion on challenges faced in the implementation of EPs environmental and social obligations by the renewable energy operations team.

Research Question 3 examined the challenges renewable energy operations teams face when implementing the environmental and social obligations of the Equator Principles (EPs). The challenges identified were rooted in issues such as stakeholder coordination, communication gaps, unclear ownership, reporting duplications, and confusion around local legislation. Specifically, a lack of effective communication within project teams, where operational staff and corporate teams struggled to align on EP responsibilities, was a recurring challenge. Additionally, the absence of clear internal ownership and fragmented responsibility for EPs further complicated their implementation (IFC, 2021; UNEP FI, 2022). Duplication of efforts in reporting, especially regarding the overlap between local regulatory requirements and EP reports, added inefficiencies and confusion. Furthermore, the voluntary nature of EPs, as compared to mandatory local legislation, led to uncertainty regarding compliance, contributing to non-adherence (Mikadze, 2012; O'Sullivan & O'Dwyer, 2009). There was also a tendency to prioritize the development and construction phases of projects over the operational phase, neglecting the ongoing monitoring and compliance required throughout the project lifecycle (IFC, 2021; UNEP FI, 2022).

The lack of sufficient resources for EP implementation, as well as the absence of standardized reporting guidelines, further hindered progress.

In conclusion, the research highlights that while EPs provide a framework for managing environmental and social risks, challenges persist due to internal coordination issues, lack of ownership, and conflicting reporting requirements. To improve EP implementation, clearer communication strategies, well-defined roles, and centralized accountability within project companies are essential. Additionally, aligning reporting structures and enhancing internal capacity for EP management will help address these challenges, enabling smoother implementation across the entire project lifecycle. The lack of emphasis on the operational phase and the absence of formal penalties for non-adherence further highlight the need for stronger post-construction monitoring and enforcement mechanisms (World Bank Group, 2018; Sullivan & Jayanti, 2021).

The study concluded that the implementation of the Equator Principles in renewable energy projects faces numerous operational challenges. These include a lack of capacity and understanding of the EPs, regulatory confusion, reporting duplication, and communication gaps between corporate and operational teams. Additionally, the absence of clear ownership of EP compliance, issues surrounding project finance, and the differing needs at various project phases contributed to weak EP implementation. These challenges underline the importance of clearer communication, better integration of EPs into organizational practices, and a more consistent approach to project finance to ensure effective environmental and social risk management.

6.5 Recommendations

The following section offers recommendations to various stakeholders as arising from the study. The study underscored the need for effective implementation of the Equator Principles to ensure that renewable energy projects meet environmental and social obligations. Addressing the identified challenges and implementing the proposed recommendations will help EPFIs and project companies manage environmental and social risks more effectively, enhance compliance with EPs, and contribute to the sustainable development of the renewable energy sector. By taking a holistic approach to these issues, EPs can become a central element in project finance and management processes, driving both environmental sustainability and operational excellence. The following is recommended:

Recommendation 1 (R1): Enhance Financial and EP Literacy by develop targeted training programs for project companies to improve their understanding of financial principles, loan agreements, and the implications of default. This training should also cover EP requirements and the importance of compliance (Chetty, 2019; Appiah-Opoku & Bryan, 2013).

Recommendation 2 (R2): Integrate EPs into the Value Chain by addressing gaps in the value chain and improving communication and knowledge transfer between EPFIs and project companies. This involves creating structured processes for integrating EPs into project management and ensuring that all stakeholders understand their roles and responsibilities (Morimoto, 2012; Hardenbrook, 2007).

Recommendation 3 (R3): Capacity Building by both EPFIs and project companies where they invest in EP upskilling for both internal teams and project companies. This includes developing comprehensive support systems and resources to help project companies comply with EPs effectively (Nadeem & Hameed, 2010; Chetty, 2019).

6.6 Theoretical Considerations

Acheta (2017), emphasises that against the Equator Principles implementation are actors, interactions, activities, resources and covenants, he holds the view that institutional and stakeholder theories and the natural-resource-based view (NRBV) provide a reasonable platform to explain or inform Equator Principles implementation.

According to Barney 1991, the Resource-Based View (RBV) suggests that firms can achieve a competitive advantage by utilizing their unique, valuable, rare, and inimitable resources and capabilities. The findings in this study that there is lack of understanding provides an opportunity where the RBV could be used to identify the internal resources and capabilities that renewable energy companies can leverage from EPFIs to ensure effective EP implementation. There was a strong establishment of process and capability within the EPFI value chain, literature also demonstrated tools and guidelines as well as ongoing efforts in the financial space to support EPFIs implementation efforts, like the PI Model Framework and guidelines associated with EP4. This potential benefit to the project companies suggests that a stronger and more capable operations team is able to strengthen the whole value chain for not only understanding but effective implementation of the principles.

One of the challenges for the implementation of EPs was that core resources for the implementation was either not capacitated with knowledge and skill or confused the regulatory issues with the EPs. The resources critical for implementation of any framework and in this case, EP include human capital, company capabilities and institutional knowledge amongst others, which aligns with what could benefit the operational team based on the findings of this study.

Therefore, applying RBV can offer insights into how project companies use their internal resources whether human or organizational to effectively understand and implement the Equator Principles (EPs). It could also assist with identify strengths and weaknesses within both the value chains of EPFIS and project companies to companies to provide strategic value of internal resources, identify gaps and how to manage them. This approach could benefit the renewable energy operations teams and broader industry in dealing with EPFIs projects on how to integrate resources and collaborate for a more sustainable and effective management of EPs environmental and social obligations. This aligns to Wernerfelt's (1984), who introduced the idea that firm's resources are crucial in determining its strategy and competitive positioning and further suggested that companies should manage their resources in a way that maximizes their potential and can lead to superior performance in the long run. Ultimately the loan must be paid, and project companies must yield revenues.

6.7 Limitation of the Study

- **Secondary Data**

The purpose of the secondary data analysis was to gain a deep understanding of the research problem prior to conducting primary research (Kumar, 2011) as well as for triangulation purposes. According to Bowen, 2009, reviewing and evaluation of secondary data document assists with eliciting meaning, gaining understanding, and developing empirical knowledge. However, there are some disadvantages of secondary data methods is the validity and reliability of the data that may vary between sources (Kumar, 2011). However, what was more envisaged based on the literature review was the potential limitations in available data and therefore reliance was more focused on the collected primary data.

The focus of the secondary data was meant to obtain information like Environmental Reports and Equator Principle Implementation Reports via online platforms, through the banks' annual reports and environmental consultants' websites.

- **Limited Wind Projects in South Africa**

This research involved surveying of only two selected projects and limited to only one technology (wind) in the renewable industry and with a single IPP. As part of the REIPPPP process, there are only 34 wind farms spread amongst less than 10 IPPs or project companies (Ngam, 2024).

- **EPFIs and Disclosures**

As already discussed in this paper, most if not all IPPs are financed through project finance and commercial banks are not to be discounted; they took on notable debt in Kenya, Nigeria, South Africa, and Uganda. Out of the top five (5) commercial back Standard Bank Group, FirstRand Bank, Absa Group, Nedbank Group (https://www.equatorbanksact.org/equator_banks), with Investec Bank as an exception. There are three categories of EP Signatories, probationary, full affiliate signatories.

One of the limitations of the study was around the EPFI annual Reporting as per Principle 10 and Annex B of the Equator Principles, that EPFIs are required to submit in accordance with the Signatory Rules to the Office of the Equator Principles for publication on the EP website. Firstly, EPFIs report at different times in the calendar year (based on their institution's reporting period) and so these reporting pages are updated regularly. Secondly first time EPFIs are not required to report publicly in the first year after their Signing Date. They are also not required to include transaction numbers and project names in their public reporting, these reports are referred to 'First Year Implementation' reports. Lastly, EPFIs are not required to publish information, related to its institution or client, that could be financially or commercially sensitive, or where disclosure would violate applicable laws and regulations.

These reports are published on the EP website as provided by EPFIs. The Office of the Equator Principles does not carry out any form of assurance or verification of EPFI Reporting data, or of EPFIs' application and implementation of the Equator Principles.

- **The fact that EPFIs are not required to publish project information meant that the information required for secondary data was not available.**

The focus of using interviews as primary data does not render this study invalid. Although the use of a single data set may in itself present a limitation, Creswell (2014) highlights that when addressing a specific research question, a single data set can be effective. The focus on using only the interviews as a primary data allowed for an in-depth analysis and more insights on both the project companies, EPFIs and independent parties. While using a single dataset may seem limiting, it does not render the study invalid.

6.8 Future Research Suggestions

The study investigated two wind projects and two operational teams that included the EPFI financing the project as well independent parties that formed part of the operational teams from either side. Future research could aim at expanding the sample size to either include more projects in the same technology or a contrast in different technology such as teams from solar and wind (presenting team members for different technologies)

Qualitative method to analyse the data was used, another research avenue could be using a mixed-methods approach, combining qualitative interviews with qualitative data such as surveys or project performance metrics to explore in-depth stakeholder experiences could offer broader perspective.

Another area to be considered for future research could be exploring the value chain in the context of EP implementation from both the EPFIs and Project Companies. The entire value chain probe could, unveil how internal and external stakeholders interact at different stages of the project and where the critical implementation challenges between different phases of the projects occur. It could also provide an opportunity for the stakeholder to jointly work on an EP implementation simplified guidelines for the different stakeholders throughout the lifecycle of the project where. A focus on exploring the internal support systems to ensure handover processes of responsibilities for EP compliance with project companies and explore to what extent effective active training by EPFIs with existing EP published guidelines could support the project companies to implement EPs.

Lastly the role of environmental regulation in supporting the implementation of EPs as an intentional approach, i.e., embedding the action plans and collaborative efforts in the environmental reporting.

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APPENDIX A

EPFI Interview Guide

Nature and Purpose of the study

The implementation of the Equator Principles environmental and social obligations on renewable energy projects: An exploratory study.

Section A: Profile

1. Experience with Equator Principles

0 – 2yrs	3-5ys	5yrs - 10	10 and above

2. Experience with Wind Energy Projects transaction in South Africa

0 – 2yrs	3-5ys	5yrs - 10	10 and above

3. Experience with REIPPPP

0 – 2yrs	3-5ys	5yrs - 10	10 and above

Section B: Professional Capacity

EPFI Representative (Environmental) ☐

EPFI Representative (Social) ☐

Transaction Lead ☐

EPFI Representative (Legal) ☐

Section C: Questions

Please answer the following questions based on your knowledge and experience.

QUESTIONS
1. How do renewable energy operation team conceptualise and understand Equator Principles environmental and social project obligations?

2. How do renewable energy operation team implement the EPs to ensure the adherence to the environmental and social risks?
3. What are the challenges faced in ensuring that the implementation of EPs address the environmental and social risks?
4. What are the recommendations or remedies to the challenges of the Eps environmental and social project obligations by the renewable energy operation team?

Kindly provide a detailed suggestion or comment to substantiate your answers above:

Kindly provide any additional comments you think might be useful for the objective of this study?

Independent Parties Questions

Nature and Purpose of the study

The implementation of the Equator Principles environmental and social obligations on renewable energy projects: An exploratory study.

Section A: Profile

4. Experience with Equator Principles

0 – 2yrs	3-5ys	5yrs - 10	10 and above

5. Experience with Wind Energy Projects transaction in South Africa

0 – 2yrs	3-5ys	5yrs - 10	10 and above

6. Experience with REIPPPP

0 – 2yrs	3-5ys	5yrs - 10	10 and above

Professional Capacity

Environmental Consultant ☐

Lender' technical Advisor ☐

Legal Representative (Project Company) ☐

Section B: Questions

Please answer the following questions based on your knowledge and experience.

QUESTIONS	ANSWER

1. How do renewable energy operation team conceptualise and understand Equator Principles environmental and social project obligations?	
2. How do renewable energy operation team implement the EPs to ensure the adherence to the environmental and social risks?	
3. What are the challenges faced in ensuring that the implementation of EPs address the environmental and social risks?	
4. What are the recommendations or remedies to the challenges of the Eps environmental and social project obligations by the renewable energy operation team?	

Kindly provide a detailed suggestion or comment to substantiate your answers above:

Kindly provide any additional comments you think might be useful for the objective of this study?

Interview Guide (Renewable Energy Project)

Nature and Purpose of the study
The implementation of the Equator Principles environmental and social obligations on renewable energy projects: An exploratory study.
Section A: Profile

7. Experience with Equator Principles

0 – 2yrs	3-5ys	5yrs - 10	10 and above

8. Experience with Wind Energy Projects transaction in South Africa

0 – 2yrs	3-5ys	5yrs - 10	10 and above

9. Experience with REIPPPP

0 – 2yrs	3-5ys	5yrs - 10	10 and above

Professional Capacity

Environmental Representative

Social Representative

Site/Project Manager

Independent Rep

Section B: Questions

Please answer the following questions based on your knowledge and experience.

QUESTIONS
1. How do renewable energy operation team conceptualise and understand Equator Principles environmental and social project obligations?
2. How do renewable energy operation team implement the EPs to ensure the adherence to the environmental and social risks?

3. What are the challenges faced in ensuring that the implementation of EPs address the environmental and social risks?
4. What are the recommendations or remedies to the challenges of the Eps environmental and social project obligations by the renewable energy operation team?

Kindly provide a detailed suggestion or comment to substantiate your answers above:

Kindly provide any additional comments you think might be useful for the objective of this study?

APPENDIX B

ETHICAL CLEARANCE CERTIFICATES