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of **BUSINESS**  
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Comparative analysis of BNP Paribas' approaches to energy sustainability, security, and costs  
in France and South Africa

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by

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## **Abstract**

This thesis investigates BNP Paribas' approaches to sustainability, security, and energy costs in France and South Africa, comparing the bank's strategies in response to energy challenges. The research problem focuses on banks' challenges in creating consistent energy sustainability strategies across different regulatory and socio-economic contexts. The study aims to understand how BNP Paribas balances sustainability and profitability in these regions.

The research employs a qualitative methodology, using a comparative case study approach. Data was collected through interviews with key stakeholders and content analysis on secondary data, focusing on the bank's energy investment strategies, regulatory interactions, and responses to local challenges. The data was analysed thematically to identify patterns and differences in the bank's approaches in the two countries.

The study concludes that regional contexts influence the effectiveness of bank's energy sustainability projects. In France, BNP Paribas has taken advantage of a stable regulatory environment to promote renewable energies. They target 90% renewables in their portfolio by 2030, supported by policies like the European Green Deal. In South Africa, challenges such as coal dependency, regulatory inconsistencies and socio-economic complexities limit the bank's efforts. As a result, direct energy investments were reduced and its Johannesburg branch closed in 2024. Instead, BNP Paribas has turned its attention to stable African regions such as Morocco, aligning itself with its sustainability goals.

These findings contribute to the field of sustainable finance by providing insights into the complexities faced by banks in balancing sustainability and profitability. The study underscores the importance of context-specific strategies and the role of banks in promoting global energy transitions.

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## 1. Introduction

In an interconnected world grappling with escalating climate crises, human activities have been identified as the primary drivers of global warming (UN, 2022). According to the 2018 IPCC report, global temperatures are projected to rise by 1.5°C between 2030 and 2052 if current practices persist (Park & Kim, 2020). This alarming scenario underscores the urgent need for transformative changes across all sectors of society and business to meet emission reduction targets and mitigate the impacts of climate change. Among these sectors, the financial industry, and particularly large financial institutions like BNP Paribas, occupies a critical position in this global transition by directing investments toward sustainable and renewable energy initiatives (Reuter, 2025).

BNP Paribas has actively positioned itself as a leader in sustainable finance, frequently showcasing its commitments to green finance initiatives (BNP Paribas, 2022). However, this leadership image is not without controversy. Despite its public commitment to sustainability, the bank continues to provide significant funding to fossil fuel industries (LeMonde, 2024). A 2020 report revealed that 35 major global banks, including BNP Paribas, collectively financed fossil fuel companies with \$2.7 trillion since the adoption of the Paris Agreement (Park & Kim, 2020). This duality raises questions about the alignment between the bank's sustainability discourse and its financial activities. Moreover, regional inconsistencies in BNP Paribas' strategies, such as its aggressive investment in renewable energy projects in France compared to its cautious approach in South Africa, further illustrate the challenges of balancing global sustainability goals with local economic and energy realities. This study seeks to explore how BNP Paribas navigates the delicate balance between advancing sustainable development objectives and maintaining its broader financial imperatives.

Financial institutions have a strong influence in addressing climate change through their financial products and services, shaping the trajectory of global capital allocation (IMF, 2019). Banks are increasingly offering finance solutions such as green bonds, syndicated loans, and renewable energy project financing (Timperley, 2022). This growing trend aligns with a broader recognition of the financial sector's significant role in mitigating climate change by bringing investments toward low-carbon initiatives (Egli, 2020). By lowering the cost of capital for renewable energy projects, financial institutions can accelerate the transition to sustainable energy systems while addressing systemic risks posed by climate change (Briera, 2024). However, these institutions also encounter significant challenges (Timperley, 2022). Physical

risks coming from climate-induced disasters and transition risks associated with global shifts to low-carbon economies are increasingly scrutinized (Egli, 2020). The European Central Bank has warned that these risks may be disproportionately concentrated in specific sectors and regions, potentially destabilizing financial systems (ECB, 2021).

The energy sector continues to be a significant contributor to global greenhouse gas emissions, accounting for 15.18 billion tons of emissions from electricity and heat production in 2020 alone, making it the largest emitter globally (Ritchie, 2023). The transportation sector, emitting 7.29 billion tons, follows as the second-largest contributor (Ritchie, 2023). The exponential growth in global energy demand between 1950 and 2000, driven by a 3% annual growth rate, further emphasizes the urgency of transitioning to renewable energy sources (Heiligtag et al., 2017). With electricity demand projected to grow seven times faster than other energy sources, renewable energy has emerged as a cornerstone in meeting future energy needs (Heiligtag et al., 2017). In this critical moment, financial institutions, leveraging their vast resources and influence, play a pivotal role in driving renewable energy projects and contributing to the fight against climate change.

## **1.1 Research Area and Problem**

### **1.1.1 Context of the Research**

The financial sector plays a central role in the global transition to sustainable energy systems (Gonzalez & Nunez, 2019; Kaminker & Stewart, 2012). As one of the world's leading financial institutions, BNP Paribas has demonstrated a strong commitment to energy transition efforts (Rasoulinezhad & Taghizadeh-Hesary, 2022). However, its strategies differ significantly from region to region. This study examines BNP Paribas' approaches in two contrasting national contexts: France and South Africa. These countries provide a strong basis for analysis due to their significant differences in energy landscape, regulatory frameworks and socio-economic conditions (Malik et al., 2022; Shobande & Ogbeifun, 2021).

France, a developed country, is characterized by a well-established regulatory framework, a commitment to decarbonization and a dependence on nuclear power (Zimakov, 2019; Sekacheva, 2021). These factors create a relatively stable environment that allows BNP Paribas to promote renewable energy projects and align itself with EU's ambitious climate targets (Gonzalez & Nunez, 2019). On the other hand, South Africa's developing economy is heavily

dependent on coal. It also faces challenges such as energy insecurity, inconsistent policies and socio-economic complexities (Olanrewaju et al., 2013). This contrast highlights the adaptability BNP Paribas needs to respond to unique local conditions while maintaining its global sustainability goals. Overall, by comparing these two regions, this research offers valuable insights into the flexibility and limits of sustainability initiatives within the financial sector.

### **1.1.2 The Research Problem**

This study examines how BNP Paribas assesses and balances the importance of sustainability, energy security, and cost in its investment decisions in France and South Africa. These three factors are widely recognized as key drivers of investment in the energy sector, with sustainability aligning with global climate goals, energy security ensuring stability of supply, and cost determining feasibility and profitability of investments (Olanrewaju et al., 2013; Egli, 2020). As highlighted by Bădîrcea et al. (2023), these considerations are deeply interdependent and can often conflict, requiring financial institutions to develop nuanced, context-sensitive strategies. The literature has established that financial institutions can play a key role in accelerating the energy transition by reducing the cost of capital for renewable projects and diverting financial flows away from fossil fuels (Egli, 2020). However, recent evidence shows that banks' investment strategies are often shaped by region-specific regulatory, commercial and socio-economic factors (Bădîrcea et al., 2023). Despite some progress, there is limited empirical insight into how global banks like BNP Paribas weigh these factors in different national contexts, or how they navigate the trade-offs between profitability, sustainability, and regional development objectives (BBG, 2024).

By addressing this gap, this research aims to better understand the factors that influence BNP Paribas' investment decisions in France and South Africa. It will explore how regional economic, regulatory, and socio-political factors shape the bank's strategies and how these strategies contribute to broader energy sustainability goals. Ultimately, this research will contribute to a deeper understanding of the interaction between financial institutions, energy investments and sustainability considerations in different regional contexts.

### **1.1.3 The Significance/Importance of the Research**

This research holds significant importance for both academic and practical domains. From an academic perspective, it contributes to the fields of energy, climate change, and sustainability

by providing a comparative analysis of BNP Paribas' strategies in two distinct regional contexts (Gonzalez & Nunez, 2019; Kaminker & Stewart, 2012). This comparative approach enriches the understanding of how financial institutions can adapt their sustainability strategies to different regulatory, economic, and social environments, thereby contributing to the theme on sustainable finance (Rasoulinezhad & Taghizadeh-Hesary, 2022). For finance and banking professionals, this research provides practical insights into how BNP Paribas optimizes its operations and strategic decision-making related to energy sustainability, security, and cost-effectiveness in France and South Africa. The study highlights how financial institutions are adapting to regional challenges and opportunities, while addressing the broader tensions between profitability, regulatory compliance and sustainable development goals.

The global context of BNP Paribas' strategies also provides valuable lessons for policymakers. The research highlights how regulatory frameworks and socio-economic conditions can either enable or hinder sustainable energy financing (Olanrewaju et al., 2013). This information can contribute to the development of policies that support sustainable finance and encourage financial institutions to play a more active role in the energy transition (Deloitte, 2023). In addition, the research addresses corporate responsibility, influencing industry standards and contributing to the current discourse on environmental sustainability and the role of financial institutions in addressing climate change (BNY, 2023).

## **1.2 Research Questions and Scope**

### **1.2.1 Research Question, Feasibility, and Literature Review**

The primary research question of this study is: How is BNP Paribas addressing sustainability, energy security, and energy costs in its investment strategies in France and South Africa? To answer this question, the study is guided by the following objectives:

1. To analyze how BNP Paribas integrates sustainability, energy security and cost considerations into its investment decision-making processes in France and South Africa.
2. To compare the strategies and approaches used by BNP Paribas in each country, highlighting similarities and differences in response to local economic, regulatory and energy contexts.
3. To identify the key factors (regulatory frameworks, market dynamics, socio-economic conditions, etc.) influencing BNP Paribas' investment choices in both regions.

4. To assess the challenges and trade-offs that BNP Paribas faces when balancing profitability, sustainability and regional development objectives.
5. To contribute empirical evidence to the literature on sustainable finance by providing a case study of how a global financial institution adapts its strategies in contrasting regional environments.

The choice of BNP Paribas reflects its status as a global leader in sustainable finance, with a well-documented commitment to environmental and social responsibility (BNP Paribas, 2024). Its recent activities and presence in South Africa provide a relevant context for examining regional adaptation strategies within the financial sector. It should be noted, however, that the findings of this study may not fully capture the strategies or challenges faced by local South African banks, which operate under different regulatory, economic and social conditions. Therefore, caution is needed in generalizing the results to other financial institutions with less international reach or distinct strategic priorities. The aim is to understand both the variations and the adaptations made by BNP Paribas in response to the unique conditions present in each location.

The focus on sustainability, security, and energy costs as key factors is rooted in their growing significance within the banking sector. Business sustainability in banking refers to strategies and practices that ensure long-term value creation for both the institution and society by integrating environmental, social, and governance criteria into core business operations (Kaizen, 2023). For banks, this means not only complying with regulations but managing risks such as stranded assets and adapting to changing market expectations (Elderson, 2024). For example, BNP Paribas has adopted ESG screening in its lending and investment decisions and has set targets to phase out financing for coal-related activities. In addition, digital transformation is the process by which banks integrate digital technologies, such as artificial intelligence, across their operations to improve efficiency, transparency and sustainability outcomes (Finn, 2024). Digital transformation not only streamlines traditional banking processes but also enhances banks' ability to track and report on ESG metrics. For instance, BNP Paribas uses digital platforms to monitor the carbon footprint of its investment portfolios and offer green digital products such as online sustainability-linked loans (EY, 2023). This analysis focuses on electricity as a key part of the energy system due to its central role in sustainable economic development and its significant influence on investment decisions. Energy costs, on the other hand, directly influence the bank's investment behavior and decisions

(European Investment Bank (EIB), 2024). For example, high electricity prices can reduce the profitability of the bank's clients in energy-intensive sectors, leading BNP Paribas to invest in renewable energy projects that reduce costs and ensure more stable returns. Finally, while energy security remains a traditional concern of governments and utilities, banks like BNP Paribas are increasingly affected by supply disruptions experienced by their clients, which can damage credit quality and growth opportunities (BNP Paribas, 2022).

To answer this research question, qualitative methods will be employed. This will include semi-structured, in-depth interviews with key stakeholders within BNP Paribas, such as sustainability officers and regional managers. The aim will be to gather detailed insights into the bank's strategies and decision-making processes in both countries. Semi-structured interviews are particularly effective for exploring complex phenomena, as they allow for flexibility while maintaining a structured approach to data collection (Kvale & Brinkmann, 2009; Magnusson & Marecek, 2015). In addition to interviews, documentary analysis will be used as a complementary method. This will include examining BNP Paribas reports, policy documents and publicly available records to sort out the results and improve the contextual understanding of the bank's strategies (Bowen, 2009). Attention is taken to cross-check these sources with other independent data to avoid relying on corporate marketing materials and to ensure that the analysis is based on verifiable, objective information. This mixed qualitative approach ensures a comprehensive exploration of the research questions by combining participants' direct contributions with validated secondary data sources and enhancing the reliability and depth of the analysis (Ahmed, 2024).

### **1.2.2 Limits of the Research**

The scope of this research is limited to financial institutions' assessments of energy sustainability, security and costs in France and South Africa. Although the study provides valuable information on geographical variations, it does not extend to other regions of the world, which may limit the generalizability of the results beyond France and South Africa. The geographical focus on these two countries was chosen due to their contrasting energy landscapes, regulatory frameworks and socio-economic contexts, which provide a good basis for comparative analysis. However, this focus may neglect unique considerations in other regions, which could affect the wider applicability of the research findings. Another limitation of the research lies in its focus on three specific factors: sustainability, security and energy costs. These factors were selected as they are central to the strategic decision-making of

financial institutions in the energy sector, particularly when it comes to balancing profitability with environmental and social responsibilities. However, this narrow scope may exclude other relevant dimensions, such as technological innovation or social equity, which could provide additional insights into the broader energy transition.

In addition, this study is limited by issues of data sensitivity and access to interviewees. Relying on interviews with those directly involved in making decisions about energy sustainability, security and costs limits the scope of perspectives. It excludes the views of those responsible for implementing or receiving these decisions, which risks giving a top-down view of the bank's strategies. Also, difficulties in obtaining interviews with certain stakeholders, particularly in South Africa, may have an impact on the completeness of the data. These limitations must be considered when interpreting the results, as they may not fully reflect operational dynamics or regional variations in the energy strategies of financial institutions. This underlines the importance of interpreting the results within the specified context, while recognizing potential gaps in understanding the factors influencing financial institutions in the global energy landscape.

### **1.3 Research Assumptions**

The success of this research depends on several critical assumptions, each of which introduces potential limitations that could impact the results of the study. The first assumption is that interview participants will openly share detailed information about their investment decisions and strategies. Transparency from participants is essential to obtain complete and accurate data on BNP Paribas' strategies in France and South Africa. However, if participants are unwilling to provide information, or provide only limited information, the depth and reliability of the analysis could be compromised. This may lead to potential gaps in the understanding of the bank's approaches. Another important assumption is the ability of the research to consider and effectively navigate the cultural nuances, regulatory landscapes and financial practices specific to France and South Africa. There are challenges inherent in focusing geographically on these two very different regions, as cultural and regulatory differences can influence responses and interpretations. If these variations are not managed appropriately, they could affect the study's ability to draw valid, context-appropriate conclusions.

Finally, the ever-changing nature of the finance and energy sectors poses additional risks. For example, BNP Paribas' decision to withdraw from South Africa in 2024 shows how changing

market conditions, regulatory challenges and socio-political factors can lead to strategic changes (Breitenbach, 2024). This withdrawal not only impacts the bank's local operations but also the stakeholders involved in implementing and benefiting from these investment decisions (Breitenbach, 2024). This includes project developers, employees and local communities. Similarly, the war in Ukraine has had a profound impact on global energy costs, raising concerns about energy security and leading to significant changes in energy policies and financial strategies around the world (APNews, 2024). For example, the war caused a significant rise in fossil fuel prices, forcing countries to reassess their dependence on imports and accelerating the transition to renewable energies in some regions (APNews, 2024). Such changes highlight the importance of considering both strategic decisions and operational/social implications to provide a more comprehensive analysis. These dynamic factors underline the importance of placing research in a specific temporal context while recognizing the possibility that changing circumstances may influence results.

## **2. Literature Review**

### **2.1 Contextual Background**

Climate finance refers to the financial resources mobilized to support actions to mitigate and adapt to climate change, with funding coming from public, private and alternative sources at different levels (UNFCCC, 2020). The Paris Agreement, adopted in 2015, marked a turning point in global climate policy by establishing a collective goal of limiting global warming to well below 2°C (WRI, 2024). At the heart of the Paris Agreement is Article 2.1(c), which requires that financial flows align with low greenhouse gas emissions and climate-resilient development pathways (WRI, 2024). This agreement recognizes that the achievement of climate goals not only depends on government policy, but also on the large-scale redirection of capital by financial institutions towards sustainable investments (UNFCCC, 2020). As a result, financial institutions play a critical role in the global response to climate change by determining where and how capital is allocated (I4CE, 2019).

#### **2.1.1 Global Climate Change and its Implications**

The urgency of climate change mitigation has led to a fundamental restructuring of global energy systems, with financial institutions playing a critical role in financing and shaping this transition. Climate change, driven primarily by human activities, has emerged as one of the most significant challenges of the 21st century (Akhmedova, 2022). The accumulation of greenhouse gases (GHGs) in the atmosphere, particularly carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), has caused global temperatures to rise at an unprecedented rate (IPCC, 2021). Recent data show that CO<sub>2</sub> levels have increased by over 40% since the pre-industrial era, largely due to fossil fuel combustion, deforestation, and industrial activities (Van Aalst, 2006). This warming has led to devastating environmental impacts, including rising sea levels, melting glaciers, and increased frequency of extreme weather events, such as hurricanes, droughts, and floods (Pelling et al., 2022).

The consequences of climate change are disproportionately felt by developing countries, which often lack the financial and technological resources to adapt (Pelling et al., 2022). For example, sub-Saharan Africa faces significant vulnerabilities, including food insecurity and water scarcity, both of which are worsened by climate variability (Van Aalst, 2006). On the other hand, developed nations, while more resilient, still face significant risks to infrastructure, economies and ecosystems (IPCC, 2021). These disparities underline the need for globally

coordinated action and financing to mitigate the effects of climate change and transition to a low-carbon economy (Monasterolo, 2020).

Financial institutions, such as BNP Paribas, play a critical role in addressing these challenges by directing capital flows towards low-carbon initiatives (NOAA, 2022). This includes reducing the cost of capital for renewable energy projects and investing in energy-efficient technologies (Egli, 2020). Beyond corporate social responsibility, banks face direct financial risks associated with climate change, including physical risks from extreme weather events and transition risks linked to shifts in market and regulatory environments (Monasterolo, 2020). The ability of financial institutions to navigate these risks while supporting climate mitigation efforts positions them as key enablers of sustainable development (Monasterolo, 2020).

### **2.1.2 The Role of Financial Institutions in Climate Change**

Financial institutions act as pivotal intermediaries in the global energy transition, determining the direction and scale of energy investments (Flammer, 2021). Through mechanisms such as green bonds, project financing, and sustainability-linked loans, banks influence the development of energy infrastructure and foster the adoption of renewable energy systems (Flammer, 2021).

However, the dual responsibility of banks to maximize shareholder returns and support sustainability creates tensions (Reuters, 2025). While green finance is growing, institutions often continue to support fossil fuel industries, citing profitability and stability (Bolton et al., 2020). Such trade-offs highlight the need for innovative financial instruments that reduce the risks and costs associated with renewable energy investments. Central banks and regulators are also integrating climate-related risks into their supervisory frameworks, pushing private banks to adopt sustainable practices (ECB, 2021). For example, European Central Bank (ECB) guidelines encourage financial institutions to factor climate risks into their operations (ECB, 2021). This regulatory pressure, illustrated by initiatives such as the European Union's Sustainable Financial Reporting Regulation (SFDR), shows the growing importance of sustainable practices in finance (European Commission, 2022). In addition, societal demand for greener investments also highlights the transformative potential of financial institutions in the fight against climate change (TCFD, 2023). These measures oblige financial institutions to integrate environmental, social and governance criteria into their strategies and reporting. This

reflects the growing recognition of the sector's role in facilitating the transition to a low-carbon economy (UNEP FI, 2024).

### 2.1.3 The Energy Sector in France and in South Africa

France and South Africa represent two contrasting energy landscapes, providing a solid basis for comparative analysis. In France, the energy system is characterized by its dependence on nuclear power, which accounts for over 70% of the country's electricity production (IEA, 2021). This low-carbon energy source has enabled France to maintain one of the lowest per capita emissions rates in the developed world (IEA, 2021). However, the age of the nuclear infrastructure poses problems, including high maintenance costs and supply risks (IEA, 2023). France has made progress in diversifying its energy mix by increasing investment in renewable energy sources such as wind and solar power (European Commission, 2023). Policies such as the European Green Deal and the renationalization of EDF have reinforced France's commitment to achieving carbon neutrality by 2050 (Sekacheva, 2021).

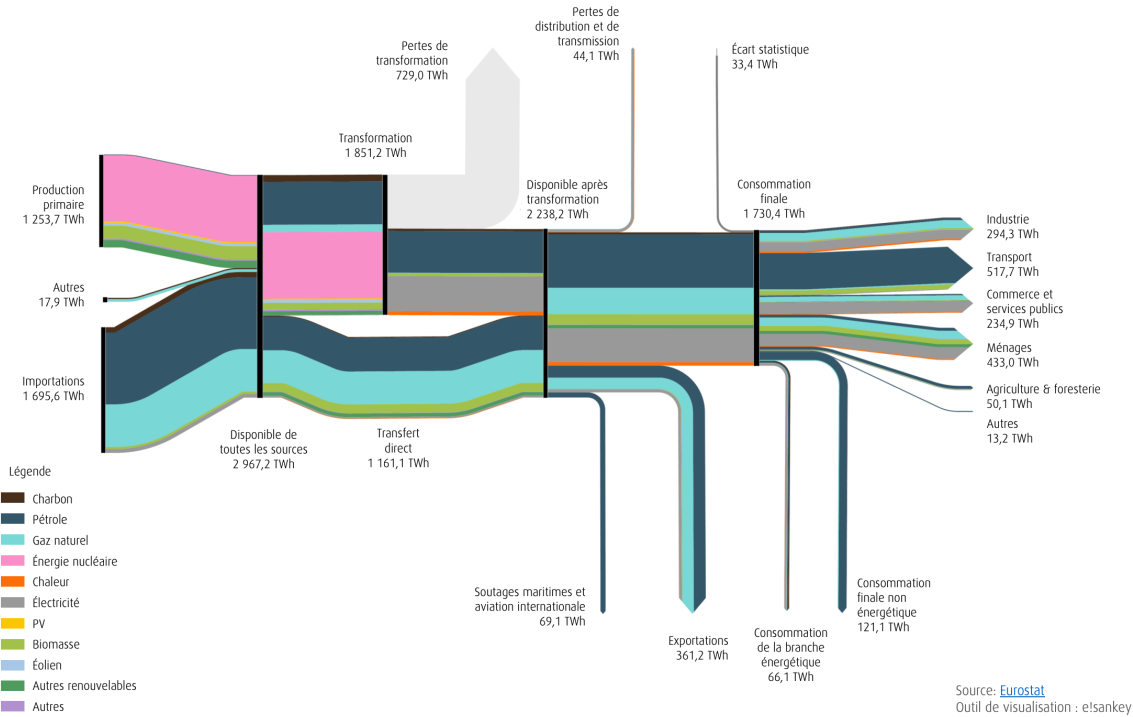


Figure 1- The French Energy System in 2022 (Ofate, 2024)

The Sankey diagram provides an overview of the French energy system, highlighting the central role of nuclear power (shown in pink), which accounts for a significant proportion of primary energy production and is fundamental to the country's low-carbon electricity mix. The diagram reveals considerable transformation losses of 729 TWh, mainly associated with persistent

inefficiencies in older infrastructures (IEA, 2023). Natural gas (light blue), oil (dark blue) and electricity imports also account for a significant share of France's energy supply, while renewable sources such as biomass, wind power and solar photovoltaics (shown in green, blue and yellow) contribute smaller shares, despite ongoing political support for their expansion. Energy consumption is divided mainly between households (433 TWh), transport (517.7 TWh) and industry (294.3 TWh), with each sector drawing on distinct energy sources. France's energy exports of 361.2 TWh underline the country's position as a major energy supplier in Europe. This heavy reliance on nuclear power underscores two key challenges: ensuring long-term sustainability and accelerating the adoption of renewables to enhance energy security and resilience.

In contrast, South Africa's energy sector is heavily dependent on coal, which accounts for nearly 80% of its electricity generation (DMRE, 2022). This reliance has led to the country having one of the most carbon-intensive energy systems globally (Climate Transparency, 2023). Persistent issues such as load-shedding, driven by Eskom's operational inefficiencies, have resulted in significant economic losses, estimated at over \$20 billion annually (CSIR, 2022). Efforts to diversify the energy mix through programs like the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) have faced delays and regulatory inconsistencies, limiting their impact (Baker et al., 2021). These challenges make South Africa a complex environment for sustainable energy investments.

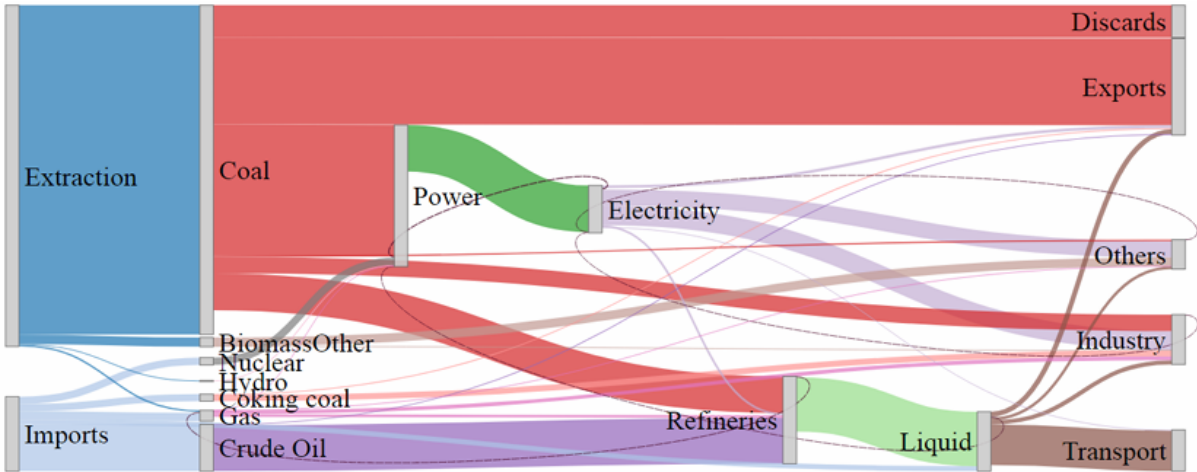


Figure 2 - The South African Energy System in 2015 (Hughes, et al, 2019)

The Sankey diagram of South Africa's energy system above reveals the country's major dependence on coal, particularly for power generation, which fuels key sectors such as industry

and the residential sector. Coal and crude oil are also refined into liquid fuels, which are heavily consumed by the transport sector. This dependence on coal and fossil fuels reflects South Africa's high carbon emissions and underlines the urgent need for energy diversification and the adoption of renewable sources to build a more sustainable system.

## **2.2 Energy Sustainability**

### **2.2.1 Foundations of Energy Sustainability**

Energy sustainability is a multidimensional concept that includes environmental, economic and social dimensions to ensure that energy systems meet current demands without compromising the ability of future generations to meet their own needs (Elliott et al., 2023). It seeks to balance the reduction of carbon emissions with the delivery of reliable and affordable energy, which requires integrating renewable energy sources, improving energy efficiency, and reducing dependency on fossil fuels (Elliott et al., 2023).

Financial institutions like BNP Paribas play a critical role in this transition. France's energy system, for instance, relies heavily on nuclear energy, which provides a stable, low-carbon electricity supply but faces challenges related to old infrastructure (IEA, 2023). To address these concerns, the French government has incentivized investments in renewable energy, such as wind and solar power, as part of its broader strategy for achieving carbon neutrality by 2050 (European Commission, 2023). These efforts align with the European Green Deal's ambitious goals, creating a favourable environment for financial institutions to expand their renewable energy portfolios (European Commission, 2023).

In contrast, South Africa's coal-dominated energy system presents significant barriers to sustainability. The high dependency on coal, coupled with socio-economic challenges such as poverty and unemployment, contributes to a policy environment characterized by inconsistency and lack of implementation. For example, delays in the Renewable Energy Independent Power Producer Procurement Programme between 2015 and 2019 created a significant backlog in renewable energy projects. Analysts estimate that up to 96% of load shedding during this period could have been avoided if the program had progressed as planned (Energy Capital Power, 2025). This lack of policy coherence and delays in execution have directly discouraged private investment in renewable energy, despite the urgent need for diversification of energy sources (Energy Capital Power, 2025). Financial institutions in South Africa face additional challenges,

including regulatory inconsistencies, making it difficult to support energy sustainability initiatives at the same scale as in France (Baker et al., 2021). These contrasting contexts illustrate that energy sustainability investments are heavily influenced by the enabling environment, primarily shaped by the presence (or absence) of supportive policy frameworks and effective implementation.

### **2.2.2 Role of Financial Institutions in Promoting Energy Sustainability**

Financial institutions, like BNP Paribas, play an essential role in promoting energy sustainability by determining which energy infrastructures will be built, and at what cost (Schmidt, 2015). Mechanisms such as green bonds, sustainability-linked loans, and renewable energy funds help banks finance projects that reduce carbon footprints while ensuring financial returns (Flammer, 2021). This financial support not only helps the achievement of renewable energy projects but also mitigates carbon emissions by prioritizing investments in energy efficiency (Shobande & Ogbeifun, 2021).

The role of financial institutions extends beyond individual projects, influencing systemic changes in energy markets (World Economic Forum, 2022). In France, stable regulatory frameworks and government incentives facilitate the use of innovative financial instruments to pool renewable assets and attract diverse investors (European Investment Bank, 2023). These tools lower capital costs and enhance the feasibility of renewable energy projects (Schmidt, 2015). Additionally, central banks and regulators, such as the European Central Bank, are advancing this trend by integrating climate risks into financial supervision and policies (Bolton et al., 2020). Private banks also play a pivotal role, contributing through tailored green banking initiatives and financial instruments that promote renewable energy development and a competitive green economy (Kaminker and Stewart, 2012). However, significant barriers persist. Institutional investors face challenges like information gaps and the limited availability of sustainable investment instruments, which blocks the broader adoption of these financial mechanisms (Rasoulinezhad & Taghizadeh-Hesary, 2022).

### **2.2.3 Role of Financial Mechanisms in Driving Energy Sustainability**

Innovative financial mechanisms are significant in addressing the challenges of energy sustainability by reducing risks and mobilizing capital for renewable energy projects (Deloitte,

2023). Instruments such as green securitizations, feed-in tariffs, and power purchase agreements have been effective in both developed and emerging markets (Schmidt, 2015).

For example, Germany's Energiewende program leveraged feed-in tariffs to accelerate renewable energy adoption by guaranteeing fixed payments to producers, reducing investment risks (Agora Energiewende, 2022). Similarly, Denmark's wind power expansion relied on coordinated financial and regulatory strategies to integrate renewables into the national grid (Lund et al., 2021). In developing contexts, microfinance initiatives like Bangladesh's Grameen Shakti program have enabled rural communities to adopt solar energy solutions, demonstrating how financial innovation can drive both economic development and sustainability (Yunus et al., 2020).

South Africa's REIPPPP demonstrates the potential of financial mechanisms to facilitate renewable energy adoption. By structuring competitive risk-sharing agreements, the program has attracted significant investment in renewable projects (Climate Policy Initiative, 2023). However, the lack of consistent policy direction and integration with national energy planning has limited its impact (Climate Policy Initiative, 2023).

## **2.3 Energy Security**

### **2.3.1 Defining Energy Security in the Global Context**

Energy security refers to the reliable and sustainable availability of energy at an affordable price to meet the demands of nations and regions (Umbach, 2010). Historically, it has focused on mitigating supply disruptions, such as those caused by geopolitical tensions or resource scarcity (Umbach, 2010). However, the concept has evolved to encompass a broader range of issues, including efficiency, affordability, environmental sustainability, and governance (Paravantis et al., 2018). Globally, energy security is central to economic development, societal well-being, and national security, particularly as the world transitions to sustainable energy systems (Paravantis et al., 2018). This multidimensional approach shows the complexity of global energy systems, where factors such as climate change, technological advances, and social equity shape energy security strategies (Sovacool, 2013).

Geopolitical events, such as the gas conflict between Russia and Ukraine in 2006, have highlighted the fragility of energy supply chains and prompted regions such as the EU to

diversify their energy sources and reduce their dependence on imports (Umbach, 2010). In addition, energy security now takes climate resilience into account, as the physical risks posed by extreme weather events directly threaten infrastructure and supply stability (Sovacool, 2013). The development of energy security indices has further expanded the concept, allowing countries to measure and compare their energy systems based on availability, efficiency, sustainability and governance criteria (Markovska et al., 2016).

### **2.3.2 Energy Security Challenges and Responses**

Modern energy security faces significant challenges, including climate change, declining fossil fuel reserves, geopolitical instability, and the uneven distribution of resources (Symons, 2012). These issues are particularly pronounced in non-OECD countries, where energy systems are often less diversified and heavily reliant on imports (Symons, 2012). For example, many developing nations depend on fossil fuels for economic growth, which makes them vulnerable to price volatility and supply disruptions (IEA, 2023). The reliance on coal in countries such as South Africa increases these risks, as old infrastructure and socio-economic dependencies complicate the energy transition (Earth.org, 2025).

Responses to these challenges include the diversification of energy sources, improvements in energy efficiency, and the integration of renewable energy systems (IEA, 2023). For instance, the European Union's REPowerEU plan aims to reduce dependence on Russian fossil fuels, accelerate the adoption of renewables, and strengthen grid resilience (European Commission, 2022). Decentralized energy solutions, such as off-grid solar systems and advanced energy storage technologies, also play a critical role in enhancing supply stability, particularly in rural or underserved areas (Blum & Legey, 2012).

### **2.3.3 The Role of Financial Institutions in Energy Security**

Financial institutions, such as BNP Paribas, are central to addressing energy security by shaping infrastructure development, enabling investment and stabilizing energy costs to individuals (European Investment Bank, 2022). Their influence extends to deploying renewable energy systems, improving grid resilience, and promoting energy efficiency (SEI, 2024). For example, the European Investment Bank (EIB) has played a significant role in financing renewable energy and storage projects aligned with the EU's REPowerEU strategy (EIB, 2022). However, financial institutions face challenges in addressing energy security, particularly in regions with unstable regulatory environments or limited access to capital (SEI, 2024). South Africa, for

instance, has struggled with regulatory inconsistencies that hinder long-term planning and discourage investment in renewable projects (Baker et al., 2021).

## **2.4. Energy Costs**

### **2.4.1 The Global Context of Energy Costs**

Energy costs significantly influence economic stability, industrial competitiveness, and household welfare (Sovacool, 2021). Globally, energy prices are shaped by various factors, including supply and demand dynamics, geopolitical events, regulatory policies, and the transition to low-carbon energy systems (IEA, 2023). Fluctuations in fossil fuel prices, particularly oil and natural gas, have historically driven energy cost volatility, creating financial risks for both developed and developing economies (Erdos, 2012). The recent global energy crisis, increased by the COVID-19 pandemic and geopolitical tensions, has highlighted the vulnerability of energy markets to external shocks (IEA, 2022). For instance, supply chain disruptions and increased demand for liquefied natural gas in Europe have significantly raised energy costs, leading to inflationary pressures worldwide (European Commission, 2022).

### **2.4.2 Energy Costs in France and South Africa**

France and South Africa provide different examples of how energy costs impact economic and social systems. In France, the energy sector is largely supported by nuclear power, which has historically provided low-cost electricity and reduced dependence on volatile fossil fuel markets (IEA, 2023). However, challenges such as old nuclear infrastructure and the costs associated with maintaining and upgrading plants have started to increase electricity prices (IEA, 2023). Electricity prices in France for medium-sized households have risen by around 115% over the past 14 years, demonstrating a manageable rate of increase (TradingEconomics, 2024). Despite these challenges, France's strong regulatory framework and emphasis on renewable energy development have mitigated some cost pressures, making the energy transition relatively stable and predictable (European Commission, 2022).

South Africa, by contrast, faces severe energy cost challenges driven by its dependence on coal, old infrastructure, and operational inefficiencies within its state-owned utility, Eskom (Earth.org, 2025). Over the past 15 years, Eskom's electricity tariffs have increased by approximately 937%, far outpacing the country's inflation rate of 155% during the same period (PowerOptimal, 2024). This adds financial pressure on consumers and businesses. Frequent

power outages and load shedding have not only disrupted economic activities but also increased the cost of doing business, as companies invest in backup energy solutions like diesel generators (CSIR, 2023). Additionally, the lack of consistent energy policies and investment in renewable infrastructure has hindered efforts to stabilize costs. These issues have disproportionately affected low-income households, increasing energy poverty and social inequalities (IEA, 2023).

### **2.4.3 Financial Institutions and Energy Costs**

Financial institutions play a critical role in managing and mitigating energy costs by financing infrastructure projects, developing innovative financial instruments, and supporting energy efficiency initiatives (World Bank, 2022; UNEP FI, 2021). Mechanisms such as green bonds and sustainability-linked loans allow institutions to lower the upfront costs of renewable energy projects, reducing overall energy expenses over time (Flammer, 2021). In France, banks like BNP Paribas have been amongst the first to conduct investments in renewable energy projects, such as offshore wind farms (BNP Paribas, 2023). These efforts are supported by favourable regulatory policies and government incentives that lower the cost of capital for green projects (European Investment Bank, 2023). By contrast, in South Africa, financial institutions face significant barriers to supporting energy cost reductions, including regulatory uncertainty and high investment risks (Baker et al., 2021).

### **2.4.4 The Socio-Economic Implications of Energy Costs**

High energy costs have far-reaching socio-economic implications, particularly for vulnerable populations and energy-intensive industries (IEA, 2023; Sovacool, 2021). For low-income households, rising energy prices can lead to energy poverty, where families are unable to afford basic heating, cooling, or electricity needs (Bouzarovski & Petrova, 2015; World Bank, 2022). This issue is particularly real in South Africa, where a significant portion of the population already lacks reliable energy access (IRENA, 2022). For industries, energy costs directly affect production costs and competitiveness, particularly in energy-intensive sectors such as manufacturing, mining, and chemicals (IEA, 2023). In France, industries benefit from relatively low electricity prices due to nuclear power, but rising costs associated with infrastructure maintenance and the energy transition pose future challenges (European Commission, 2022). By contrast, South Africa's unreliable and expensive electricity supply has led many industries to seek alternative energy solutions, increasing operational costs and reducing international competitiveness (CSIR, 2023).

## **2.5 Conclusions of the literature**

Overall, the literature review highlights the central role of financial institutions in determining energy sustainability, security and costs. While existing research highlights the mechanisms used by banks to promote sustainability, significant gaps remain in understanding the tensions between these three dimensions and how they influence financial decision-making. One notable gap is the lack of clarity about how financial institutions balance sustainability objectives with their financial returns, particularly in the context of energy security and costs. Banks may not directly prioritize energy security, but disruptions caused by energy shortages or high costs can affect their clients' profitability and loan repayment capacity, indirectly influencing the banks' risk exposure and investment strategies. Thus, these tensions arise from the financial impact on their portfolios rather than societal concerns, requiring a clearer articulation in existing research. For instance, while banks are increasingly aligned with global decarbonization goals, regional energy landscapes such as France's reliance on nuclear power and South Africa's dependence on coal pose unique challenges. These differences impact banks' bottom lines by influencing the risk-return profiles of their investments. In regions with stable energy policies and infrastructure, such as France, banks may find it easier to commit to long-term investments. Conversely, in South Africa, where energy instability can increase operational risks and reduce client profitability, banks must weigh higher risks against potential returns. These regional differences require strategies that account for how energy-related risks directly affect investment decisions and portfolio management. However, the literature provides only limited insight into how these complexities are overcome.

Ensuring sustainability, on the other hand, requires a shift towards renewable energies, which may involve higher up-front costs. Furthermore, the literature does not adequately present the role of financial instruments such as sustainability-linked loans in balancing these conflicting priorities. This study aims to address these gaps by examining BNP Paribas' strategies in two different contexts: France and South Africa. By examining how the bank assesses and balances energy sustainability, security and costs, the study seeks to provide a nuanced understanding of the decision-making processes underlying sustainable energy financing. The findings will contribute to the wider debate on sustainable finance by offering practical insights into how financial institutions can effectively navigate the tensions between these critical factors in various regional contexts.

### **3. Research Methodology**

#### **3.1 Research Approach & Strategy**

The study research question examined how BNP Paribas assesses and balances energy sustainability, security and costs in France and South Africa. A qualitative comparative case study-based approach was adopted to address this question, allowing for an in-depth exploration of BNP Paribas' decision-making processes within their specific contexts (Ambachtsheer, 2019). The research followed an inductive approach, focusing on generating theories from data rather than testing predefined hypotheses. This inductive nature reflected the exploratory aim of the study, seeking to uncover nuanced, context-specific insights into the bank's strategies in two distinct regions (Wiese et al., 2018).

An inductive approach allowed the development of data-driven theories consistent with the exploratory nature of the research (Creswell, 2013). This method facilitated a detailed understanding of the nuanced and context-specific dynamics shaping BNP Paribas' strategic decisions in the energy sector (Charmaz, 2006). A case study strategy provided the framework for examining BNP Paribas' sustainability strategies in the distinct energy and regulatory contexts of France and South Africa (Yin, 2018). This approach allowed for comparative analysis, offering insight into how the bank adapted its strategies to different regional conditions and challenges. Case studies are particularly effective for exploring complex phenomena such as sustainability-driven financial decision-making (Crowe et al., 2011).

#### **3.2 Research Design, Data Collection Methods, and Research Instruments**

The research employed a qualitative case study design, incorporating semi-structured interviews and document analysis as the primary methods of data collection. These complementary approaches enabled a comprehensive exploration of BNP Paribas' decision-making processes in both regions (Adams, 2015). The semi-structured interviews provided rich and specific information on the bank's strategies (Adams, 2015). This method offered the flexibility to delve deeper into a variety of topics, including cultural and socio-economic considerations (Kvale & Brinkmann, 2009). An interview guide (see appendix), developed from a literature review, enabled key areas to be covered systematically (Magnusson & Marecek, 2015). Open-ended questions allowed participants to develop their experiences and perspectives, ensuring a nuanced understanding of the factors shaping BNP Paribas' investments. The full interview protocol is attached as an appendix.

The use of semi-structured interviews to study decision-making and sustainability strategies within financial institutions is well supported in the literature. For example, Buchwald and Tretow (2023) conducted qualitative case studies using interviews with representatives of several banks to understand how climate scenarios influence strategic planning and risk management in the financial sector. Their study demonstrated that interviews gave nuanced insights into how banks internalize sustainability challenges and adapt their practices accordingly. Similarly, a qualitative study done by Magnusson and Marecek (2015) used interviews to explore how banks integrate sustainability into their strategic management. The interviews revealed detailed perspectives on the challenges and drivers of implementing sustainable finance. These two examples demonstrate the value of interviews for understanding complex, context-dependent strategies, and further justify their use in examining BNP Paribas' approach to energy and sustainability challenges across different regions.

Document analysis complemented the interviews by examining reports, policy documents and other organizational records, providing additional context and validating the interview findings (Bowen, 2009). This method was essential for triangulating data and identifying the wider political and regulatory factors influencing BNP Paribas' strategies (Bowen, 2009). Data collection focused on topics such as sustainability strategy, policy implementation, regional challenges, regulatory environments, stakeholder engagement and financial decision-making. The structured interview guide ensured interview consistency, while offering the flexibility to adapt to specific contexts (Magnusson & Marecek, 2015). Conceptual models, incorporating themes such as “sustainability strategy” and “regulatory influence”, were used to explore interconnections within sustainable finance (Barak & Levenberg, 2016). The use of multiple data sources and triangulation enhanced the credibility of the study, ensuring that findings were based on both primary accounts and documented evidence (Barak & Levenberg, 2016). This methodological framework provided a solid foundation for understanding BNP Paribas' strategies for addressing energy challenges in France and South Africa.

### **3.3 Sampling**

This research focused on a targeted population of key decision-makers within BNP Paribas operating in France and South Africa. These individuals were purposively selected based on their roles and expertise in strategic energy decisions, ensuring their insights directly addressed the research question. Purposive sampling, as outlined by Tongco (2007), was particularly

suited for this study as it allowed the intentional selection of participants with in-depth knowledge of the bank’s sustainable energy investments.

The participants represent a carefully selected subset of BNP Paribas employees, all from an energy-related department. This sample comprises seven individuals with varied roles, offering a multidimensional perspective on the bank’s policies and practices. Their insights were important to uncover BNP Paribas' strategies and challenges in the energy sector. Secondary data sources complement the interview findings, including articles published by BNP Paribas, as recommended by its representatives, and reports from governmental and non-governmental organizations. These secondary sources provided context and validation for the primary data, enriching the analysis. The following table details the roles, location and department of the seven employees within the energy department.

*Table 1 - List of Interviewees*

<b>Interviewee Number</b>	<b>Location</b>	<b>Role</b>	<b>Department</b>
1	France	Analyst	Sustainable Graduate Program
2	France	Managing Director	Corporates & Financial Official Institutions / West Europe, Americas, Africa & Emerging Markets
3	Portugal	Head	Sustainable and Strategic Innovation, focus on South Africa
4	France	Director	Energy, Resources and Infrastructure
5	France	General Director	Environmental, Social and Governance
6	France	Director	Social and Environmental Responsibility
7	France	Director	Energy Sector Teams

The table highlights the diversity in roles among the participants. It provides a holistic view of BNP Paribas' strategic and operational approaches in the energy sector. Each participant's unique expertise contributes to insights into the bank's energy initiatives and regional challenges. This diverse representation enhances the findings and shows how departmental strategies align with corporate goals. These insights form the foundation for the thematic analysis presented in the following parts. When some comments were not detailed enough due to privacy reasons, they had to be complemented with secondary data.

The participants identified had a significant influence on BNP Paribas' strategic energy decisions, such as Managers and Heads. By targeting these positions, the study was able to gather the views of those directly involved in the development and implementation of the bank's energy sustainability strategies. However, the sensitive nature of the subject and the seniority of the participants posed problems in obtaining responses. Energy-related decisions often involve confidential and strategic considerations, which made participants cautious about sharing detailed information. As a result, fewer interviews were carried out than originally planned. Nevertheless, the responses obtained were very valuable and provided context-specific information that matched the research objectives. The study prioritized the collection of rich, meaningful data from a carefully selected sample, rather than data saturation, to ensure depth and relevance. In addition, the closure of the South African subsidiary shortly before the data collection period posed significant challenges in obtaining perspectives from local stakeholders. As a result, the study had to rely on interviews with individuals overseeing the South African region from an external viewpoint. While these participants offered valuable insights into broader regional strategies and challenges, the absence of direct input from local players limited the ability to fully understand the specific contextual nuances, especially regarding operational barriers within South Africa.

To encourage participation, strategic communication techniques were used throughout the research process. Clear, transparent explanations of the research objectives and the importance of participants' contributions fostered collaboration and trust. Flexibility, confidentiality and ongoing commitment were emphasized to ensure a respectful and efficient data collection process. Specific measures included incentives such as recognition in the final publication and a summary of key findings to address confidentiality concerns. Interviews were conducted online via platforms such as Zoom or Google Meet, with each session lasting around 20-30 minutes. Despite reaching out to over 200 individuals, only seven ultimately agreed to

participate in a final interview. For participants who agreed to be recorded, interviews were transcribed using Microsoft Word's "transcribe" function. For those who declined to be recorded, detailed notes were taken during the interview and a summary of their responses was prepared immediately afterwards to ensure accuracy. To protect anonymity, participants' names were left out and pseudonyms were used (e.g. "Interviewee 1"). This combination of purposive sampling, strategic communication and flexible data collection techniques ensured that the research process respected participants' preferences while efficiently generating valuable information to answer the research question.

### **3.4 Data Analysis Methods**

Data analysis involved thematic analysis, a method specifically adapted to the identification of patterns and themes in qualitative data (Braun & Clarke, 2006). This approach identified recurring themes related to sustainability strategies, regulatory influences, socio-economic considerations and other factors influencing BNP Paribas' decision-making. Thematic analysis was chosen as it addressed the complexity of qualitative data and provided a structured framework to analyse the interview transcripts (Atlas, 2024).

The analysis was conducted in six phases as outlined by Braun and Clarke (2006). Firstly, familiarization with the data was achieved by repeated reading of the transcripts and detailed notes. For example, interview transcripts were read several times to ensure a full understanding of the content. Next, initial codes were generated to highlight significant features of the data. For example, one code included "energy security concerns", which included references to challenges such as frequent load shedding in South Africa and dependence on nuclear power in France. This code identified the influence of regional energy security issues on BNP Paribas' strategic decisions. In the third phase, the codes were grouped together to identify broader themes. For example, codes such as "energy security issues" and "regional regulatory challenges" were grouped under the common theme "contextual challenges". In the fourth phase, these themes were reviewed to ensure their coherence and relevance to the research objectives. The fifth phase involved defining and naming the themes to capture their essence, for example "socio-economic drivers". Finally, the sixth phase involved producing the final report, integrating the themes into a coherent narrative in line with the research objectives. NVivo qualitative data analysis software was used to facilitate data coding and organization. NVivo enabled visualization of themes, improving the transparency and accuracy of the

analysis. The use of NVivo contributed to the reliability of the research results by providing a detailed and well-documented audit trail of the analytical process (Bazeley & Jackson, 2013).

### **3.5 Research Criteria**

The proposed research design addressed key research criteria to ensure reliability and validity throughout the study. In terms of internal validity, the use of semi-structured interviews developed from an in-depth literature review, aimed to systematically cover aspects of sustainable energy investment, ensuring the depth and relevance of the data collected (Magnusson & Marecek, 2015). The inclusion of document analysis also strengthened validity, as it ensured that ideas did not depend only on interview responses, but were corroborated by other sources (Yin, 2018).

External validity was ensured by the case study design, which, while not generalizable in the statistical sense, allowed the results to be applied to similar contexts (Woolcock, 2013). Additionally, qualitative research criteria such as transferability, dependability, confirmability, and authenticity were considered (Ali & Yusof, 2011). Transferability was achieved by providing a rich description of the research context, methods, and findings, allowing readers to evaluate the applicability of the findings in other scenarios. Dependability was also ensured by maintaining a well-documented and transparent research process. Confirmability was maintained by keeping a chronological history of data collection and analysis procedures, allowing for an independent review of the research process. Authenticity was emphasized by presenting the perspectives of decision-makers accurately, without manipulation or alteration, ensuring that the research findings reflect the true views of participants.

### **3.6 Research Ethics & Limitations**

To ensure compliance with ethical principles, several measures were implemented to mitigate potential ethical issues and protect participants throughout the research process. Confidentiality was rigorously maintained by securing all sensitive information shared by key decision-makers, ensuring that data is accessible only to the researcher. Anonymity was preserved using pseudonyms when presenting individual responses, minimizing the risk of disclosure and protecting participants from any unintended consequences. Additionally, data storage followed strict security protocols, ensuring no unauthorized access.

Informed consent was the key to the ethical approach. Participants received comprehensive consent forms describing the purpose of the study, the voluntary nature of their participation, their right to withdraw at any time, and assurances that their responses will remain confidential. In addition, participants were informed of how data will be used and stored securely, to address concerns about data confidentiality. Several strategies were employed to mitigate the impact of the research design. Although the qualitative nature of the study meant that results may not be statistically generalizable, purposive sampling was necessary to obtain in-depth information from well-informed participants (Palinkas, 2013). To address potential sampling bias, efforts were made to include participants with different roles and perspectives to ensure a balanced understanding of BNP Paribas' strategies. In addition, the study recognized that the geographical focus on France and South Africa may limit the applicability of the results to other contexts. To address this, cultural and regulatory differences were carefully considered during data collection and analysis that allowed the results to be interpreted in their specific context.

## 4. Research Findings

### 4.1 Introduction

This chapter presents the results of research into BNP Paribas' approaches to sustainability, security and energy costs in France and South Africa. The findings are based on data collected through 7 semi-structured interviews and document analysis. The focus is on the key themes of energy sustainability, energy security and energy costs, as well as the impact of BNP Paribas' strategic decisions in these areas. The comparative analysis highlights differences and similarities in the bank's strategies in the two countries, providing insight into how regional contexts influence the financial institution's decision-making processes.

Each section presents the key findings related to these themes, supported by direct notes from the interviews and relevant contextual information. The objective is to provide a comprehensive understanding of how BNP Paribas navigates the complexities of sustainable energy investment in two distinct national contexts, and the implications for its overall strategy. The results show that BNP Paribas is placing increasing emphasis on investment in renewable energies in France, to raise the share of renewable energies to 90% of its energy portfolio by 2030. This strategic direction is largely influenced by regulatory incentives, public pressure and the relative stability of the French energy market. In South Africa, on the other hand, BNP Paribas has chosen to reduce its direct energy investments, citing the challenges of coal dependency, frequent load shedding and complex regulatory and socio-economic factors. This strategic withdrawal reflects the bank's assessment of the high operating costs, regulatory risks and difficulties in achieving financial viability in the region.

### 4.2 Coding Table

The coding table derived from these interviews can be seen below:

*Table 2 - Coding Table*

<b>Theme</b>	<b>Codes</b>	<b>Examples from data</b>
Contextual Challenges	Regional regulatory challenges	"The regulatory inconsistencies in South Africa make long-term planning a major challenge for us." (Interview 3)
	Energy security concerns	"Frequent load-shedding impacts the feasibility of energy projects,

		particularly in South Africa." (Interview 2)
	Socio-economic constraints	"The socio-economic reliance on coal makes transitioning to renewables difficult in South Africa." (Interview 3)
Adaptive Sustainability Strategies	Decarbonization initiatives	"In France, BNP Paribas has committed to reaching 90% renewable investments by 2030." (Interview 1)
	Sustainability innovation	"Our exploration into green hydrogen projects is an example of our commitment to innovative solutions." (Interview 1)
Socio-Economic Drivers	Local economic development	"We prioritize projects that can generate local jobs and bring regional development." (Interview 4)
	Stakeholder alignment	"Aligning with both public and private stakeholders is critical for ensuring project viability." (Interview 5)
Financial Constraints	Funding limitations	"Securing long-term funding for renewable projects remains one of our biggest issues." (Interview 2)
	Risk aversion	"We tend to avoid high-risk regions without stable political or economic frameworks." (Interview 3)
Regulatory Adaptation	Policy alignment	"Complying with strict EU policies is a significant but

		manageable challenge in France." (Interview 6)
	Compliance challenges	"Navigating the lack of clear policy direction in South Africa was too resource intensive." (Interview 3)

The themes and codes presented in this table were derived directly from the interview data collected using the semi-structured interview protocol. This protocol included targeted questions under three broad categories: energy sustainability, energy security, and energy costs. For instance, the question "What are the primary challenges your organization faces when implementing sustainability strategies in South Africa?" informed the codes "regional regulatory challenges" and "socio-economic constraints." Similarly, the question "How does BNP Paribas ensure that its investments are secure while remaining competitive in such a fast-moving sector?" contributed to the theme "energy security concerns."

**4.3 Key Themes and Findings**

**4.3.1 Energy Sustainability Strategy of BNP Paribas**

BNP Paribas' energy sustainability strategy aims to align its financial activities with global sustainability goals, focusing on renewable energy investments, minimizing environmental impact, and considering regional differences. The bank's strategy demonstrates a nuanced understanding of local contexts, as it seeks to balance sustainable development objectives with financial viability and stakeholder engagement.

**4.3.1.1 Theme 1: BNP Paribas’ Renewable Energy Investments: Opportunities in France vs. Challenges in South Africa**

In France, BNP Paribas is a strong player in investment in renewable energies, aiming to have these sources represent 90% of its energy portfolio by 2030 (BNP Paribas, 2022). Interviewee 5 mentions “Our goal is to increase investment in renewable energies to 90% by 2030. External pressures, such as NGOs and public opinion, and internal risk management strategies drive this shift.” Interviewee 6 elaborated, “The decision to phase out investments in fossil fuel energy is not just a regulatory response but a strategic shift to meet growing demands for sustainability from clients and stakeholders alike.” Regulatory frameworks such as the European Green Deal,

which aims for climate neutrality by 2050, and France's favourable regulatory environment have also had a “major influence on the bank's strategy”, as emphasised by interviewee number 3.

By the end of 2022, renewable and low-carbon energy projects accounted for 54% of BNP Paribas' energy financing, “a figure expected to rise to 80% by 2028 and 90% by 2030”, as explained by interviewee 5. The bank's investments cover “hydropower, solar, wind, and emerging technologies such as hydrogen”, as mentioned by interviewee 1. As interviewee 5 stated, “This strategy is simple, even if its implementation is complex. It entails the progressive disengagement from fossil energy financing while reallocating financial and human resources massively toward low-carbon energy support.” This underscores the bank's commitment to advancing its energy transition objectives. In line with these objectives, BNP Paribas has set a goal of reaching €40 billion in financing for low-carbon energy production by 2030. “Such efforts align strategically with France’s national energy goals and the broader EU agenda” (interviewee 5).

Projects like EDF Renewables' tokenised bond underline BNP Paribas' innovative approach to financing solar energy while ensuring transparency and accessibility. The bond, issued in collaboration with EDF ENR in July 2022, marked an important moment as the first renewable energy bond to be tokenised in the project finance market (BNP Paribas, 2022). The bond was created as a native digital asset on the Ethereum blockchain through BNP Paribas' digital asset platform, AssetFoundry (BNP Paribas, 2022). This approach would improve transparency and efficiency by embedding the bond's terms and ESG data directly into the token. It improved transparency and efficiency, enabling investors to better verify the ESG impact of their investments (BNP Paribas, 2022). As interviewee 1 noted, “The EDF Renewables bond is a good example of how BNP Paribas integrates innovation and sustainability, offering cutting-edge financial solutions to accelerate the transition to green energy.”

On the other hand, the energy landscape in South Africa has unique challenges. The country’s heavy reliance on coal and socio-economic complexities hinders large-scale renewable energy investments. As interviewee 2 noted, “Investments in energy projects in South Africa are challenging due to coal dependency and the social issues associated with the energy transition.” Regular load-shedding and infrastructure inadequacies add to the instability of South Africa’s energy market. In response, BNP Paribas significantly reduced its involvement in the South

African energy sector, leading to the closure of its Johannesburg branch in April 2024. This decision reflects “wider considerations, including high operational costs, regulatory risks and the bank's inability to balance its sustainability objectives with South Africa's dependence on coal”, as interviewee 3 explains. The South African Reserve Bank officially withdrew BNP Paribas' authorization to operate as a branch, underlining the bank's strategic pivot to focus on regions offering better alignment with its global objectives (News24, 2024).

South Africa's renewable energy policies lack coherence, further discouraging investment and project expansion (BDO, 2023). The Renewable Energy Independent Power Producer Procurement Scheme, initially successful in attracting investment, has experienced delays and regulatory uncertainty in recent years (Sustainable Energy Africa, 2023). For example, REIPPPP bidding window 4, launched in 2014, experienced a four-year delay before financial close in 2018 (Engineering News, 2018). This delay was largely due to Eskom's refusal to sign power purchase agreements (PPAs) with renewable energy producers, for reasons such as grid stability and financial concerns (Reuters, 2018). These have harmed investor confidence and postponed the development of essential infrastructure. In addition, the disconnect between the Department of Mineral Resources and Energy (DMRE) and Eskom has further increased delays in renewable energy development and created uncertainty for stakeholders in the energy sector (Climate Policy Initiative, 2023). While the DMRE emphasizes the role of coal in the energy mix, Eskom struggles with old coal infrastructure and financial instability (Reuters, 2018). This mismatch has directly impacted renewable energy investments by causing significant delays in project approvals and implementation (Climate Policy Initiative, 2023). Initially, this was due to Eskom's refusal to sign power purchase agreements (PPAs) with renewable energy producers, citing grid stability and financial concerns (Reuters, 2018). More recently, the challenge has shifted to a lack of grid capacity, making it difficult to integrate new renewable energy projects, further slowing progress and harming investor confidence (Climate Policy Initiative, 2023).

Despite BNP Paribas' prudent approach, South Africa has attracted significant investment in renewable energy, driven primarily by the Renewable Energy Independent Power Producer Procurement Programme. Over the past decade, the program has facilitated more than USD 50 billion in investment, making the renewable energy sector the largest source of foreign direct investment in the country (Trade.gov, 2023). Local banks, institutional investors, and private equity firms dominate this space, leveraging their familiarity with the market to offer

competitive financing terms, such as favourable loan tenors and interest rates (Climate Policy Initiative, 2023). Foreign banks like BNP Paribas, however, face unique challenges, including currency risks, which impact returns, and the strict regulatory capital requirements imposed by Basel III, which increase the cost of capital for high-risk investments (CISL, 2023). Similarly, BNP Paribas' relatively conservative risk appetite limits its ability to navigate South Africa's socio-economic complexities compared to local banks. These factors collectively block BNP Paribas from competing effectively in a market that has otherwise become one of the fastest-growing renewable energy sectors globally, attracting significant interest from European equity investors, including EDF (EDF, 2024).

Interviewee 2 detailed the challenges of investing in South Africa, citing “political and regulatory instability, corruption and expropriation risks” as key factors. These problems are compounded by a complex regulatory environment, which creates uncertainty for foreign investors, particularly in the energy sector. South Africa's dependence on coal further complicate investment opportunities, even as the country faces persistent energy insecurity, such as load shedding (BDO, 2023). High operating costs and socio-political risks make it increasingly difficult for BNP Paribas to justify its presence in the market (Mondaq, 2023). Instead, BNP Paribas is “focusing on regions such as Morocco and Namibia, where renewable energy projects, including green hydrogen, better match its sustainability objectives”, as interviewee 3 explained. These regions present fewer regulatory obstacles and offer more stable environments for long-term investment (Reuters, 2025). BNP Paribas' withdrawal is part of a wider trend of European banks, such as Barclays, scaling back their operations in South Africa to focus on their core markets (MoneyWeb, 2024).

#### **4.3.1.2 Theme 2: Transitioning Away from Fossil Fuels**

BNP Paribas' dedication to reducing its fossil fuel investments is most evident in Europe. By the end of 2023, low-carbon energy sources accounted for nearly 60% of its energy financing portfolio, with a “goal to reach 80% by 2028,” as mentioned by Interviewee 4. This shift is supported by BNP Paribas' policy to cease financing oil and gas producers, a practice in place for “two to three years.” As stated by Interviewee 6, “existing fossil fuel assets are being gradually sold on the secondary market, creating a “greener” portfolio aligned with global sustainability goals”. Interviewee 5 explained, “BNP Paribas' progressive divestment strategy reflects its broader ambition to lead the green transition, ensuring a measurable impact on its

energy financing practices. BNP Paribas does not just aim for compliance; it aims to exceed expectations and lead the green energy financing transformation in the world.”

In France, BNP Paribas benefits from a favourable regulatory framework and strong public enthusiasm for sustainable development. Interviewee 5 noted that “collaborations with public and private entities have been instrumental in driving forward sustainable energy initiatives.” The French regulatory environment favours innovation and efficient project execution, aligning public expectations with institutional objectives (European Commission, 2023). Interviewee 1 emphasized that “the regulatory framework creates an atmosphere of cooperation, enabling BNP Paribas to effectively integrate sustainable development into its financial strategies.” These factors have made France a favourable environment for BNP Paribas' low-carbon investments and renewable energy projects. For instance, BNP Paribas' investments in nuclear power, though controversial, represent a pragmatic approach to achieving low-carbon energy goals cost-effectively. Interviewee 6 remarked, “Nuclear energy plays a pivotal role in France's energy strategy, ensuring a stable and reliable transition toward carbon neutrality.”

In contrast, South Africa presents significant challenges due to its reliance on coal for economic stability and employment. The regulatory landscape is marked by frequent changes and inconsistent energy policies, balancing renewable initiatives with coal expansion to cope with energy shortages (IEA, 2024). Officials such as Energy Minister Gwede Mantashe have defended the role of coal, further complicating the energy transition (Reuters, 2023). According to Interviewee 4, “BNP Paribas has limited its direct involvement in the South African energy sector due to regulatory instability and the socio-political risks associated with coal dependence.” The bank's divestment targets, including not accepting new clients with more than 25% coal-related revenues, are at odds with South Africa's socio-economic dependence on coal, risking stranded assets and instability (BNP Paribas, 2023).

BNP Paribas is focusing on financial stability and exploring long-term partnerships to overcome these obstacles. Cultural dynamics accentuate these differences. A strong environmental awareness in France supports public acceptance of renewable energy projects. Interviewee 7 explained that “environmental responsibility is a cultural priority in France, which aligns well with BNP Paribas' sustainable development objectives.” In South Africa, coal is an integral part of community livelihoods, as one interviewee noted, “Coal is not just an energy source; it's a vital resource for many communities.” Moving away from coal is likely to

lead to widespread economic disruption, not least because of high unemployment and poverty rates (Climate Transparency, 2023). For BNP Paribas, this creates significant implications for their risk-return calculations. High unemployment and economic instability increase the likelihood of loan defaults among clients in coal-dependent sectors, elevating credit risk (Climate Transparency, 2023). Additionally, potential disruptions in energy-intensive industries could weaken overall market stability, impacting the bank's ability to generate sustainable returns in the region (IEA, 2023). BNP Paribas' relations with regulators further highlight these contrasts. For instance, in France, a stable regulatory framework allows for proactive collaboration and long-term planning. Interviewee 4 said, "BNP Paribas' engagement with regulators ensures alignment between environmental objectives and financial feasibility."

#### **4.3.2 Energy Security Strategy of BNP Paribas**

BNP Paribas' energy security strategy reflects its commitment to meeting global energy challenges while ensuring sustainability and financial stability. The bank combines innovative financial models with targeted investments to strengthen energy resilience, reduce environmental impact and adapt to different regional contexts. This approach demonstrates BNP Paribas' ability to balance local priorities with global energy objectives, ensuring both scalability and long-term viability.

##### **4.3.2.1 Theme 1: Financial Innovation and Diversification in Energy Security**

BNP Paribas' Low Carbon Transition Group (LCTG) is a good example of its innovative approach to financing energy security projects. LCTG focuses on structuring financing models that incorporate risk-sharing mechanisms and sustainability incentives. According to interviewee 5, "LCTG has supported large-scale renewable energy initiatives". For example, in Europe, LCTG has invested in infrastructure such as the Dogger Bank offshore wind farm in the UK, which provides energy to millions of homes while reducing dependence on imported fossil fuels. Interviewee 3 noted that "LCTG has demonstrated how financial innovation can lead to impactful energy solutions, ensuring not only the scalability but also the resilience of the renewable energy sector." Projects such as these are in line with France's national renewable energy targets, including achieving a 40% share of renewables by 2030.

BNP Paribas' diversification strategy is strong in France, where its investments in offshore wind farms and extensive solar installations are boosting energy security by reducing dependence on

imported fossil fuels. As interviewee 4 noted, “these projects are examples of how regulatory stability can lead to transformative energy investments, guaranteeing both supply and sustainability”. The French regulatory framework, closely aligned with EU energy objectives, reinforces the viability of these initiatives. Interviewee 6 emphasized that “the alignment of French regulations with EU energy targets offers BNP Paribas a unique advantage in pursuing ambitious renewable energy initiatives.”

#### **4.3.2.2 Theme 2: Strategic and Social Barriers to Renewable Energy in South Africa**

In the context of this study, strategic barriers refer to the institutional, regulatory, and infrastructural challenges that block investment and development of renewable energy. These include policy uncertainty, grid limitations, and financial market volatility. Social barriers encompass the human and community impacts of transitioning from coal to renewables. For example, job losses, community displacement, and broader socio-economic challenges (Baker Lucy, 2016).

In South Africa, energy security problems are deeply rooted in socio-economic realities. Blackouts caused by infrastructure failures and old coal-fired power plants have reduced South Africa's economic potential by 20% since 2007, with annual GDP losses of 1% to 1.3% and daily economic costs of \$85 million to \$230 million (SASEC, 2019). The country relies on coal for around 77% of its energy needs, which supports approximately 90,000 jobs and entire communities (DMRE, 2024). However, this reliance contributes significantly to greenhouse gas emissions and complicates the transition to renewable energy sources (Reuters, 2023).

Regulatory uncertainty, such as inconsistent policies from the Department of Mineral Resources and Energy (DMRE) further discourages investment in renewables. For instance, past delays in the Renewable Energy Independent Power Producer Procurement Programme created significant backlogs, stalling progress in renewable energy adoption. According to interviewee 3, “South Africa's energy policy lacks coherence, which makes it difficult for investors to commit to renewable energy projects.” Political instability and economic volatility, including fluctuating commodity prices and currency instability, further increase the financial risks for renewable energy projects (African Politics Live, 2023). The closure of coal-fired power plants highlights the socio-economic challenges of transitioning to renewables, including potential job losses and community displacement (IEA, 2023). Additionally, the lack of grid

capacity to integrate renewable energy projects and the high costs of renewable infrastructure pose significant barriers to a seamless transition. Interviewee 2 noted that “improving energy security in South Africa will require not only financial input but also strong partnerships and a coherent regulatory framework.”

### **4.3.3 Energy Costs Strategy of BNP Paribas**

Financial decisions and investment measures are crucial elements of BNP Paribas' approach to managing energy costs in France and South Africa. Using financial tools and sustainable development objectives, the bank adapts its strategies to the economic and infrastructural challenges specific to each market.

#### **4.3.3.1 Theme 1: Evaluating Financial Viability and Managing Risks**

BNP Paribas uses strict criteria to evaluate energy investments, focusing on financial viability, sustainability measures and risk management. Interviewee 7 explained, “We want to remain relevant in the long term and realign profitability and sustainability.” This underlines the bank's commitment to ensuring that sustainability objectives are met without compromising financial performance. Interviewee 7 explained, “Key metrics such as ROI and ESG are essential in shaping our investment decisions, ensuring that they align with both financial objectives and our sustainability commitments.” Traditional financial measures such as return on investment (ROI), net present value (NPV) and internal rate of return (IRR) remain essential to decision-making (Investopedia, 2015). However, renewable energy projects require additional considerations, including environmental, social and governance (ESG) factors. As interviewee 5 pointed out, “integrating ESG parameters into our valuations allows us to balance profitability with long-term environmental and social impact, which is increasingly important for renewable energy investments”. These practices ensure that “projects contribute to broader societal goals, such as reducing carbon footprints and promoting community engagement”, added interviewee 6.

In France, supportive government policies and financial incentives play an important role in the profitability of renewable energy projects. Interviewee 7 noted that “government incentives significantly reduce the financial barriers to renewable energy projects, allowing us to allocate resources more confidently and strategically”. Subsidies, tax incentives and green bonds - a type of fixed-income instrument specifically designed to finance projects with environmental

benefits (Climate Bonds Initiative, 2023) - improve the financial results of investments in solar, wind and hydroelectric power. Interviewee 6 noted, “The availability of government incentives in France reduces upfront costs, making renewable energy investments more viable despite lower profit margins compared to fossil fuels. This stable framework allows BNP Paribas to allocate substantial resources to projects with long-term environmental benefits.”

Conversely, in South Africa, renewable energy projects face higher initial costs compared to traditional coal-fired plants, with solar installations costing approximately \$2,000 per kilowatt (kW) versus \$1,000 per kW for fossil fuel plants (PMC, 2023). Interviewee 3 said, “Renewable energy projects in South Africa often face cost barriers, requiring significant capital investment without the financial support mechanisms available in Europe.” Interviewee 4 pointed out that “detailed, regularly updated risk matrices are essential to ensure that renewable energy investments are both sustainable and profitable”. Interviewee 4 confirmed the importance of these risk matrices in South Africa, emphasizing their “essential role in navigating the region's high-risk environment”. The rigorous assessment framework helps BNP Paribas prioritize projects that minimize exposure to failed assets, regulatory uncertainty, and market instability.

Balancing the short-term financial gains of fossil fuels with the long-term cost benefits of renewables remains a significant challenge for BNP Paribas. As interviewee 7 explained, “The key is to find a sustainable middle ground that delivers immediate returns without compromising our long-term green finance objectives”. The high initial costs and extended payback periods of renewable energy projects often create barriers to investment. In France, these obstacles are overcome by public support mechanisms, such as subsidies, which reduce initial costs and improve financial viability (Climate Bonds Initiative, 2023). Conversely, in South Africa, the absence of similar support mechanisms increases financial risks, compounded by infrastructure problems and regulatory uncertainty (Climate Transparency, 2023).

To address financial problems, the bank leverages innovative mechanisms such as green bonds, cost-sharing models, and subsidy facilitation (BNP Paribas, 2023). In France, these mechanisms help overcome barriers by leveraging government support to lower upfront costs and enhance project viability (Climate Bonds Initiative, 2023). For example, green bonds fund projects with clear environmental benefits, offering investors opportunities to support sustainability without compromising returns (Climate Bonds Initiative, 2023). Interviewee 4 stated, “These innovative financial tools are instrumental in bridging the gap between high

upfront costs and long-term returns, making renewable projects more accessible and viable for stakeholders” (Climate Transparency, 2023). These mechanisms help address initial financial barriers and allow gradual transitions in their investment portfolio.

To manage the risks associated with energy security projects, BNP Paribas relies on “rigorous assessment matrices that are regularly updated to reflect changes in sectors and markets,” as mentioned by Interviewee 4. Each project undergoes an in-depth analysis by a credit committee, which evaluates technical, financial, and regulatory risks. Once approved, the project is continuously monitored by a dedicated team to ensure objectives are met, guaranteeing the long-term viability and stability of investments. Interviewee 4 emphasized, “Our approach combines continuous risk assessment with adaptive strategies to ensure resilience against changing market conditions.” She added, “We employ a multifaceted evaluation framework that considers market volatility and integrates lessons learned from previous projects to enhance decision-making.” By doing so, BNP Paribas strengthens its capacity to maintain secure energy supply chains and align projects with long-term sustainability objectives. Interviewee 5 emphasized, “Our risk matrices are continually updated to reflect sector-specific changes, ensuring our investments align with both financial and sustainability objectives.” The risk matrices allow BNP Paribas to identify and mitigate emerging risks, such as geopolitical instabilities or technological failures in renewable energy systems. “Once approved, dedicated teams continuously monitor these projects to ensure goals are met, supporting both cost stability and long-term profitability.”

#### **4.3.3.2 Theme 2: Balancing Financial Viability and Long-Term Sustainability in Renewable Energy Investments**

In France, renewable energy projects offer relatively stable but lower returns, supported by government incentives and mature energy markets (European Commission, 2023). The financial performance of energy projects varies considerably between investments in renewable energies and fossil fuels, due to different regulatory environments and market conditions. Renewable energy projects, particularly wind and solar, require significantly higher initial investments than fossil fuel projects, but their operating costs are much lower over time (IRENA, 2023). This cost dynamic is reinforced by the French regulatory framework, which encourages renewable energy projects through mechanisms such as feed-in tariffs and long-term contracts, to guarantee stable revenues for investors (European Commission, 2023).

However, these incentives remain insufficient to fully mitigate the financial attractiveness of fossil fuels in the short term.

Interviewee 1 observed that “the return on investment for renewable energy investments is typically between 4% and 5%, which, while lower than fossil fuel projects, is made competitive by subsidies and financial instruments such as green bonds”. Shareholders are likely to accept lower returns because renewable energy investments reduce the long-term risks associated with regulatory changes and carbon pricing (European Union, 2023). Mechanisms such as feed-in tariffs and green bonds guarantee predictable cash flows, while increasing global demand for renewables strengthens their market potential and offsets the regulatory costs of fossil fuels (Climate Bonds Initiative, 2023). As interviewee 3 pointed out, “these financial instruments are essential for reducing barriers to entry for renewable energy investments, ensuring that they remain viable in competitive markets”. In addition, renewables enhance corporate reputations by aligning with shareholders' ESG commitments, making them attractive even at lower margins. In France, renewable energy projects face challenges such as high capital expenditure and extended payback periods, making fossil fuel projects with returns of 10-20% more attractive in the short term (IRENA, 2023). However, environmental regulations and carbon pricing are changing the financial landscape (European Union, 2023). For example, the European Union Emissions Trading Scheme imposes costs on carbon emissions, making fossil fuel projects increasingly expensive. Interviewee 5 noted that “while short-term fossil fuel returns are higher, escalating regulatory and environmental pressures underscore the strategic importance of renewable energy investments, even if margins are lower.”

#### **4.3.3.3 Theme 3: Metrics for Measuring and Balancing Cost Efficiency with Sustainability Goals**

Beyond traditional financial metrics, BNP Paribas employs specific tools to measure the cost efficiency of its energy investments. These include lifecycle cost analysis, which evaluates the total cost of ownership over a project's lifespan, and cost-per-unit metrics for renewable energy generation. Interviewee 3 emphasized, “Cost-per-unit metrics are essential for balancing sustainability and economic viability over a project's lifespan.” In France, the bank tracks metrics such as cost per megawatt-hour generated and the impact of subsidies on reducing consumer energy prices. These metrics not only optimize investments but also ensure alignment with national and EU energy goals. As Interviewee 7 explained, “Lifecycle cost analysis

provides critical insights into the true economic efficiency of energy investments, enabling better alignment with EU energy targets.”

BNP Paribas’ approach to energy costs reflects a balance between profitability and sustainability. Interviewee 5 highlighted, “Achieving this balance is not just about financial returns but aligning investments with long-term environmental and socio-economic goals in each market.” In France, the alignment of financial decisions with EU energy policies ensures that investments meet cost-efficiency standards while contributing to broader environmental objectives. As Interviewee 4 noted, “EU-aligned incentives make it possible to strike a balance between cost efficiency and environmental impact, ensuring projects are both viable and sustainable.” The use of innovative financing models has been significant in achieving competitive returns while supporting the transition to a low-carbon economy. Interviewee 6 elaborated, “The structured approach to aligning financing with EU directives not only secures funding but ensures compliance with broader sustainability targets.” In South Africa, cost efficiency metrics are less consistent due to infrastructural and regulatory challenges. High variability in construction and operational costs complicates financial modelling for renewable projects. Interviewee 7 noted, “These challenges require innovative financial models and partnerships to make renewable projects feasible in such a complex landscape.”

#### **4.4 Summary of Findings**

The analysis of BNP Paribas' approaches to sustainability, security and energy costs reveals a multi-faceted strategy adapted to distinct regional contexts. The bank has demonstrated leadership in renewable energy investments in France, benefiting from a stable regulatory framework and robust public support, while navigating significant socio-economic and regulatory challenges in South Africa.

In France, BNP Paribas is committed to ensuring that renewable energy projects represent 90% of its energy portfolio by 2030. The bank's strategy builds on France's favourable regulatory environment, including the European Green Deal's goal of climate neutrality by 2050. Key projects, such as EDF Renewables' bond and investments in hydro, wind and solar power, underline BNP Paribas' innovative approach. Regulatory stability and financial incentives, such as green bonds and tax subsidies, also support this strategy. This allows the bank to increase its investments while aligning with EU sustainability goals. Conversely, in South Africa, BNP Paribas faces an energy landscape dominated by coal dependency, regulatory inconsistencies

and infrastructural challenges. Over the past decade, South Africa's REIPPPP has attracted over USD 50 billion in investments, making renewable energy the country's largest source of foreign direct investment. Local banks and investors dominate this market with competitive financing terms. In contrast, foreign banks like BNP Paribas face challenges such as currency risks, Basel III constraints, and a conservative risk appetite, limiting their competitiveness. Despite the initial success of the REIPPPP, delays such as the four-year postponement of the tender window 4 have discouraged investment. Political instability, corruption and economic volatility further increase these difficulties. The bank's decision to close its Johannesburg office in 2024 underlines its inability to operate profitably in such a difficult market. As interviewee 3 noted, "high operational costs and regulatory risks, coupled with South Africa's dependence on coal, have forced BNP Paribas to prioritize regions better aligned with its sustainable development goals." This withdrawal reflects not only the bank's strategic direction, but also its recognition of the limitations posed by South Africa's energy security problems.

The overlap between energy security and sustainability is obvious in both regions but manifests itself differently. In France, technological advances and stable energy policies create opportunities to align energy security with renewable energy targets. In South Africa, on the other hand, persistent load shedding and old coal infrastructure are major threats. These challenges increase operational costs for customers and reduce the feasibility of investments. Although BNP Paribas has identified opportunities to address these issues, scaling up these projects requires cohesive public-private collaboration and regulatory clarity, which is not the case.

BNP Paribas has demonstrated a strong commitment to progressively removing investments in fossil fuels, particularly in Europe. By 2023, low-carbon energy sources accounted for almost 60% of its portfolio, with plans to reach 80% by 2028. This transition is supported by progressive policies, such as stopping funding oil and gas producers and reallocating resources to low-carbon projects. In France, the bank's focus on nuclear energy and collaborations with public and private entities reinforce its sustainability objectives. On the other hand, South Africa's dependence on coal for economic stability and employment is a major obstacle to BNP Paribas' divestment objectives. Government support for coal, coupled with unclear renewable energy targets and frequent policy changes, compromises the feasibility of large-scale renewable energy investments. Although BNP Paribas sees these challenges as obstacles to

immediate profitability, its strategic withdrawal and focus on long-term partnerships underline its prudent approach to risk management in volatile markets.

The financial viability of renewable energy projects varies considerably between France and South Africa. In France, government incentives and mechanisms such as feed-in tariffs reduce barriers to entry and make renewable energies competitive despite lower margins than fossil fuels. Measures such as life-cycle cost analysis and cost per unit of output are used to ensure alignment with EU energy targets and profitability. In South Africa, high initial costs, infrastructure limitations and the absence of comparable subsidies increase financial risks. Dependence on coal introduces additional volatility, with potential grounded assets and maintenance costs for older infrastructure. These factors discourage BNP Paribas from investing in renewable energies on a large scale, even with the bank's use of rigorous risk assessment matrices and innovative financial tools, such as tailored financing solutions.

## **5. Discussion**

### **5.1 Introduction**

This chapter explores BNP Paribas' strategies for addressing energy sustainability, security, and costs in France and South Africa, drawing on the findings and research questions. It interprets the results based on of existing literature, providing a better understanding of the bank's approaches in these distinct regional contexts. The analysis reveals that BNP Paribas demonstrates a coherent, yet adaptable strategy tailored to local conditions. In France, a stable regulatory environment, strong public-private collaboration, and societal alignment have allowed the successful implementation of renewable energy initiatives. In contrast, South Africa's systemic challenges, including regulatory uncertainty, coal dependency, and socio-economic complexities, prevented similar progress, forcing the bank to scale back its involvement in the region.

This section is structured around key themes derived from the findings: contextual adaptation of strategies, renewable energy investment commitments, and financial viability and risk management. Each theme is discussed in relation to existing literature and the research questions, highlighting areas where BNP Paribas' practices align with or diverge from theoretical frameworks. Additionally, the chapter evaluates the study's implications and offers actionable recommendations for BNP Paribas, policymakers, and stakeholders. It addresses limitations to clarify the scope of the research and concludes by proposing directions for future studies. It enhances understanding of financial institutions' roles in global energy transitions. This discussion aims to provide a comprehensive analysis that links academic research and practical applications in sustainable finance.

### **5.2 Analysis and Interpretation of Findings**

#### **5.2.1 Energy Sustainability**

BNP Paribas' energy sustainability strategies highlight its nuanced ability to leverage favourable conditions in stable environments like France, while it struggles in high-risk regions like South Africa.

France is a good example of how financial institutions can operate in favourable ecosystems. BNP Paribas has successfully integrated financial innovation with sustainability goals, utilizing regulatory support such as the European Green Deal to strengthen its market

position. For example, the bank's partnership with EDF to launch blockchain-based bonds shows how technological innovation can reduce transaction costs and improve transparency. Both of which are essential for investing in renewable energies. This innovation showcases how digital tools can be integrated into financial strategies to advance sustainability goals. In addition, BNP Paribas' €12 billion investment in green hydrogen reflects a forward-looking approach that positions the bank as a leader in aligning with EU climate objectives. This strategy underlines the importance of combining financial innovation with strong public-private partnerships to effectively drive energy transitions. Rather than simply responding to regulatory incentives, BNP Paribas proactively leverages them to improve profitability while contributing to broader climate goals. In addition, BNP Paribas' investments in France highlight the importance of a systemic approach to energy transitions. For instance, their collaborative model involving public, private, and technological stakeholders creates a virtuous cycle of trust and investment.

However, BNP Paribas' dependence on public subsidies and favourable political frameworks in France raises potential risks. A significant proportion of its investments in renewable energies are supported by government initiatives, such as the €3.6 billion in subsidies for renewable energies in 2022. This dependence could pose problems if public support diminishes or political priorities change. In addition, sustaining innovation on a large scale could put pressure on financial resources in the long term. This is particularly true of expensive emerging technologies such as hydrogen if competition in the field of green financing intensifies. BNP Paribas would need to develop strategies that are resistant to potential changes in the regulatory and financial landscapes.

South Africa, in contrast, reveals the difficulties of operating in high-risk markets where systemic barriers slow progress. The environment of socio-economic dependence on coal, added with Eskom's financial instability and load-shedding crises, creates an environment that slows down large-scale renewable energy investments. Despite the significant success of the Renewable Energy Independent Power Producer Procurement Programme, which has attracted over USD 50 billion in investments, BNP Paribas has struggled to compete effectively in this market. Local banks and institutional investors dominate, leveraging their familiarity with the market to offer competitive financing terms such as favourable loans and interest rates. Meanwhile, BNP Paribas faces unique challenges, including currency risks that impact returns, difficult regulatory capital requirements under Basel III, and a conservative risk

appetite. However, rather than withdrawing entirely, BNP Paribas could have explored alternative strategies to remain engaged in South Africa's evolving energy landscape. For example, blending local insights with lessons from its successes in France could have led to innovative financing mechanisms adapted to South Africa's challenges. BNP Paribas could have worked closely with local governments and development banks, which may have mitigated risks and demonstrated leadership in addressing socio-economic dependencies. Similarly, they could have adapted technological tools like blockchain to enhance transparency and accountability. This could have been a practical step toward restoring investor confidence, even in a challenging environment. BNP Paribas' withdrawal from South Africa reveals a missed opportunity to address broader systemic issues. Initiatives like workforce retraining programs for coal-dependent communities could have helped close socio-economic gaps while aligning with sustainability goals. However, the failure to engage in finance models combining public funding with private investments further underscores the bank's inability to leverage global best practices in challenging contexts. Such strategies could have positioned BNP Paribas as a leader in navigating high-risk markets, even under difficult conditions.

The different outcomes in France and South Africa highlight broader lessons for BNP Paribas and the financial sector. In stable environments, the combination of regulatory support, financial innovation, and strategic partnerships can bring both profitability and sustainability. However, the South African experience shows the critical need to adapt strategies that go beyond traditional investment models. Moreover, these contrasting contexts offer a blueprint for global financial institutions. For global financial institutions, this comparison highlights the importance of flexibility in designing strategies that account for regional differences. While regions like France can serve as models for scaling innovation, markets like South Africa require tailored solutions that prioritize socio-economic resilience with sustainability. The lessons learned emphasize that global strategies must be flexible enough to account for regional differences, ensuring that sustainability goals do not increase existing inequalities but rather address them.

#### **5.2.1.1 Responding to the Research Question**

The results underline the important influence of regional dynamics on BNP Paribas' sustainable development strategies. This analysis directly addresses the research question, which explores how BNP Paribas navigates energy sustainability in two distinct contexts. The results highlight

that while the bank thrives in favourable environments, its strategies fail in high-risk regions where systemic barriers are deeply entrenched. France demonstrates how alignment between financial practices and policy frameworks facilitates sustainable development, while South Africa highlights the bank's limitations in overcoming complex socio-economic and regulatory challenges. Taken together, these observations illustrate the need for nuanced, context-sensitive approaches to global sustainability challenges.

#### **5.2.1.2 Comparison with Existing Studies**

BNP Paribas' practices align with key findings in the literature on financial institutions' roles in sustainable transitions. The bank's use of innovative mechanisms, such as the EDF blockchain bond, reflects Flammer's (2021) assertion that reducing the cost of capital is pivotal for accelerating renewable energy adoption. Additionally, BNP Paribas' ability to mitigate transparency barriers aligns with Egli's (2020) findings on the importance of financial innovation in encouraging low-carbon investments. These practices illustrate how banks can drive sustainability by leveraging advanced financial instruments and aligning with supportive policy frameworks. However, challenges in South Africa are consistent with Shobande and Ogbeifun's (2021) findings on the important role of regulatory stability in enabling sustainable financial development. The lack of policy coherence in South Africa's energy sector mirrors Rasoulinezhad and Taghizadeh-Hesary's (2022) conclusion that long-term supportive policies are essential for private-sector participation in renewable energy. BNP Paribas' inability to replicate its French successes in South Africa underlines these limitations. It further reinforces the need for innovative, context-specific financial tools, as well as closer collaboration with local governments and development banks to overcome systemic barriers.

#### **5.2.2 Energy Security**

BNP Paribas' energy-related sustainability initiatives highlight a contextual approach, building on its successes in stable regulatory environments such as France, while struggling to address the infrastructural and regulatory complexities of high-need regions such as South Africa. This divergence raises critical questions about the bank's ability to align its global ambitions with regional realities. The focus here is on how these efforts align with energy security objectives and the broader goal of reliable, sustainable energy systems.

In France, BNP Paribas' investments, such as the €1.4 billion contribution to EDF's 2023 renewable energy expansion plan, show its role in modernizing grid infrastructure and enhancing energy resilience. Through the Low Carbon Transition Group, BNP Paribas has structured innovative financing models that incorporate risk-sharing mechanisms and sustainability incentives. These models allow for large-scale projects, such as offshore wind farms and energy storage solutions that align with both national energy goals and EU-wide decarbonization targets. Collaborative partnerships with public and private stakeholders have further amplified BNP Paribas' impact in France. By working closely with entities like EDF, the bank has contributed to the integration of renewable energy into existing grids, while supporting technological advancements in energy storage. However, while BNP Paribas' successes in France highlight its ability to operate effectively in stable markets, its focus on large-scale projects risks overlooking smaller, decentralized energy solutions. These solutions are increasingly critical to enhance energy security in underserved areas.

South Africa's reliance on coal brings significant employment but increases barriers to renewable energy adoption. Frequent power outages, estimated to cost the economy over \$20 billion annually, further underscore the urgency of addressing energy security. Despite these challenges, BNP Paribas has largely stopped from engaging deeply with the South African energy sector, limiting its ability to influence systemic change. While the REIPPPP has demonstrated potential for transforming South Africa's energy mix, adding over 6,400 MW of renewable capacity since its creation, BNP Paribas' absence from this initiative reflects a missed opportunity to leverage its financial expertise in a high-need context. By not participating, the bank has failed to address critical gaps in energy security, such as the lack of funding for grid modernization and decentralized energy systems. BNP Paribas' cautious approach in South Africa can be partly attributed to systemic barriers. Currency risks and Basel III regulatory capital requirements increase the cost of capital for high-risk investments, limiting the bank's ability to offer competitive financing terms compared to local banks. Additionally, BNP Paribas' relatively conservative risk appetite prevents it from navigating the socio-economic complexities that local banks and institutional investors address more effectively. Local entities dominate the renewable energy sector by leveraging their familiarity with the market to provide favourable loan tenors and interest rates, a critical advantage in securing project financing. This contrast underscores BNP Paribas' struggle to adapt global strategies to high-risk, high-need regions like South Africa.

To enhance its role in addressing energy security in South Africa, BNP Paribas needs to adopt a more proactive and context-sensitive approach. Blended finance models that combine public and private capital could de-risk investments and attract additional stakeholders. Collaborating with international development banks, such as the African Development Bank, could provide resources to overcome infrastructure challenges and enhance project viability. These solutions would help resist grid instability and provide local energy security, while reducing dependency on centralized coal-fired plants. BNP Paribas could leverage its experience in France to advocate for coherent regulatory frameworks that incentivize renewable energy investments and streamline processes. Partnering with local organizations and governments to implement workforce retraining programs could mitigate the socio-economic impacts of transitioning away from coal. These initiatives would not only support communities but also align with BNP Paribas' sustainability commitments. Introducing tools such as green bonds or carbon credit-backed bonds tailored to the South African market could attract investors while aligning with global ESG goals. These instruments could provide the financial flexibility needed to overcome the high upfront costs associated with renewable energy projects. By doing so, BNP Paribas could position itself as a leader in driving energy security across diverse markets. This approach would not only enhance its global reputation but also contribute meaningfully to sustainable energy transitions in high-need regions.

#### **5.2.2.2 Comparison with Existing Studies**

BNP Paribas' approaches to energy security reflect the global energy challenges described in the literature review. For example, Flammer (2021) highlights the critical role that financial institutions play in improving energy resilience through investments in renewable infrastructure and innovative financial mechanisms. BNP Paribas' efforts in France illustrate this, leveraging stable regulatory environments and public-private partnerships to improve energy reliability. Its collaboration with EDF on grid modernization and hydrogen storage initiatives aligns with Egli's (2020) findings that regulatory clarity encourages private sector contributions to energy security.

In South Africa, BNP Paribas' conservative approach reflects the obstacles highlighted by Shobande and Ogbeifun (2021), who argue that developing economies face greater energy security risks due to regulatory instability and outdated infrastructure. The country's dependence on coal and the problems associated with Eskom's financial instability underline Jefferson's (2013) assertion that emerging markets need substantial structural reforms to

achieve energy resilience. However, BNP Paribas' limited involvement in South Africa highlights a divergence from Kaminker and Stewart's (2012) recommendation that financial institutions should play a proactive role in supporting energy transitions in high-need regions.

The contrast between France and South Africa also reflects Rasoulinezhad and Taghizadeh-Hesary's (2022) observation that long-term supportive policies are essential for mobilizing private investment in renewable energy. France's consistent policy support enabled BNP Paribas to achieve convincing results, while South Africa's regulatory uncertainty and infrastructure deficits discouraged greater involvement. This divergence reveals a gap between the theoretical frameworks promoting proactive financial roles and the real limits that financial institutions encounter in unstable markets.

### **5.2.3 Energy Costs**

BNP Paribas' energy cost strategies demonstrate its ability to adapt to various regional challenges while revealing significant limitations in balancing profitability and sustainability objectives in different economic and regulatory contexts. The results show how economic environments, and regulatory frameworks determine the bank's ability to implement effective strategies.

French public subsidies and tax credits, equivalent to €3.6 billion in 2022, significantly reduce the upfront costs of renewable projects, enabling greater private sector participation. Moreover, the lower lifecycle operating costs of renewables, estimated to be 30-40% lower than fossil fuels, enhance BNP Paribas' cost efficiency and profitability over the long term. This stable environment has allowed BNP Paribas to align its financial strategies with EU energy and climate objectives while mitigating risks associated with high-capital investments. However, the high costs and extended payback periods of renewable energy projects highlights the trade-offs between immediate financial performance and long-term sustainability. While innovative financing mechanisms, such as sustainability-linked loans, help address these challenges by linking financial performance to environmental outcomes, their scalability in less favourable regulatory contexts remains uncertain. Additionally, the bank's dependence on favourable frameworks highlights its reliance on external conditions to achieve its objectives, raising questions about its resilience in less predictable environments. BNP Paribas' approach in France also underscores the relationship between energy costs and market maturity. The mature French energy market allows the bank to optimize cost efficiencies and attract consistent

investment. However, this stability contrasts sharply with emerging markets, where such conditions are often absent, revealing a potential gap in BNP Paribas' adaptability.

In South Africa, the country's reliance on coal, which accounts for over 80% of electricity generation, and its socio-economic dependence on this sector brings barriers to transitioning toward renewables. Similarly, high upfront costs for renewable projects, with inconsistent policy frameworks, further block large-scale investment. While mechanisms like long-term contracts with Eskom offer potential revenue stability, the lack of coherent implementation hinders investor confidence and limits BNP Paribas' willingness to engage significantly in this market. The absence of predictable revenue streams and the high financial risks associated with old grid infrastructure have led BNP Paribas to adopt a cautious approach in South Africa. Unlike in France, where strong partnerships align energy costs and sustainability, South Africa's fragmented policy landscape and market instability hinder similar initiatives. BNP Paribas has missed critical opportunities to demonstrate leadership in managing energy costs and sustainability in emerging markets. Moreover, its limited involvement raises questions about its commitment to tackling systemic barriers in regions where its expertise is most needed.

The rapid growth of the renewable energy sector in South Africa highlights BNP Paribas' limited capacity to adapt to high growth but high-risk markets. Despite the significant activity in this area, BNP Paribas has minimal involvement, raising questions about its commitment to addressing energy challenges in emerging economies. By avoiding these markets, the bank risks being perceived as favouring low-risk, mature environments at the expense of broader global impact. For BNP Paribas to engage effectively in markets like South Africa, it needs innovative financial mechanisms and collaborative partnerships. For example, blended finance models that combine public and private capital could help de-risk investments in volatile markets. Collaborations with international development banks, such as the African Development Bank, could provide resources to overcome infrastructure challenges and enhance project viability. Additionally, integrating carbon credit-backed bonds could lower financial barriers and address investor confidence issues in emerging markets. These tools not only reduce upfront costs but also align with BNP Paribas' broader ESG commitments.

### **5.2.3.1 Relevance to Research Questions**

The analysis of BNP Paribas' strategies highlights how regional economic and regulatory contexts shape its approach to balancing energy costs and sustainable development objectives. In France, a favourable regulatory environment and solid market conditions allow the bank to align its profitability with sustainable development. In South Africa, inconsistent policies and limited support mechanisms lead BNP Paribas to prioritize cost considerations over sustainable development, limiting its role in energy transitions. This directly answers the research question by demonstrating how regional differences influence BNP Paribas' strategic decisions, highlighting the critical role of adaptable financial models in driving global energy transitions. It highlights the need for flexible financial strategies and stronger policy frameworks to support renewable energy investments in emerging markets.

### **5.2.3.2 Comparison with Existing Studies**

BNP Paribas' strategies align with key findings in energy economics literature. Sovacool (2021) identifies drivers such as resource availability, infrastructure quality, and market dynamics as critical determinants of energy costs. In France, modern infrastructure and robust policy support reduce financial risks and enable sustainable investments, consistent with European Commission (2022) findings. By contrast, IRENA (2022) highlights challenges like obsolete infrastructure and high upfront costs that hinder renewable energy adoption in emerging markets, reflecting BNP Paribas' cautious stance in South Africa. Moreover, UNEP FI (2021) highlights the indirect effects of energy costs on financial health, such as rising credit risks and reduced borrowing capacity for customers. In South Africa, these dynamics force BNP Paribas to adopt stronger risk assessment frameworks and innovative financing models to ensure long-term viability. Conversely, technological advances in France offer predictable returns and portfolio resilience, aligning with global sustainability goals.

## **5.3 Contribution to the Literature**

This study contributes to the literature by addressing the regional complexities facing financial institutions in global energy transitions. While existing research emphasizes the importance of private sector investment in promoting sustainability and energy security, this analysis highlights how these roles are limited or enabled by differing local conditions. Specifically, the study shows that BNP Paribas' ability to operate effectively in France is determined by a stable regulatory environment, reliable infrastructure and well-established financial incentives. These

factors create an environment conducive to long-term investment and innovation in renewable energies. The study also highlights the difficulties of replicating these successes in high-risk markets such as South Africa. Regulatory inconsistencies, coal-dependent economies and weak infrastructure limit the feasibility of traditional strategies. Rather than repeating earlier conclusions, this section aims to advance understanding of the adaptation strategies required in such contexts. It highlights the need for innovative financing tools and stresses the importance of building strong local partnerships to overcome obstacles. This contribution identifies frameworks for action for financial institutions operating in emerging markets. This study offers practical perspectives for aligning global sustainability goals with regional realities, promoting more equitable energy transitions.

#### **5.4 Practical Implications for Financial Institutions, Policymakers, and Broader Stakeholders**

The findings underscore actionable insights for financial institutions, policymakers, and broader stakeholders, each playing a pivotal role in creating sustainable energy transitions. For financial institutions, adaptability and innovation are key. In stable markets like France, the interaction between regulatory support, financial tools, and strategic collaborations allows institutions like BNP Paribas to align profitability with sustainability. However, high-risk regions like South Africa require tailored financial strategies. These include blended finance models, innovative tools like green bonds, and increased local partnerships to navigate socio-economic and infrastructure challenges. Financial institutions must also engage in balancing short-term risks with long-term sustainability goals to support fair energy transitions.

For policymakers, the findings highlight the critical role of coherent and supportive policy frameworks. In France, subsidies, tax incentives, and regulatory clarity have helped BNP Paribas' leadership in renewable energy financing. Policymakers in emerging markets like South Africa can draw lessons from this success, prioritizing measures that reduce regulatory uncertainty, incentivize private investment, and streamline project approval processes. Strengthening public-private partnerships can also enhance alignment between policy objectives and private sector capabilities, fostering trust and collaboration. For broader stakeholders, including development banks, NGOs, and local communities, collaboration is vital for overcoming systemic barriers. Development banks can help de-risk investments through blended finance initiatives, while NGOs can support socio-economic initiatives, such as workforce retraining programs for coal-dependent communities. Local communities also

have a unique role in co-designing solutions that reflect their needs and contribute to sustainable energy transitions. Together, these collective efforts can create a more inclusive and resilient energy landscape, ensuring no group is left behind during the transition.

## **5.5 Challenges and Limitations**

The study encountered several methodological and contextual difficulties that affected the thoroughness and accuracy of the analysis. While the research provided valuable insights into BNP Paribas' approaches to sustainability, security and energy costs, certain limitations must be acknowledged to ensure transparency.

Obtaining information from people directly involved in BNP Paribas' operations in South Africa was a major challenge. The closure of the South African subsidiary just before the data collection period made it particularly difficult to gather the views of local players. Consequently, the study relied on interviews with people overseeing the South African region from an external perspective. While these participants provided valuable insights into broader regional strategies and challenges, the lack of direct perspectives limits a full understanding of contextual nuances, particularly concerning operational barriers in South Africa. Another important limitation was the difficulty involved in collecting data from financial institutions, particularly banks. Banks, including BNP Paribas, tend to be very discreet about their internal decision-making processes, often limiting responses to information already available in the public domain. This lack of transparency made it difficult to uncover the reasoning behind certain decisions, particularly those related to specific energy investments or regional strategies. While publicly available data served as a basis for interviews, it often lacked the depth necessary to fully explore the motivations that shaped BNP Paribas' actions in different regions.

To mitigate these challenges, the study employed a series of interviews with stakeholders from different sectors, including financial experts, regional analysts and sustainability specialists. This broader range of perspectives helped to reduce reliance on a single source of information and to gain a more comprehensive understanding of the subject. By comparing diverse stakeholder perspectives, the study addressed gaps caused by limited access to BNP Paribas' internal decision-makers. In addition, the qualitative methodology adopted for this study enabled us to gain a better understanding of the company's sustainability performance. For example, the reliance on interviews meant that the results were shaped by the interpretations and experiences of the participants. While valuable, this approach may lack context, particularly

where the publicly available quantitative financial investment data, which was used in this study, could have been supplemented with more detailed proprietary data to provide greater clarity. Future research could benefit from combining qualitative interviews with more detailed quantitative analysis of energy investment data to strengthen the findings.

## **5.6 Recommendations for Future Research and Practice**

The results of this study provide a solid foundation for further exploration and practical advances in sustainable finance and energy transitions. Future research could build on this study in several key areas to deepen the understanding of how financial institutions can support energy transitions globally. One crucial area of research is broadening the geographical scope by examining BNP Paribas' strategies in other regions, particularly in developing economies across Africa, Asia, and Latin America. Comparative studies in these regions could explain how financial institutions adapt to varied regulatory environments, energy markets, and socio-economic conditions, highlighting challenges and opportunities specific to each region. This would contribute to a more global perspective on sustainable finance strategies. Another key focus for future research is the role of emerging technologies, such as green hydrogen, battery storage, and decentralized energy systems. Future research could assess their scalability, economic feasibility, and long-term impacts in regions with limited infrastructure. For instance, studies could explore how decentralized solutions like microgrids enhance energy security in underserved areas while promoting sustainability goals. These findings would offer valuable insights into integrating innovative solutions into diverse energy markets.

Future studies should also explore the effectiveness of public-private partnership frameworks in renewable energy development. Comparative analyses of successful models across regions could identify best practices for fostering collaboration between governments, financial institutions, and private sector actors. These partnerships can help mitigate financial risks, mobilize capital, and accelerate large-scale sustainable projects in emerging markets. Research could also dive into the dynamics of local stakeholder involvement in energy transitions. Researching how financial institutions can effectively engage with local communities, NGOs, and development agencies could provide valuable insights into addressing socio-economic challenges while enhancing energy access and sustainability outcomes. By addressing these areas, future research can support the development of scalable, context-sensitive solutions that effectively tackle global and regional energy challenges.

## 6. Conclusion

During this research, a comprehensive examination of BNP Paribas' strategies for managing energy sustainability, security, and costs in France and South Africa was conducted. Drawing from interviews, document analysis, and thematic evaluations, this study explored how the bank balances its global sustainability commitments with challenges of operating in different regional environments. The findings offer valuable insights into the main research question: How does BNP Paribas approach energy sustainability, security, and costs in France and South Africa? This research was conducted using a qualitative case study approach, combining 7 semi-structured interviews, document analysis, and thematic. The research illustrates BNP Paribas' ability to benefit from France's stable regulatory framework, which fosters investment in renewable energy and financial innovation. The bank's access to structured incentives, clear policies, and public-private partnerships has facilitated the deployment of sustainable finance mechanisms. In contrast, the bank faces significant difficulties in South Africa, where regulatory uncertainty, infrastructure challenges, and economic volatility are preventing the successful implementation of its sustainable development objectives. These contrasting experiences highlight the need for financial institutions to adopt flexible, region-specific approaches when supporting global energy transitions. This research contributes to understanding how banks can effectively navigate the complexities of sustainability in diverse regulatory and economic environments. By exploring both opportunities and barriers, this study offered a framework for policymakers, financial leaders, and sustainability advocates to develop more adaptive and impactful strategies to achieve global energy goals.

Regarding energy sustainability, BNP Paribas' French operations show the synergy between regulatory alignment, financial expertise, stakeholder collaboration, and technological innovation. Initiatives like investments in green hydrogen and the development of blockchain-based bonds show the bank's ability to drive transformative change in renewable energy. However, this success is highly dependent on favourable policy environments and subsidies, raising concerns about long-term scalability. To mitigate risks associated with potential policy shifts, BNP Paribas should diversify its investment portfolio to include decentralized renewable projects, reducing dependence on government incentives. Energy security also plays a critical role in BNP Paribas' strategies. In France, the bank has significantly contributed to modernizing grid infrastructure and strengthening energy resilience. Investments in energy storage solutions and smart grid technology reflect a commitment to aligning financial and energy objectives. However, in South Africa, systemic issues such as grid instability, coal dependency, and socio-

economic barriers have hindered similar progress. The bank's limited engagement in infrastructure improvements represents missed opportunities to enhance energy security in a high-need region. Expanding partnerships with local stakeholders to modernize grids and develop decentralized energy solutions could enable BNP Paribas to play a more proactive role in South Africa's energy landscape. Energy costs further shape BNP Paribas' regional strategies. In France, supportive financial mechanisms and the declining costs of renewables have allowed the bank to align profitability with sustainability goals. However, in South Africa, high capital costs, weak financial incentives, and uncertain policy environments increase the investment risks associated with renewable energy. To address these challenges, BNP Paribas should explore tailored financial instruments such as blended finance models, long-term contracts, and innovative risk-sharing mechanisms. These tools can help reduce upfront costs and create viable pathways for expanding renewable energy in emerging markets.

This study highlights critical gaps in understanding how financial institutions can balance risk and sustainability objectives in volatile regulatory environments. Future research should explore strategies for navigating regulatory uncertainty in emerging markets, particularly in financial institutions' response to policy volatility. Additionally, examining the effectiveness of public-private partnerships in financing energy transitions through comparative case studies could offer insights into best practices. Furthermore, comparative studies on sustainable finance models can help identify adaptable frameworks suited to different economic contexts.

In conclusion, this study offered practical insights for financial institutions, policymakers, and sustainability advocates trying to create a more resilient and fair energy future. BNP Paribas' experiences underscore the importance of aligning global ambitions with local realities, reinforcing the need for financial innovation and adaptive policy engagement. By taking a leadership role in sustainable finance, financial institutions have the power to drive systemic change, ensuring that energy transitions are not only technologically feasible but also inclusive and equitable. Financial institutions must continue to evolve, innovate, and lead the way in shaping a sustainable future that balances environmental integrity, economic resilience, and social well-being. Through strategic investment and collaborative governance, banks like BNP Paribas can become key enablers of a just energy transition, ensuring that sustainability is not just an aspiration, but an achievable reality.

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## **8. Appendix**

### **Master's Thesis Interview Script**

*Some questions were tailored differently based on who the respondent was but here is the general structure:*

Hello [participant name], thank you very much for taking the time to talk to me today. As a reminder, this interview is part of my research into the strategy of BNP Paribas and the reasons behind its strategic choices in terms of ecology, costs and the security of energy investments. This research is being carried out for the University of Cape Town as part of the CEMS programme. The aim of the interview is not to accuse you, but to understand the logic behind your energy choices. Please note that prior research was done on your articles and that the questions are based on my findings.

The interview will last approximately 20-30 minutes. Please note that your answers will remain confidential and that you can stop at any time if you feel uncomfortable. Before we start, do you have any questions about today's interview or the research project as a whole?

(Wait for their confirmation)

#### **Warm-Up Questions:**

“Let's start with general questions to ease into the conversation.”

1. We often hear about the pressure exerted by NGOs and public opinion on major financial institutions. For example, Greenpeace publishes reports that can influence banks' priorities. How do you perceive this at BNP Paribas? Does this pressure have an impact on your investment choices?
2. In South Africa, where BNP Paribas was present until a few months ago and where the government is seeking to diversify its energy mix, there has been little talk of significant investment by the big banks, despite the obvious potential. What, in your view, are the obstacles or criteria that explain this situation?

#### **Energy Sustainability**

3. BNP is targeting 90% investment in renewable energies by 2028, under pressure from NGOs, public opinion and internal risk management strategies. What are the risks behind this change, their potential impact, and the likelihood of them occurring?

4. Some banks impose strict criteria for working with companies, while others prefer a more flexible approach. At BNP Paribas, how do you align your customers with your sustainability objectives? Do you have specific indicators to measure this?
5. The Low Carbon Transition Group plays a key role in your efforts to support the energy transition. Could you share an example of a landmark project that illustrates your overall strategy in this area?

### **Energy Security**

6. Some energy projects, particularly in sectors such as solar and wind power, present regulatory or innovation risks. How does BNP Paribas ensure that its investments are secure while remaining competitive in such a fast-moving sector?
7. The Low Carbon Transition Group plays a key role in your efforts to support the energy transition. Could you share an example of a landmark project that illustrates your overall strategy in this area?

### **Energy Costs**

8. Renewable energy projects, while useful in the long term, often take time to generate significant returns. How does BNP Paribas reconcile these expectations with its financial objectives?
9. BNP Paribas plans to increase its investment in renewable energies from €100 billion to €300 billion to compensate for its lower returns and maintain profitability. Are you concerned about this situation and the feasibility of this operation?

“Thanks a lot for taking the time to answer my questions. Your input will be very useful for my research. Before I conclude this, is there anything you would like to add?”

(Answer)

“Okay, well then please let me know if you would like to receive a copy of my final paper. Otherwise, have a great day!”