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GREEN BANKING INITIATIVES IN AZERBAIJAN: CONTRIBUTION OF FINANCIAL SYSTEM

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Abstract: *Based on existing academic literature, green banking can primarily evolve along three directions: green product development, green corporate social responsibility, and green internal processes This study qualitatively evaluates the commitment of seven top-performing banks in Azerbaijan to green banking initiatives and categorizes their activities across these dimensions. The results of the content analysis illustrate that the banks under study demonstrated the strongest commitment in the areas of green products and corporate social responsibility. The adoption of green banking practices is anticipated to expand within the banking sector of Azerbaijan in the foreseeable future. Moreover, this article empirically examines the impact of environmental performance, primarily related to the internal processing category of business operations and assessed by resource consumption, on the profitability of the top two banks in Azerbaijan. The results reveal that, after controlling for bank size, environmental indicators do not exert a statistically significant impact, either positive or negative, on the profitability of these banks. Notably, energy consumption and GHG emissions exhibited the most considerable negative association, while only water consumption demonstrated a positive relationship with profitability. These findings support the tenets of Legitimacy theory and align with the findings of previous studies.*

Keywords: *green banking, green finance, sustainable development, commercial banks, profitability.*

1. INTRODUCTION

Society is coping with the complex problems of climate change. Nowadays, people are analysing global warming and its effects on humanity. Reducing carbon emissions and dependence on hydrocarbon fuels, and ensuring an appropriate transition to renewable energy sources, are the main requirements. With this goal in mind, many countries and companies have declared their commitments to achieve zero carbon levels by 2050. However, given that the transition is not limited to the energy sector alone, but also covers agriculture, industry, tourism, and many other sectors, this approach emphasizes the need for systematic environmental management for sustainable and inclusive development.

This goal serves the interests not only of society but also of many stakeholders, such as private companies responsible for pollution, financial institutions like banks, and policymakers. All parties play an important role in the development of society. Although banking activities do not have a direct physical impact on the environment, the external impact of bank customers' activities should be taken into account. Therefore, there is a need for banks

to follow the "green" trend in their development strategies. This strategy should be reflected in various banking operations, including investment and financing decisions.

Going green brings plenty of benefits to the community and nature. For example, the decline in paper waste due to switching many transactions to online channels helps reduce deforestation. Digitalization, on the other hand, reduces the risk of errors (Kesavan, 2018).

Environmental management in the banking sector is similar to risk management. Environmental risk management can be organized according to relevant guidelines (Hoque et al., 2019). With this method, banks take into account both investment and environmental risks in their decision-making processes. Banks also intensively adopt in-house environmental management. The key aspects of these activities include:

- Reduction in utility, paper, and stationery consumption.
- Use of renewable energy.
- Waste management.
- Green travel for employees.
- Reference to ethical banking.

The main objective of this study is to review the green banking practices implemented in commercial banks in Azerbaijan, as well as green banking policies and practices observed across the globe, for comparative analysis. Meanwhile, the research emphasizes the role of the financial system in the green transformation of banks. Additionally, the article evaluates the environmental performance of banks. This study aims to contribute to academic literature by investigating how the environmental costs borne by banks affect their profitability in Azerbaijan.

1.1 Green banking: Literature review

The banking sector can enhance environmentally sustainable and socially responsible investment by performing an intermediary function between economic development and environmental protection (Lalon, 2015). The key features of green banking include the implementation of online banking, reduction of costs and energy usage, and a subsequent increase in GDP. Banks should adopt significant green banking policies to demonstrate their commitment. Among various policies, one worth mentioning is the support of eco-friendly projects via green finance. The effectiveness of green finance initiatives across different regions—including Europe, Asia, and the Americas—was discussed by Sule et al. (2024). In the authors' opinion, a combination of regulatory clarity, cross-sector collaboration, and technological advancements turns green finance into a powerful tool to address climate change and support sustainability. Case studies included practical applications of green finance products, such as green bonds and sustainability-linked loans. For example, there was successful financing of clean energy projects, such as wind farms, through green bonds in Mexico.

Nawaz, Sirajudeen, and Khan (2020) claim that providing loans to firms that care about the environment would ensure more appropriate use of natural resources. As a result, we could expect the emergence of a more socially responsible corporate world. By implementing this policy, banks can reject loan applications from businesses that seek high profits without

considering environmental damage. On the contrary, banks can promote low-interest loans to environmentally friendly businesses.

Another external aspect of green banking is the issuance of eco-oriented banking products. For instance, implementing green card products driven by technological innovation can improve customer awareness of their ecological footprint. Kondyukova, Shershneva, and Savchenko (2018) mentioned the case of Russia's Tinkoff Bank, where a bank card helped collect over 500,000 rubles for environmental programs in 2017. Using the card for daily purchases contributed to nature protection by transferring 0.75% of each purchase to the World Wildlife Fund.

When it comes to internal processes, greening banks becomes possible through the establishment of "electronic branches" and "E-drive" technology. For example, the electronic document management system applied at Sberbank resulted in annual savings of 40 tons of office paper. There are also many other green financial services emerging in the financial sector. Joshi and Jain (2024) discussed several offered in India, such as green bonds, green mortgages, and green car loans. These products can influence customer behavior by encouraging the purchase of energy-efficient homes and fuel-efficient vehicles. Baicu (2021) noted that customers benefit from buying energy-efficient homes through lower interest rates, reduced heating/cooling costs, and higher market value. Green banking practices also positively influence bank profitability (Putri et al., 2022). By supporting green banking, banks demonstrate environmental commitment and enhance their public image. It is possible to reduce credit risk, improve asset quality, and increase enterprise value through environmental management.

Successful green banking implementation involves technological progress, operational improvements, and customer behaviour changes (Nath et al., 2014). Ozili (2023) tested the hypothesis that fulfilling Sustainable Development Goals (SDGs) can improve bank profitability by enabling access to low-cost clean energy, healthy and well-educated employees, decent workplaces, good infrastructure, better equality, and a climate conducive to sustainable banking operations. The study found a statistically significant negative relationship between SDG 13 (Climate Action) and bank profitability, as measured by return on assets (ROA). Other studies also note a negative correlation between environmental impact and financial performance in banks (Bressan, 2024). Bătae et al. (2021) found a positive relationship between emission/waste reductions and the financial performance of 39 European banks from 2010 to 2019. These results support the basic principles of Stakeholder Theory and the Resource-Based View.

Environmental performance can be measured by both monetary and non-monetary indicators. Dragomir et al. (2022) examined the impact of ESG performance on the financial performance of 333 banks across different regions. The authors used ROA and return on equity (ROE) as financial indicators and the natural logarithm of total assets as a control variable for bank size. Key environmental factors included resource usage, waste reduction, and emissions. The study found that environmental performance had a negative impact on ROE, and the impact on ROA was also negative, though statistically insignificant.

1.2. Theoretical Framework: Financial System and Green Banking

Organizations that embrace green banking often recognize their dependence on the social environment. This means their choices are not always driven by pure economic self-interest but also by social norms and what is deemed acceptable within their context. From a theoretical perspective, scholars apply the ideas of institutional theory to the study of multinational corporations (MNCs) (Kostova, 2013). The implementation of green banking practices does not just represent a change in banking operations; it also involves a cultural shift within the bank. Green banking necessitates the development of a distinct business ideology that emphasizes environmental issues and potential benefits.

The study by Bukhari, Hashim, and Amran (2019) contributes to the green banking literature by developing an institutional theory-based framework to evaluate how green banking is adopted. The framework proposes four determinants that impact the adoption of green banking:

- Top management pressure
- Customer pressure
- Competitor pressure
- Community pressure

Top management pressure and customer pressure are recognized as compulsory factors exhibited by banks in the adoption of green banking practices. The study by Mishra (2023) highlights that stakeholder demand, environmental interest, and brand image are the major drivers for the adoption of green banking in Nepal. Legitimacy theory supports this argument by stating that organizations aim to operate within societal norms and expectations. Particularly, as proposed by Dowling and Pfeffer (1975), it has a significant relationship with environmental performance. It implies that society expects organizations to operate in an environmentally responsible manner. This behaviour includes minimizing pollution, conserving resources, and engaging in sustainable practices. According to Legitimacy theory, companies will pay attention to these evolving environmental norms to be accepted as legitimate. Otherwise, refusal or avoidance of this strategy may lead to loss of the company's reputation, stakeholder relationships, and even cancellation of its license to operate. It implies that strong environmental performance can stand as a significant source of legitimacy.

The Sustainable Banking Network (SBN) represents a group of banking regulators and associations from 24 emerging markets and focuses on establishing frameworks for environmentally and socially sustainable lending (IFC, 2015). Based on general experience, common barriers preventing sustainable banking have been identified in a survey by the IFC across 25 countries. These challenges include issues of definition and measurement for sustainable banking, implementation of sustainable banking practices in core business, creation of business drivers for sustainable banking, promotion of information flow, and building capacity among regulators and banks. A survey conducted by the IFC across 25 emerging markets indicates that the commitment of senior management is essential to provide company-wide support and build robust frameworks for environmental and social risk management, as well as sustainable banking.

The relevance of private investments in financing the transition to a green economy has also been emphasized after the Paris Agreement. The role of climate policy and regulations in enhancing green investments has become a subject of analysis. Adequate assessment of climate

risk is a major factor contributing to the attraction of private capital flows. More than a hundred financial supervisors, encompassing central banks and financial regulators, have recognized the importance of climate risk. Consequently, after their involvement, investors are encouraged to disclose and evaluate climate-related risks.

Since the Paris Agreement (PA), there has been an expectation for the financial sector to play a significant role in the decarbonization of the economy. The green investment gap remains a decisive factor preventing the achievement of climate mitigation ambitions (Monasterolo et al., 2024). This gap can be reduced by enacting green regulatory policies that include the macroprudential regulation of financial institutions.

Firstly, we distinguish between the Green Supporting Factor (GSF) mechanism and the Dirty Penalizing Factor (DPF) mechanism. According to the GSF, banks are allowed to lower risk weights assigned to assets under green projects. Therefore, this mechanism fosters the transition to a sustainable economy as it requires banks to hold less capital for green loans. However, the absence of a standardized taxonomy for green activities represents a potential drawback to this mechanism, as it could lead to inaccurate assessments and the underestimation of the financial risks tied to green investments. As an example, the National Bank of Hungary set preferential green capital requirements in 2019 and 2020, offering the option to reduce capital requirements for certain categories of green assets, such as energy-efficient housing loans, loans to corporates or municipalities for renewable energy projects, electromobility, sustainable agriculture, or investments in green bonds. The second mechanism, called the Dirty Penalizing Factor (DPF), is another policy tool used to increase green investments. Compared to the GSF, the DPF requires financial institutions to hold more prudential capital for high-carbon assets exposed to climate transition risk.

The next set of policies related to green financial systems are the Green Portfolio Rewards (GPR) and Green Monetary Policies (GMP). Specifically, GMP can take two forms:

- Green Collateral Frameworks: Through green collateral frameworks, the central bank establishes acceptable upper and lower bounds for the proportions of high-carbon and low-carbon assets in a portfolio.
- Green Asset Purchase Program, also known as Green Quantitative Easing (GQE), targets low-carbon assets. GQE can be classified as a tool that shifts the central bank's balance sheet toward green bonds.

Vulnerability and sensitivity to climate change can also impact countries' preferences for imposing green financial policies. This hypothesis was tested by Gupta, Cheng, and Rajan (2022). The authors examined the determinants of green financial policy and found a positive and significant coefficient for climate vulnerability. Furthermore, the research confirms the hypothesis that the financial independence of central banks matters for the intensity of green financial policy. According to statistical results, larger central banks are less likely to implement green financial policies, ceteris paribus. In contrast, smaller central banks, particularly in developing countries, devote more attention to green financial policies.

The Central Bank of Azerbaijan (CBA) plays a key role in promoting sustainable finance in the economy. The CBA developed the Roadmap for Sustainable Finance for 2023-2026 to strengthen the contribution of the financial sector to the country's sustainable development. This Roadmap aims to encourage the provision of sustainable financial flows by considering climate-related and environmental risks alongside social and governance (ESG)

factors. It supports the integration of climate-related and ESG factors into the risk management and decision-making processes of financial institutions concerning finance and investments. The CBA distinguishes four pillars for Sustainable Finance Roadmap (SFR) and proposes relevant actions for each pillar. Pillar 1 addresses the need to raise awareness about climate-related and ESG risks. Pillar 2 involves relevant government agencies and stakeholders under the CBA's leadership developing a taxonomy for sustainable finance. One benefit of establishing a taxonomy is the introduction of a standardized framework for organizations to develop sustainable finance policies.

Given the profound role of the financial sector in the transition to a sustainable economy, the CBA recognizes the transformation of the financial sector toward sustainable finance as a strategic priority. In March 2025, the CBA, in cooperation with the British Embassy in Azerbaijan, the British Standards Institution (BSI), and the Azerbaijan Banks Association (ABA), organized a training session on carbon accounting for the banking sector within the framework of the "Carbon Accounting and Accountability in Financial Institutions" project. The primary goal of the event, held on March 3-6, was to facilitate the ability of banks to develop carbon accounting strategies for their financed emissions in accordance with international standards.

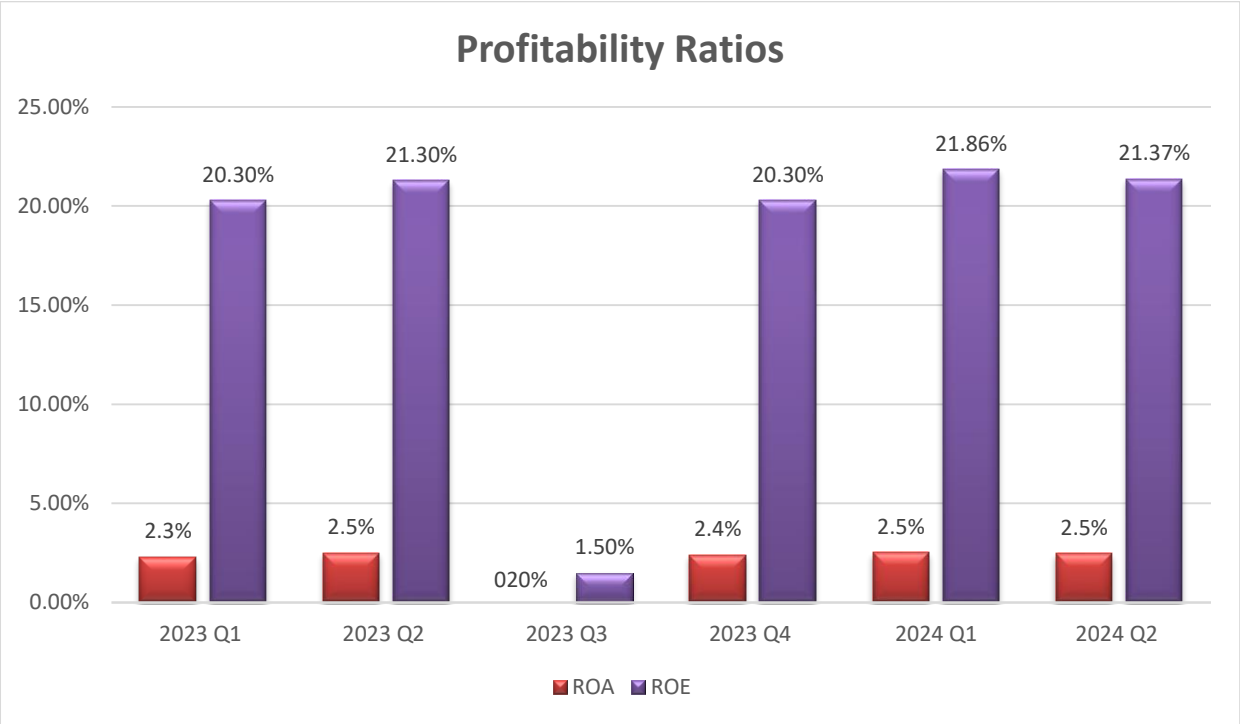
The key challenges preventing long-term green financing include limited awareness, a shortage of policies and instruments, and insufficient capacity within financial institutions to manage climate-related risks (World Bank, 2023).

Azerbaijan's financial system is characterized as bank-based, with a small role for non-bank financial intermediation. According to the CBA, the banking sector has demonstrated positive dynamics in profitability indicators (CBA, 2024). In the first half of 2024, the banking industry generated a net profit of AZN 614M. Return on Equity (ROE) stood at 21.86% and Return on Assets (ROA) reached 2.54% for the first quarter of 2024 (Figure 1). The ROA remained stable due to rising interest income. Net interest income followed an upward trend, increasing by AZN 145M from the first half of 2023 to AZN 1,379M in the first half of 2024 (Figure 2).

Despite the positive profitability across all banks in the sector, profitability was concentrated. Three banks, which account for 63% of total assets, generated 68% of the sector's net profit in the first half of 2024. A similar pattern was observed in 2023 when 71% of the sector's net profit was concentrated in three banks, which together hold 63% of the sector's assets.

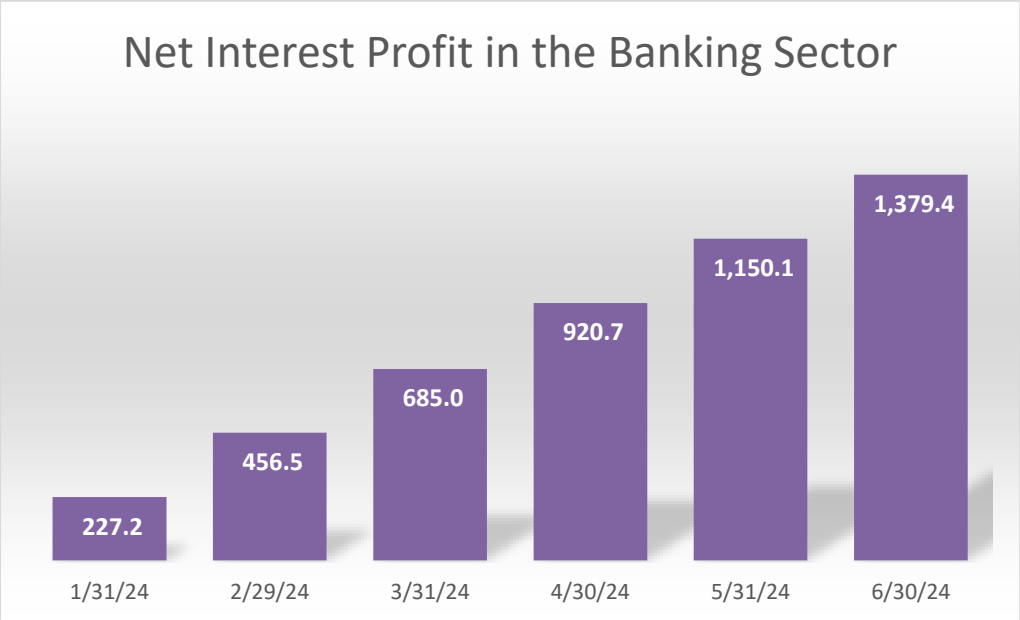
A detailed review of the loan portfolio of banks reveals that business loans were the prevailing type of loans issued, showing an increasing rate between March 2023 and March 2024 (Figure 3). Digitalization in the banking sector is another trend. Currently, most banks have successfully transitioned to providing services through internet and mobile banking applications. The volume of transactions conducted via internet and mobile banking is growing rapidly (Figure 4).

Figure 1. *Profitability Indicators in the Banking Sector*



Source: CBA

Figure 2. *Net Interest Profit in the Banking Sector in 2024.*

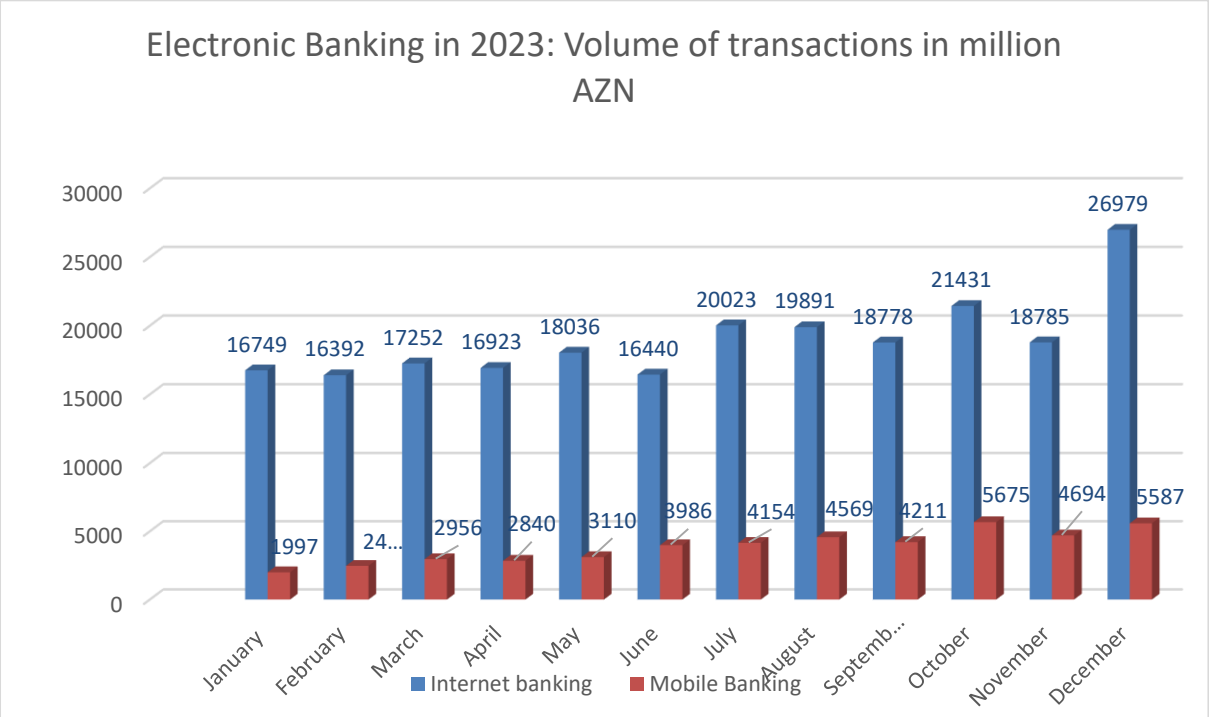


Source: CB**A**

Figure 3. *The Structure of Loan Portfolio of Banks*

Source: CBA

Figure 4. *Electronic Banking in 2023*



Source : CBA

2. Methodology

The banking sector of Azerbaijan includes both public and private banks. As of December 31, 2024, there are a total of 22 banks, of which two are state-owned and the remaining twenty are private. A wide range of green initiatives can be observed among both state and private banks in Azerbaijan. This study explores the green banking practices of seven banks, selected based on their net profits (Table1). The initiatives undertaken are classified into three categories:

- green product development,
- corporate social responsibility
- internal processes.

The research method employed for analysing green banking initiatives is content analysis. The primary purpose of this research is to review the adoption of green banking initiatives by commercial banks in Azerbaijan. To assess the commitment of the banking sector to sustainable banking practices, we use various reports from the Central Bank of Azerbaijan and other major commercial banks. The article uses secondary data from annual reports and sustainability reports published between 2021-2023, in addition to news and press releases uploaded from official websites within the date range of 2021 to 2025.

Table 1. Net Profit of Banks (in thousand AZN) for 2023

Name of Bank	**Net Profit**
Kapital Bank	242 209
ABB	358 399
PASHA Bank	225 712
Xalq Bank	64 641 464 (in AZN)
Bank Respublika	38 815
Access Bank	39 838
Unibank	31 071

Source: Financial Statements of Banks
Note: For Xalq Bank it is shown in AZN

Our research question focuses on the relationship between environmental performance and the profitability of banks, which will be investigated through multiple regression analysis. To address this, we utilized annual data from the financial statements of the two banks for the years 2021–2023, as well as the sustainability reports of these banks to collect data on their environmental indicators. The financial ratios used to measure profitability in the study were calculated based on data from the financial statements of relevant banks. The time span was selected based on the availability of data for environmental indicators.
Table 2 illustrates the variables with their symbols and descriptions applied in the study.

Table 2

Name of Variable	**Symbol**	**Description**
Dependent Variable	ROA	Net Profit / Total Assets
Return on Assets		
Independent Variables		
Water Consumption	Watercons	Logarithm of water consumption
Waste generated	Waste	Logarithm of generated waste
Energy Consumption	Energycons	Logarithm of energy consumption
Total GHG emissions	Carbon	Logarithm of GHG emissions
Control Variable	Size	Logarithm of Total Assets
Bank Size		

Source: Design of authors

Despite being strongly balanced, panel data analysis does not provide reliable estimates due to scarcity of data. Single-equation model was estimated using ordinary least squares (OLS) method. To reduce omitted variable bias, we also incorporated additional control variable "Bank Size" that also affects financial performance. Bank size is measured by the natural logarithm of the book value of total assets.

The sample captured two best-performing banks, ABB and Kapital Bank, based on their net profit for 2023. The regression model can be represented as follows in equation (1):

$$ROA_{it} = \beta_1 Size + \beta_2 Watercons + \beta_3 Waste + \beta_4 Energycons + \beta_5 Carbon + \varepsilon_{it} \quad (1),$$

where *i*- represents the group (i=1,2) and *t*- represent time (t = 1,2,3) , ε_{it}- idiosyncratic error term.

3. Results

First of all, we represent and summarize the results of content analysis for green banking initiatives held in Azerbaijan. The list of conducted activities grouped for each bank separately in bullet points.

I. Kapital Bank

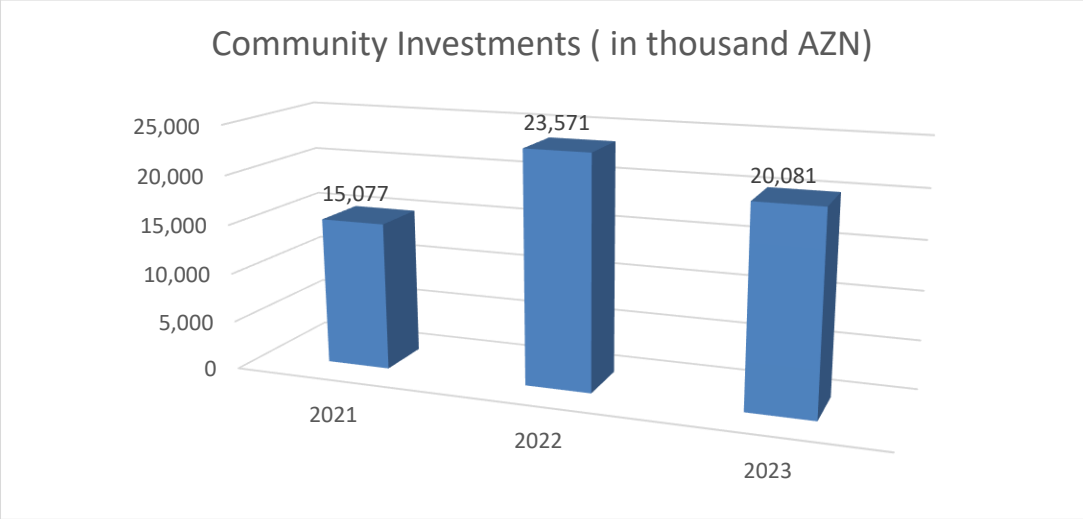
Kapital Bank represents one of the largest financial institutions in the country. The bank proactively demonstrates its environmental commitment through participation in various sustainability projects and promotes green banking initiatives in its business model. The statements below summarize these activities:

1. Green corporate social responsibility

- Establishment of Red Hearts Foundation: Kapital Bank targets to increase community and environmental wellbeing in the society by integrating corporate social responsibility (CSR) principles into daily business operations. The Red Hearts Foundation intends to focus on community engagement, animal welfare, and environmental protection. The bank arranges educational workshops, training sessions, and awareness campaigns for community engagement. Investments in the community have grown steadily during recent years (Figure 5).

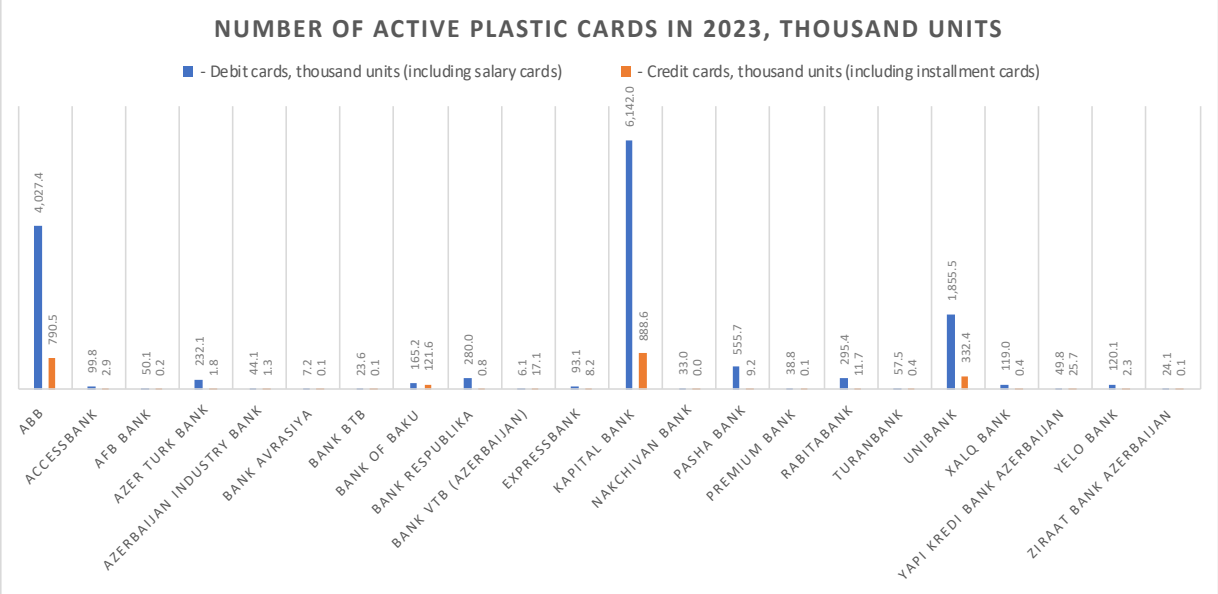
- The next initiative of Kapital Bank in the field of environmental protection and environmental improvement was related to tree planting campaigns. Birbank introduced the "Green Deposit" campaign in the Year of Solidarity for a Greener World in October 2024. According to this campaign, anyone who places a deposit via the Birbank app will have a chance not only to earn interest but also to contribute to environmental sustainability. For every customer aged 18 and above who applies for a digital deposit, a tree will be planted in their name, alongside that electronic certificate as a token of appreciation will be provided.
- Digital Banking: Kapital Bank presented Birbank digital centres that offer various advantages to customers such as elimination of paperwork and self-service mode.

Figure 5. *Community Investments in Kapital Bank*



Source : Kapital Bank Annual Sustainability Report (2023)

Figure 6



Source: ABA (2023)

2. Green product development

- On June 8, 2023 Kapital Bank participated in syndicated loan project of Türkiye İş Bankası with sustainability-linked objectives with total amount of $224 million to be used according to ESG criteria.
- In general, among the main strategic directions Kapital Bank recognizes financing of green projects, significant discounts on eco-friendly car loans, efficient use of eco-resources, and implementation of projects aimed at reducing waste.
- The bank developed the "Digital Deposit" product, allowing customers to open and manage deposit accounts entirely online through the Birbank mobile application. The Bank also is a leader in the number of actively used plastic cards (Figure 6).

3. Green internal processing

- The bank is successful in organizing internal process automation. There is a significant decline in the amount of paper waste and energy consumption generated from automating administrative processes. Tough waste management practices help to reduce the environmental footprint linked to business operations. For instance, The Archive department applies paper recycling while Marketing and HR departments work closely with external stakeholders to ensure corporate social responsibility initiatives to give prompt waste management practices.
- Kapital Bank reached the implementation of ESG initiatives that represent part of green internal processing, such as applying 3R principles in waste management, implementing a discrimination-free workplace, and initiating inclusive education.

II. ABB

Bank ABB is one of the leading banks in the country. The Bank puts effort to improve ESG performance within the organization. The list of main achievements presented below according to classifications:

1. Green corporate social responsibility

- ABB achieves enhancement of operational efficiency via technological advances. The bank pursues digitized accounting documents and paperless branch initiative which suggests digitized loan processing. Moreover, the practice of digital ID cards is also implemented.
- To support environmental sustainability goal, the Bank introduced Tam DigiCard which is issued digitally. This card offers a wide range of transactions without commission.
- The Bank took part in several tree-planting campaigns. One of them was organized by IDEA Public Union and the Ministry of Ecology and Natural Resources. The trees were planted on a 51-hectare area allocated in Mushfigabad settlement.
- The bank while establishing the Khankendi branch took into account the declaration of Karabakh and East Zangezur as a zone of green growth. The building of the Khankendi branch was built according to green banking concept. Solar panels were placed on the roof of the building and the facade and advertising boards of the Khankendi branch are illuminated with renewable energy.

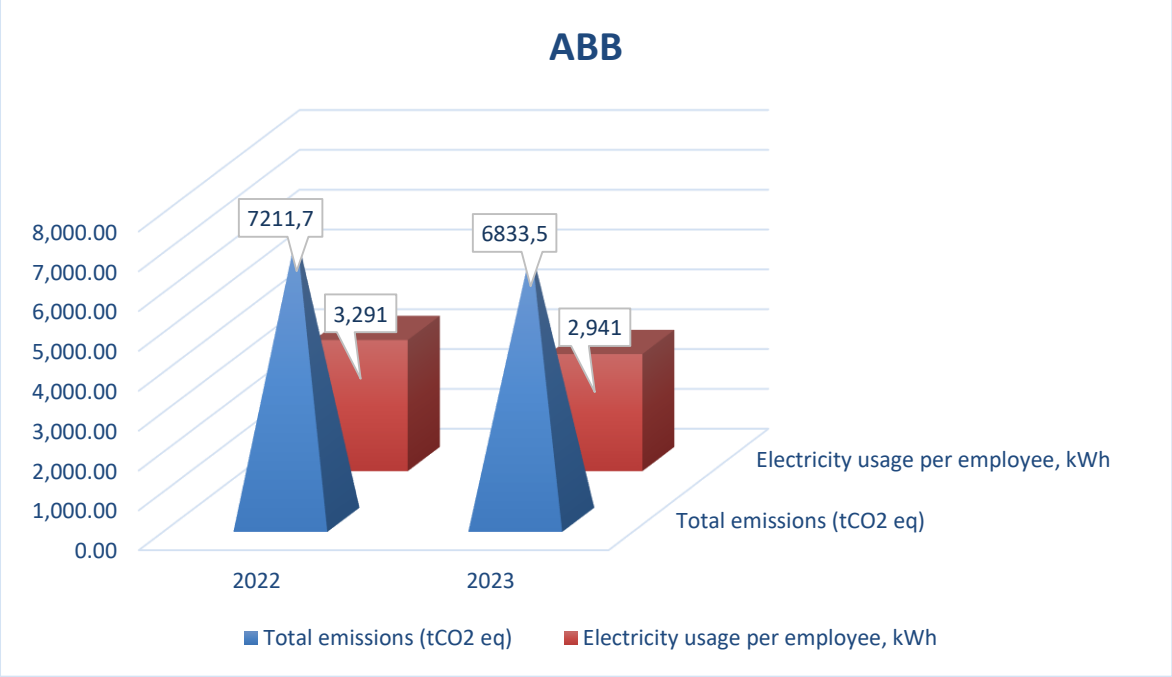
2. Green product development

- The bank supports provision of financing for the sustainable projects. Sustainable loan can be with 2 types of labels: green label and social label. Green label projects should aim to support direct or indirect reduction in GHG emission, efficiency of energy/ resource consumption, transition to a circular economy and protection, restoration and promotion of natural resources and healthy ecosystems.
- ABB launched a new green product called the TamEco card that was made from recycled plastic collected from the oceans in 2023. As a part of project, the Bank committed to planting one tree for each order of TamEco card.

3. Green internal processing

- The Bank was successful in the reduction of total GHG emissions and electricity usage per employee approximately 5% and 10,6% respectively from 2022 to 2023 (Figure 7).

Figure 7



Source: ABB Sustainability Report (2023)

III. PASHA Bank

PASHA Bank is a leading corporate bank in Azerbaijan with its strong capital base. The Bank achieved total regulatory capital adequacy ratio of 20.41% in 2024 IV quarter. One of its strategic goals is to finance projects that promote environmental protection and energy efficiency. PASHA Bank implements an integrative sustainability strategy that consists of its economic, social and environmental activities.

1. Green corporate responsibility

- The Bank joined the tree planting campaign organized by IDEA Public Union in collaboration with the Ministry of Ecology and Natural Resources.

- The Bank offers digital loan products and SME customers can apply completely online, without submission of physical documents or visiting branches. This is a convenient and fast way for doing business that enhances flexibility and effectiveness.

2. Green product development

- The State Oil Company of the Republic of Azerbaijan (SOCAR) successfully placed $200 million in “green” bonds with the support of PASHA Capital Investment Company. These bonds targeted developing renewable energy sources and supporting new "green" energy projects.
- PASHA Bank also made investments in environmentally friendly modes of transport. Within a joint project with “Xaliq Faiqoğlu” Company, the Bank financed the import of 50 compressed natural gas (CNG) buses and 5 electric buses. Moreover, the Bank supported financing of many other green projects.

3. Green internal processing

- PASHA Bank effectively manages total electricity and water consumption by using an advanced technology infrastructure throughout its branch network and at headquarters.
- The Bank formed its own recycling infrastructure. Initiatives include recycling vehicle batteries, in addition to collecting waste papers and disposing of electronic equipment.
- The Bank organizes special training for its staff members to increase environmental awareness among the workforce and other stakeholders.
- PASHA Bank has joined the Mastercard Sustainable Cards Program to reduce plastic waste and restore environmental protection. The aim of program is to eliminate gradually the usage of polyvinyl chloride (PVC) in the production of payment cards and replace with recycled and bio-based materials for all newly issued cards for by 2028.

IV. Xalq Bank

Xalq Bank, founded in 2004, is one of the largest private banks in Azerbaijan in terms of total assets (ABA, 2023).

1. Green corporate social responsibility

- A tree planting campaign was held in the Mushfigabad settlement of Baku organized by Xalq Bank and supported by the Ministry of Ecology and Natural Resources.
- Support of online banking services via XalqOnline app, implementation of Digital Card for free that allows the management and tracking of banking operations. The customers can also use Cash In ATMs to top up the card.

2. . Green product development

- On April 06, 2023 Xalq Bank took part in sustainability-linked syndicated loan project with total amount $1.3 billion to be used according to ESG criteria originated for Ziraat Bank. Loans extended within the Earthquake Support Packages to mitigate the effects of the earthquake in February.

- On May 13, 2024, Xalq Bank participated in the syndicated loan facility for Türk Eximbank (Türkiye Ihracat Kredi Bankası A.Ş.) with total amount $728m equiv. This loan also will be used in accordance with ESG standards, which refer to the principles of environmental, corporate governance and social responsibility. The bank highlights the significant role of participation in this syndicated loan project for enhancement of interbank relations with the banks of the Republic of Türkiye.

V. Bank Respublika

Bank Respublika, being one of the largest commercial banks in the country, attempted to promote sustainability through various initiatives.

1. Green corporate social responsibility

- Bank Respublika proactively supports provision of basic financial operations with help of mobile banking. It makes possible to activate virtual Digital Card via application.
- The bank's employees planted about 100 trees around Bank Respublika Arena with the players of "Sabah" FK, one of the leading clubs in the national football championship.

2. Green product development

- The bank introduced "Green Loan" as new financial instrument for entrepreneurs, offered under the EU4Business-EBRD Credit Line, which represents a combined effort of the EU and the European Bank for Reconstruction and Development and aims to support environmentally sustainable projects and improve the energy efficiency of micro, small and medium-sized enterprises (MSMEs). This product proposes numerous benefits to entrepreneurs such as up to 15% cashback to reduce the financial burden on entrepreneurs, a decline in operational costs, quick processing and the usage of cleaner technologies for environmental protection.

3. Green internal processing

- The bank conducted several events for the "Year of Solidarity for a Green World". There was held two-day seminar on green financing for employees with the Dutch Entrepreneurial Development Bank (FMO). Specialists from FMO shared their experience in field of green financial projects and discussed possibility for development of such initiatives in the banking sector.

VI. AccessBank

AccessBank established since 2002 and serves Azerbaijan MSME and retail market with total assets of 1.5 bn AZN. 66 % of loan portfolio is devoted to micro loans (AccessBank, 2023). One of the strategic goals of AccessBank is to ensure sustainable development and financial profitability for investors.

1. Green corporate social responsibility

- The bank participates in tree plantation campaigns. In 2024, for the sake of "Year of Solidarity for a Green World", a tree planting campaign was held with the support of AccessBank with the participation of members of the Baku Port and the Institute of Internal Auditors (IIA Azerbaijan Chapter). During the campaign, 170 olive and pine trees were planted in the territory of the Baku Port.
- The Bank puts to use its digital platform myAccess for all customer segments. In 2023, AccessBank successfully moved to the Azericard processing center. This migration helps to expand payment tools by integrating its digital services with Google Pay and Apple Pay.
- Since 2022 after joining "Collect Batteries, Protect Nature" project, AccessBank has collected used batteries at its headquarters and branches in other regions, then handled them over to a specialized waste management company for safe disposal.

2. Green product development

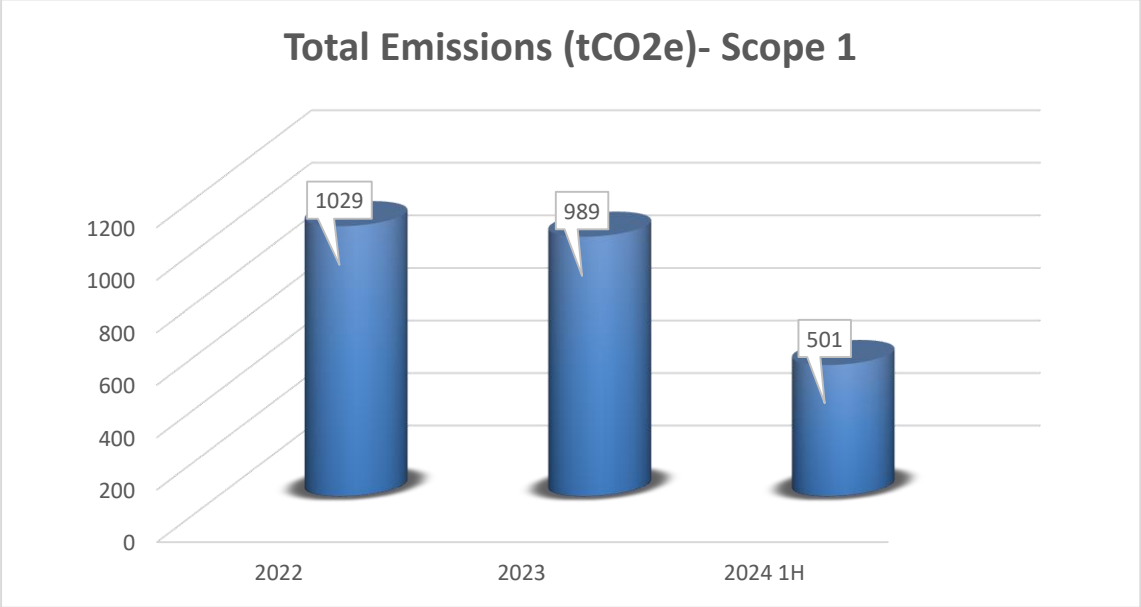
- In 2023, AccessBank signed a senior unsecured loan agreement with the Global Climate Partnership Fund S.A. (GCPF) with first committed tranche of AZN 8.5 million. The proceeds from loan will support initiatives for energy efficiency and renewable energy projects undertaken by MSMEs in Azerbaijan.

3. Green internal processing

- AccessBank carries out activities directed to minimize its carbon footprint. This target implies optimizing operations and investing in energy-efficient technologies. In 2023,the bank started tracking emissions with the goal to continuously reduce them. According to statistics, total emissions (tCO2e) based on Scope 1 reduced significantly from 2022 to first half of 2024 (Figure 8).

Figure 8

AccessBank- Total Emissions based on Scope 1



Source: AccessBank Sustainability Report

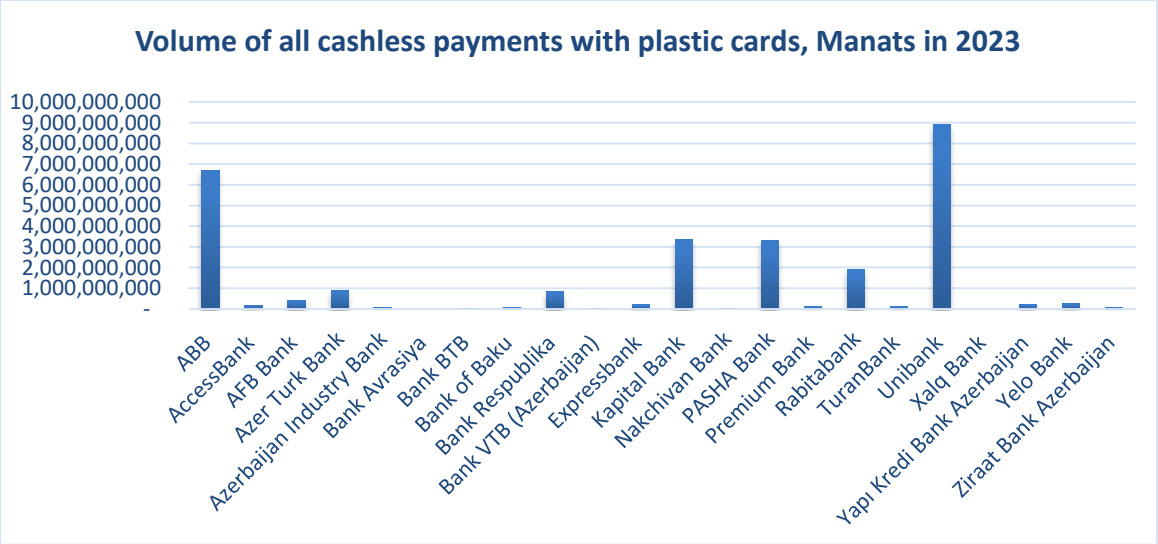
VII. Unibank

Unibank represents one of the largest private banks founded in Azerbaijan in July 1992 under the name of MBank.

1. Green corporate social responsibility
   - The bank planted 500 trees in the Mushfigabad area. Bank employees planted Eldar pine and olive seedlings on an area of about 1 hectare. The tree planting campaign was supported by the Eco Hub Public Union for Support of Ecological Initiatives.

2. Green product development
   - Unibank issued securities that can be classified as green bonds in compliance with international green finance standards in October 2024. The nominal value of the bonds is set at 100 AZN, with an annual interest rate of 11.5%.
   - Unibank entered into a strategic partnership with one of the leading taxi companies Yango Azerbaijan. The aim of partnership is to provide financial support for increasing the number of eco-friendly hybrid cars in Baku. As part of this partnership, the delivery of 500 new hybrid cars to four partner taxi fleets of Yango Azerbaijan was expected. The cars were offered under very favorable, preferential conditions.
3. Green internal processing
   - The bank has launched its first digital branch, which offers access to services and products in a completely digital format. Noticeably, Unibank was ahead in the volume of cashless payments made with active plastic cards in 2023 (Figure 9).

Figure 9



Source: ABA (2023)

Results of Regression Analysis

Table 3: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	6	2.12	1.29	.03	3.94
Watercons	6	10.86	.31	10.53	11.28
Size	6	16.11	.30	15.71	16.45
Energycons	6	16.06	.06	15.97	16.14
Waste	6	7.56	.92	6.56	8.51
Carbon	6	8.87	.05	8.79	8.92

Source: Authors' calculations

Table 3 above demonstrates the descriptive statistics of the data generated using STATA software. The table summarizes the mean, maximum and minimum values, and standard deviation for the variables. In the following analysis, we examined the role of environmental impact on bank characteristics by using a set of resource-based environmental factors. The profitability of the banks was measured by Return on Assets (ROA), which is derived as the total net income divided by the book value of assets. Consequently, higher levels of ROA indicate better performance for the bank.

According to the obtained results, both banks in the sample showed positive performance in terms of profitability, with a positive mean of 2.12% for ROA. Typically, a desirable level of ROA is above 1%.

The low standard deviation observed for all independent variables and the control variable suggests small variability and homogeneity in the data. When it comes to environmental indicators, it is evident that the banks in the sample are primarily exposed to water and energy consumption.

Table 4 : Regression Output

Variable	***Coefficient***	***Std.Error***	***P-value***
Waste	*-.31*	*- 0.06*	*0.96*
Energycons	*-10.12*	*27.73*	*0.77*
Size	*6.76*	*10.66*	*0.64*
Watercons	*6.40*	*10.06*	*0.63*
Carbon	*-1.31*	*39.28*	*0.97*

Source: Authors' calculations

Table 4 illustrates regression output generated from regression analysis of equation (1). The results show that the coefficient of the waste, energy consumption and GHG emissions on ROA is negative. However, we find a positive coefficient for water consumption among the environmental variables. Notably, profitability is more severely affected by energy consumption and greenhouse gas emissions. Conversely, the higher of water consumption is associated with increased profitability. As regards the control variable, we notice that profitability positively influenced with an increase of bank size as it was expected. These findings align with previous studies, including Emmanuel et al. (2024). To sum up, all regressors are statistically insignificant as p-values are higher than 0.05.

4. CONCLUSIONS

This research discusses how the financial system contributes to the development of green banking. A large body of academic literature acknowledges that the enforcement of green regulatory policies is a key factor in promoting green investments in financial institutions. Roadmap for Sustainable Finance for 2023-2026, introduced by the Central Bank of Azerbaijan, supports the incorporation of ESG factors into risk management policies.

The present study analysed green banking initiatives implemented in Azerbaijan, categorizing them according to the three categories used in the study by Sharma and Choubey (2022) for Indian banks. The results indicate that the top-performing seven banks in Azerbaijan have been quite successful in recent years in establishing and implementing green banking practices. Notably, all the banks under review demonstrated a strong commitment to participating in activities linked to green corporate social responsibility. These banks have consistently engaged in important campaigns organized for environmental protection purposes. Furthermore, all of them have adopted internet and mobile banking for a wide range of banking operations. The banks in the country also showed positive trends in the green product development dimension presented in the classification. Despite being relatively new, several green financing products, such as green loans, green deposits, and green bonds, have been successfully introduced to the market.

In terms of internal process improvements, it is clear that all the banks under consideration have made considerable efforts to ensure effective waste management and reduce their carbon footprint. Trainings for employees, as well as initiatives aimed at saving water, paper, and electricity, are being intensively implemented. The introduction of fully digital branches is another initiative that has been successfully executed.

However, there is still room for improvement. It is expected that the scope of these initiatives will continue to expand across various dimensions. In general, it is likely that large-scale implementation of certified green buildings, the use of renewable energy through solar-powered ATMs, or the generation of wind power for branches will be pursued in the future.

As a growing body of academic literature recognizes, we can infer that environmental management which became an important part of business regulation, facilitates efficiency and profitability of banks in Azerbaijan. Particularly, two major banks of the country showed consistency in terms of environmental performance. Both banks proactively target to reduce their carbon footprint by implementing effective environmental management strategies. We observe a negative but not significant relationship between disclosures of environmental performance regarding energy consumption, carbon emissions, and waste, and financial

performance, even in the short term. Our findings coincide with the study by Dragomir et al. (2022). However, it is crucial to consider that other unobserved factors or additional variables that are not reflected in our model can also influence ROA. In this case, further investigation might be necessary to attain a more complete model for the determinants of ROA.

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