

Islamic Finance and Climate Agenda

From Green Sukuk Innovation to Greener Halal Value Chains

NOVEMBER 2025



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Foreword

This report is a testament to the multifaceted role of Islamic finance in addressing the global climate crisis, which demands urgent, inclusive, and innovative responses. For the 57 member countries of the Organization of Islamic Cooperation (OIC), climate change presents a profound challenge, one that intersects with development priorities, economic resilience, and social equity. Many OIC countries are highly exposed to climate risks yet face constraints in mobilizing the scale of investment needed to transition toward low-carbon, climate-resilient economies that can create new jobs and stimulate innovation.

Islamic finance offers a unique and powerful framework to address this challenge. Rooted in principles of justice, fair stewardship, and shared prosperity, Islamic finance can promote the alignment of economic activity with ethical and environmental responsibility. Its emphasis on risk-sharing, asset-backing, and social solidarity provides a compelling foundation for financing climate action in ways that are both impactful and inclusive. The ethos of Islamic finance is universal and linked to the real economy, thereby extending its reach to encompass diverse social and environmental contexts.

This joint report by the World Bank Group Inclusive Growth and Sustainable Finance Hub in Malaysia and the Islamic Development Bank explores the nexus between Islamic finance and climate action. It provides a descriptive assessment of market trends, instruments, and innovations across the OIC and highlights the growing momentum for integrating Islamic finance into climate strategies. From green sukuk and takaful to forests waqf and climate fintech, the report showcases the diversity of financial innovation available and the opportunities to scale them.

Importantly, this work reflects a shared commitment to collaboration. It draws insights from regulators, financial institutions, halal industry enterprises, and development partners. It is informed by data, grounded in practice, and guided by the belief that Islamic finance can, and must play a central role in advancing climate and development goals.

As we look ahead, the imperative is clear: We must act boldly and collectively to unlock Islamic finance's full potential in addressing the climate crisis. This report is both a roadmap and a call to action. We hope it will inspire policymakers, financial leaders, and stakeholders across the OIC and beyond to accelerate progress toward a more just, sustainable, and climate-resilient future.

Together, we can elevate Islamic finance as a catalyst for climate action and inclusive development, serving communities today and safeguarding the planet for generations to come.

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Glossary

Principles of Islamic Finance	
Prohibition of interest (Riba)	The premium (interest) that must be paid by the borrower to the lender, along with the principal amount, as a condition for the loan or for an extension, is forbidden. (i) Riba al-Fadl: Riba in hand-to-hand or barter exchange. (ii) Riba al-Nasi'ah: Riba in money-to-money exchange provided the exchange is delayed or deferred, and an additional charge is associated with such deferment.
Prohibition of speculative behavior (Gharar)	Uncertainty in contractual terms and conditions is forbidden. However, risk-taking is allowed when all the terms and conditions are clear and known to all parties.
Ban on financing certain economic sectors	Financing of industries deemed unlawful by Shariah such as liquor, pork, and gambling is forbidden.
The profit- and loss-sharing principle	Parties to a financial transaction must share in the risks and rewards attached to it.
The asset-backing principle	Each financial transaction must refer to Shariah-compliant tangible assets (e.g., real estate) and/or intangible assets like usufruct (e.g., leasehold rights) or services (e.g., toll road concessions).
Takaful (Islamic Insurance)	Takaful is a joint guarantee arrangement in which a group of participants agree to support one another jointly for losses arising from identified risks. Under this arrangement, participants commit a sum of money to a common fund that will be used mutually to assist the members against a specified type of loss or damage.
Retakaful	A form of Islamic reinsurance that operates on the Takaful model.
Kafalah	A contract of guarantee is used to provide assurance as to performance or liabilities.
Wakala (Agency)	A contract whereby someone appoints another to act on his/her behalf for a fee.
Murabaha	Trade with a markup or a cost-plus sale. The purchase of an asset is financed for a profit margin, with the asset purchased on behalf of client and resold at a pre-determined price. Payment could be in lump sum or in installments, and ownership of the asset remains with bank until full payments are made.
Commodity Murabaha or Tawarruq	A murabahah transaction based on the purchase of a commodity from a seller or a broker and its resale to the customer on the basis of deferred murabahah, followed by the sale of the commodity by the customer for a spot price to a third party for the purpose of obtaining liquidity, provided that there are no links between the two contracts.
Ijarah	A contract made to lease the usufruct of a specified asset for an agreed period against a specified rental. It could be preceded by a unilateral binding promise from one of the contracting parties. An ijarah contract is binding on both contracting parties.
Musharaka	Equity participation contract. Different parties contribute capital, and profits are shared according to a pre-determined ratio, not necessarily in relation to contributions, but losses are shared in proportion to capital contributions. The equity partners share and control how the investment is managed, and each partner is liable for the actions of the others.
Mudaraba	Trustee financing contract. One party contributes capital while the other contributes effort or expertise. Profits are shared according to a predetermined ratio, and the investor is not guaranteed a return and bears any financial loss.
Sukuk (Islamic bonds)	Sukuk are certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services, or (in the ownership of) the assets of particular projects.

Awqaf or Waqf (Endowment)	Assets that are donated, bequeathed, or purchased to be held in perpetual trust for general or specific charitable causes that are socially beneficial.
Zakat	An obligatory financial contribution disbursed to specified recipients that is prescribed by the Shariah for those who possess a minimum amount of wealth that is maintained in their possession for one lunar year.
Definitions used in this report	
Sustainable finance	Practices by financial institutions and other financial sector participants that reduce and manage ESG risks resulting from or affecting financial sector activities, including climate change risks, and that encourage the flow of capital to assets, projects, sectors, and businesses that have environmental and social benefits, including climate change mitigation and adaptation.
Climate finance	Financing that supports the transition to a climate-resilient economy by enabling mitigation actions to reduce and contain greenhouse gas emissions and adaptation actions that promote the climate resilience of infrastructure as well as social and economic assets.
International Islamic finance standard-setting bodies	In this report, this refers to institutions such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), the General Council for Islamic Banks and Financial Institutions (CIBAFI) and the Islamic Financial Services Board (IFSB).
Islamic sustainable finance	Shariah-compliant sustainable finance.
Islamic climate finance	Shariah-compliant climate finance.
Conventional finance	Refers to financing which are not Shariah-compliant.

Acronyms

AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
ADB	Asian Development Bank
AE	Advanced Economies
ASEAN	Association of Southeast Asian Nations
BNM	Bank Negara Malaysia
CAGR	Compound Annual Growth Rate
CBI	Climate Bond Initiative
CCDR	World Bank Country Climate and Development Reports
CIBAFI	General Council for Islamic Banks and Financial Institutions
CO2	Carbon dioxide
COP	Conference of the Parties
CPI	Climate Policy Initiative
DFI	Development Financial Institution
EMDE	Emerging Markets and Developing Economies
ESG	Environment, Social, and Governance
Fintech	Financial Technology
F&B	Food and Beverage
FOLU	Food and Land Use
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GHB	Greening Halal Business
GHG	Greenhouse Gas
HIC	High-Income Countries
ICMA	International Capital Market Association
IFC	International Finance Corporation
IFSB	Islamic Financial Services Board
IHLEG	Independent High-Level Expert Group on Climate Finance
ILO	International Labour Organization
IMF	International Monetary Fund

IsDB	Islamic Development Bank
LFSA	Labuan Financial Services Authority
LIC	Low-Income Countries
LMIC	Lower-Middle Income Countries
LSEG	London Stock Exchange Group
LULUCF	Land Use, Land Use Change and Forestry
MDB	Multilateral Development Bank
MENA	Middle East and North Africa
MIC	Middle-Income Countries
MRV	Monitor, Verify, and Report
ND-GAIN	Notre Dame Global Adaptation Initiative
NGO	Non-Governmental Organization
OIC	Organization of Islamic Cooperation
PE	Private Equity
PPP[*]	Public-Private Partnership
PV	Present Value
Refinitiv	Refinitiv-LSEG Database
SBFN	Sustainable Banking and Finance Network
SC	Securities Commission Malaysia
SDG	Sustainable Development Goals
SESRIC	Statistical, Economic and Social Research and Training Center for Islamic Countries
SME	Small Medium Enterprise
SSA	Sub-Saharan Africa
UAE	United Arab Emirates
UMIC	Upper-Middle Income Countries
UNDP	United Nations Development Program
UNEP FI	United Nations Environment Program Finance Initiative
VC	Venture Capital
WBG	World Bank Group

Executive Summary

Islamic Finance and Climate Action

Climate change presents a major global challenge with profound effects on economic growth, especially in highly exposed and poorly prepared regions. The World Bank has estimated that a pessimistic climate scenario could reduce a country's gross domestic product (GDP) by over 15 percent by 2050 (World Bank Group, 2024a). The 57 member countries of the Organization of Islamic Cooperation (OIC) are particularly vulnerable due to their high exposure and low adaptive capacity to climate change. On average, the OIC countries have greater vulnerability and lower readiness to climate change than non-OIC countries. The Islamic Development Bank (IsDB), whose 57 member countries are basically those of the OIC, further classifies 33 OIC countries as fragile or conflict-affected (IsDB, 2025).

The OIC is enhancing efforts to meet climate and development goals. 54 OIC member countries have ratified the Paris Agreement, and 35 have committed to achieving net-zero targets (SESRIC, 2023). Low-carbon strategies require significant investment, averaging 1.4 percent of GDP (World Bank Group, 2022b). However, for low-income countries (LICs), it can exceed five percent, necessitating support from high-income countries (HICs) through concessional finance and grants. The World Bank estimated¹ that over US\$1 trillion is needed by 2050 for climate action in the OIC, requiring the mobilization of public and private sector funding.

Islamic finance offers a compelling ethical foundation to support this climate action. Rooted in principles of justice, responsibility, and stewardship, Islamic finance promotes financial models that align economic activity with societal and environmental well-being. This alignment integrates environmental, social, and governance (ESG) considerations into Islamic financing and investments. Hence, Islamic financial institutions are uniquely positioned to mobilize investments in climate-resilient infrastructure, low-carbon energy, and sustainable sector development, while upholding fiduciary responsibility and ethical stewardship.

As such, integrating Islamic finance with climate action offers a significant opportunity to promote sustainable development within Shariah principles. The global Islamic finance industry is valued at nearly US\$4 trillion worldwide (IFSB, 2025) and shows growing interest in sustainable and climate finance. This has motivated the World Bank and the IsDB to produce this report. The report analyzes the role of Islamic finance in the sustainable and climate finance market, incorporating insights from surveys conducted with Islamic finance professionals and halal industry enterprises and interviews with policymakers and private sector participants. The objective is to identify opportunities and address challenges to enhance the development of the Islamic sustainable finance market in general, focusing on climate finance, which includes funding for climate mitigation, climate adaptation, and resilience building.

Progress So Far

The report estimates that the amount of sustainable financing raised in the OIC has increased from US\$17.8 billion in 2017 to US\$82.3 billion in 2024, reflecting a compound annual growth rate (CAGR) of 24.4 percent.

This growth slightly exceeds global sustainable bond issuances, which rose from US\$215.1 billion in 2017 to US\$913.2 billion in 2024, with a CAGR of 22.9 percent. This suggests alignment with the global trend. Between

¹ Based on available estimates for some OIC countries from World Bank CCDRs, see Table 2.1 in this report.

2017 and 2024, the OIC raised a total of US\$336.9 billion in sustainable financing, accounting for only 0.1 percent of overall global sustainable financing. Of this amount, Islamic issuances made up 16 percent (US\$53.9 billion), representing 4.6 percent of all Islamic financing within the same timeframe. This higher share compared to the conventional markets indicates the relevance of Islamic finance for climate finance.

Nevertheless, the sustainable finance market within the OIC is still in its developmental phase. From 2017 to 2024, only 19 countries issued sustainable bonds, while five issued sustainable sukuk. The issuance of sustainable sukuk increased from US\$464 million in 2017 to US\$9 billion in 2024, representing a CAGR of 52.7 percent. Malaysia has emerged as a leader in this market through green sukuk issuances. Despite this progress, only one-third of sustainable sukuk issuances were classified as green, in contrast to nearly two-thirds of sustainable bonds. This suggests that Islamic finance instruments are employed for broader sustainable objectives, indicating potential opportunities to enhance climate finance.

Islamic bank financing demonstrates considerable growth potential within the Islamic sustainable finance market. This report estimates that only 8.2 percent of sustainable syndicated loans raised between 2017 and 2024 were Shariah-compliant. With Islamic banking assets estimated at US\$2.8 trillion (IFSB, 2025), this segment represents a significant opportunity for further development, and considerable efforts are being made in various regions to increase this segment's penetration. Islamic bank financing is vital for channeling capital towards green investments, particularly for small and medium enterprises (SMEs). Enhancing the OIC's private equity (PE) ecosystem also offers further climate funding opportunities, primarily to support new technologies and innovations. Between 2017 and 2024, only three percent (632) of companies seeking funds through PE for clean and climate technology originated from the OIC, representing merely 0.46 percent (US\$2 billion) globally.

Additionally, Islamic finance standard-setting bodies have committed to developing the critical enablers to support the development of the Islamic climate finance

market. The Islamic Financial Services Board (IFSB), the General Council for Islamic Banks and Financial Institutions (CIBAFI), and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) have made significant progress in developing prudential guidance and governance standards, and facilitating capacity building, as well as leading policy discourse with other international standard-setting bodies to ensure alignment with global best practices.

Generally, developing a climate finance ecosystem in the OIC, whether conventional or Islamic, faces common challenges. OIC countries face significant obstacles in building effective climate finance ecosystems, especially in Islamic finance, due to institutional weaknesses, fragmented policies, especially in the real sector that are not well-aligned with the financial sector, and limited market capacity. These challenges are compounded by underdeveloped financial sectors, high barriers to accessing international funds, and a lack of specialized products for climate projects. To unlock the potential of Islamic climate finance and bridge the climate funding gap, targeted reforms are needed such as regulatory improvements, capacity building, and fostering innovation in financial products. Strengthening these areas will enable sustainable development and help meet climate goals across the OIC region.

In conclusion, the development of sustainable finance markets among OIC member countries underscores the OIC's commitment towards climate action. Malaysia and Indonesia in Southeast Asia, Saudi Arabia, and the United Arab Emirates in the Gulf Cooperation Council (GCC) are taking commendable strides in issuing green and sustainable sukuk. The emergence of novel Islamic finance instruments, such as green and sustainability-linked sukuk, has been instrumental in advancing Islamic climate finance. To further enhance the efficacy of these endeavors, it remains imperative to continue nurturing the growth of the Islamic financial sector, thereby facilitating access to essential funds for climate and broader sustainability projects. The potential for Islamic finance to support the climate agenda and tackle climate change is noteworthy, and promoting ongoing growth and innovation in this area will be key to achieving the OIC collective sustainability goals.

Call to Action

The Islamic finance sector stands at a pivotal moment. It is uniquely positioned to drive meaningful progress on global climate goals through values-based, inclusive financial solutions. To realize this potential, policymakers, regulators, multilateral development banks (MDBs), and other development partners must act decisively across

three strategic priorities, drawing upon insights from stakeholder engagements and lessons learned from the case studies reviewed in the report.

First, advancing the Islamic finance market for climate action by mainstreaming climate-aligned

sukuk, Shariah-compliant bank financing and financial protection through Takaful (Islamic insurance). This is crucial for directing capital towards climate-positive infrastructure, such as renewable energy and sustainable transport, and building resilience to climate change. This report in Chapter 3 gives examples of innovative product structures that utilized either Islamic and conventional finance for climate mitigation and adaption strategies. Policymakers should spearhead initiatives to create strong issuance pipelines, with support from targeted incentives and technical assistance from development partners. Governments can develop their sukuk markets by exploring sovereign issuances to establish market benchmarks, demonstrating a strong commitment to sustainable finance, and guiding private sector participation. MDBs play a crucial role in this vision, providing Shariah-compliant credit enhancements and co-financing options to reduce financial risks, thus making them more appealing to diverse investors.

Second, accelerate capacity building and technical exchanges among OIC member countries. Training programs for financial regulators are vital to developing a comprehensive Islamic climate finance ecosystem. Collaboration among Islamic finance standard-setting bodies, advanced Islamic finance regulators, and MDBs can support the creation of a dedicated online knowledge resource for Islamic climate finance. This can promote cross-regional knowledge exchanges, consistent implementation of globally harmonized standards, and improved technical capabilities. On the same platform, centralized dashboards can be developed to monitor Islamic climate finance progress and the Islamic finance

industry's ESG performance and crucially, the impact from Islamic finance supported climate mitigation and adaption strategies. Additionally, considering the nascent development of the takaful market, Islamic finance standard-setting bodies and MDBs should continue to advance the policy discourse, leveraging the UNDP-IsDB and other partners' led Global Takaful Alliance to connect with other global disaster risk insurance platforms.

Third, enhance the development of innovative Islamic climate finance products. To expand the existing Islamic climate finance products and services, several action plans can be explored. This includes establishing Islamic blended finance funds to facilitate the mobilization of public and private capital and financial innovation platforms, such as regulatory sandboxes, that can help pilot innovative solutions before scaling up. In addition, innovation utilizing Islamic social finance instruments such as *zakat* (almsgiving), *waqf* (endowment), and *qard* (interest-free loan) should be further explored to offer financial protection to vulnerable segments of the population in the OIC. This will require strategic alignment with national climate strategies, establishing clear governance and reporting frameworks to ensure the transparent, effective deployment of funds for climate action to intended beneficiaries.

Now is the time for bold, collaborative leadership to elevate Islamic finance as a catalyst for sustainable, climate-resilient growth.

The following table summarizes the key action plans proposed by this report.

Recommendation	Stakeholder
1. Mainstreaming and Deepening Islamic Climate Finance Instruments	
(i) Developing a strong climate project pipeline	Governments, Islamic finance regulators, private sector players
(ii) Introducing well-designed incentives for utilizing Islamic finance	Governments, Islamic finance regulators
(iii) Technical collaboration with MDBs	Governments, Islamic finance regulators, MDBs
2. Accelerate Capacity Building and Technical Exchanges	
(i) Developing a dedicated knowledge resource to expand access to critical training	Islamic finance standard-setting bodies, Islamic finance regulators, MDBs
(ii) Enhancing Islamic climate finance data infrastructure	Islamic finance standard-setting bodies, Islamic finance regulators, Islamic financial institutions, MDBs
(iii) Strategic focus on both climate adaptation and mitigation strategies	Islamic finance standard-setting bodies, Islamic finance regulators, Islamic financial institutions, MDBs
3. Enhance Islamic Climate Finance Products	
(i) Establishing innovative Islamic climate finance products, including blended finance	Governments, Islamic finance regulators, private sector players, MDBs
(ii) Establishing financial innovation platforms	Governments, Islamic finance regulators, private sector players, MDBs
(iii) Enhancing utilization of Islamic social finance instruments	Zakat and waqf governing bodies, Islamic finance regulators, Islamic financial institutions, NGOs



CHAPTER 1

Introduction

Over the past two decades, higher population and economic growth rates in the OIC² have contributed to increased greenhouse gas (GHG) emissions. Between 2000 and 2021, carbon dioxide (CO₂) emissions from fossil energy in the OIC increased by 97.8 percent, driven by a 50.9 percent rise in population and a 15.3 percent increase in GDP per capita (Figure 1.1). GDP expansion and the average per capita CO₂ emission in the OIC have been higher than the world average between 2000

and 2020 (Figure 1.2). As of the end of 2021, 16 OIC member countries recorded CO₂ emissions per capita above the world average, including countries such as Malaysia, Saudi Arabia, and the United Arab Emirates (UAE). In terms of sectoral composition, about half of the GHG emissions produced in these countries were linked to electricity and land use, land use change, and forestry (LULUCF) (Figure 1.3).

FIGURE 1.1
Four Factor Decomposition of CO₂ Emission in OIC, 2000-2021

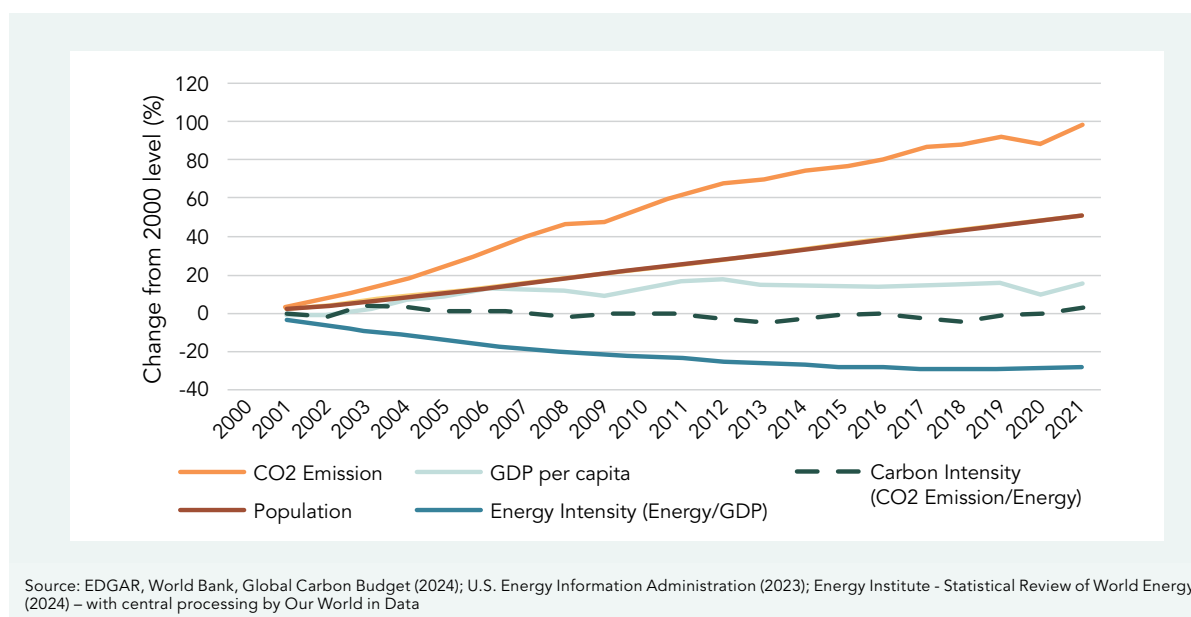
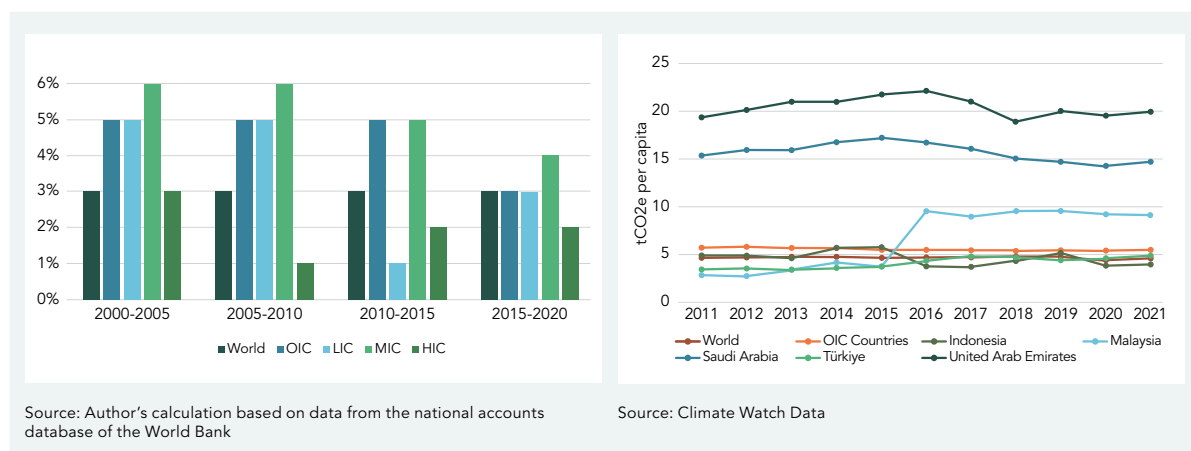
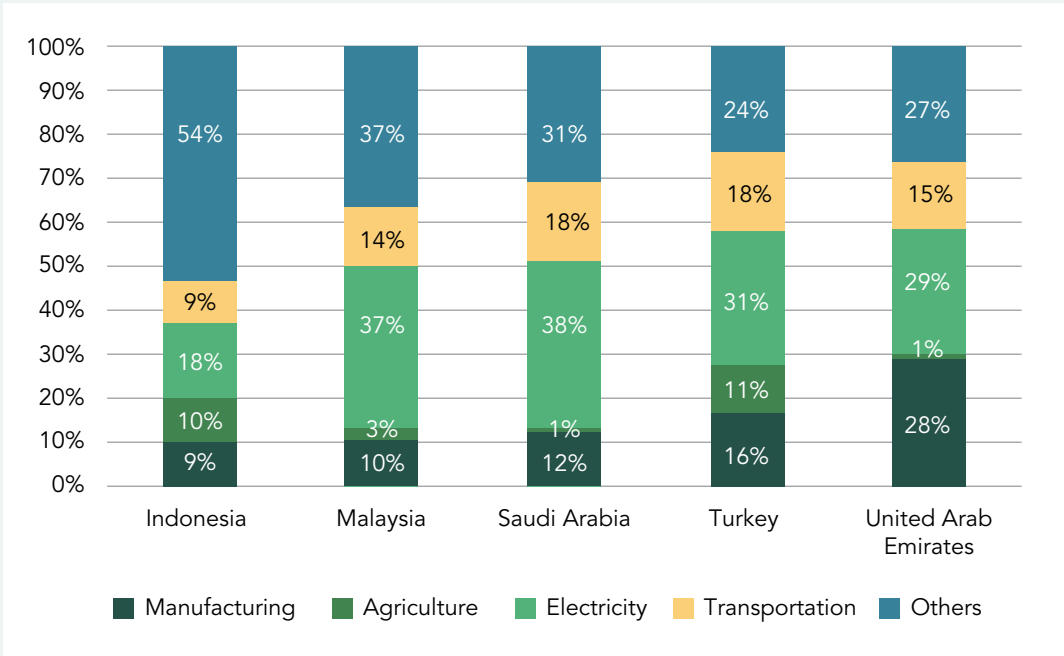


FIGURE 1.2
Five-year Real GDP (2000=100) (Left) and CO₂ Emission per Capita (Right), 2000-2021



2 The OIC has 57 member countries, representing over 1.7 billion people and is the second largest inter-governmental organization worldwide. All OIC member countries are eligible member countries of the IsDB.

FIGURE 1.3
Composition of GHG Emissions by Sector (Percentage) in 2021



Source: Climate Watch Data

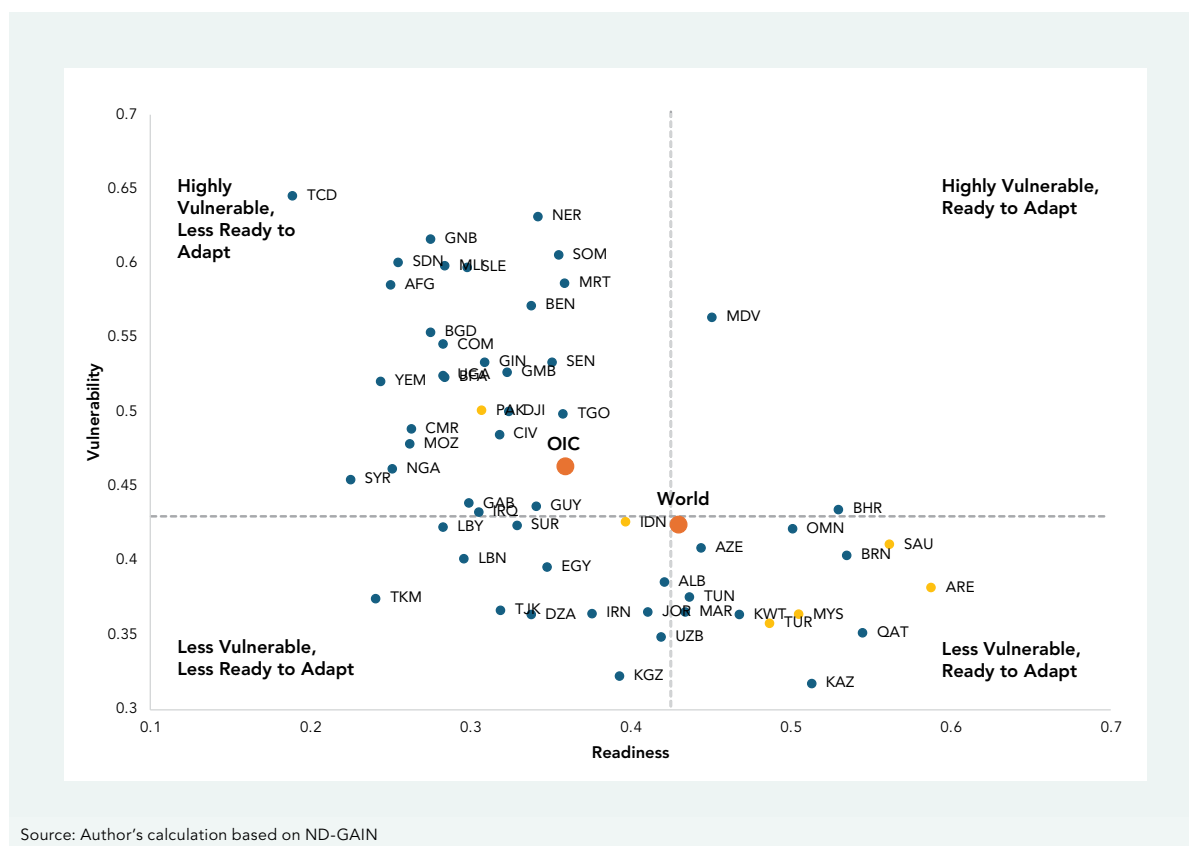
The OIC is one of the more vulnerable groups of countries globally due to their high exposure and low adaptive capacity to climate change. According to modeling results, some of the highest temperature increases are estimated to occur in arid and semi-arid regions, particularly in Sub-Saharan Africa (SSA), the Middle East and North Africa (MENA), and Central Asia, where many OIC countries are located (IPCC, 2014a), exposing them to significant physical risks. According to the Notre Dame Global Adaptation Initiative (ND-GAIN)³ Index 2022, the

OIC on average was estimated to have a vulnerability score of 0.46 and readiness of 0.36, while the world’s average levels of vulnerability and readiness were 0.43, respectively (Figure 1.4). This suggests that OIC countries are more vulnerable and underprepared for the effects of climate change than many other global regions. At the individual country level, 32 countries, that is more than half of the OIC, were estimated to be more vulnerable than the world average, and 75 percent had readiness levels below the world average.

³ ND-GAIN index provides a comprehensive overview of how well countries are prepared to face the multifaceted challenges posed by a changing climate. The ND-GAIN index defines vulnerability as the “propensity or predisposition of human societies to be negatively impacted by climate hazards.” It considers three dimensions: exposure, sensitivity, and adaptive capacity. The ND-GAIN index also measures a country’s readiness to adapt to climate change, which is defined as its ability to leverage investments into adaptation actions. It considers three main components: economic readiness, governance readiness, and social readiness. (Chen et al., 2015)

FIGURE 1.4

Vulnerability (Lower Scores are Better) and Readiness (Higher Scores are Better) to Climate Change in 2022

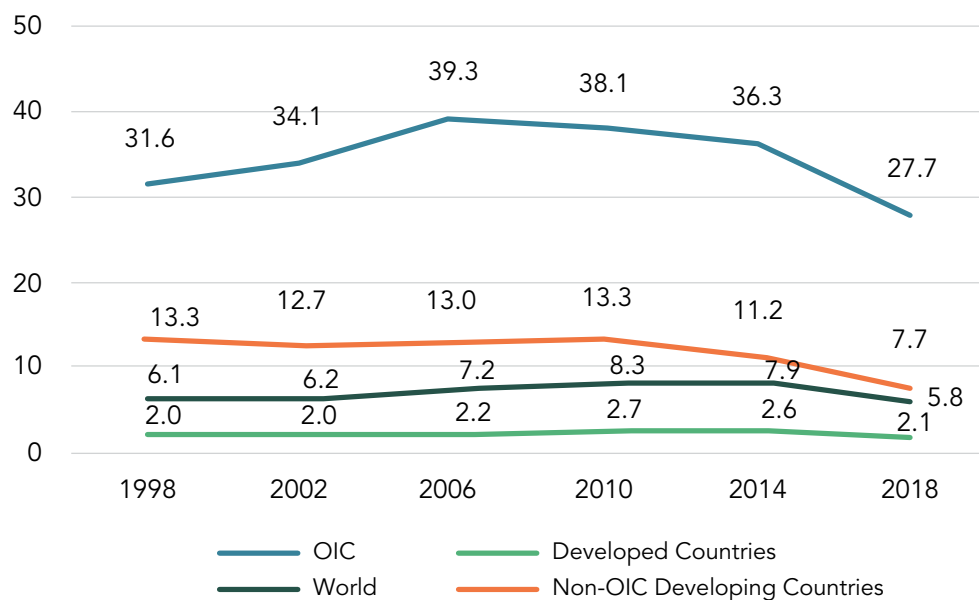


OIC countries, on average, are also more dependent on natural resources for wealth creation than the global average, which exposes them to transition risk, particularly related to energy transition. Between 1998 and 2018, the economic value of natural capital in OIC countries nearly doubled to US\$21.9 trillion, though its share of total wealth declined from 31.6 percent to

27.7 percent, indicating a shift in economic composition (Figure 1.5). According to the OIC Environment Report 2023, environmental challenges like land degradation, biodiversity loss, air pollution, and water insecurity threaten the population's well-being in the OIC, necessitating immediate and effective management strategies (SESRIC, 2023).⁴

⁴ In the period between 2010 and 2020, the global rate of deforestation was estimated at 0.12 percent forest area loss per year, down from 0.13 percent per year in 2000-2010. The deforestation rate in OIC was 0.27 percent per year during 2000-2010 and significantly rose to 0.44 percent per year from 2010-2020. Water stress has risen in the OIC from 25.7 percent to 33.5 percent, compared to globally, which increased from 16.4 percent in 2000 to 16.7 percent in 2020 (SESRIC, 2023).

FIGURE 1.5
Share of Natural Capital in Total Wealth (Percentage), 1998-2018



Source: SESRIC, 2023

However, climate change impacts and development challenges vary significantly among OIC countries.

The World Bank Group's Country Climate and Development Report (CCDR) is a key diagnostic tool that comprehensively analyzes climate change impacts to help inform the development of climate action strategies. Until the end of 2024, the World Bank has published CCDRs for 72 countries, including 29 in the OIC, highlighting nuanced vulnerabilities. The CCDRs assist policymakers in identifying and prioritizing actions that simultaneously reduce GHG emissions, enhance resilience to climate impacts, and promote sustainable economic growth.

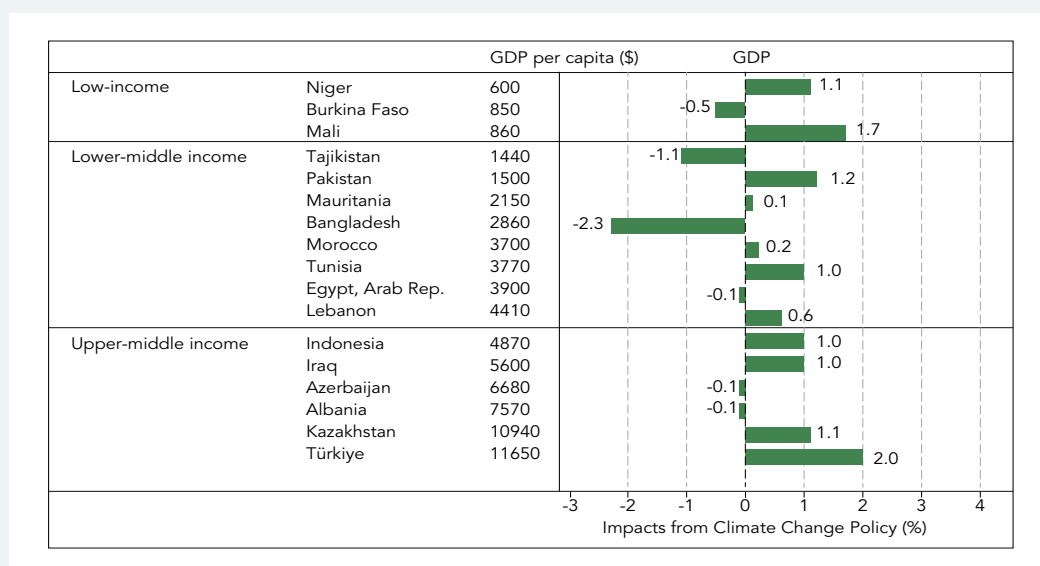
The CCDRs of OIC member countries help illustrate the diverse and complex climate challenges and development needs facing the respective countries.

The CCDRs covered 5 LIC, 16 LMIC, and 8 UMIC in the OIC. These countries are vulnerable to many natural

hazards, which are increasing with climate change, such as flooding, rising sea levels, heat waves, droughts, and ocean warming. The CCDRs estimated that the impact of a pessimistic climate scenario on reducing the GDP of the OIC member countries could be as much as 11 percent. Still, well-designed policies and adequate financing could help countries reduce emissions, all while continuing to promote economic growth (World Bank, 2022b) (Figure 1.6). Similarly, joint quantitative modeling studies conducted by the International Labor Organization (ILO), the IsDB, and other partners show significant socioeconomic opportunities for growth at both regional and country levels. For example, a 2023 study found that the MENA region could create 10 million new jobs and accelerate GDP to 7.2 percent and increase employment by 5.3 percent in less than three decades, through strong industrial and climate development policies (ILO & IsDB, 2023).

FIGURE 1.6

Impacts of Low-Emission Development Pathways on GDP by 2030 Compared with the Reference Scenario, by Country and Income Class



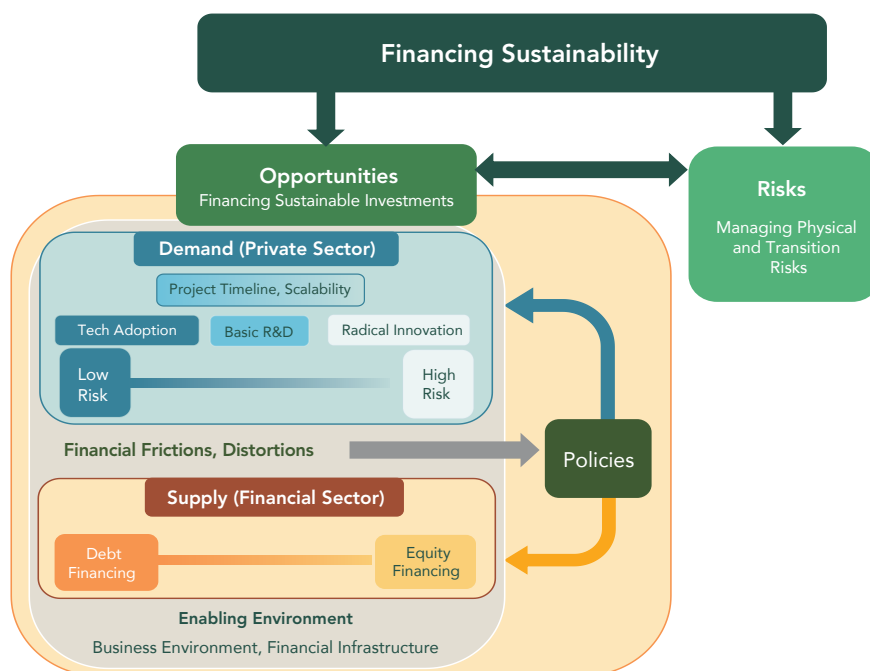
Source: World Bank (2024a)

Climate change poses significant risks to people, causing long-term, irreversible, and intergenerational harm (World Bank, 2024a). The most vulnerable populations are often disproportionately affected as vulnerability factors, such as economic exclusion and food insecurity, frequently intersect with climate exposure. The IsDB's 2025 Resilience Report highlights the increasing intersection between climate change, conflict, and resiliency (IsDB, 2025). Furthermore, climate change can induce people to migrate as an adaptation strategy. These migrants often have a reduced capacity to prepare for and respond to climate effects in their new locations. The Bangladesh CCDR estimated that about 2.5 percent of the population has been displaced by natural hazards, and by 2050, around 27 percent of all South Asian climate migrants will come from Bangladesh.

Delivering climate and development goals and the required economic transformation entails large-scale investments, technological breakthroughs, and the widespread adoption of technologies and products geared toward resilience to climate change and greater sustainability (World Bank & IFS, 2022). This includes investing in sustainable infrastructure, enhancing adaptive capacities, and implementing policies that reduce

GHG emissions while promoting economic growth. By adopting such measures, vulnerable regions can better navigate the dual challenges of economic expansion and climate change, ensuring a more sustainable and resilient future. Although there are varying estimates of financial needs for climate change mitigation and adaptation for emerging markets and developing economies (EMDE), the consensus is that trillions of dollars are needed annually (Chapagain et al., 2020).

The intensifying climate crisis necessitates the urgent realignment of the financial sector to support environmentally sustainable and socially responsible investment practices. However, mobilizing capital for sustainability and climate action faces challenges, including market failures and financial frictions that result in underinvestment. These issues stem from externalities and mispricing of sustainability benefits, costs, and risks. To address this, financial systems must tackle two interconnected challenges: managing climate and environmental risks to the financial sector and developing opportunities to mobilize capital for sustainable investments (Figure 1.7) (World Bank & IFS, 2022). This report focuses on the latter.

FIGURE 1.7
Conceptual Framework

Source: World Bank & IFS, p.32 (2022)

Integrating Islamic finance and sustainability represents a significant opportunity to foster sustainable development while adhering to Islamic principles. The Islamic finance industry, valued at approximately US\$4 trillion globally (IFSB, 2025), has demonstrated increased interest in sustainable and climate finance initiatives. Islamic finance principles prohibit dealings involving interest, speculative transactions, and unethical activities. These principles foster a financial model based on risk-sharing, asset-backing, and ethical accountability, which closely align with the foundational goals of sustainability and climate finance. This report estimates that the amount of sustainable financing, comprising debt instruments and private equity, raised in the OIC has grown from US\$17.8 billion in 2017 to US\$82.3 billion in 2024, equivalent to a compound annual growth rate (CAGR) of 24.4 percent.⁵ However, this still represents a small fraction of the global Islamic finance assets, indicating a significant opportunity for the Islamic finance industry to facilitate financial intermediation to serve the broader sustainability and climate agenda.

The growing interest in Islamic sustainable and climate finance has prompted the World Bank and the IsDB to collaborate on producing this report. It analyzes

the Islamic sustainable and climate finance market, presenting important insights into its current dynamics. The report includes findings from surveys conducted with Islamic finance professionals and halal industry enterprises and interviews with key stakeholders, including policymakers and private sector participants. It aims to identify opportunities and challenges that can advance the development of the Islamic sustainable finance market in general and Islamic climate finance in particular, which includes funding for climate mitigation, adaptation, and resilience.

This report focuses on those opportunities by presenting case studies of different climate financing instruments and distilling lessons learned to unlock further Islamic financing for climate action. The remaining chapters of this report are organized as follows: Chapter 2 summarizes current state of Islamic climate finance globally and presents insights from survey results and focus group discussions with key stakeholders, Chapter 3 illustrates different case studies of financial instruments for financing the climate agenda, and Chapter 4 concludes with recommendations to address existing challenges and harness the opportunities available to the Islamic finance industry.

⁵ See Chapter 2 of this report for details of the estimates.



CHAPTER 2

Islamic Finance and Climate Nexus

2.1 Development of Islamic Climate Finance

The OIC is increasing efforts to deliver on climate and development goals. All OIC member countries have endorsed the 2015 Paris Agreement, with all but three having ratified or acceded to it. As of 2023, 35 OIC member countries have committed to achieving the net-zero target in various stages (SESRI, 2023), and many are updating their Nationally Determined Contributions (NDCs) in accordance with the Paris Agreement “ratchet” mechanism. Implementing low-carbon strategies requires

substantial investment, averaging an estimated amount equivalent to 1.4 percent of GDP. However, for LIC, the necessary investment can exceed five percent of GDP, highlighting the need for increased support from HIC, including concessional finance and grants (World Bank, 2022b). The CCDRs estimated that more than US\$1 trillion in investment is needed by 2050 for climate action in the OIC (Table 2.1). This substantial investment will require the mobilization of public and private sector funds.

TABLE 2.1
Estimated Investment Needs for Climate Action of Selected OIC Countries

Country (Year of report) National Net Zero Target	Energy	Agriculture	Transport	Urban cities	Water	Coastal areas	Waste	Industries	Estimated investment cost
Bangladesh (2022/LMIC) 2060	✓	✓	✓						US\$38 billion by 2030
Jordan (2022/LMIC) INA	✓	✓	✓	✓	✓				US\$9.5 billion by 2030
Morocco (2022/LMIC) 2050	✓				✓				US\$78 billion by 2050 (PV terms)
Pakistan (2022/LMIC) 2050	✓	✓	✓	✓					US\$348 billion by 2030
Tunisia (2023/LMIC) 2050	✓			✓	✓	✓			US\$54 billion by 2050
Indonesia (2023/UMIC) 2060	✓	✓		✓			✓	✓	US\$311 billion by 2040
Maldives (2024/UMIC) 2030	✓					✓	✓		US\$1.8-4 billion
Iraq (2022/UMIC) INA	✓	✓	✓		✓				US\$233 billion by 2040
Türkiye (2022/UMIC) 2053	✓		✓	✓				✓	US\$165 billion by 2040 (PV terms)

Source: CCDRs and Net Zero Tracker <https://zerotracker.net/>

Note: INA- Information not available

Available global estimates of funding for sustainable and climate activities show an increasing trend, now hovering around US\$2 trillion annually, but they are far from adequate to meet the estimated investment needs. The World Bank estimated that the size of global climate finance was US\$1.4 trillion in 2022. It noted a significant financing gap in the EMDE with more limited domestic and private sector financing for climate goals

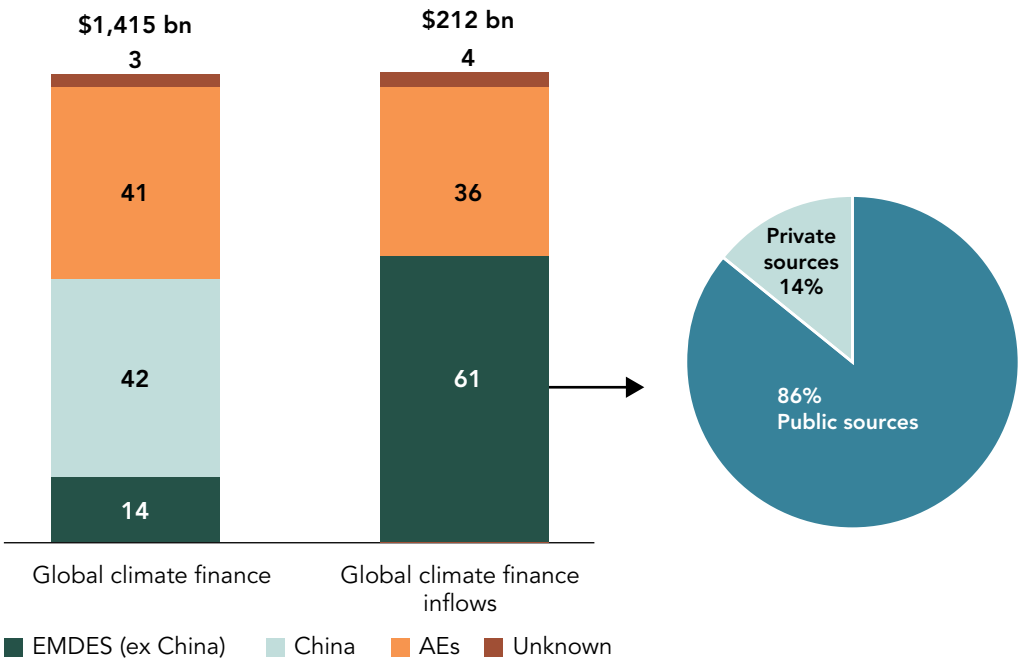
(World Bank, 2024b, Figure 2.1). Most climate finance was channeled toward China and advanced economies (AE). Public climate finance (bilateral and multilateral, attributable to AE) accounted for nearly 86 percent (approximately US\$52.5 billion) of the total global climate finance inflows to EMDE (excluding China) in 2022⁶ (Figure 2.1). More recently, the Climate Policy Initiative (CPI) 2025 Global Landscape of Climate Finance report (CPI, 2025)

⁶ According to the OECD, in 2022, AE provided and mobilized a total of US\$ 115.9 billion in climate finance for EMDE, exceeding the annual US\$ 100 billion goal for the first time (OECD, 2024). The US\$ 100 billion pledge was made at the 15th Conference of Parties (COP15) of the UNFCCC in Copenhagen in 2009.

estimated that global climate finance hit an all-time high of US\$1.9 trillion in 2023, and 2024 figures will likely exceed US\$2 trillion. The report estimated that the global climate mitigation finance more than doubled between 2018 and 2023 (US\$757 billion to US\$1.78 trillion), and

global climate adaptation finance reached US\$65 billion in 2023. Whilst climate-aligned development finance for EMDEs increased almost threefold between 2018 and 2023, more catalytic capital is required to scale climate flows across all regions further.⁷

FIGURE 2.1
Composition of Global Climate Finance and Global Cross-Border Climate Inflows in 2022



Source: World Bank (2024b)

The Independent High Level Expert Group on Climate Finance (IHLEG) estimated that domestic resources accounted for about 70 percent of climate finance and are expected to finance US\$1.4 trillion per year of the total investment needed by 2030 (IHLEG, 2023). The report emphasized the critical role of the private sector in mobilizing the necessary finance for climate action and calls for creating enabling environments that attract private investments, including policy actions to deepen domestic financial and capital markets. Accelerating financial sector development is key to unlocking funds toward climate mitigation, adaptation, and broader sustainability efforts.

Due to the significant climate financing gap, Islamic sustainable and climate finance has gained significant attention in recent years. The fundamental principles of Islamic finance which promotes risk sharing, fair distribution of wealth, avoidance of harm, and equal opportunities for all, is well aligned with the Paris Agreement, the Sustainable Development Goals (SDGs), and the 2015 Islamic Declaration on Global Climate Change⁸ (Hiller et al. 2023). As of end 2024, the global size of Islamic financial assets was estimated to be US\$3.9 trillion, comprising US\$2.78 trillion Islamic banking assets (71.6 percent), US\$904.1 billion sukuk outstanding (23.3 percent), US\$143.6 billion Islamic funds (3.7 percent), and US\$54.32 billion takaful contributions (1.4 percent) (IFSB, 2025). More than half (53.1 percent) of Islamic assets

7 In 2018 and 2019, OIC countries received an average of US\$23.9 billion in climate funds annually (SESRIC, 2023).

8 The 2015 Islamic Declaration on Global Climate Change, announced in Istanbul, Türkiye, at the International Islamic Climate Change Symposium, was a faith-based call to action from Islamic leaders and scholars urging a global effort to combat climate change.

reside in the Gulf Cooperation Council (GCC)⁹ and 21.9 percent in Southeast Asia.¹⁰ The size of Islamic financial assets is expected to increase to an estimated US\$6.7 trillion by 2027 (ICD & LSEG, 2023). The mobilization of Islamic financing through innovative instruments, such

as green sukuk, has been emphasized as imperative for supporting climate mitigation and adaptation initiatives (Schmillen et al., 2018). The World Bank also highlighted the potential of Islamic finance to support the green agenda and address climate change (Kamil et al., 2019).

⁹ GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE).

¹⁰ Brunei, Indonesia, and Malaysia.

BOX 2.1

The Nexus Between Islamic Finance Principles and Climate Finance

Vulnerability to climate shocks among OIC countries calls for an Islamic economics and finance jurisprudential pivot toward the principle of public interest (*maslahah*). Grounded in Islamic legal theory (*uṣūl al-fiqh*), *maslahah* empowers decision makers to pursue interventions that protect society and the environment. This supports targeted investments such as in ecosystem restoration, flood-resilient infrastructure, and climate-adaptive agriculture essential in regions grappling with desertification and rising temperatures.¹¹

Objectives of Islamic law (*Maqasid al-Shariah*) provides a foundational ethical framework that aligns closely with the principles of climate finance. The *Maqasid* emphasizes five key objectives: the preservation of religion (*din*), life (*nafs*), intellect (*‘aql*), lineage (*nasl*), and wealth (*mal*). These objectives correspond to core sustainability and environmental stewardship principles, making Islamic finance a natural fit for addressing climate challenges.

1. Preservation of Life (*Hifz al-Nafs*) and Environmental Protection

Protecting human life extends to safeguarding the environment, as a degraded ecosystem threatens livelihoods, food security, and health. Hence, financing and investing in climate action, such as investing in renewable energy and nature-based solutions, are imperative to protect human life.

2. Preservation of Wealth (*Hifz al-Mal*) and Sustainable Investments

Climate-related economic and financial risks will adversely impact current wealth and future wealth generating abilities (e.g. loss of wealth due to property damage, loss of future agriculture production due to environmental damage and climate change). Hence, integrating climate-related financial risk considerations in financing and investment decision making is critical to preserving wealth.

3. Preservation of Lineage (*Hifz al-Nasl*) and Intergenerational Climate Justice

Protecting progeny translates into a duty to safeguard the planet for future generations. In the Quran, humankind is appointed as a steward (*khalifah*) on earth, entrusted to act for “the greatest good of all species, individuals, and generations”. Hence, investing in a livable environment for future generations, is required by Islamic law to prevent harm to those who will inherit the earth and to avoid “transgressing the balance” of creation. Islamic climate finance can be viewed through the lens of intergenerational equity that aims to ensure environmental legacy honors the rights of future generations.

¹¹ <https://www.unepfi.org/wordpress/wp-content/uploads/2021/01/Sustainable-Arab-Finance-Report-Jan-2021.pdf>

4. Preservation of Intellect (Hifz al-‘Aql) and Climate Innovation

Islamic jurisprudence promotes intellectual pursuits, using human ingenuity to serve the public good and benefit the whole of humankind. The imminent threat of climate change on people and planet requires collective efforts to raise awareness among the communities and develop sustainable technologies and solutions to address these threats. Hence, investing in climate research and development (R&D) and supporting community-based climate awareness programs is integral to preserving intellect.

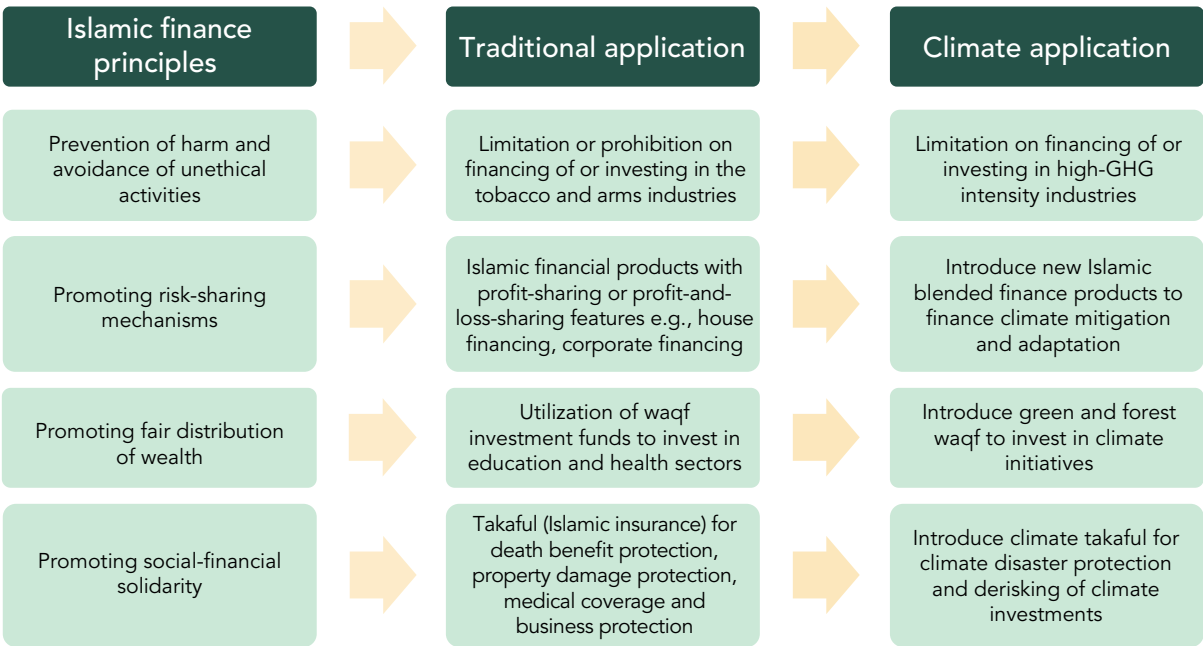
5. Promotion of Social Justice and Climate Equity

Islamic finance principles advocate for social justice,

which resonates with the concept of climate equity that aims to ensure vulnerable populations receive adequate support. Islamic social finance mechanisms such as *waqf* (endowments), *zakat* (almsgiving) *qard* (interest-free loans) can help communities adapt to climate-related risks without incurring significant financial burdens.

As with conventional finance, traditional Islamic finance applications must innovate to effectively support financing and investment for climate action, thus creating a new class of financial instruments, referred to as “Islamic climate finance”. The diagram below showcases how the application of Islamic finance principles has evolved to support climate objectives.

FIGURE B 2.1
Application of Islamic Finance Principles for Climate Objectives



Source: Authors’ illustration

References:

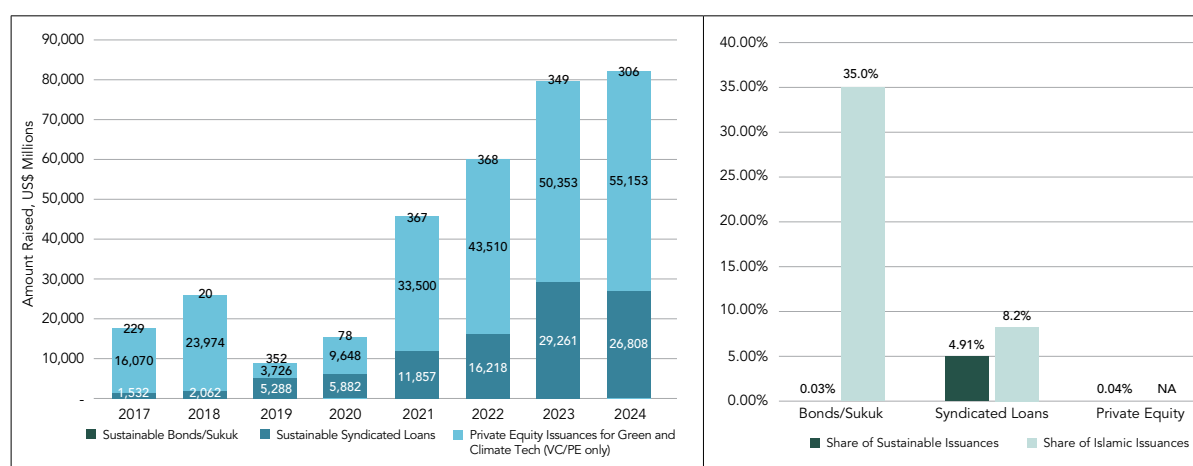
World Bank & Islamic Development Bank. 2016. *Islamic Finance: A Catalyst for Shared Prosperity?*
Securities Commission Malaysia. (2023). *Principles-based Maqasid Al-Shariah Guidance, Islamic Capital Market, Malaysia.*

This report estimates that the amount of sustainable financing¹² raised in the OIC has grown from US\$17.8 billion in 2017 to US\$82.3 billion in 2024, at a compound annual growth rate (CAGR) of 24.4 percent (Figure 2.2). This growth slightly surpasses global sustainable bond issuances, which grew from US\$215.1 billion in 2017 to US\$913.2 billion in 2024, at a CAGR of 22.9 percent. This indicates alignment with the global trend. Between 2017 and 2024, the OIC raised a total of US\$336.9 billion in sustainable financing, accounting for 0.1 percent of overall global sustainable financing during the period. Of this amount, Islamic sustainable issuances constituted 16 percent (US\$53.9 billion), representing

4.6 percent of all Islamic financing (sustainable and not) raised within the same timeframe. This higher share compared to the conventional markets reinforces the narrative of Islamic finance as a natural fit for climate finance.¹³ Islamic issuances represent 35 percent of the total sustainable bond and sukuk issuances¹⁴ (US\$34.6 billion)¹⁵, and 8.2 percent of the sustainable syndicated loans raised (US\$19.3 billion) in the same period (Figure 2.2). However, this represents a small fraction of the global Islamic finance assets estimated at US\$3.9 trillion and is still far from the funding required to meet the OIC's climate financing needs.

FIGURE 2.2

Global Size of Sustainable Finance Market (Left) and Market Share of Sustainable and Islamic Issuances in the OIC (Right), 2017-2024



Source: CBI, Refinitiv, Pitchbook, and the authors' calculation

The sustainable finance market development in the OIC is still at a nascent stage. Between 2017 and 2024, 19 countries have issued a sustainable bond, and only five countries have issued a sustainable sukuk¹⁶ (Figure 2.3). Sustainable sukuk issuances grew from US\$464 million in 2017 to US\$9 billion in 2024 (CAGR: 52.7 percent). In 2017, a Malaysian corporation issued the world's first green sukuk, amounting to US\$59 million, to finance a large-scale solar power plant. In 2018, Indonesia issued the world's first sovereign green sukuk, totaling US\$1.25 billion. Since then, Malaysia has become one of the largest green and sustainability sukuk issuers, with a total of 47 issuances amounting to US\$13.4 billion between 2017 and 2024, followed by Saudi Arabia and,

UAE (Figure 2.3). Total sustainable sukuk issuances in Malaysia during the period made up 80.4 percent of all sustainable bond and sukuk issuances, followed by Saudi Arabia and Indonesia. In terms of underlying Shariah contracts used to issue the sustainable sukuk, 37 percent utilized hybrid contracts, and 27 percent utilized *Wakala bil istithmar* (agency contract). However, there is significant variation across countries. In Malaysia, hybrid and *Murabaha* (cost plus) contracts each represent 40 percent of the sustainable sukuk issued, whilst in Indonesia 72 percent of sustainable sukuk was issued under *Musharaka* (equity-based), and in other countries, *Wakala bil istithmar* (33 percent) was preferred (Figure 2.4).

¹² Comprising debt instruments, private equity (PE), and venture capital (VC).

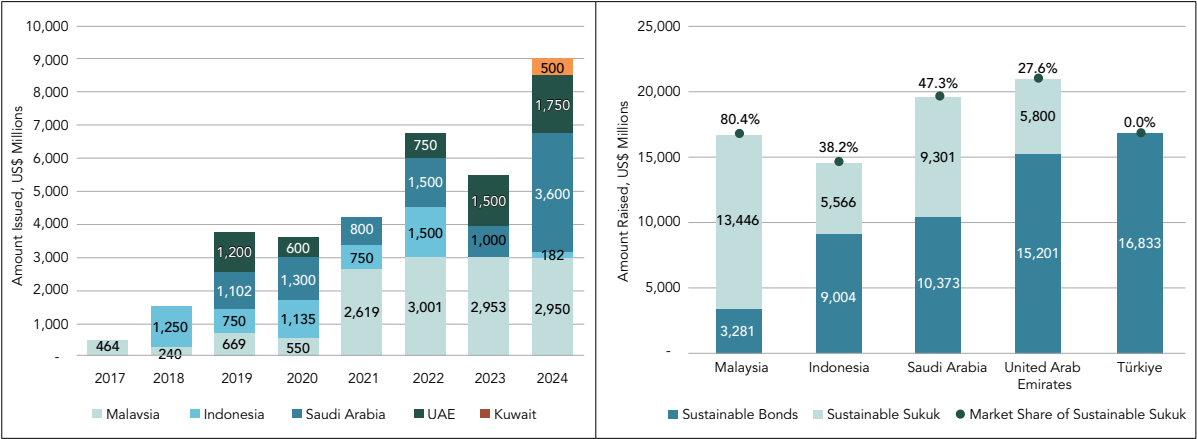
¹³ This report provides a descriptive analysis of the data and does not explore the empirical analysis of the determinants of climate finance issuances in the OIC.

¹⁴ This includes sustainability-linked issuances.

¹⁵ Based on Refinitiv dataset, total amount of sustainable sukuk issued from 2017-2024 amounted to US\$55.2 billion.

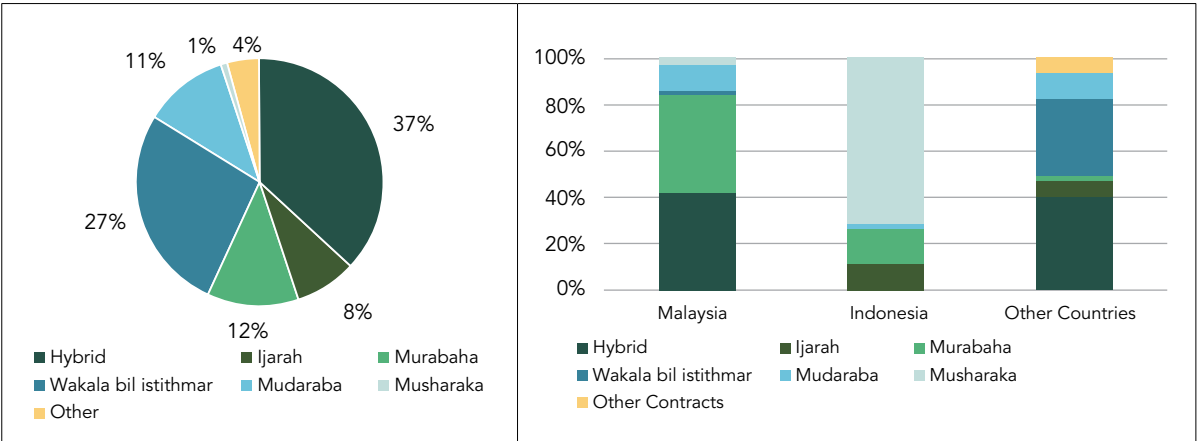
¹⁶ Based on Refinitiv dataset, Bangladesh, Nigeria and Türkiye have also issued sustainable sukuk.

FIGURE 2.3
Sustainable Sukuk Issuances (Left) and Market Share of Sustainable Sukuk Issuances (Right) in Select OIC Countries, 2017-2024



Source: CBI and the Authors' calculation

FIGURE 2.4
Composition of Sustainable Sukuk by Shariah Contracts, 2017-2024



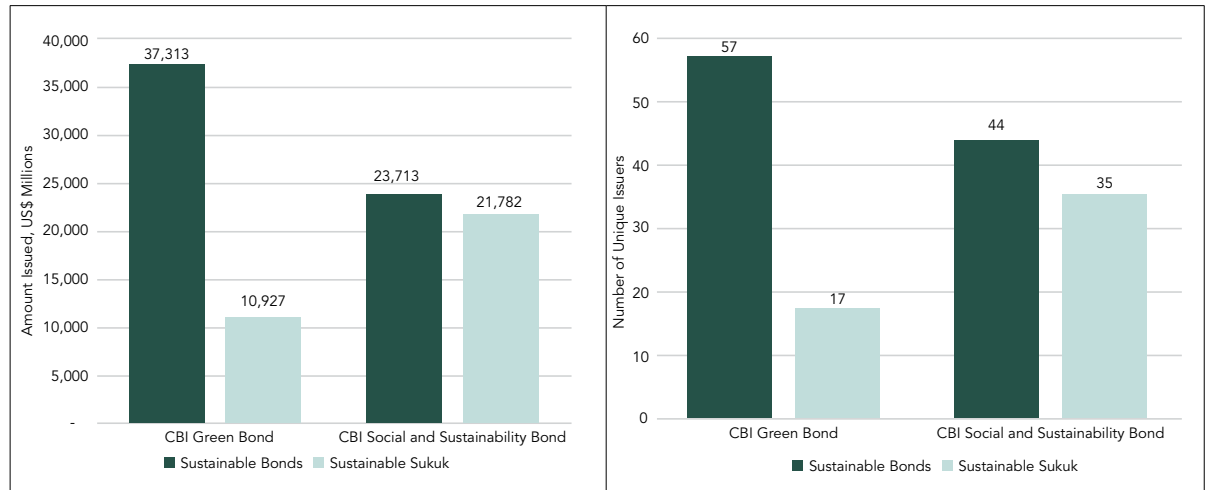
Source: Refinitiv

Regarding classification, only a third of sustainable sukuk issuances in the OIC were labeled as green compared to nearly two-thirds of sustainable bond issuances, indicating that Islamic finance instruments are used for a wider set of sustainable objectives, not mainly climate. Between 2017 and 2024, US\$10.9 billion green sukuk issuances were raised by 17 issuers compared to US\$37.3 billion green bond issuance raised by 57 issuers (Figure 2.5). These sukuk issuances to date have

been generally oversubscribed, indicating strong private sector demand for thematically aligned issuances. Within the OIC, a substantial share of green sukuk (58 percent) was directed toward the energy sector. This trend not only underscores the potential for future growth but also presents opportunities to expand the range of sukuk offerings by tapping into a more diverse project pipeline and creating more innovative structures.

FIGURE 2.5

Composition of Sustainable Bond and Sukuk Classification by Total Amount Issued (Left) and Number of Unique Issuers (Right) in OIC, 2017-2024



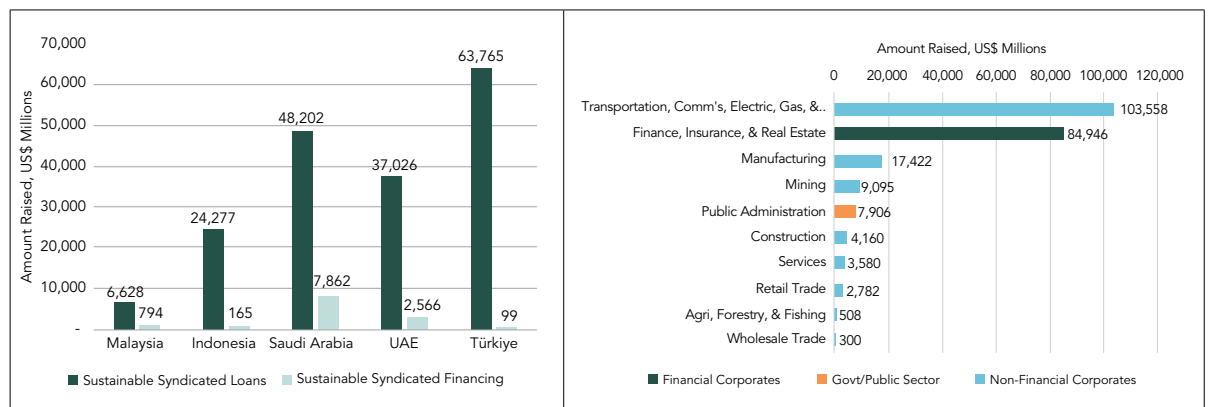
Source: CBI and the authors' calculation

From a lending or financing perspective, this report estimates that only 8.2 percent of sustainable syndicated loans raised between 2017 and 2024 were Shariah-compliant. Saudi Arabia and the UAE raised more than half of this Islamic financing (Figure 2.6). Regarding respective market share, this represents 16.3 percent of Saudi Arabia's market share of overall sustainable syndicate loans (and financing) and 6.9

percent of the UAE's. 44.2 percent of the syndicated loans (and financing) (US\$103.6 billion) were raised by the transportation and utilities sector, and 36.2 percent (US\$84.9 billion) by the finance, insurance, and real estate sector. With Islamic banking assets estimated at US\$2.2 trillion, this segment represents a significant opportunity for further development.

FIGURE 2.6

Total Sustainable Syndicated Loans and Islamic Financing in Select OIC Countries (Left) and Sector Allocation (Right), 2017-2024

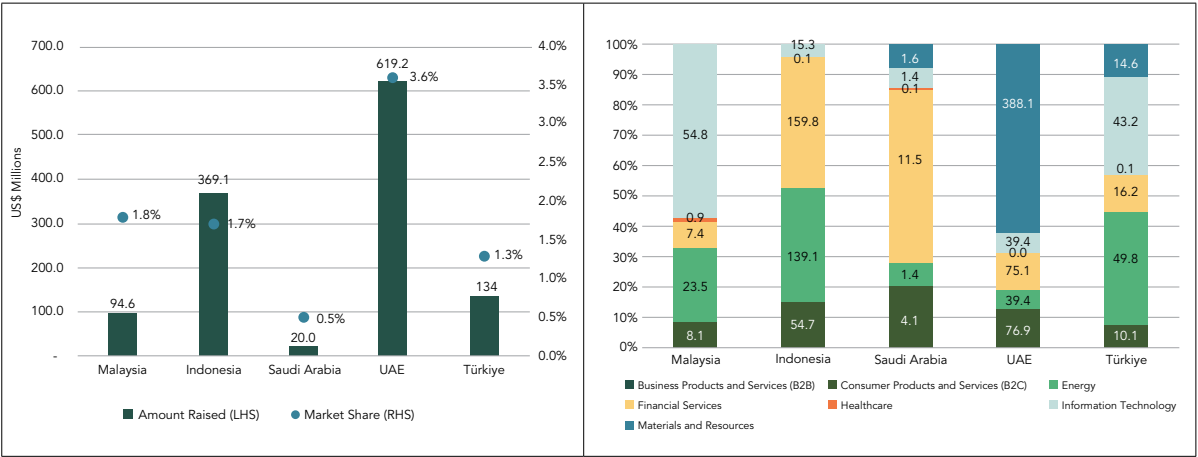


Source: Refinitiv and the authors' calculation

Developing the OIC’s private equity (PE) and venture capital (VC) ecosystem also presents additional climate financing opportunities. Only three percent (632) of the companies that raised funding through PE and VC for clean and climate technology in 2017-2024 were from the OIC, with a 0.46 percent (US\$2 billion) share of the total amount invested (Figure 2.7).¹⁷ At the country level, the UAE leads in the amount invested in clean and climate technology from the total size of its PE and VC market, totaling US\$619.2 million in 2017-2024, but this only represents 3.6 percent market share (Figure 2.7). Regarding primary industry sector composition, the funding raised at the country level is diverse. In Indonesia and Saudi Arabia, the energy industry raised the highest amount of funding; in Türkiye, it was consumer products and services; in the UAE, it was the materials and resources industry (Figure 2.7).

PE and VC are essential sources of climate funding due to their unique ability to finance innovation and scale emerging technologies. VC is particularly critical in supporting early-stage climate tech startups in sectors like renewable energy and sustainable agriculture by providing the capital needed to develop innovative solutions. In Southeast Asia, firms such as Malaysia’s Petronas and Thailand’s PTT are actively investing through VC in distributed solar, battery optimization, and carbon markets. These investments support regional decarbonization efforts and foster cross-border collaboration and innovation. Hence, promoting the development of the Shariah-compliant PE and VC ecosystem, especially in the more advanced Islamic finance jurisdictions such as Malaysia and the GCC can facilitate further climate funding.

FIGURE 2.7
Total Amount of PE and VC Funding to Clean and Climate Technology and Market Share (Left) and Primary Industry Sector Composition (Right) in Select OIC Countries, 2017-2024



Source: Pitchbook

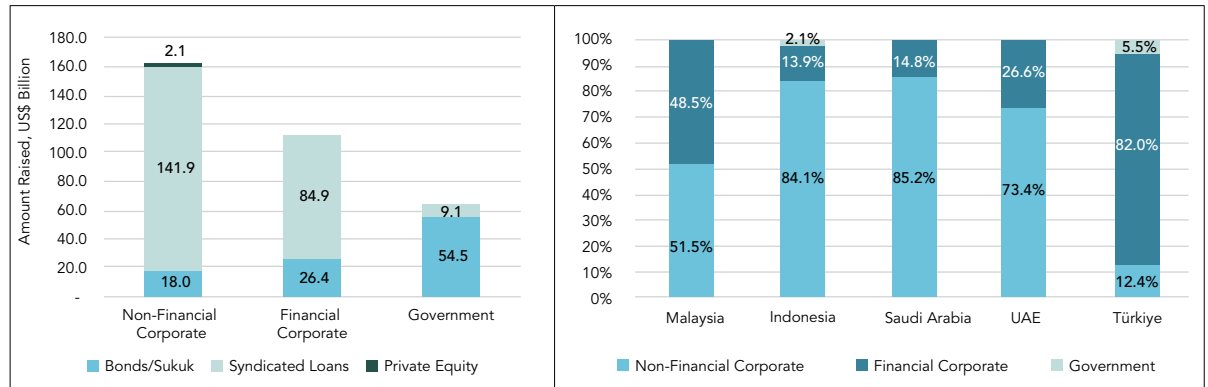
From an issuer profile, 48 percent of the total sustainable finance raised in the OIC from 2017 to 2024 was issued by non-financial corporations (Figure 2.8). There is a marked difference between sustainable bonds and sukuk issuances, which are predominantly (55 percent) issued by the government. In comparison, a substantial amount (60 percent) of sustainable syndicated loans and financing were issued by non-financial corporations. Regarding sustainable syndicated loans, while non-financial corporations dominate the issuances in Indonesia, Saudi Arabia, and the UAE,

financial corporations dominate the issuances in Türkiye. Government presence in the sustainable bonds and sukuk market is significant in Indonesia, Saudi Arabia, and the UAE, and less significant in Malaysia and Türkiye (Figure 2.9). In terms of unique issuers, Malaysia has had 47 unique corporate issuers since 2017, the highest in the OIC, followed by Türkiye with 22. Compared to the total number of corporations participating in their respective capital markets, the relatively small number of unique corporate issuers suggests substantial potential for further development.

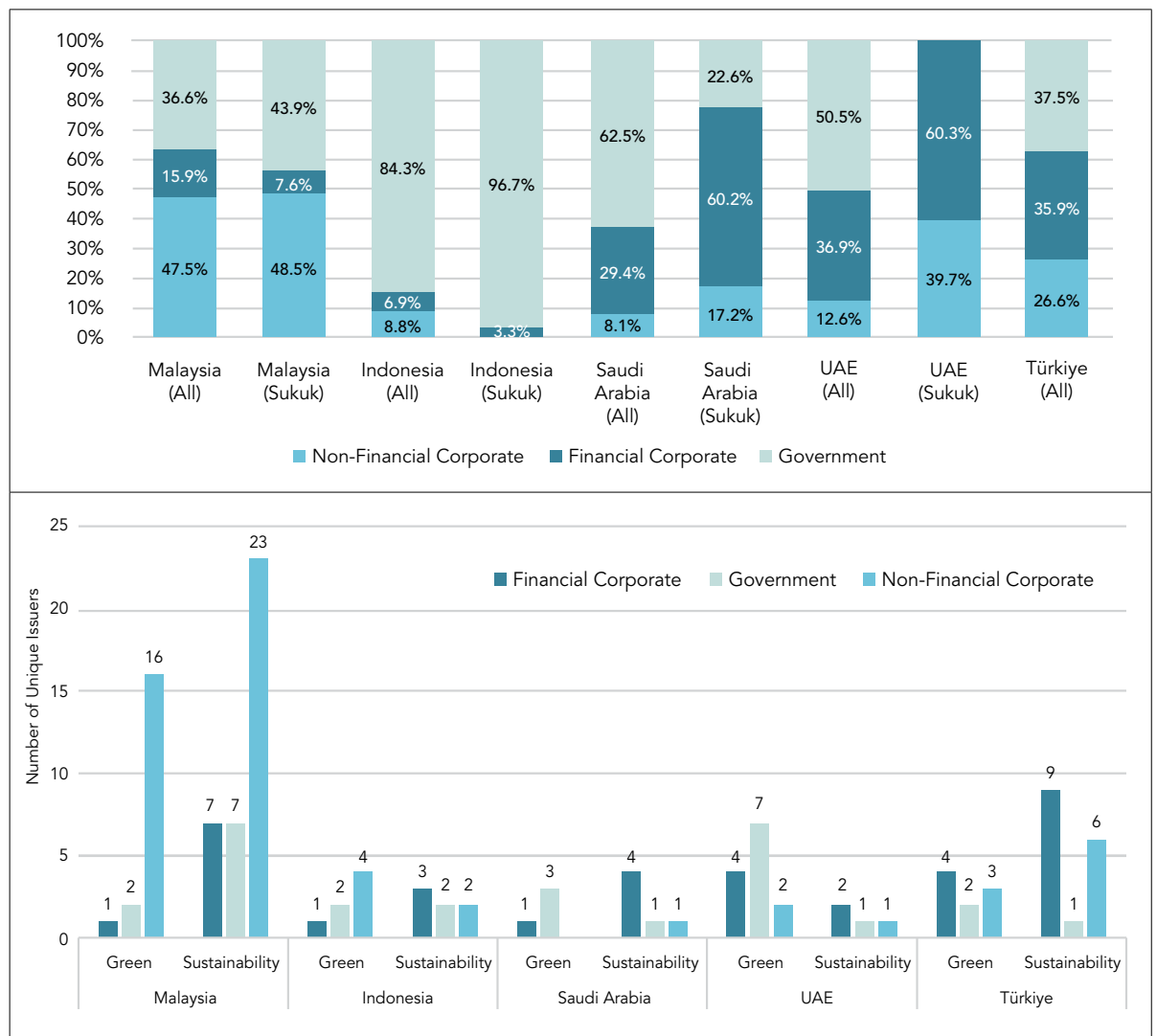
17 For the purpose of this report, PE and VC for clean and climate technology are deemed to be Shariah-compliant assets. However, the report did not verify if the PE and VC arrangements themselves were labeled as Shariah-compliant investments.

FIGURE 2.8

Issuer Composition of Total Sustainable Finance in the OIC (Left) and Issuer Composition of Sustainable Syndicated Loans and Financing in Select OIC Countries (Right), 2017-2024

**FIGURE 2.9**

Issuer Composition of Sustainable Bonds and Sukuk (Top) and Number of Unique Issuers (Bottom) in Select OIC Countries, 2017-2024



The development of the sustainable finance market in OIC countries highlights significant opportunities for growth. Malaysia and Indonesia in Southeast Asia, Saudi Arabia, and the UAE in the GCC are taking commendable strides in issuing green and sustainable sukuk. The introduction of green and sustainability-linked sukuk and

bank financing has played a vital role in advancing Islamic climate finance. To enhance the effectiveness of these efforts, it is essential to continue fostering the growth of the financial sector, which will help unlock crucial funds for climate and broader sustainability endeavors.

2.2 Climate-aligned Development Finance

Climate-aligned development finance is pivotal in advancing climate finance within the OIC and Islamic finance markets. Development finance is essential for several reasons, including mobilizing resources, sharing knowledge and expertise, and fostering innovation. Recognizing that financial sector development varies significantly within the OIC, it is essential to adopt a tailored approach that addresses the unique needs of each country according to its level of financial market development. For context, based on the IMF Financial Development Index 2020, 35 OIC countries had an index score of 0.3 or lower, indicating a low level of financial development, and only four OIC countries, which included Malaysia and Türkiye, had an index score higher than 0.5, indicating a high level of financial development.

MDBs play a vital role in supporting the development of Islamic climate finance in the OIC. MDBs have increasingly recognized the potential of Islamic finance tools, such as green sukuk and takaful, to fund low-

carbon and climate-resilient projects in OIC countries. MDBs play a crucial convening role through various initiatives, bringing together governments, Islamic financial institutions, and private sector actors to co-invest in scalable climate solutions. Additionally, MDBs provide technical assistance and capacity building, helping local institutions manage and deploy climate finance effectively. This collaborative approach fills financing gaps and ensures that projects uphold climate integrity and Islamic finance standards. By expanding their Islamic finance portfolios and fostering innovation in Shariah-compliant climate instruments, MDBs are essential to unlocking the potential of Islamic finance to meet the climate finance needs of OIC member states. Moreover, global collaboration enhances financial inclusion by integrating Islamic finance principles, reaching underserved populations, and ensuring climate finance benefits all segments of society. Key initiatives by MDBs to support the development of Islamic climate finance are highlighted below:

IsDB

The IsDB's Climate Change Policy (2019)¹⁸ and its 5-Year Climate Action Plan (2020-2025) have set an ambitious climate finance target of 35 percent of total commitments by volume by 2025. The IsDB successfully achieved this target by 2023 and, since then, has continued supporting green, climate, and sustainable projects in its member countries. To further its sustainability agenda, the IsDB established its Sustainable Finance Framework in November 2019. This framework serves as the foundation for issuing green, social, and sustainability sukuk, aligning with the globally accepted Green, Social, and Sustainability Bond Principles set by the International Capital Market Association (ICMA). The framework received a strong "Medium-Green Shading" rating from an external rating agency, comparable to other prominent development finance institutions.

This framework has enabled the IsDB to achieve several landmark issuances, including the first-ever AAA-rated green and sustainability sukuk in the global capital markets in 2019 and 2020, which raised €1 billion and US\$1.5 billion, respectively. In 2021, the IsDB issued the largest sustainability sukuk worth US\$2.5 billion, solidifying the IsDB's role in mobilizing Shariah-compliant funding for sustainable and green recovery efforts.

In 2024, ICMA, IsDB, and LSEG published new guidance on the issuance of green, social, and sustainability sukuk. This collaborative effort, announced at COP28, aims to provide practical information and promote standardized best practices, further developing the sustainable sukuk market. In the same year, the IsDB, in partnership with UNDP, announced the Global Takaful Alliance, a public-private partnership to enhance the financial resilience of Muslim communities to rising risks, including climate change, land degradation, drought, and environmental challenges, through takaful. The Alliance aims to build takaful markets both domestically and internationally to build the financial resilience of vulnerable communities. The IsDB has also collaborated with UNEPFI and UNDP to produce analytics and knowledge products that advocate for policymakers, regulators, and Islamic financial institutions to build a resilient and proactive Islamic finance sector in the face of climate change (UNEPFI and IsDB, 2023; UNDP and IsDB, 2023; UNDP and IsDB, 2024).

Most recently in July 2025, Standard & Poor's (S&P) has reviewed and upgraded its rating for IsDB's Sustainable Finance Framework. S&P, in its Second Party Opinion (SPO), confirmed the framework is fully aligned with the most recent versions of the Green Bond Principles (2025), Social Bond Principles (2025), and Sustainability Bond Guidelines (2021) from the ICMA.

World Bank

The World Bank was instrumental in providing technical assistance to Malaysian financial regulators, which resulted in the issuance of the world's first green sukuk in 2017. Since then, the World Bank has actively supported Malaysian financial regulators in developing their Islamic sustainable finance markets through capacity-building programs and knowledge exchanges with other Islamic finance markets. Leveraging Malaysia's experience, the World Bank produced a joint report with the Securities Commission Malaysia on green sukuk development, which provides insights into structuring and operationalizing Islamic climate finance (Kamil et al., 2019). In 2022, the World Bank supported several African countries under the De-Risking, Inclusion and Value Enhancement of Pastoral Economies in the Horn of Africa Project (DRIVE), which utilized insurance and takaful. The project aims to enhance pastoralists' access to financial products for drought risk mitigation, including them in value chains, and facilitate livestock trading in the Horn of Africa.

International Finance Corporation (IFC)

In October 2024, the IFC announced a US\$240 million Islamic Equity Bridge Loan (EBL) financing for ACWA Power to support the development of Uzbekistan's renewable energy sector (IFC, 2024a). Furthermore, the IFC has planned to provide an Islamic credit line of US\$44.6 million to a Senegalese bank, empowering small and medium enterprises to adopt low-carbon business models (Ecofin Agency, 2025).

18 <https://www.isdb.org/sites/default/files/media/documents/2022-10/IsDB%20Climate%20Change%20Policy%20%28Final%29.pdf>

Asian Development Bank (ADB)

ADB, in collaboration with IsDB, published a report that outlines a roadmap for scaling Islamic finance to build climate-resilient infrastructure, emphasizing the development of green banking and capital markets and Islamic social finance (ADB, 2022). In 2024, the ADB approved a US\$500 million policy-based loan to Pakistan, supporting climate finance mobilization from public and private sources, including issuing a domestic green sukuk.

United Nations Development Program (UNDP)

The UNDP, in collaboration with the IsDB Group, has published a report exploring takaful's role in building climate resilience, highlighting opportunities and recommendations for its implementation (UNDP & IsDB, 2023; UNDP & IsDB, 2024). In 2024, the UNDP Indonesia prepared an Introductory Study on the Islamic Blended Finance (IBF) model, examining the potential of IBF in answering the gap in climate change-responsive financing for farmers who are vulnerable to being affected by climate change at the community level (UNDP, 2024).

United Nations Environment Program Finance Initiative (UNEP FI)

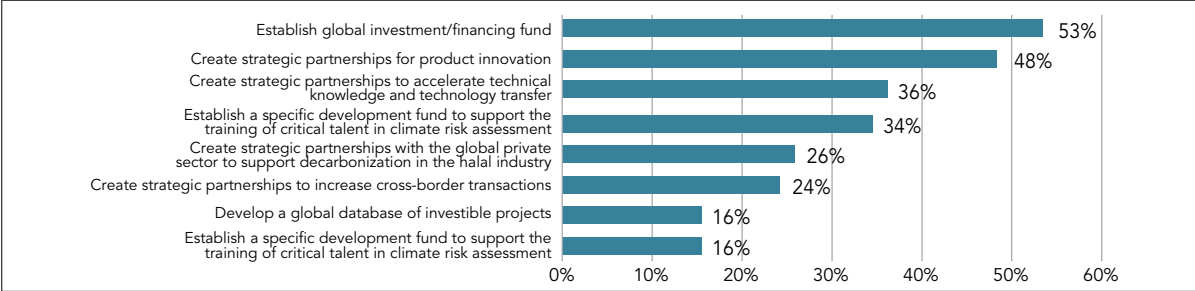
UNEP FI, in collaboration with the IsDB and the General Council for Islamic Banks and Financial Institutions (CIBAFI), published a 2023 report on mobilizing Islamic banking for climate action (UNEPFI and IsDB, 2023). The report outlines the current state of climate action in Islamic finance, presents the Islamic foundations for environmental stewardship, and offers a clear roadmap with actionable recommendations for Islamic banks and regulators to build a resilient and climate-responsive sector.

Beyond MDBs, several international Islamic finance standard-setting bodies have collaborated to establish a roadmap for developing a global standard for Islamic sustainable finance. In 2023, the Islamic Financial Services Board (IFSB), the General Council for Islamic Banks and Financial Institutions (CIBAFI), and the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) jointly issued a roadmap outlining their plan and targets for developing and publishing prudential and governance standards, financial accounting standards, disclosure guidelines, market development initiatives, and capacity building and certification programs from 2022 to 2027.¹⁹ Significant progress has been achieved, notably the publication of the CIBAFI Greenhouse Gas Emission Measurement Tool for Islamic financial

institutions and the AAOIFI Governance Standard on Shariah Decision-Making Process in 2024.

Based on the survey of Islamic finance professionals,²⁰ the majority agree that MDBs and international Islamic finance standard-setting bodies play a critical role in developing the global Islamic climate finance market and facilitating cross-border collaborations. According to the survey responses, the three primary suggestions to support the mobilization of global Islamic climate finance include establishing an international investment or financing fund, fostering collaborations for product innovation, and forming strategic partnerships to accelerate technical knowledge and technology transfer (Figure 2.10).

FIGURE 2.10
Suggested Initiatives to Mobilize Global Islamic Climate Finance



19 https://www.cibafi.org/images/FI213-IILM_IFIO_Declaration_Layout_Draft6_v1%202.pdf

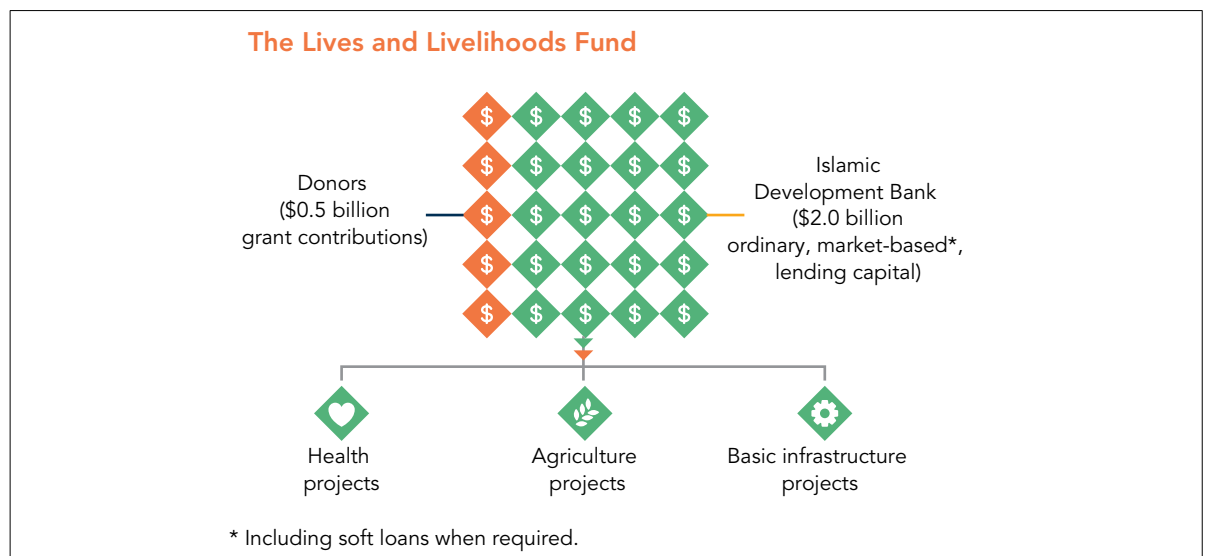
20 This finding is part of the broader survey results discussed in section 2.3 below.

Establishing a global investment fund could mobilize resources from Islamic financial institutions and investors to support climate finance projects. Such a fund may finance energy transition and clean transportation initiatives within the OIC, sharing risks and leveraging collective financial strength for impactful climate action. The fund can reduce financial barriers and attract investments from the public and private sectors by pooling resources. MDBs can facilitate dialogue and cooperation among stakeholders and create platforms for joint ventures that co-finance climate projects. Additionally, MDBs can contribute to blended finance, encompassing concessional financing and facilitating the issuance of innovative Islamic climate finance instruments.

One such example is the Lives and Livelihoods Fund which is a fund for the Muslim world that was launched

in 2016 as a US\$2.5 billion development initiative. Funding was provided by a global coalition including the Abu Dhabi Fund for Development, the Gates Foundation, the IsDB, the Islamic Solidarity Fund for Development, the King Salman Humanitarian Aid and Relief Centre, and the Qatar Fund for Development. The fund utilizes a unique model to blend IsDB concessional finance with philanthropic grants (Figure 2.11) to lift the poorest out of poverty across 33 IsDB member countries by addressing nine SDGs and providing them with accessible and sustainable funding to support the essential building blocks of prosperity, such as primary healthcare, productive agriculture, and social infrastructure. The second tranche of the fund, totaling US\$2 billion, is also mobilized with the aim of enhancing climate resilience.

FIGURE 2.11
Lives and Livelihoods Fund Model



Source: IsDB

Encouraging collaborations between the public and private sectors could potentially enhance the development of innovative Islamic climate financial instruments. There is a notable recognition and demand for green sukuk, particularly within the renewable energy sector. However, there remains an opportunity to fill the gap in the availability of Islamic finance solutions for other climate mitigation and adaptation activities. This includes sustainable manufacturing, energy-efficient green building initiatives, and waste management. Furthermore, there is a pressing need for nature-based solutions and investments in thematic areas such as the

marine economy, including sustainable fisheries and coastal conservation, which are vital for biodiversity and climate resilience.

Forming strategic partnerships can link experts from various fields with Islamic finance institutions, enabling the sharing of critical know-how and advanced technologies essential for climate projects. This collaborative approach can significantly enhance the effectiveness of initiatives, particularly in EMDEs characterized by underdeveloped green finance ecosystems. MDBs are vital in providing technical support to policymakers and regulators in the OIC

to facilitate capacity building on climate financing among public and private sector players. For instance, partnering with renewable energy firms or research institutions can provide access to cutting-edge solutions and expertise that Islamic financial institutions might lack internally. Such platforms can facilitate the exchange of best practices and promote policy harmonization. MDBs have enabled the development of standardized frameworks, such as green sukuk and Islamic ESG funds, that align Shariah principles with climate objectives, thereby attracting ethical investors and strengthening

market confidence. Without such collaboration, efforts risk being fragmented and insufficient to meet the urgent climate needs of OIC countries.

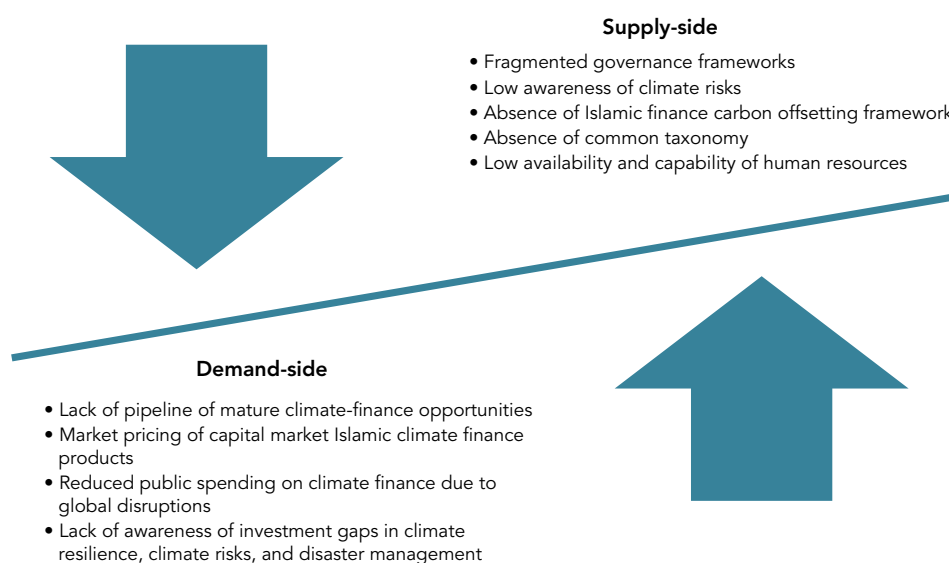
There may be scope for dedicated vertical climate funds to consider Islamic climate finance windows. The potential for Islamic finance to support climate goals could be enhanced via creation of windows in conventional vertical funds. For example, the IsDB was accredited by the Green Climate Fund (GCF) in 2024 and is preparing a program for potential GCF finance support.

2.3 Domestic Islamic Climate Finance Development

A 2022 study by the ADB and IsDB identified demand- and supply-side barriers that have limited Islamic climate finance compared to the broader Islamic finance market. According to the study, supply-side barriers include fragmented governance frameworks, low awareness of climate risks, the absence of an Islamic finance carbon offsetting framework, a common taxonomy, and the low availability and capability of

human resources. Demand-side barriers included a lack of pipeline of mature climate finance opportunities, market pricing of capital market Islamic climate finance products, reduced public spending on climate finance, and a lack of awareness of investment gaps in climate resilience, climate risks, and disaster management (Figure 2.12).

FIGURE 2.12
Barriers to Enhanced Islamic Climate Finance



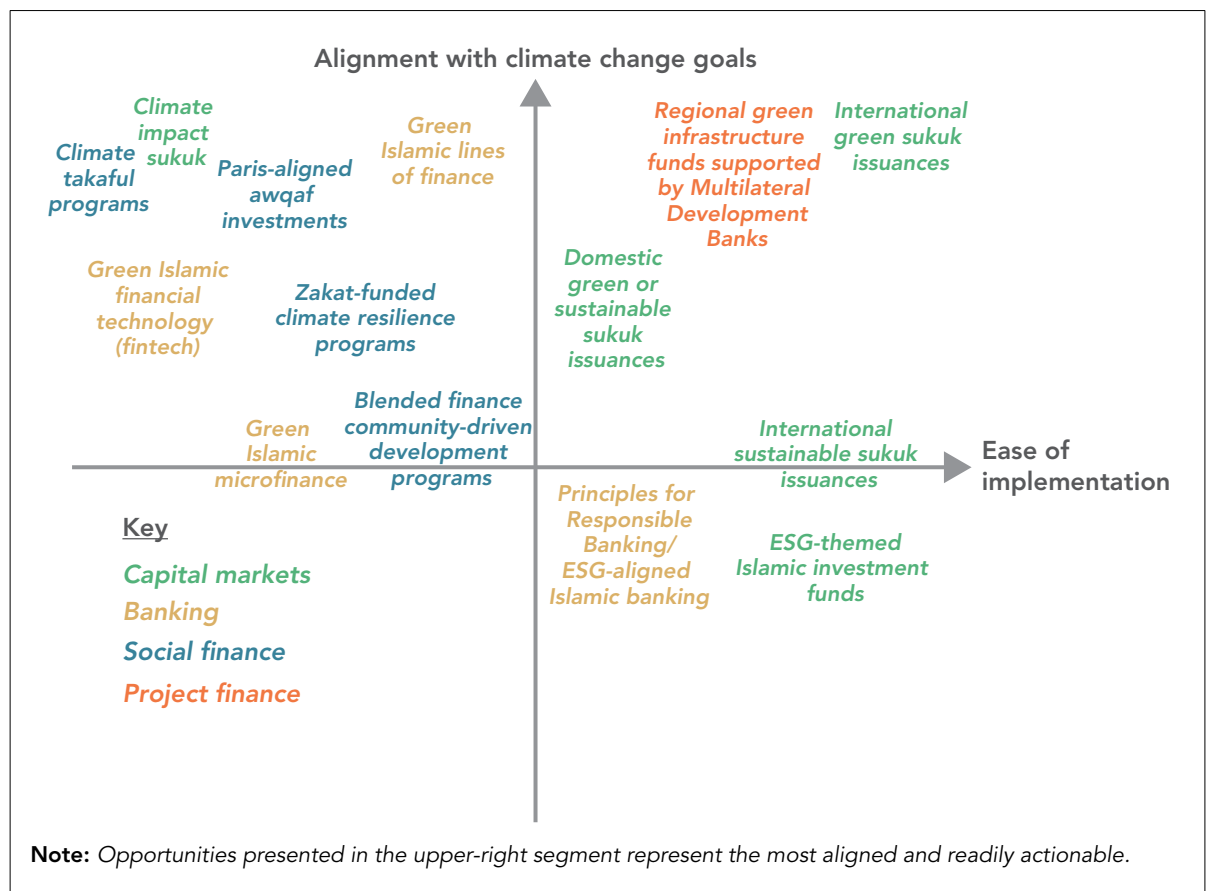
Source: Hiller et al. 2023, adapted from ADB & IsDB (2022)

Significant opportunities exist across several Islamic finance modalities to enhance Islamic climate finance. ADB & IsDB (2022) outlined Islamic finance modalities from the capital market, banking, social finance, and project finance sectors, which hold strong potential to support climate finance (Figure 2.13). Whilst international

green sukuk issuances are currently growing due to their strong alignment with climate goals and relative ease of implementation, other modalities with strong climate potential, such as takaful for climate resilience, green waqf, and green Islamic lines of finance, may require technical, regulatory, and market support for growth.

FIGURE 2.13

Islamic Climate Finance Market Growth Opportunities (Based on Alignment with Climate Goals and Ease of Implementation)

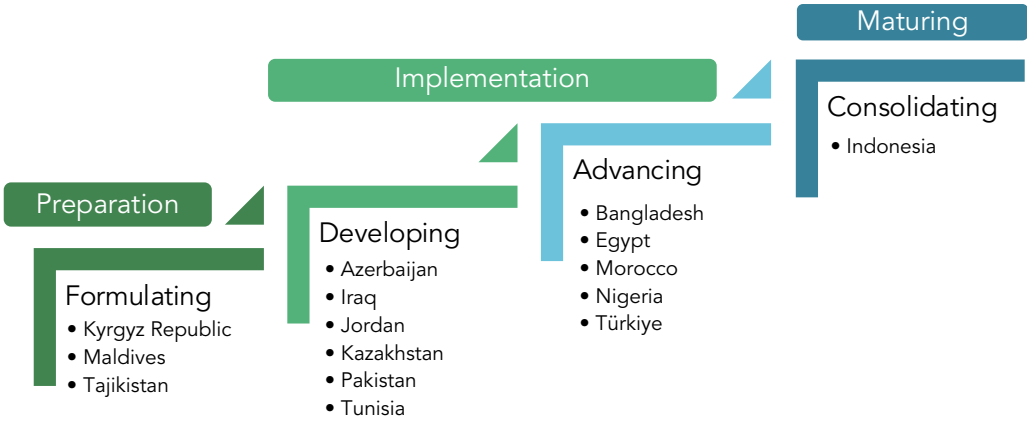


Source: Hiller et al. 2023, adapted from ADB & IsDB (2022)

Mobilization of domestic finance, including crowding-in finance from the domestic private sector, will be critical in driving local climate action. In many cases, domestic finance will be a primary funding source, leveraging the implementation of national climate strategies and actions. For OIC countries without such frameworks, there is a critical need for technical assistance with policy guidance, development of sustainable finance frameworks at national or sub-national levels, and other forms of technical assistance, such as training and

capacity building. Participation in global sustainable finance initiatives such as the Sustainable Banking and Finance Network (SBFN) provides members with access to best practices, peer learning, and technical guidance for developing a robust sustainable finance ecosystem, which can accelerate the growth of the sustainable finance market in their respective countries. For example, SBFN has supported the development of sustainable finance markets of 15 SBFN-OIC member countries (Figure 2.14).

FIGURE 2.14
Overall Progress of SBFN-OIC Member Countries



Source: IFC (2024b)

Financial regulators in the OIC have been instrumental in driving the strategic direction of sustainable finance market development, but only a few have developed Islamic finance-specific strategies. This includes designing strategic roadmaps, introducing key policies and regulations such as taxonomies, developing supportive ecosystems, information and reporting systems, and capacity building initiatives (Figure 2.15). Islamic finance-specific strategies may be necessary to address the challenges in the respective markets, especially when the Islamic finance market

is less developed. For example, under Bank Negara Malaysia’s Value-Based Intermediation (VBI) initiative, the VBI Financing and Investment Impact Assessment Framework (VBIAF) was published to facilitate the implementation of an ESG-based risk management system for assessing the financing and investment activities of Islamic financial institutions. In Indonesia, the National Islamic Economic Masterplan 2019–2024, published by Komite Nasional Ekonomi dan Keuangan Syariah (KNEKS) embedded strategies for Islamic finance development and sustainability.

FIGURE 2.15
Sustainable Finance Ecosystem Development Across the OIC

Policy tools	Description	Examples in the OIC
Strategy and Coordination	1. Develop a green finance roadmap for the financial sector. 2. Develop a national climate finance strategy. 3. Create a national platform or taskforce on green finance.	• Sustainable Finance Frameworks or Roadmaps have been published by Azerbaijan, Bangladesh, Egypt, Indonesia, Jordan, Kazakhstan, Malaysia, Morocco, Nigeria, Oman, Qatar and the UAE. • Malaysian financial regulators established a Joint Committee on Climate Change as a regulator-financial industry platform.
Build Skills and Capacity	4. Participation in green finance-related international networks. 5. Support financial institutions’ commitments to align with the Paris agreement.	• OIC financial regulators are members of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) and SBN. • Capacity building programs on climate finance for Islamic financial industry conducted by AAOIFI, CIBAFI, IsDB, IFSB and World Bank Group.

Financial Regulation and Central Bank Activities	6. Conduct climate-related and environmental risk assessment. 7. Incorporate climate-related and environmental risk into supervisory practice. 8. Issuing supervisory guidance on climate-related and environmental financial risk. 9. Exploring greening of central banks' activities.	• International Islamic finance standard setters have published several guidance, including: • CIBAFI Sustainability Guide for Islamic Financial Institutions • CIBAFI Greenhouse Gas Measurement Tool for Islamic Financial Institutions • IFSB Guidance Note on Climate-Related Financial Risks for Institutions Offering Islamic Financial Services (Banking Segment) • IsDB Sustainable Finance Framework • Malaysian financial regulators and Islamic financial institutions collaborated to publish VBIAF Guidance and VBIAF Sectoral Guides.
Increasing Transparency	10. Develop and implement climate-related and environmental disclosure and reporting standards. 11. Develop and adopt a national green taxonomy.	• Growing number of OIC financial regulators have adopted and will be implementing IFRS Sustainability Reporting Standards. • Malaysian financial regulators published a Climate Data Catalogue.
Greening Financial Institutions	12. Greening a national development bank or other domestic public finance institution. 13. Create a national green finance entity or green bank.	• A Malaysian development bank has established a Climate Finance Innovation Lab.
Green Financial Tools and Instruments	14. Stimulate corporate green bond issuance. 15. Issue green sovereign bonds. 16. Promote use and development of blended finance products for green finance purposes. 17. Stimulate origination of green loans or sustainability-linked loan products.	• Several OIC countries such as Indonesia, Malaysia and Pakistan have published a Green or Sustainable Sukuk Framework. • ICMA in collaboration with IsDB and LSEG published Guidance on Green, Social, and Sustainability Sukuk. • The Malaysian central bank has established a Low Carbon Transition Facility. • UNDP and IsDB have established a Global Takaful Alliance for climate resilience.

Source: Author's illustration, adapted from World Bank's Toolkits for Policymakers to Green the Financial System

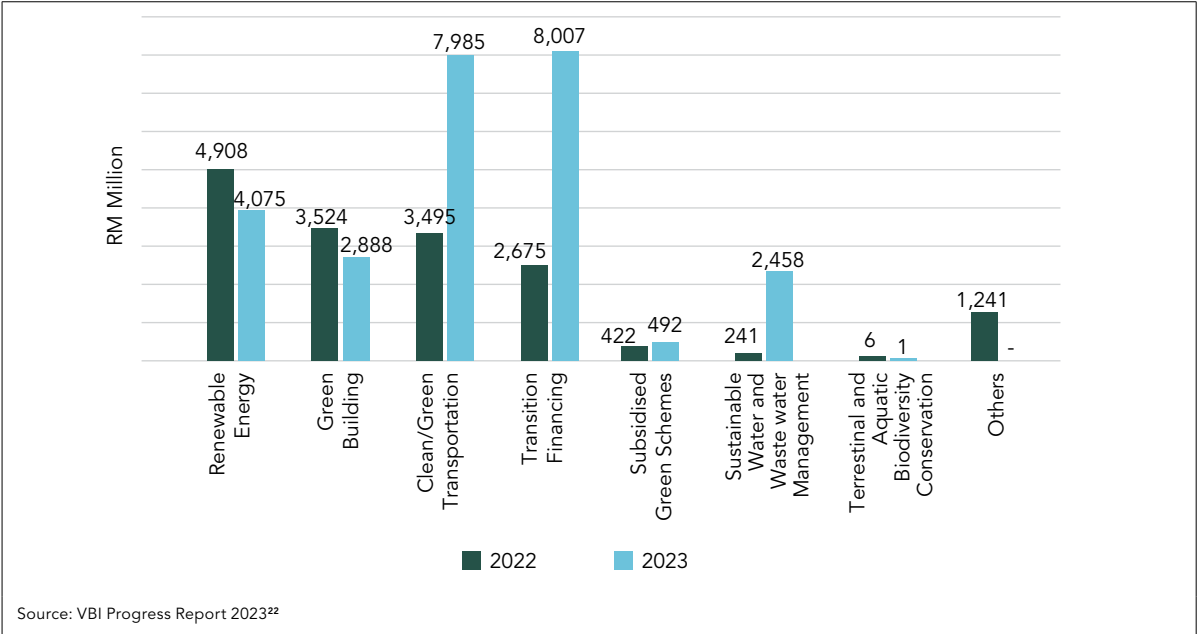
BOX 2.2

Advancing Islamic Climate Finance Through Value-Based Intermediation (VBI) Initiative in Malaysia

VBI Community of Practitioners, or “CoP,” is a collaborative platform for industry players to advance industry-wide implementation of the VBI initiative strategically. In 2017, the CoP was officially established with an initial membership of nine Islamic banks and has now expanded to 18 Islamic banks and development financial institutions (DFIs). In collaboration with Bank Negara Malaysia and technical assistance provided by the World Bank, the CoP has developed and published

ten VBIAF Sectoral Guides, including renewable energy, construction and infrastructure, manufacturing, agriculture, and waste management.²¹ Between 2020 and 2023, the implementation of the VBIAF Sectoral Guides has helped to channel more than RM49.5 billion (approximately US\$11 billion) in Islamic financing to green projects via more than 223,000 financing accounts across the 18 CoP members (Figure B 2.2).

FIGURE B 2.2
VBI Islamic Green Financing Amounts in 2022-2023 (RM million)



21 <https://staging.aibim.com/value-based-intermediation>
22 <https://aibim.com/value-based-intermediation/VBI-Report-2023.pdf>

The commitment and capacity of Islamic financial institutions are critical to the advancement of Islamic sustainable and climate finance offerings in the OIC. A notable commitment to the climate agenda is evident among the top 20 Islamic banks (Table 2.2), with 13 Islamic banks setting net-zero targets either at the entity level or in alignment with their respective national

strategies. Approximately half of these Islamic banks have issued sustainable sukuk, highlighting the promising potential for further development. They also play a vital role in facilitating sukuk issuances for corporations. Consequently, their efforts are essential for promoting the growth of the Islamic sustainable and climate finance market within their respective jurisdictions.

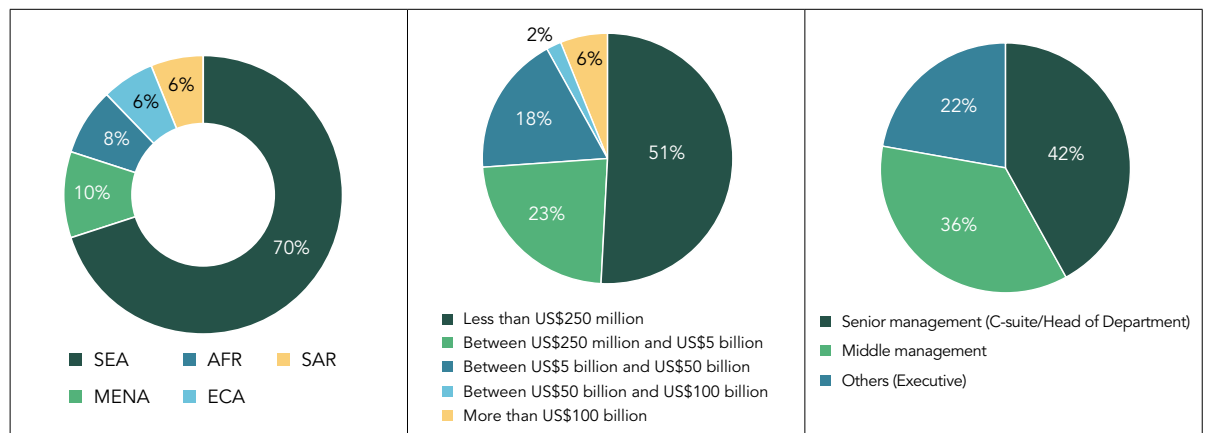
TABLE 2.2**Top 20 Islamic Banks Globally (2024) and Sustainability Practices**

	Bank	Country	Assets (US\$ Million)	Sustainable Report	Net Zero Target	Sustainable Sukuk
1	Al Rajhi Bank	Saudi Arabia	215,504	Yes	2060	Yes
2	Kuwait Finance House	Kuwait	123,682	Yes	2060	Yes
3	Dubai Islamic Bank	UAE	85,563	Yes	2060	Yes
4	Alinma Bank	Saudi Arabia	63,127	Yes	2050	No
5	Maybank Islamic	Malaysia	62,502	Yes	2050	Yes
6	Abu Dhabi Islamic Bank	UAE	52,496	Yes	2050	Yes
7	Qatar Islamic Bank	Qatar	51,959	Yes	2050	Yes
8	Masraf Al Rayan	Qatar	45,104	Yes	n.a	No
9	Ahli United Bank	Bahrain	41,900	Yes	2050	No
10	Bank Albilad	Saudi Arabia	38,164	Yes	n.a	No
11	CIMB Islamic Bank	Malaysia	34,805	Yes	2050	Yes
12	Bank AlJazira	Saudi Arabia	34,549	Yes	n.a	No
13	Dukhan Bank	Qatar	31,429	No	n.a	No
14	Boubyan Bank	Kuwait	27,349	Yes	n.a	No
15	Bank Rakyat	Malaysia	25,873	Yes	2050	Yes
16	Al Baraka Group	Bahrain	25,205	Yes	n.a	No
17	Emirates Islamic Bank	UAE	23,906	Yes	2050	Yes
18	RHB Islamic Bank	Malaysia	23,471	Yes	2050	No
19	Kuveyt Türk Katılım Bankası	Türkiye	23,396	Yes	n.a	Yes
20	Bank Syariah Indonesia	Indonesia	22,942	Yes	2060	Yes

Source: TABInsights²³ compilation based on author's desktop research from banks' websites.

To enhance the insights gathered from the analytics in the prior section, a survey was conducted to explore the motivating factors, opportunities, and challenges in advancing Islamic sustainable and climate finance solutions within the OIC. An online survey was disseminated to professionals in the field of Islamic finance via their associations and individual email addresses.

A total of 68 responses were collected, predominantly from Malaysia and Indonesia.²⁴ Approximately half of the respondents were employed within the banking industry, while the remaining participants were equally divided among the takaful industry, private sector, and other related financial services. Additional demographic information is presented in Figure 2.16.

FIGURE 2.16**Respondents' Demographic – Location (Left), Firm Size (Middle), and Job Designation (Right)**

23 <https://tabinsights.com/ab100/largest-islamic-banks>

24 Figures 2.10, 2.16 to 2.22 and 3.9 are derived from this survey.

The Islamic finance industry has made noticeable strides in integrating sustainability, with most institutions having established strategic plans and internal policies. All respondents from the Islamic banking and takaful sectors (70 percent of respondents) indicated their institutions have either adopted a broad sustainability strategy or a net-zero action plan (Figure

2.17). Half of these respondents reported that their institutions have implemented internal policies and procedures to guide business operations. The majority noted an alignment between sustainability objectives and Maqasid al-Shariah, which motivates their actions (Figure 2.18).

FIGURE 2.17
Institutional Approach to Implementing Sustainability and Climate Agenda

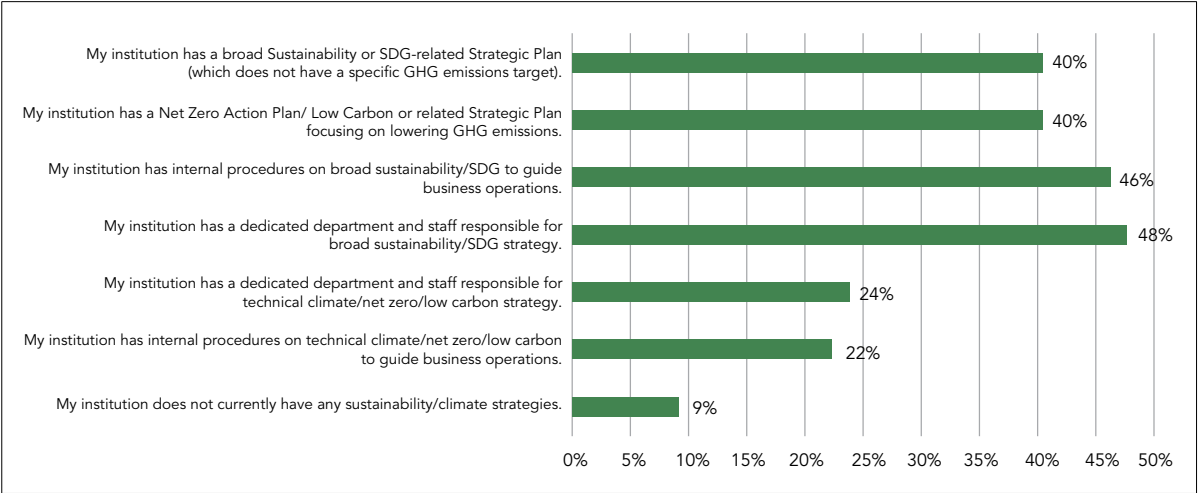
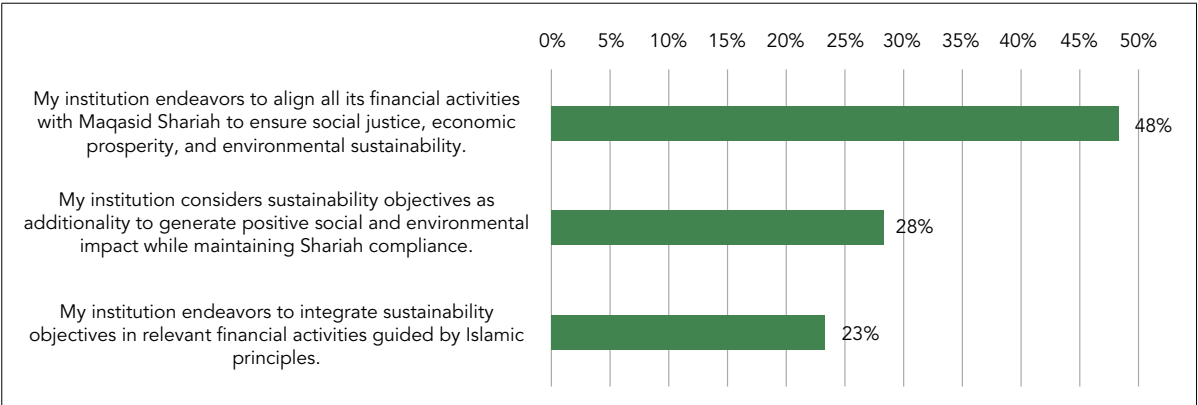


FIGURE 2.18
Institutional Understanding of Sustainable Islamic Finance



The Islamic finance industry acknowledges the pivotal role of financial regulators in fostering sustainable and climate finance markets. Looking ahead, they advocate that regulators maintain a focus on developing regulations to support Islamic climate finance and devise incentive strategies for financing low-carbon initiatives (Figure 2.19). Furthermore, establishing information systems, such as taxonomies and reporting requirements, is crucial to assist Islamic finance institutions in identifying

appropriate projects for financing. About the information environment, 60 percent of respondents reported that their institutions collect their GHG emissions data and identify green assets within their current balance sheets. Most respondents identified the energy, utilities, and manufacturing sectors as the primary contributors to their Scope 3 GHG emissions, thereby presenting significant opportunities for decarbonization (Figure 2.20).

FIGURE 2.19
Three Main Priorities for Financial Regulators

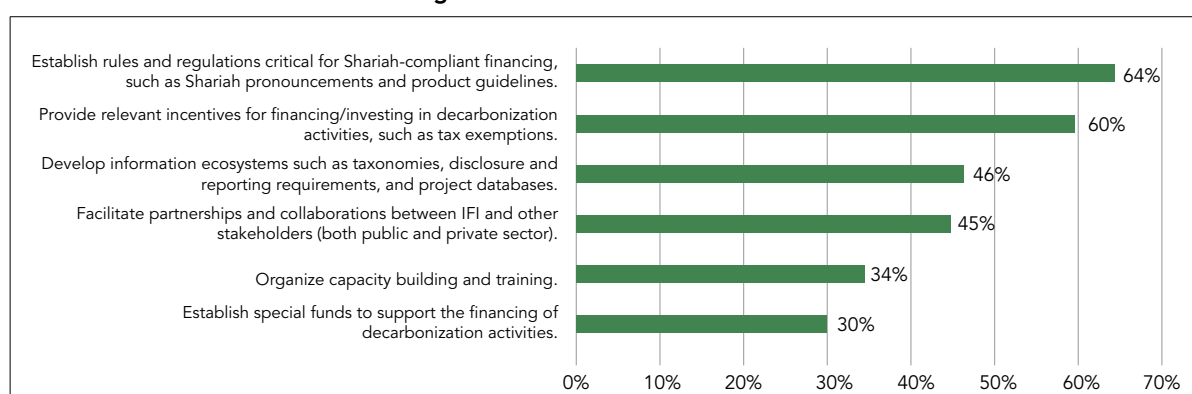
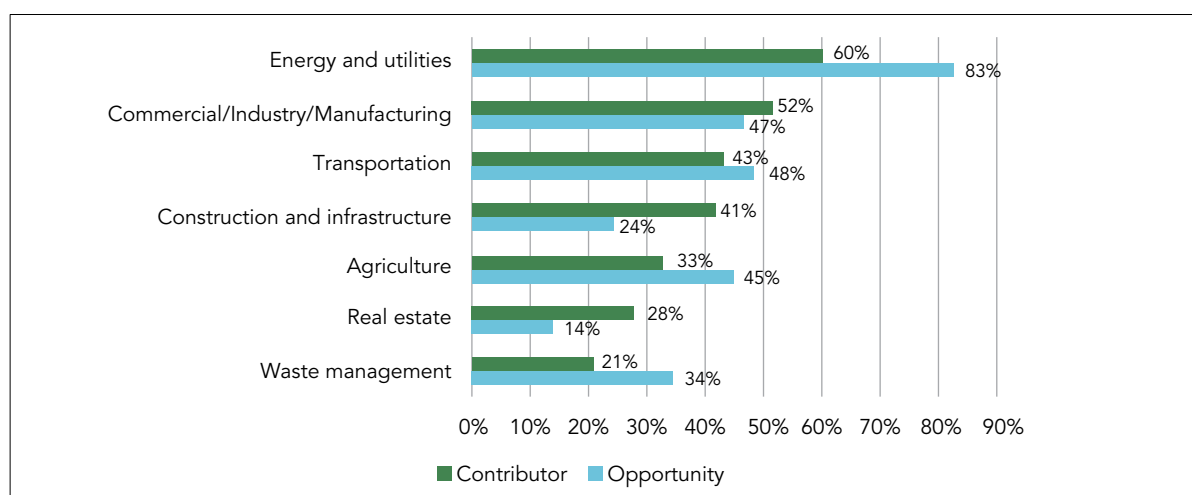


FIGURE 2.20
Top Three Primary Contributors to Scope 3 Emissions and Top Three Sectors with the Most Significant Opportunity for Decarbonization



As noted in the previous section, there is considerable variation in the development of the Islamic sustainable finance market across the OIC. Although respondents concur that there is demand for such products, the availability of green financing products is limited to financing renewable energy, electric vehicles, and green buildings. There are ongoing challenges to accelerate the overall sustainable finance market within their jurisdictions, further complicated by the respective development stages of Islamic finance markets in these jurisdictions. Respondents highlight that the primary obstacles impeding the utilization of Islamic finance include investor and borrower awareness gaps and insufficient policies and regulations regarding decarbonization activities (Figure 2.21). Consequently, this leads to limited business strategies by private sector entities and reduced investment opportunities, exacerbating the issue.

Consequently, they strongly recommend prioritizing efforts to enhance policy frameworks, financial innovation, and the information ecosystem. Respondents overwhelmingly advocate for government authorities and real-sector regulators to focus on developing sector-level decarbonization policies and standards (Figure 2.22). This emphasizes the need for comprehensive real sector roadmaps to pinpoint priority areas and evaluate the financing gap, enabling financial sector participants to concentrate their efforts effectively and reduce policy uncertainty that could hinder investments. Moreover, to address the Islamic finance industry's financing capacity, respondents endorse the creation of special funds and sandboxes to pilot innovative financing schemes that can be expanded upon validating their viability. Regulators should also undertake further initiatives to facilitate climate-aligned disclosures and GHG emissions accounting and reporting, which are critical for evaluating the climate risk associated with private sector entities.

FIGURE 2.21
Five Main Challenges in Financing Decarbonization

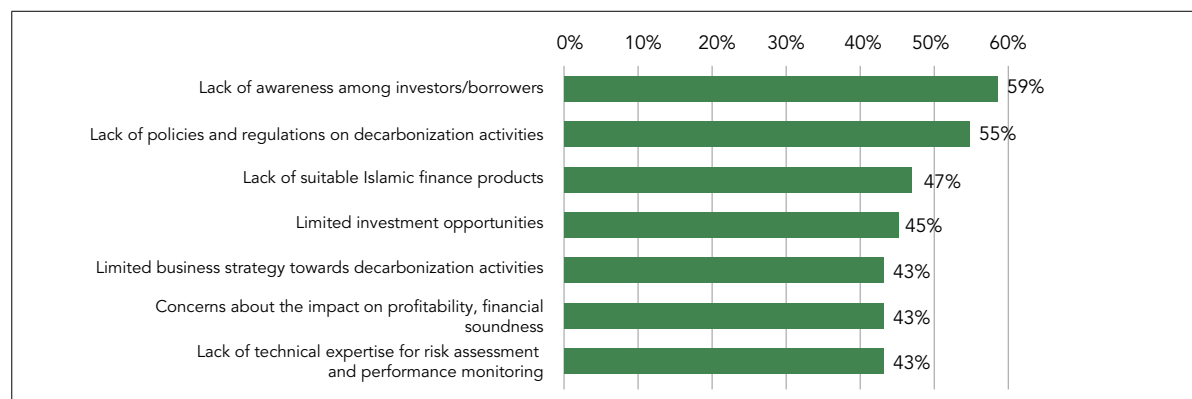
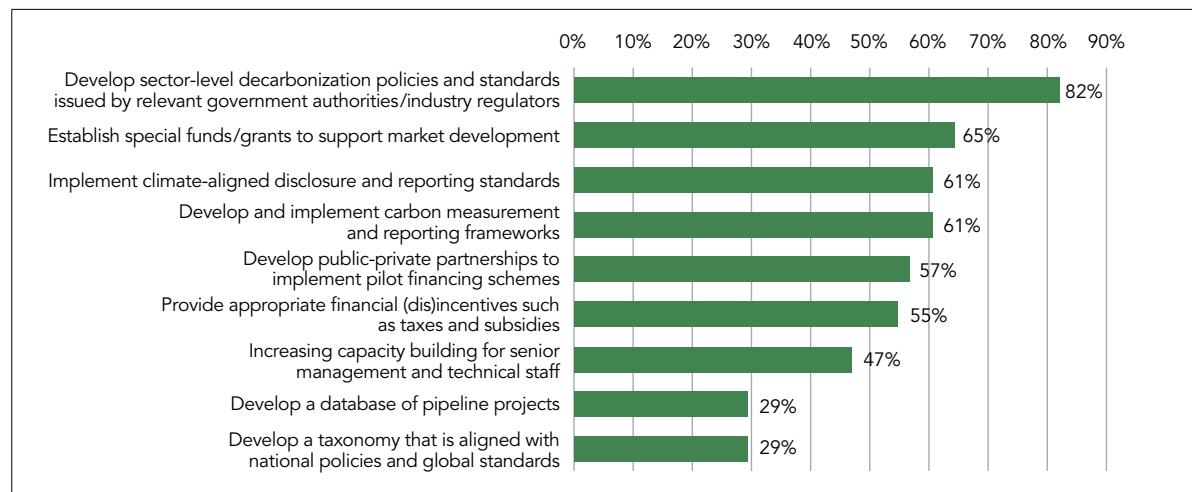


FIGURE 2.22
Five Priorities to Address Challenges



In conclusion, experts in Islamic finance acknowledge the advancements achieved by the sector. Nevertheless, further efforts are needed to grow the Islamic sustainable and climate finance offerings. This necessitates

coordinated action among Islamic finance regulators, financial institutions, and private sector participants to improve ecosystem enablers that support better information and financial innovation.

BOX 2.3

Climate Finance by Islamic Banks in the MENA Region

In 2023, the report, “Mobilizing Islamic Banking for Climate Action,” examined the integration of climate-related practices within Islamic banking in the MENA region. It guides Islamic banks to mainstream climate action in their operations and offers recommendations to public authorities to support these efforts. The report is a collaborative outcome of a program to “Promote Climate Finance within the Islamic Banking Sector in the MENA Region,” involving the United Nations Environment Program Finance Initiative (UNEP FI), IsDB, and the General Council for Islamic Banks and Financial Institutions (CIBAFI). It primarily targets Islamic banks and Islamic windows of conventional banks in the MENA region, as well as other Islamic financial institutions, regulators, and anyone interested in the nexus of Islamic finance and climate resilience.

Key aspects of the report include:

- **ESG and Climate-aligned Islamic Finance:** There is increasing interest in sustainable finance products, particularly green sukuk. Institutions like IsDB have developed Sustainable Finance Frameworks to issue green or sustainability sukuk for climate-aligned projects, including renewable energy, clean transportation, and pollution prevention.
 - **Climate-related Financial Risks and Regulation:** Climate change poses direct physical and financial risks to banks, which they need to manage. International standard-setters like the Basel Committee on Banking Supervision (BCBS) and the Islamic Financial Services Board (IFSB) are developing principles and guidance for managing these risks. Regulatory authorities in the MENA region, such as Jordan, Morocco, Egypt, and the UAE, are also focused on promoting sustainable finance through strategies, frameworks, and disclosure requirements.
 - **Islamic Principles and Climate Action:** The report emphasizes the moral imperatives for Islamic banks
- **Climate-related Islamic Banking Practices:** An increasing number of Islamic banks in the MENA region are integrating sustainability and ESG into their operations, though with varying scope and depth. Some are adopting global reporting and disclosure practices and international frameworks. CIBAFI’s annual surveys indicate a gradual increase in concern for climate change among Islamic banks, although it remains a lower priority than other risks.
 - **The Mainstreaming Approach:** The report proposes a five-pillar approach to guide Islamic banks in mainstreaming climate change into their businesses:
 - Climate leadership
 - Strategic climate management
 - Climate-related operational integration
 - Performance measurement and accountability
 - Collaboration and exchange on climate resilience
 - **Recommendations for Public Authorities:** The report also provides guidance for regulatory and other public authorities to support these efforts. This includes developing clear climate policy frameworks, requiring disclosures and stress testing, providing guidance for banks to align with policies, encouraging alignment with international frameworks, and facilitating knowledge sharing.

A key avenue for the holistic advancement of climate finance lies in strengthening and modernizing domestic green Islamic finance ecosystems. When Islamic finance is integrated into broader domestic financial sector reforms, it can play a pivotal role in diversifying and strengthening both domestic and international funding sources. Instruments such as sukuk, takaful, and generally

Islamic lines of finance have the potential to mobilize new financial flows and enhance financial inclusion. By improving the quality, relevance, and accessibility of Islamic financial products and services, countries can align Islamic finance with green economy objectives, supporting climate mitigation efforts and resilience-building initiatives.

Special Focus: Greening the Halal Industry

The demand for halal products has grown significantly over the past decade, with Muslim consumer spending increasing from US\$1.6 trillion in 2012 to US\$2.4 trillion in 2023 (DinarStandard, 2024). Based on average a 5.5% year-on-year growth, this is projected to reach US\$3.4 trillion by 2028. Malaysia and Indonesia have established themselves as key players in the global halal industry, drawing on their strengths to enhance

their market positions. According to the Global Islamic Economy Indicator (GIEI) 2023, Malaysia maintained its leading rank, followed by Saudi Arabia and Indonesia. Table 2.3 briefly outlines the strategic roadmaps of these countries, highlighting their halal plans, core sectors of focus, and general strategies for strengthening their halal ecosystems.

TABLE 2.3
Strategic Roadmaps of the Halal Industry in Select Countries

Country	Halal Initiatives	Core Sectors	General Strategies
Indonesia	- Indonesia Islamic Economic Masterplan 2019-2024 - Indonesia Islamic Banking Development Roadmap - Masterplan Industri Halal Indonesia 2023-2029	- Cosmetics and personal care - Fashion - Food and beverages - Media and recreation - Pharmaceuticals - Tourism	- Innovation - Market access - Regulation - Talent
Malaysia	- Halal Industry Master Plan 2030 - NIMP 2030 Sectoral Plan – Halal Industry	- Cosmetics and personal care - Food and beverages - Pharmaceuticals	- Innovation - Market access - Regulation - Talent
Philippines	Philippine Halal Industry Development Strategic Plan 2023-2028	- Cosmetics and personal care - Food and beverages - Pharmaceuticals - Tourism	- Market access - Talent
Saudi Arabia	- Saudi Vision 2030 - Saudi Halal Center	- Cosmetics and personal care - Food and beverages - Pharmaceuticals - Tourism	- Regulatory - Market access - Talent - Innovation
Türkiye	Twelfth Development Plan (2024-2028)	- Cosmetics and personal care - Fashion - Food and beverages - Pharmaceuticals - Tourism	- Innovation - Market access - Talent
United Arab Emirates	- Dubai Islamic Economy Development Centre (DIEDC) 2017-2021 - UAE Halal System by Public Investment Fund	- Cosmetics and personal care - Food and beverages - Pharmaceuticals	Market access

The halal industry, which spans sectors such as food and beverages (F&B), transportation, fashion, tourism, pharmaceuticals, cosmetics, personal care, and media and recreation, contributes to global GHG emissions through various resource-intensive practices. The F&B sector is one of the most significant contributors to GHG emissions globally, estimated to be responsible for

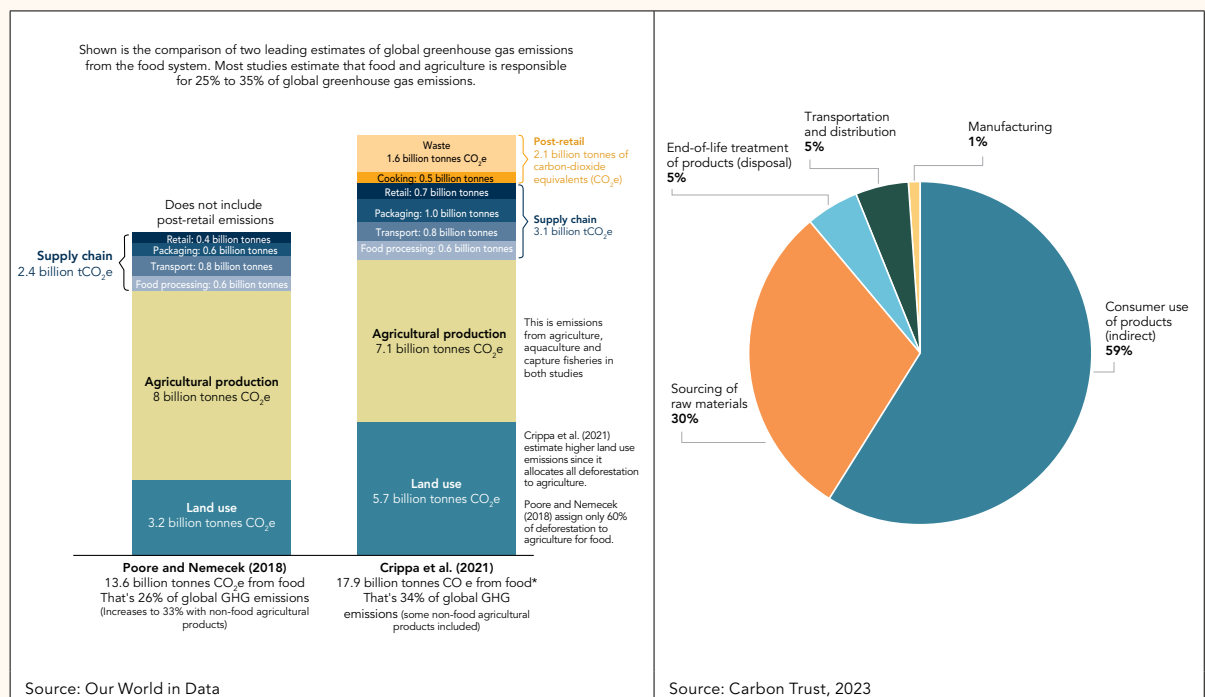
approximately 30 percent of total emissions (Ritchie, 2021) (Figure 2.23). Although not distinctly measured, halal food production faces similar environmental challenges, including unsustainable agricultural practices, excessive water consumption, and energy-intensive processing and manufacturing. The fashion industry, including halal fashion, is estimated to account for approximately eight

percent of global emissions, primarily driven by textile production, waste generation, and transportation (UNEP, 2023). Halal tourism, which is gaining momentum, has its GHG emissions linked to travel and accommodation. The global tourism sector contributes about 8.8 percent of global GHG emissions (Sun et al., 2024). Pharmaceuticals, another growing segment of the halal industry, is estimated to be responsible for around four to five

percent of global emissions, driven by energy-intensive manufacturing processes, chemical use, and complex supply chains (Dehipawala et al., 2023). The cosmetics and personal care sector contribute approximately two percent of global emissions, largely due to raw material extraction, energy used in product manufacturing, and packaging waste (Figure 2.23).

FIGURE 2.23

Global GHG Emissions in the Food System (Left) and Cosmetics and Personal Care (Right)



While data on the halal industry's environmental impact is not distinctly quantified, its GHG emissions footprint reflects broader trends across related sectors. These industries face common challenges, including high resource consumption, waste generation, and significant GHG emissions. By integrating climate-smart practices into halal certification and supply chains, the industry can foster sustainability while maintaining consumer trust. Sustainable halal farming, energy-efficient processing, and eco-friendly packaging are emerging trends that can align the halal industry with climate goals. In regions vulnerable to climate impacts, such as Southeast Asia and the Middle East, embedding resilience into halal-driven economic development offers a path toward food security, sustainable livelihoods, and ethical consumption.

Despite increasing global sustainability efforts, the halal industry's adoption of these practices remains limited, highlighting the need for further development in sustainable practices. Upon examining the countries' halal strategic roadmaps, it is evident that the integration of sustainability practices is generally discussed in broad terms. The primary focus is on enhancing and expanding halal certification among uncertified halal businesses, especially SMEs. Consequently, sustainability initiatives are predominantly adhered to by large corporations that may be subject to regulatory requirements, such as sustainability reporting for publicly listed companies. Several large halal corporations have also committed to net-zero targets (Table 2.4).

TABLE 2.4**Net Zero Target of Select Halal Corporations in Indonesia and Malaysia**

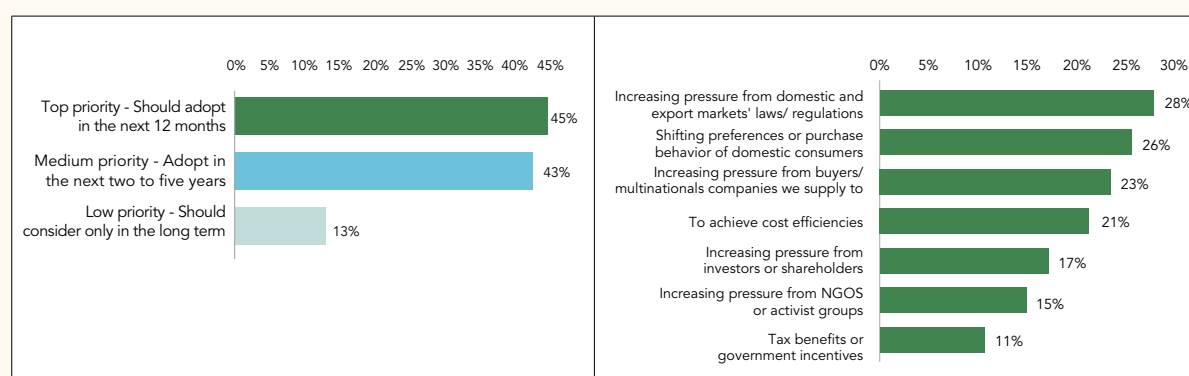
Country	Corporation	Sector	Net Zero Target
Malaysia	Duopharma Biotech Berhad	Pharmaceutical	Net Zero 2050
Indonesia	PT Paragon Technology and Innovation	Personal goods	Net Zero 2050
Malaysia	FGV Holdings Berhad	Agribusiness and food	Net Zero 2050
Malaysia	Pharmaniaga Berhad	Pharmaceutical	Net Zero 2050
Malaysia	IOI Corporation Berhad	Agribusiness	Net Zero 2040

Insights from Halal Companies in Malaysia and Indonesia

An online survey was distributed via email to halal companies in Malaysia and Indonesia. A small sample of 46 responses from Malaysia and 45 responses from Indonesia was received.²⁵ The respondent companies comprise 33 percent large corporations, 45 percent SMEs, and 22 percent microenterprises, involved in the manufacturing (34 percent), retail (20 percent), and services (13 percent) sectors. About a third of the respondents are involved in the export business.

Survey respondents demonstrated significant awareness (83 percent) and substantial enthusiasm (94 percent) for adopting green practices and integrating ESG standards. This trend highlights the strategic

vision of policymakers in Malaysia and Indonesia, who are enacting policies to leverage the transformative power of green initiatives. Most respondents indicated that the adoption of ESG standards is a high priority (45 percent) or medium priority (43 percent), aligning with the aspirations of policymakers (Figure 2.24). Large corporations are motivated by increasing pressures from stringent local and global regulations, while evolving consumer preferences and demands from supply chain buyers further reinforce their commitment to ESG standards (Figure 2.24). Additionally, respondents recognize that incorporating ESG practices not only aligns with ethical considerations but also provides considerable cost-saving benefits.

FIGURE 2.24**ESG Adoption Priority (Left) and Motivation for Adoption (Right)**

While the survey respondents exhibited a basic understanding of ESG principles, their commitment to integrating these practices into daily operations remains moderate. The findings revealed a fragmented approach to sustainability, with most companies recognizing the importance of ESG but lacking structured strategies for implementation. In both Malaysia and Indonesia, the

survey found limited and inconsistent uptake among businesses, with less than 20 percent obtaining relevant certifications such as those for energy and environmental management (Figure 2.25). This gap is further reflected in the adoption of sustainability reporting standards. Furthermore, only 21 percent of respondents indicated securing financing for ESG practices, including solar

²⁵ Figures 2.24 to 2.26 are derived from this survey.

installation, clean water management, and sustainable waste management. These statistics underscore the critical need for heightened efforts and robust frameworks aimed at encouraging and ensuring the widespread integration of ESG standards. Without such measures, there is a significant risk of falling behind in global sustainability efforts, potentially undermining the ethical and economic aspirations of the halal industry in these regions.

Despite their awareness, several significant barriers continue to impede the comprehensive adoption of green practices. Limited financial resources have emerged as a critical constraint, with businesses

frequently citing a lack of access to green financing options, with only 21 percent of respondents citing having access to green financing (Figure 2.26). Additionally, many companies report insufficient technical expertise about ESG standards and how to implement them. This is supported by the evidence that less than 20 percent of respondents' businesses have acquired energy or environmental management certification or implemented sustainability disclosures. These challenges highlight the urgent need for targeted interventions, including capacity-building programs and Shariah-compliant financial instruments tailored to support green initiatives within the halal industry.

FIGURE 2.25
ESG Adoption Practices by Halal Companies

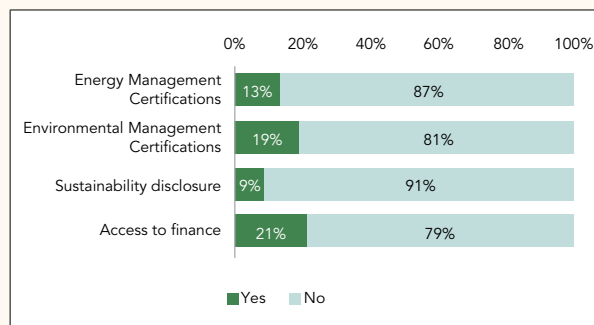
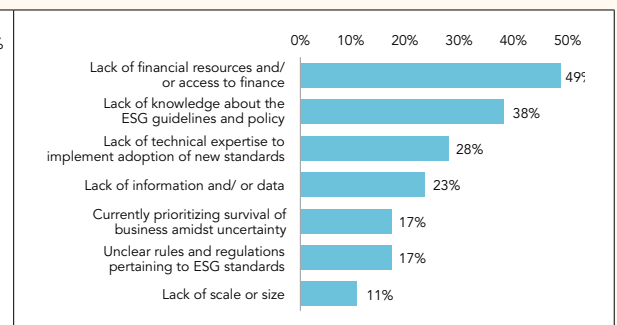


FIGURE 2.26
Challenges in Adopting ESG Practices



Insights from Halal Development Authorities

For the purposes of this report, a series of structured interviews with halal development authorities in Malaysia, Indonesia, and the Philippines were conducted. These interviews aimed to understand the strategic and policy direction related to sustainable practices in the halal industry in the respective countries. Additionally, they explored the intersection with Islamic finance development in their jurisdiction, focusing on how Shariah-compliant financial instruments can support green initiatives in the halal industry. The insights presented challenges and opportunities in promoting sustainability standards and integrating ESG practices in the halal industry, highlighting the role of regulatory frameworks and financial support mechanisms.

Halal development authorities in Malaysia, Indonesia, and the Philippines acknowledge the importance of fully integrating sustainability into the strategic roadmaps for their halal industries. The challenge primarily arises from the segmented approach to climate strategy across different ministries. Despite this, halal authorities remain committed to advancing sustainability through

effective cross-agency cooperation. In Malaysia and Indonesia, where the halal industry has experienced significant growth, authorities are carefully considering the establishment of clear sustainability objectives for the sector. Malaysian authorities are currently reviewing relevant standards and policies to incorporate ESG elements comprehensively. Similarly, the Indonesian government is developing policy recommendations aimed at integrating low-carbon production methods and sustainable practices within the sector. Additionally, efforts are being made to create indicators that accurately measure carbon emissions and assess the overall sustainability of the halal industry in Indonesia. This proactive approach underscores the vital role of sustainability in guiding the future of halal development.

Increasing awareness and understanding of sustainable practices, particularly among SMEs, is important for progress. Although initiatives to raise awareness are ongoing, additional capacity building is needed to enable the adoption of green practices. SMEs face challenges in adopting sustainable practices

due to the costs of halal certification and implementing sustainable solutions. It is important to address these significant barriers for full adoption. In Indonesia, programs such as free halal certification and training for halal advisors support SMEs. Expanding these initiatives to include ESG practices and making them more accessible could help address SMEs' challenges. In the Philippines, the government promotes programs and projects that address food security to ensure sustainable production and supply.

A notable opportunity in Malaysia, Indonesia, and the Philippines is the development of a systematic data collection process on the environmental impact and sustainable practices of the halal industry. This absence of comprehensive data and monitoring frameworks poses a challenge in assessing the sector's alignment with national climate goals and sustainability targets. Implementing effective monitoring is essential to measure the success of sustainability initiatives and ensure they provide tangible environmental benefits. Addressing this gap is necessary to track progress, identify areas for improvement, and make informed policy decisions that support the halal industry's contribution to global sustainability efforts.

Halal authorities acknowledge the integration of Islamic finance as a significant enhancement to sustainability within the halal sector. In the Philippines, Islamic finance options remain limited, urging for more

international Islamic banking institutions to enter the Philippine market. In Indonesia and Malaysia, zakat and waqf serve as financial support to SMEs in the halal industry, assisting them in obtaining halal certification and adopting sustainable practices. Strengthening the connections between Islamic finance, halal businesses, and green initiatives is crucial for achieving growth and advancing climate action agendas. Collaboration among halal authorities, financial institutions, and other related agencies is essential.

In conclusion, the integration of sustainability into the halal industry is a crucial step towards achieving long-term climate goals. Despite challenges such as limited financial resources and insufficient technical expertise, segmented climate strategies, and the lack of systematic data collection, halal authorities are committed to advancing sustainability through cross-agency cooperation and targeted interventions. Capacity-building programs and Islamic financing schemes tailored to support green initiatives are essential for overcoming these challenges. Efforts to raise awareness and support SMEs in adopting sustainable practices are ongoing and require a multi-stakeholder approach. Collaboration among halal authorities, financial institutions, and related agencies will be key to driving growth and advancing climate action agendas within the halal sector. Without such measures, the halal industry risks falling behind in global sustainability efforts, potentially undermining its ethical and economic aspirations.

BOX 2.4

Greening Halal Businesses Pilot Program in Malaysia

The Greening Halal Businesses (GHB) Pilot Program launched in 2025, is an initiative developed through the collaboration between the Government of Malaysia, Bank Negara Malaysia, IsDB Center of Excellence in Kuala Lumpur, and the World Bank Group Inclusive Growth and Sustainable Finance Hub in Malaysia. The pilot program aims to support Malaysian halal SMEs, particularly those involved in global supply chains and export markets, in greening their business operations. This is aligned with increasing demand from global regulators and Malaysian trading partners to comply with ESG requirements for global trade and investment.

The Malaysian halal SMEs are keen to enhance their knowledge, technical capability, and access to affordable green financing, which hinders their capacity to adopt

green business practices. To address these challenges, the GHB Pilot Program provides:

- **Targeted capacity building**, offering training on ESG principles, GHG emissions accounting, and green business practices.
- **Access to GHG emissions measurement tools** to help SMEs measure and report their GHG emissions.
- **Facilitated access** to tailored Islamic green financing solutions, enabling SMEs to invest in green technologies and practices.

The ongoing pilot program may offer insights into effective methods to support SMEs in adopting green business practices, with the potential for these approaches to be expanded within Malaysia and applied in other countries.



CHAPTER 3

Islamic Climate Finance in Practice

This chapter highlights different financial instruments utilized in climate finance. The examples are drawn from both Islamic and conventional climate finance markets, providing insights that can be replicated across the OIC. The lessons learned in instrument design may be beneficial and applicable in developing novel Islamic financial solutions to support climate mitigation, adaptation, and resilience.

Climate finance instruments include grants, concessional finance, commercial debt, equity, guarantees, thematic bonds, and blended finance models. Their suitability for financing climate projects depends on several factors, such as the project's revenue-generating potential, the creditworthiness of the project owner, the risk profile and

need for risk mitigation, the scale and type of climate impact, and the availability of public or private capital. For example, grants and concessional finance are ideal for projects with limited financial returns or high social benefits, while commercial debt and equity suit bankable, revenue-generating projects. Guarantees and blended finance are used to de-risk investments and mobilize private capital. The choice of instrument is determined by project characteristics, financial sustainability, risk-return profiles, and alignment with policy and investor priorities. Table 3.1 depicts the different types of climate finance instruments against their suitability to finance various projects, and ease of implementation in the context of raising a Shariah-compliant climate finance instrument.

TABLE 3.1
Types of Climate Finance Instruments, Project Suitability and Ease of Implementation

Financial Instrument	Renewable Energy	Energy Efficiency	Sustainable Transport	Climate-Smart Agriculture	Water	Forestry	Climate Tech (Startups)	Community Resilience	Coastal Adaptation	Ease of Implementation
Grants / Concessional Finance										Moderate
Green / Climate Sukuk										High
Carbon Markets / Credits										Moderate
Blended Finance										Moderate
PPP										Moderate
Guarantees / Takaful										Low
Equity / VC Investment										Low
Sovereign Climate Finance										Moderate
Microfinance / Community waqf	Small-scale	Home retrofits			Local level				Local level	Moderate

High suitability
Emerging use
Not typically used or suitable



Source: Authors' illustration²⁶

3.1 Sukuk

Expanding the scope and scale of sukuk will be critical to address the increasing demand for climate finance. These financing models can attract private capital for targeted objectives, such as renewable energy, and sustainable

infrastructure. This report examines opportunities for developing thematic sukuk and financing, beyond the domain of clean and renewable energy sukuk and financing, which have been extensively documented.²⁷

²⁶ Adapted from Cities Climate Finance Leadership Alliance, <https://citiesclimatefinance.org/financial-instruments> and NAP Global Network, <https://napglobalnetwork.org/innovative-financing/?category=results-based-financing#categories>

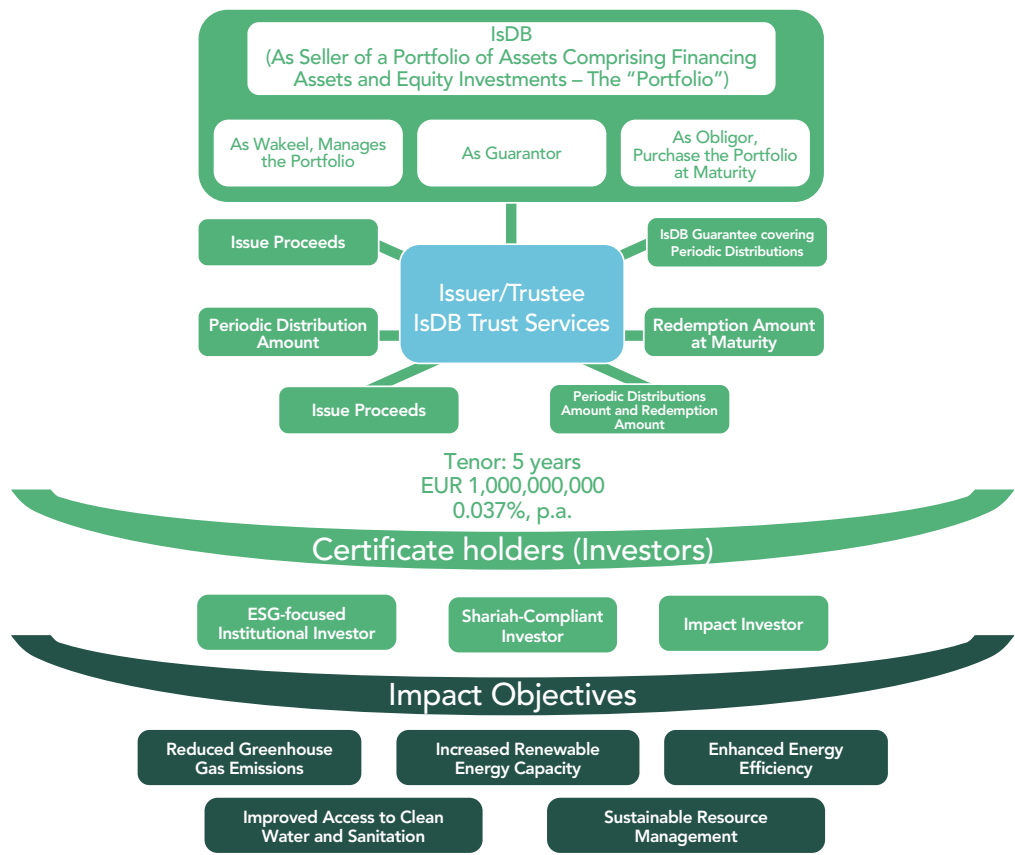
²⁷ World Bank (2019).

3.1.1 IsDB Debut Green Sukuk 2019

The IsDB issued its inaugural green sukuk in November 2019. The €1 billion, 5-year (maturing December 2024) fixed-rate sukuk was a landmark transaction. Issued by IDB Trust Services Limited with the IsDB acting as the

guarantor/obligor, the sukuk was structured as a senior, unsecured trust which achieved an AAA rating. Figure 3.1 summarizes the key structural features of the IsDB green sukuk model.

FIGURE 3.1
IsDB Green Sukuk Model



Source: IsDB

IsDB’s green sukuk attracted ESG-focused institutional investors, impact investors as well as Shariah-compliant investors. The proceeds from the sukuk were explicitly earmarked for financing new or existing eligible green projects of IsDB member countries. The eligible projects were guided by IsDB’s Sustainable Finance Framework, which focuses on renewable energy projects, clean transportation initiatives, energy efficiency improvements, pollution prevention and control measure, environmentally sustainable management of natural living resources and land use, sustainable water and wastewater management projects.

The IsDB’s green sukuk issuance had multiple significant impacts, showcasing the power of Islamic finance to address climate change. The financing raised substantial capital for green projects in developing markets, directly supporting the implementation of climate action and sustainable development initiatives. In terms of climate finance, IsDB exceeded its target of a 35% climate finance share of total financial commitments by 2025, with 37% already achieved. In 2023 alone, IsDB approved 13 transport projects totaling US\$1.2 billion, with the aim of developing sustainable, reliable, cost-effective,

and resilient transportation systems to accelerate socioeconomic activities, growth, and poverty reduction in MCs. Furthermore, as part of efforts under the Small-Scale Renewable Energy Applications in Rural Areas program, the IsDB approved US\$200 million for the establishment of a new 400kV Jasra subsystem in Mauritania.

The IsDB Sukuk issuance also catalyzed the growth of the global green sukuk market, demonstrating the viability and attractiveness of this asset class for both international issuers and investors, encouraging other institutions to explore similar issuances. This contributes to building a robust ecosystem for green finance within the Islamic finance framework. The issuance helped raise awareness about the importance of green finance and the role of Islamic finance in promoting sustainability, highlighting the alignment of Shariah principles with environmental stewardship. The issuance provided several valuable lessons:

- **Standardization and transparency:** Adherence to international green bond standards and robust impact reporting are crucial for ensuring investor confidence and the credibility of green sukuk.

This transparency is essential for attracting both conventional and Islamic investors.

- **Collaboration and partnerships:** Collaboration with other MDBs, development agencies, and investors is essential for scaling up green finance initiatives and maximizing their impact.
- **Capacity building:** Investing in capacity building and technical assistance is important for supporting the development of green projects and promoting the growth of the green sukuk market in developing countries. This ensures that recipient countries have the expertise to develop and implement sustainable projects.

To support future issuances, IsDB updated its Sustainable Finance Framework in 2025. The revised Framework is aligned with leading external standards, including the ICMA Green Bond Principles (2025), Social Bond Principles (2025), and Sustainability Bond Guidelines (2021). It also incorporates key internal updates such as alignment with the Paris Agreement and just transition principles, in addition to adherence to Shariah principles. Under this enhanced framework, the Bank is preparing to issue a labelled Sukuk later in 2025.

3.1.2 Blue Bond in Indonesia

In 2023, the Government of Indonesia issued a blue bond, also called a Samurai Bond, in the Japanese debt capital market, raising approximately US\$310 million. This issuance, the world's first publicly offered sovereign blue bond aligned with ICMA principles, involved multiple key stakeholders. The proceeds are allocated under Indonesia's Sustainable Development Goals (SDGs) Government Securities Framework, specifically funding projects to enhance disaster management and risk reduction for coastal communities, protect and restore biodiversity and ecosystems in coastal and marine areas, and prevent ocean pollution through waste management in coastal and small island regions. The Blue Bond funded 31 projects across 34 provinces in Indonesia, benefiting coastal communities and marine ecosystems by preventing disasters, rehabilitating mangrove forests and coral reefs, establishing new conservation areas, managing biodiversity, and creating waste management facilities (Ministry of Finance, 2024).

The issuance of the bond has significantly influenced the nation's financial landscape, particularly regarding

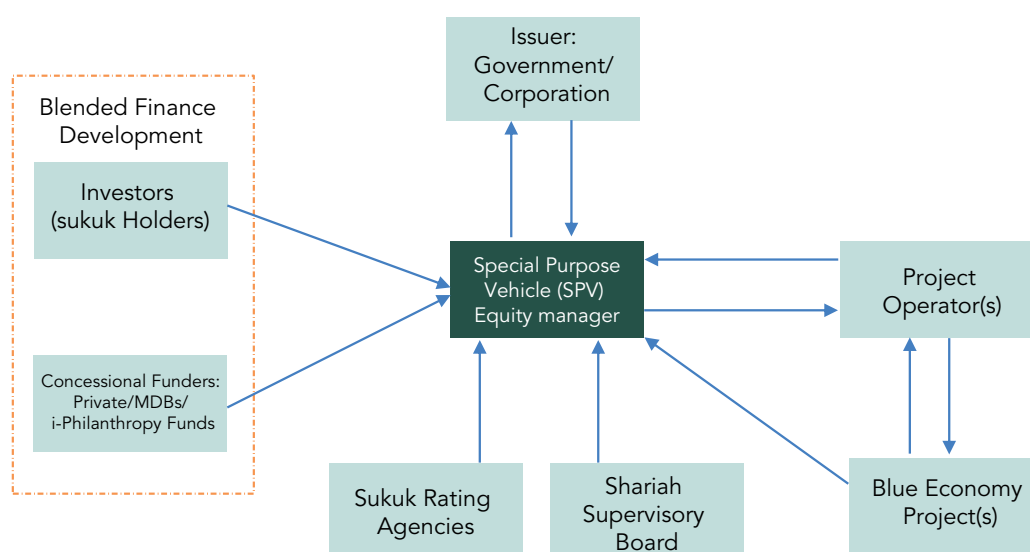
its business model and access to finance. By introducing this innovative financing instrument, Indonesia has diversified its funding sources and attracted private capital to support sustainable marine and coastal projects. This approach not only addresses the substantial SDG financing gap but also positions the country as a pioneer in thematic bond markets, thereby enhancing investor confidence and broadening the investor base. Improving enabling conditions is crucial to complement and amplify the impact of such financing solutions. Indonesia's adoption of an Integrated National Financing Framework exemplifies this strategy, aligning diverse financing flows with national SDG priorities (Bappenas, 2022). The framework facilitates coordinated policy reforms, strengthens institutional capacities, and fosters an environment conducive to sustainable investments. By enhancing transparency, establishing robust regulatory frameworks, and promoting stakeholder collaboration, Indonesia creates a supportive ecosystem that not only attracts but also effectively utilizes financial resources for sustainable development.

However, significant challenges remain, particularly in ensuring effective governance and maintaining investor confidence by demonstrating measurable environmental impacts. Given the novelty of blue bonds, the market lacks established pricing benchmarks and a track record for project implementation, necessitating robust monitoring and reporting frameworks to assure stakeholders of fund utilization effectiveness. Furthermore, the success of the bond depends on the long-term sustainability and implementation capacity of funded projects, requiring strong institutional oversight and risk management. Despite these challenges, Indonesia's Blue Bond issuance represents a pioneering step in climate-aligned sovereign financing, setting a precedent for other nations seeking to leverage capital markets for marine conservation and climate resilience initiatives.

Indonesia's novel experience provides useful insights into the development of blue sukuk. Blue sukuk could

potentially be structured using Musharaka as an underlying contract on a blended financing model, where private investors, concessional funders, and the government jointly contribute capital and share profits and risks in a blue economy project (Figure 3.2). In this model, private investors contribute capital as equity partners, while concessional funders provide subsidized capital to reduce investment risks. A special purpose vehicle (SPV) is created to pool and manage these investments. The Musharaka sukuk is issued to raise equity-based funding, which is then allocated to approved blue economy projects. Project operators oversee the implementation, ensuring adherence to sustainability objectives. Revenues are distributed among investors based on pre-agreed profit-sharing ratios, with losses shared proportionally according to equity contributions. At maturity, capital can be reinvested into new sustainable projects, allowing investors the option to exit or continue reinvesting in future sukuk issuances.

FIGURE 3.2
Musharaka Sukuk with Blended Finance Model



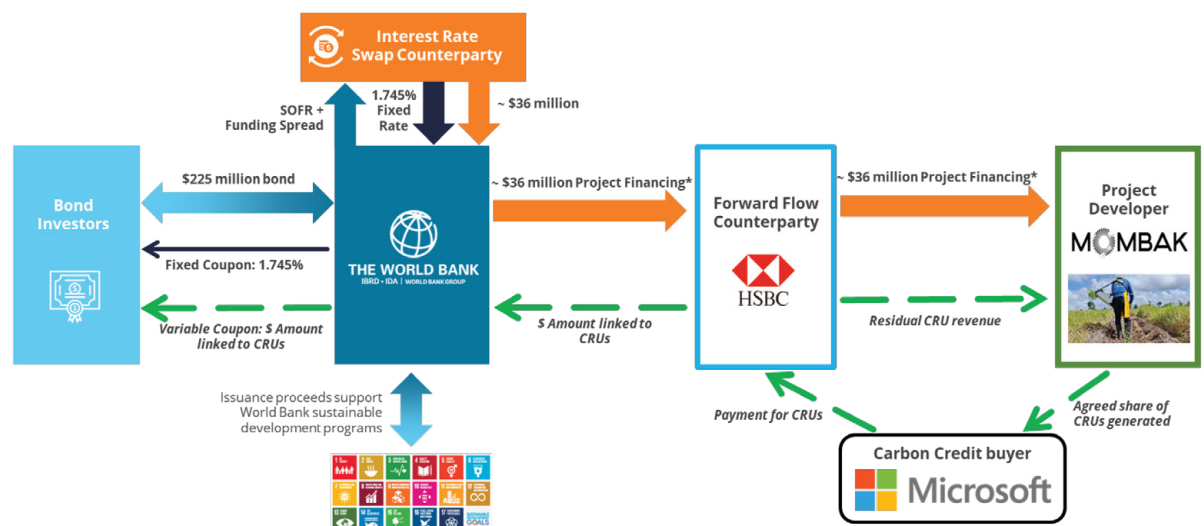
Source: Author's illustration

3.1.3 Amazon Reforestation-Linked Outcome Bond

The World Bank's Outcome Bonds represent a pioneering approach to sustainable finance, aligning investor returns with measurable social and environmental impact. These instruments shift the paradigm to a results-driven model, where additional returns are contingent on the successful delivery of specified outcomes. One of the most notable examples is the 2024 Amazon Reforestation-Linked Outcome Bond, which raised US\$225 million. It ties investor returns to the generation of Carbon Removal Units (CRUs) through large-scale native tree reforestation in Brazil's Amazon. A portion of

the bond proceeds directly funds reforestation activities, executed by Brazilian firm Mombak, while companies like Microsoft commit to purchasing the resulting CRUs. Outcome bonds can help governments and development institutions attract private capital without bearing immediate costs, while investors support climate and social goals with potential financial returns. Additionally, these bonds enforce accountability and transparency, as third-party verification ensures the integrity of reported outcomes.

FIGURE 3.3
Amazon Reforestation-Linked Outcome Bond Transaction Structure



Source: World Bank (2024)

Sukuk can effectively adapt outcome-based bond structures through Shariah-compliant contracts that align well with the principles of impact investing. For example, Sukuk Wakalah could be structured where proceeds are directed to development projects, with returns contingent on outcomes verified by third parties.

Returns are derived from revenues generated by the underlying assets or pre-agreed outcome payers such as governments or donors. Outcome-based financing can be enhanced by blending waqf and other Islamic philanthropic funds.

3.2 Islamic Bank Financing

Islamic bank financing or financing lines is crucial for bridging the climate finance gap, particularly since 70 percent of Islamic financial assets are Islamic banking

assets. Islamic banks can support corporates and MSMEs engaged in climate-resilient activities through dedicated climate-focused financing lines.

3.2.1 Economic Empowerment Fund for Uzbekistan (EEFU)

The Economic Empowerment Fund for Uzbekistan (EEFU), established in 2021, is Uzbekistan’s first impact investment fund, aiming to foster sustainable and climate-resilient economic growth. It provides tailored financing options to Micro, Small, and Medium Enterprises (MSMEs), social enterprises, and cooperatives, empowering them while minimizing environmental impact. The EEFU supports businesses that prioritize social and environmental responsibility, including those adopting climate-friendly technologies, aligning with Uzbekistan’s SDGs.

The EEFU deploys several financial instruments. A Line of Finance (LoF) provides pre-approved credit lines for working capital, inventory management, or short-term investments, including those related to energy efficiency or renewable energy. Direct financing options include Murabaha, an Islamic finance instrument for asset acquisition or procurement with transparent profit margins, ensuring alignment with Islamic finance principles that emphasize environmental stewardship and social responsibility. The EEFU also offers equity participation as Musharaka, taking stakes in promising businesses committed to environmental sustainability and climate action, providing capital and access to the EEFU’s international network. This blend of financial instruments ensures efficient capital allocation to support job creation, social entrepreneurship, and environmental sustainability.

The EEFU is a strategic alliance between the Government of Uzbekistan, the IsDB, and a consortium of private sector investors from the Kingdom of Saudi Arabia. The Government of Uzbekistan contributed 35 percent (US\$35 million) of the initial capital, the IsDB contributed 20 percent (US\$20 million), and Saudi private sector investors contributed the remaining 45 percent (US\$45 million). This PPP brings together financial resources, expertise, and a shared vision for sustainable economic growth. The EEFU can potentially demonstrate the efficacy of PPPs in addressing development challenges, particularly climate change, and the pivotal role of impact investing in emerging markets. Key replicable factors include strong governance arrangement, a well-defined investment strategy aligned with SDGs, diverse funding sources, and robust monitoring and evaluation.

The EEFU is projected to create over 102,000 direct jobs, focusing on youth and women, particularly in sectors with high potential for climate action like renewable energy and sustainable agriculture. It aims to support over 35,000 MSMEs, social enterprises, and cooperatives, promoting social inclusion and poverty reduction, including businesses engaged in climate-resilient activities. The fund also fosters innovation and entrepreneurship, supporting the development of climate-related technologies and solutions. EEFU plans to expand its fund size to US\$500 million, prioritizing investments in climate-aligned projects.

Summary of Economic Empowerment Fund for Uzbekistan (EEFU)

Aspect	Details
Initial Capital	US\$ 100 million (target: US\$ 500 million)
Founders	IsDB and Government of Uzbekistan
Funding Contribution	- Government of Uzbekistan: 35% - IsDB: 20% - Saudi private sector investors: 45%
Target Beneficiaries	34,000 MSMEs, social entrepreneurs, and cooperatives ≥50% will be women and youth-led enterprises
Fund Goals	- Poverty alleviation - Job creation (100,000+ new jobs) - Economic empowerment of women and youth
Financing Channels	- Credit lines - Murabaha finance (Islamic finance) - Equity participation
Non-Financial Support	- Technical assistance - Management training - Market access guidance - Partnership facilitation

3.2.2 SME Green Financing

SMEs are pivotal in driving economic growth and advancing the climate agenda. Both the World Bank and the IsDB have initiated programs to facilitate green financing for SMEs. SMEs often face challenges in accessing finance for green projects due to perceived

risks and limited technical expertise. MDBs like the World Bank and IsDB have recognized this gap and are implementing targeted programs to support SMEs in adopting sustainable practices. Below are examples of relevant projects.

Green Industry Project in Türkiye

The Türkiye Green Industry Project is a World Bank initiative aimed at supporting the government of Türkiye in achieving several key objectives related to climate action and industrial efficiency. The project is designed to address market failures and constraints that hinder the private sector's response to climate challenges. Recognizing that SMEs often face challenges in accessing finance for sustainable initiatives, the project allocates US\$250 million to the Small and Medium Enterprises Development Organization of Türkiye (KOSGEB) to support SMEs in improving resource efficiency and reducing carbon emissions. An additional US\$175 million is directed to the Scientific and Technological Research Council of Türkiye (TÜBİTAK) to foster green innovation among Turkish enterprises, research institutions, and universities. By facilitating access to finance and technical support, the project aims to reduce emissions of particulate matter by 40 percent and nitrogen oxides by 30 percent from beneficiary manufacturers, contributing to an annual reduction of 220,000 metric tons of GHG emissions. This initiative aligns with Türkiye's commitment to achieving net-zero carbon emissions by 2053 and supports SMEs in adapting to global environmental standards, thereby enhancing their competitiveness in international markets.

Greening Value Chain Program in Malaysia

Bank Negara Malaysia (BNM) launched the Greening Value Chain (GVC) Programme in 2022 to assist Malaysian SMEs in transitioning towards sustainable and low-carbon operations. The program offers SMEs access to technical training on measuring and reporting GHG emissions, enabling SMEs to understand and mitigate their environmental impact. Through BNM's Low Carbon Transition Facility, SMEs can apply for affordable financing options to fund their investments in sustainable practices and technologies. The GVC Program fosters collaboration between SMEs and larger corporations, known as anchor companies, within the supply chain. These partnerships facilitate knowledge transfer, resource sharing, and the implementation of best practices in sustainability. Since its inception, the GVC Programme has engaged over 650 SMEs, providing them with the necessary tools and knowledge to embark on their sustainability journey. Approximately a third of these SMEs actively measure and report their GHG emissions, marking a significant step towards transparency and accountability in environmental performance.

Exploring Green Islamic Microfinance

Micro, small, and medium enterprises (MSMEs) are typically important sources of production, innovation, and enterprise. However, MSMEs often face challenges, including a lack of access to capital and resources and increasing climate shock events. The concept of Green Islamic Microfinance may be a potential option for MSMEs supporting Shariah-compliant, low-carbon, and/or climate resilient activities to attract early- and middle-stage finance (IsDB, 2024). Access to such microfinance could provide opportunities for urban and rural communities in both urban and rural settings across many OIC countries, particularly where traditional financing institution services do not extend. The women's empowerment benefits often associated with microfinance may also be realized. At a macro level, building community resilience to climate change and supporting low-carbon solutions may also help achieve national climate change goals.

3.3 Takaful

Insurance and takaful function as risk transfer mechanisms and financial instruments that can encourage climate-resilient investments. In a climate context, insurance and takaful serve three climate finance roles: mitigating risk with protection against climate events, supporting post-disaster recovery with rapid payouts, and incentivizing resilient investments through premiums or contributions for sustainable practices. For example, crop protection secures farmers against weather extremes, disaster risk financing offers automatic payouts based on climate triggers, and protection linked to green infrastructure schemes can encourage flood-resistant homes and climate-smart agriculture.

Several conventional insurance tools used for climate finance can be converted into takaful formats. Index-based insurance pays out based on a predetermined climate index, such as rainfall or temperature thresholds,

making it suitable for smallholder farmers. Countries like Bangladesh and Indonesia have tested weather-based index insurance schemes that can be adapted to the takaful model. Parametric insurance provides payouts when specific environmental conditions are met, such as wind speed or earthquake magnitude. These models are cost-effective and offer rapid disbursement. National governments could establish sovereign takaful pools to insure against large-scale climate events. A Shariah-compliant version of regional initiatives like the African Risk Capacity (ARC) could provide emergency funds for climate disasters across Muslim-majority nations. Green insurance integrates climate sustainability into products such as renewable energy insurance which covers risks specific to wind, solar, hydro, and biomass energy production, and usage-based auto insurance that offers lower premiums to drivers with lower mileage or more fuel-efficient driving behavior.

3.3.1 Parametric Takaful in the DRIVE project²⁸

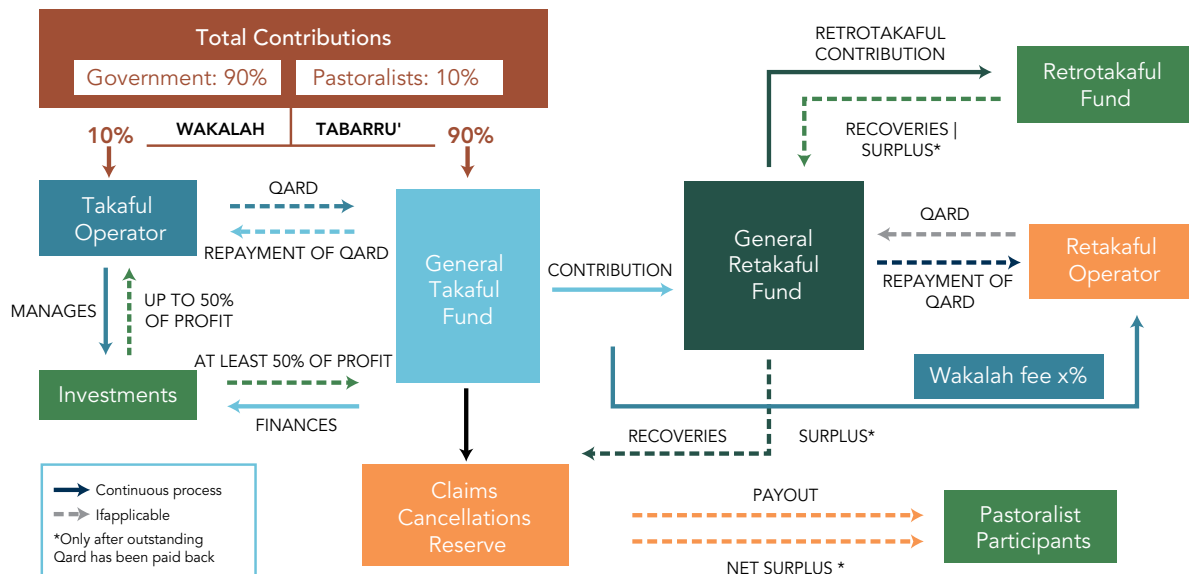
The Horn of Africa De-Risking, Inclusion and Value Enhancement of Pastoral Economies (DRIVE) project, initiated by the World Bank, is a regional sovereign disaster insurance initiative. It provides parametric insurance and takaful coverage to East African countries – Djibouti, Ethiopia, Kenya, and Somalia – to safeguard against agricultural losses due to drought. The project facilitates rapid payouts based on drought triggers, such as rainfall deficits, enabling governments to finance emergency food security programs and social protection schemes. Key features include risk pooling among multiple countries to reduce premium costs, involvement of private reinsurers to share financial risks, and connections to adaptive social protection systems for efficient aid distribution.

The takaful and retakaful scheme is based on a hybrid Wakalah and Mudarabah model (Figure 3.4). Total

contributions from the government and pastoralists are first split between a wakalah fee and a tabarru'. It subsequently shows how the risks are pooled in the general takaful fund and how, after claims are paid, surpluses may be refunded to pastoralists, subject to an actuarial assessment that the remaining balance in the fund is adequate to cover future risk. The general takaful fund makes a contribution to a retakaful fund to manage the risk of the general takaful fund being inadequate in covering all the members' losses. A portion of the general takaful fund is used to invest in Shariah-compliant investments, which increases the total amount of funds available to cover members' losses. If the total available in the general takaful fund is not enough to cover the losses, the takaful operator and retakaful operator pay an interest-free loan (qard) to the respective funds.

²⁸ This section has been extracted from a World Bank Technical Note authored by Qhelile et al. (2025).

FIGURE 3.4
DRIVE Takaful Operational Model



Source: Qhelile et al. (2025)

The much smaller takaful and retakaful risk fund means that the loss-absorbing capacity is still very limited compared to that of reinsurance. Due to this, Shariah has provided some temporary dispensation to use conventional reinsurance. Given the nascent nature of the takaful operators in Somalia, their takaful funds are not being used to cover the losses. Instead, the losses are being paid from the retakaful funds of participating retakaful operators through ZEP-Re. In time, it is expected that local takaful operators will keep some of the contributions and pay some of the losses from the domestic takaful funds. This temporary arrangement has been considered Shariah-compliant on an exemption basis by the ZEP-Re Shariah advisor. This exemption is on the retro insurance arrangement as takaful operators are ceding to a Shariah-approved retakaful window of ZEP-Re.

Lessons learned from the DRIVE project emphasize the importance of incentivizing distribution channels, encouraging risk retention, and ensuring strong regulatory support. Effective last-mile distribution through partnerships with financial institutions can address demand-side barriers and attract international reinsurance and retakaful operators. Regulators should

promote underwriters' risk retention to support long-term market growth, with collaborative frameworks being essential. Strong regulatory support fosters trust and attracts private investment, as seen in Kenya's agricultural insurance programs and Somalia's takaful regulations under DRIVE. Additionally, leveraging donor programs with strategic foresight can align short-term and long-term market development goals.

Specific lessons for takaful include the necessity of people-centric solutions that align with Shariah compliance, as vulnerable populations prefer values-based financial products. Crowding-in retakaful capacity, supported by both regulatory efforts and market growth strategies, is crucial. However, takaful products may be costlier due to profit-sharing, limited retakaful options, and governance requirements. Sustainable growth requires a robust Islamic banking and capital market system to invest contributions effectively, necessitating cross-sector collaboration between regulators. Finally, parametric takaful presents challenges such as ensuring regulatory recognition, addressing mis-selling and basis risk, and engaging Shariah leaders for long-term acceptance.

3.3.2 Parametric Takaful in Pakistan and Malaysia

Parametric Takaful products are also being piloted in Pakistan and Malaysia. In Pakistan, Salaam Takaful Limited has introduced Crop Parametric Takaful solutions for smallholders, while in Malaysia, Agro Captive Takaful Limited's Paddy Crop Takaful Scheme is the first crop takaful scheme offered in the country.

In Pakistan, the parametric takaful model introduced in 2022 is designed to provide rapid and transparent support to vulnerable communities, allowing farmers to recover from disasters without relying on government declarations or time-consuming manual assessments.²⁹ The farmer-friendly features of this coverage include:

- Mid-season payouts: Farmers can receive funds when they need them most.
- No government calamity declaration: Payouts are triggered by pre-agreed weather parameters, not official decrees.
- Individual risk assessment: Coverage is tailored to the specific needs of each farm.
- Elimination of manual loss evaluations: Payments are made automatically based on data, ensuring a transparent and swift process.
- Protection against a wide range of climate risks: Drought, excess rainfall, flood, heat, wind, locust attack, extended coverage

In 2024, Salaam Takaful expanded its reach through key partnerships. The collaboration with JazzCash

provided farmers with seamless digital access to takaful solutions, and the collaboration with the Pakistan Poverty Alleviation Fund (PPAF) has extended weather-risk coverage to vulnerable farming communities in Sindh and Balochistan. In addition to financial protection, Salaam Takaful provides a suite of services to support its farmers, including remote farm health monitoring and analysis, crop advisory to help farmers make informed decisions, weather index tracking for real-time data, and free access to doctor consultation through the Salaam App, available to farmers and their households.

In Malaysia, the Paddy Crop Takaful Scheme, introduced in 2024, offers an alternative to the government Paddy Disaster Relief Fund.³⁰ The takaful scheme has the added benefits of:

- Larger quantum of compensation provided (RM3,000/hectare, no limit of hectareage)
- Claims on damages cover three stages of cultivation instead of two
- No financial commitment required in the initial stages, due to full government subsidy
- Claims will be paid within 14 days of Technical Committee approval

As of March 2025, RM16.2 million (approximately US\$4 million) in compensation had been approved for 6,319 affected farmers, underscoring the scheme's responsiveness to climate-related events.³¹

²⁹ <https://www.salaamtakaful.com/corporateproduct/salamcrop>

³⁰ <https://www.agrobank.com.my/product/skim-takaful-tanaman-padi/>

³¹ <https://www.utusanborneo.com.my/2025/05/13/agrobank-lancar-skim-takaful-tanaman-padi-perluas-perindungan-kewangan-kepada-pesawah-di>

BOX 3.1

Knowledge Partnerships to Build Climate Resilience via Takaful

The United Nations Development Program Insurance and Risk Finance Facility (IRFF), the IsDB and IsDB Institute (IsDBI) have together helped to enhance knowledge on takaful, with the goal of supporting market development and increasing access and coverage for communities increasingly exposed to climate- and non-climate shock events. Takaful offers a solution as a Shariah-compliant mutual insurance based on risk sharing and mutual aid. Takaful payouts help low-income families, farmers, and small businesses recover faster after climate disasters. The global takaful market, while small, has grown significantly in Muslim-majority countries, helping to expand access to affordable risk protection, financial products, and services.

In 2023, a first report, “**Insuring a Sustainable Future: Building Climate Resilience Through Takaful – Part 1: Key Findings and Recommendations**” (UNDP, IsDB & IsDBI, 2023) was published. The first report highlights the increasing vulnerability of Muslim communities to climate change and proposes takaful, a Shariah-compliant mutual insurance, as a viable solution for building climate resilience. The report highlights that climate change is causing extreme weather and rising sea levels, leading to significant economic and human costs, and that over 100 million people could fall into poverty by 2030, with Muslim-majority developing nations being particularly vulnerable. OIC member countries have seen a fourfold increase in climate-related disasters over the past 50 years, with little insurance coverage.

The report includes case studies of successful takaful initiatives for climate resilience from various countries, including Pakistan (crop insurance for farmers, parametric Takaful for wheat farmers), Kenya (Index-Based Livestock Takaful for pastoralists), and Sudan (climate risk finance project for farmers and pastoralists). These cases demonstrate takaful’s potential to provide efficient payouts and build resilience through customized, Shariah-compliant solutions.

In 2024, a second report, “**Building Climate Resilience through Takaful – Part 2: Developing Takaful Market Systems**” (UNDP, IsDB & IsDBI, 2024) was published. The second report builds directly on the first and highlights the growing takaful market, which reached US\$30 billion in contributions by 2022, but has limited penetration compared to conventional insurance. The report notes that the takaful market is expanding, particularly in the South-East Asia and MENA regions, but remains small compared to traditional insurance. Limitations to further

market growth include limited awareness, cultural misconceptions, inadequate regulatory frameworks, and operational inefficiencies. The report recommends concerted action by policymakers, industry associations, takaful operators, and MDBs to support takaful development through financial inclusion strategies, product innovation, digital transformation, international collaboration, and capacity-building.

In parallel, UNDP, IsDB and IsDBI have fostered discussions on Takaful via blogs³² and forums such as COPs³³. During the United Nations Convention to Combat Desertification (UNCCD) COP16 in Riyadh, Saudi Arabia, in December 2024³⁴ the Global Takaful Alliance was announced. The Global Takaful Alliance is being led by the UNDP with early support from the Islamic Development Bank, Arab Gulf Fund for Development, the Kuwait Finance House and the Mohammed Bin Rashid Al Maktoum Global Initiatives.

Global Takaful Alliance – Mobilizing Collective Strength for Financial Resilience

In response to weak financial resilience across many Muslim countries and communities on the frontlines of growing risk, the Global Takaful Alliance is a bold public-private initiative. It aims to harness national, regional, and global expertise to build financial resilience for communities globally.

The Alliance brings together public and private actors – national, regional, and global – across development, research, and philanthropy to pool resources and capabilities within OIC countries and Muslim communities. Through three core implementation pillars, it aims to:

- Strengthen the enabling environment for Takaful solutions
- Build national capacity among Takaful providers
- Scale financial solutions across key sectors including health, agriculture, housing, education, and small business

By convening top talent, research, and innovation on a global platform, the Alliance will promote best practices and shape the global agenda. Its impact will be far-reaching: reducing the burden on families, farmers, and businesses; minimizing the need for emergency aid; accelerating recovery and reconstruction; and unlocking growth by removing risk and uncertainty.

32 Kellett, J., Hiller, B. & Najeeb, S.F., May 2024, The Takaful Solution: Bridging the Climate Protection Gap, <https://irff.undp.org/blog/takaful-solution-bridging-climate-protection-gap>.

33 Climate Change COPs and Desertification COP.

34 <https://irff.undp.org/events/global-takaful-alliance-vision-deliver-financial-resilience>.

3.4 Waqf

In Islamic finance markets, waqf instruments have evolved beyond the traditional concept of endowing immovable assets like land or buildings. Today, various types of waqf instruments are used to address modern socio-economic needs.

- **Cash Waqf:** Unlike traditional waqfs that are restricted to immovable property, cash waqf offers flexibility and scalability in addressing modern socio-economic challenges. The cash waqf model has been effectively used to fund microfinance institutions, education scholarships, and healthcare subsidies.
- **Corporate Waqf:** In the corporate waqf model, a company (or its founders) creates a waqf by allocating part of its shares, assets, or profits for charitable purposes. The waqf is managed by a waqf trustee (*Mutawalli*), often through a foundation or waqf institution, and the returns are used for various social programs. An example is Johor Corporation (JCorp) in Malaysia, which pioneered the corporate waqf model by endowing a portion of its equity into a waqf fund managed by Waqaf An-Nur Corporation Berhad. The returns fund healthcare, education, and poverty alleviation projects.
- **Waqf-linked Sukuk:** Waqf-linked Sukuk merges sukuk and waqf. This model integrates waqf assets or revenue streams into the sukuk structure as either

an asset-backed model, where sukuk is issued using existing waqf assets (e.g., land or buildings) as the underlying structure, or revenue-linked, where returns from sukuk-financed projects are partially or entirely endowed as waqf to fund social programs.

Green waqf initiatives can play a vital role in mobilizing Islamic philanthropic funds towards environmental sustainability efforts. By endowing land for conservation, supporting renewable energy projects, and funding environmental education, green waqf ensures long-term impact beyond temporary aid models (Obaidullah, 2019). Additionally, it supports biodiversity, strengthens community resilience to climate change, and generates green jobs, contributing to environmental and socioeconomic stability. Currently, there are several notable sustainable waqf initiatives in the OIC, such as:

- **Sustainability Waqf** by Yayasan Waqaf Malaysia helps provide funding for affordable housing, education, and renewable energy projects.
- **Green Waqf Project** by Badan Amil Zakat Nasional in Indonesia aims to fund environmental protection and disaster resilience.
- **Awqaf Properties Investment Fund** by IsDB facilitates funding for infrastructure, education, and healthcare.

3.4.1 Cash Waqf for Sustainable Development in Malaysia

Yayasan Waqaf Malaysia (YWM) has actively embarked on an innovative approach to address Malaysia's pressing environmental challenges by utilizing cash waqf mechanisms to fund sustainable infrastructure and community development projects. One of its notable projects is the Water Waqf program, launched in collaboration with the Ministry of Natural Resources, Environment, and Climate Change (NRECC) in December 2020. This initiative focuses on providing clean and accessible water to rural and underserved communities by constructing wells and restoring water infrastructure. By the end of 2024, YWM had implemented 83 water waqf projects across Malaysia with allocations of

approximately US\$1 million, highlighting the program's extensive reach and impact.

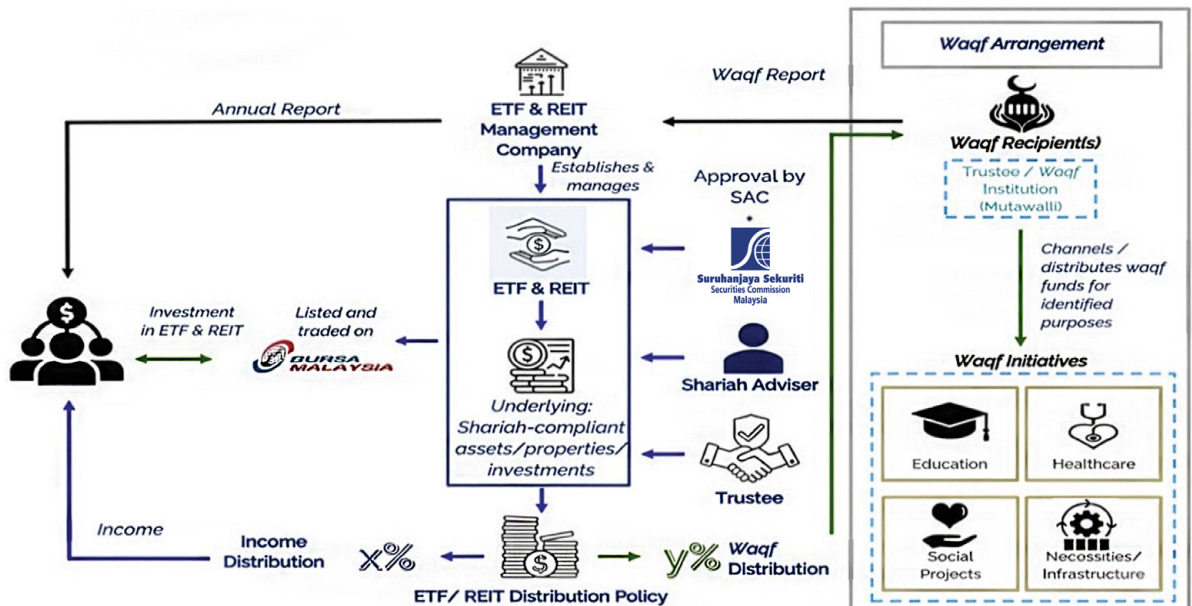
In addition to water projects, the institution has been instrumental in promoting renewable energy through the Solar Waqf initiative. This program involves installing solar panels on mosques, reducing electricity costs, and promoting environmental stewardship. For instance, the Permatang Tok Mahat Mosque in Penang has saved approximately US\$100 monthly on electricity bills after adopting solar energy. The Penang Islamic Religious Council aims to expand this initiative to 200 mosques, demonstrating the scalability and community benefits of integrating renewable energy with religious

infrastructure.³⁵ The institution's efforts also extend to sustainable agriculture. It received RM3 million (US\$0.8 million) under the 2022 Malaysian Budget to develop a 10-acre waqf land in Putrajaya to cultivate agricultural produce. This initiative not only contributes to food security but also serves as a model for utilizing waqf land for economic and environmental sustainability.

Furthermore, the institution has collaborated with a financial institution to launch the world's first waqf-featured Exchange-Traded Fund (ETF). This innovative financial product allows investors to achieve capital

growth while contributing to sectors such as education, healthcare, and environmental preservation. Half of the income derived from the ETF is allocated to these sectors, exemplifying a dual-impact investment approach that aligns financial returns with social and environmental objectives. The Eq8 FTSE Malaysia Enhanced Dividend Waqf ETF (EQ8WAQF) has an initial size of up to one billion units. As of May 23, 2025, the ETF has 1.5 million units in circulation. The fund is designed to be passively managed and benchmarks against the FTSE Bursa Malaysia EMAS Shariah Factor Enhanced Target Dividend Index.

FIGURE 3.5
Waqf ETF structure on Bursa Malaysia



Source: Bursa Malaysia

While the institution's initiatives have demonstrated significant potential, several challenges persist. These include the need for a supportive regulatory framework, effective fund management strategies, and increased public awareness and participation. Addressing these

challenges requires collaborative efforts among government agencies, financial institutions, and the broader community to create an enabling environment for the growth and sustainability of green waqf projects (IKIM, 2022).

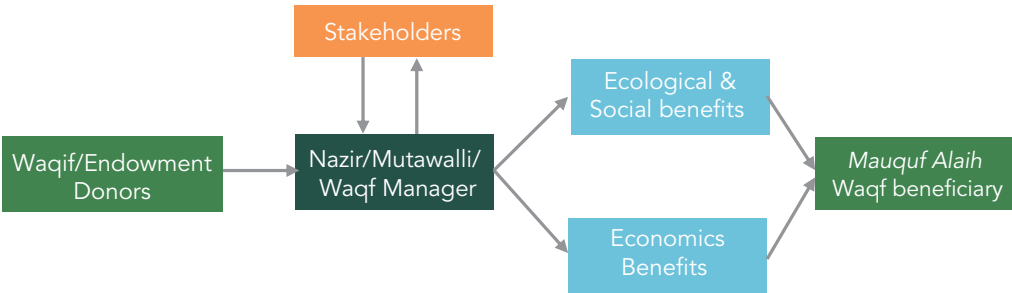
35 <https://www.tnb.com.my/assets/newsclip/14042023h.pdf>

3.4.2 Waqf Forest in Indonesia

Indonesia's FOLU Net Sink 2030 program aims to reduce GHG emissions in the forestry sector by emphasizing deforestation reduction, peatland restoration, and sustainable forest management (Ministry of Environment, 2023). Beyond governmental policies, NGOs, community-based initiatives, and philanthropic institutions have also played a crucial role in forest conservation efforts. One such initiative is the establishment of waqf forests in Indonesia, which integrate Islamic philanthropy with

environmental sustainability. Several waqf forest programs have been launched, including the Aceh Waqf Forest in 2012 (Hamdani & Pasummah, 2021; Jannah et al., 2020) and the Bogor Waqf Forest in 2018 (Ali & Kassim, 2020) (Figure 3.6), the Sukabumi Waqf Forest in 2018 and the Mojokerto Waqf Forest (YPM) in 2020. The waqf model ensures long-term forest conservation by designating land as a protected endowment, thereby securing its sustainability and preventing future exploitation.

FIGURE 3.6
Yayasan Wakaf Hutan Bogor Model



Source: Ali & Jannah (2024) and Ali & Kassim (2020)

The management of waqf forests in Bogor is facilitated through the participation of waqif (donors), including individuals and private sector entities, such as corporations that allocate funds through Corporate Social Responsibility (CSR) programs or other grant mechanisms. Waqf assets primarily consist of land designated for reforestation and conservation, while additional contributions come in the form of seed donations and financial support for plant maintenance from both individuals and corporate entities. Funding for waqf forests generally follows two principal models: perpetual funding, which includes waqf in the form of tangible property and cash waqf, and other Islamic philanthropic instruments such as *infak*, grants, and *sadaqah*, which support operational expenses.

The assets and funds collected for waqf forests are managed productively by *Nazir* or *Mutawalli*, who may be individuals or organizations possessing religious, economic, and business competencies. The management process encompasses several stages, including planning, implementation, supervision, and the optimization of forest resources to maximize their benefits. Broadly, the management of waqf forests aims to achieve two

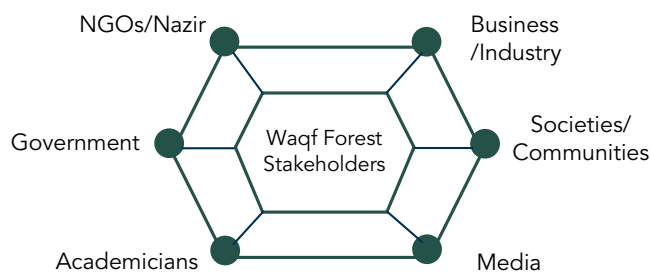
primary objectives: ecological and social benefits, as well as economic benefits. The ecological and social benefits include reforestation, biodiversity enhancement, conservation of clean water sources, soil protection, air quality improvement, and carbon sequestration. Meanwhile, the economic benefits are realized through various income-generating initiatives, such as honey production, coffee shops, sheep farming, and camping zones. However, the economic impact remains limited due to the small-scale nature of these businesses, which primarily serve the local community, indicating the need for further expansion and development.

The sustainability of waqf forest management is highly dependent on the collaborative efforts of various stakeholders (Figure 3.7). Within this ecosystem, six key stakeholder groups play a crucial role: foundations and NGOs, the government, academicians, the business and industry sectors, local communities, and the media. Foundations and NGOs contribute through advocacy and program facilitation, while the government provides policy frameworks and regulatory support to ensure the long-term sustainability of waqf forests. Academicians play a vital role in conducting scientific research and fostering

innovation, whereas the business sector offers financial resources and technological advancements to enhance forest management. Local communities engage in direct participation and stewardship of waqf forests, while the media serve as a critical channel for information dissemination and public awareness. By fostering

synergistic collaboration among these stakeholders, waqf forest management can be optimized to ensure ecological, social, and economic sustainability. This multi-stakeholder approach integrates diverse actors to achieve sustainable and impactful outcomes.

FIGURE 3.7
Waqf Forest Stakeholders



Source: Author's illustration

The management of waqf forests in Indonesia presents significant potential for advancing environmental sustainability, economic empowerment, and social welfare (Alam et al., 2024; Ali & Kassim, 2021; Umam et al., 2024). One of the key opportunities lies in the role of waqf forests as a nature-based solution to mitigate environmental degradation and climate change (Alam et al., 2024). Through the implementation of a sustainable waqf framework, endowed lands can be transformed into productive green areas that function as carbon sinks and biodiversity conservation zones. Moreover, the waqf-based management model has considerable potential to enhance community livelihoods through forest-based economic activities, such as ecotourism, honeybee cultivation, and the processing of non-timber forest products. The active involvement of the business sector, academia, and local communities can further optimize the productivity of waqf forests, ensuring that they not only generate ecological benefits but also contribute to local economic resilience and food security (ibid).

Despite the numerous opportunities, the management of waqf forests in Indonesia faces several complex challenges. One of the primary obstacles lies in the legal and regulatory framework, which has yet to fully accommodate the optimization of waqf forests as productive assets. Additionally, financial constraints pose

a significant challenge, as the available funds remain insufficient relative to the extensive forest areas requiring management. Current funding sources are largely limited to individual donors and medium-sized corporations, restricting the scalability of waqf forest initiatives. Another critical issue is the limited availability of human resources with the necessary expertise in waqf-based forest management, particularly in the areas of business administration, environmental conservation, and green technology optimization. Moreover, public awareness of the concept of productive waqf remains relatively low, while inadequate cross-sector collaboration further impedes the expansion and development of waqf forests in Indonesia (Alam et al., 2024; Ali & Kassim, 2021). Addressing these challenges requires the implementation of more progressive policies and stronger multi-stakeholder support to ensure that waqf forests are managed sustainably and generate long-term environmental and socio-economic benefits.

Countries with extensive forest areas, such as Malaysia, could adapt this model by aligning it with their environmental policies and Islamic finance regulations. Through proper adaptation, waqf forests can serve as a scalable and sustainable approach to addressing global climate challenges while fostering socio-economic development.

3.4.3 Waqf Forest Mechanism and Carbon Trading

Forest waqf represents a green initiative with significant potential in reducing and sequestering carbon emissions into the atmosphere. Forest waqf holds the potential to serve as a provider of high-quality carbon commodities, surpassing conventional carbon credit schemes produced by industrial sectors. This stems from its dual benefits—beyond merely capturing and reducing carbon emissions, forest waqf actively generates purer

oxygen, thereby enhancing its ecological contribution to environmental stability and sustainability. The existing carbon trading framework operates through two primary models: the voluntary carbon market and the mandatory carbon market. To enhance the financial sustainability of waqf forests, these initiatives can be integrated into both market structures through the following proposed model:

FIGURE 3.8

Waqf Forest-Carbon Trading Mechanism Model – Voluntary (B2B) (Left) and Mandatory (Carbon Exchange) (Right)



Source: Author's illustration

The process begins with the Nazir or waqf forest manager conducting a carbon sequestration assessment with the assistance of certified surveyors. This survey aims to quantify the amount of carbon absorbed by the waqf forest, which can be recognized as carbon credits for future trading. Following the initial assessment, the recorded data undergoes verification by formal registry organizations such as Verra or the Gold Standard. This verification process ensures the accuracy and legitimacy of the carbon credit calculations conducted by surveyors and the Nazir of the Waqf forest. Once the verification is successfully completed, an official carbon credit certificate is issued, allowing Nazir to sell the carbon credit to potential buyers. These certified credits can then be sold to domestic and international corporations seeking to offset their carbon footprints. To participate in the carbon exchange model, there may be additional regulatory compliance requirements and membership in the carbon exchange.

For the voluntary model to function effectively, a strong network of trust and cooperation between the Nazir and potential buyers must be established. Additionally, it is important to acknowledge the financial requirements associated with this process, including costs for surveyors, verification, registration, and certification issuance.

Therefore, securing adequate financial reserves is essential to cover these operational expenses and ensure the long-term sustainability of waqf forest participation in the voluntary carbon market. Given that participants in the mandatory carbon market are predominantly large corporations, the demand for carbon credits is significantly higher. Consequently, Nazir must expand the scope of waqf forest areas to increase carbon sequestration capacity, ensuring sufficient credit supply to meet market demands. This necessitates strategic land extension and improved forest management practices to enhance the effectiveness of waqf forests in contributing to carbon trading within the mandatory market framework.

Green waqf holds significant potential to mobilize private capital for climate action. Through structured endowments in renewable energy, sustainable agriculture, and climate-resilient infrastructure, green waqf can attract contributions from individuals, institutions, and impact investors. Its perpetual and transparent nature ensures long-term returns for the environment and society, making it a powerful tool to bridge the financing gap in climate adaptation and mitigation efforts in the OIC.

BOX 3.2

Utilization of Islamic Social Finance Instruments for Climate Action

Beyond waqf, other Islamic social finance instruments namely *zakat* (almsgiving), *sadaqah* (donation) and *qard* (interest-free loan) have the potential to expand the funding pool for climate-aligned projects.

Zakat: These funds can be directly disbursed to communities affected by climate-induced disasters (e.g., floods and droughts), providing immediate relief and supporting recovery efforts. *Zakat* and *sadaqah* can also be utilized to fund micro-takaful schemes, which offer affordable financial protection against climate-related losses for vulnerable households, small farmers, and informal sector workers.

Sadaqah: These funds can be utilized to provide grants or subsidies for community-level climate adaptation and

resilience projects that may not be commercially viable but are critical for local communities. For example, funding for sustainable irrigation systems in drought-prone areas, or small-scale renewable energy projects for off-grid communities.

Qard: Interest-free loans can be extended to individuals or small enterprises for climate-friendly initiatives who may struggle to access conventional commercial financing. This could include loans for energy-efficient appliances, water-saving technologies, or the adoption of sustainable agricultural practices. These interest-free loans reduce the financial burden on beneficiaries and encourage climate-positive behaviors.

3.5 Lessons Learned

The following lessons offer practical insights for scaling Islamic climate finance across OIC countries.

Sukuk	1. Standardization and transparency Adherence to international standards (e.g., ICMA Green Bond Principles) and robust impact reporting, exemplified by IsDB's green sukuk can enhance investor confidence and attract both Islamic and conventional investors. 2. Strategic collaboration Partnerships among policymakers, MDBs, and investors are essential to scale climate finance and build market infrastructure. 3. Capacity Building Technical assistance is critical for project development and market growth, particularly in emerging economies. 4. Product Innovation Thematic sukuk (e.g., blue sukuk, outcome-linked sukuk, sustainability-linked sukuk) can mobilize private capital for targeted climate objectives.
Islamic bank financing	1. Blended finance models Public-private partnerships can effectively mobilize capital for MSMEs and climate-resilient growth. 2. Instrument Diversity A mix of credit lines offered under Murabaha and Musharaka can enable financing allocation to corporates and MSMEs. 3. Strategic collaboration Public and private sector collaborations are key to scaling climate action and addressing development challenges.
Takaful	1. People-centric design Enhances impact, strengthens trust, and drives adoption. It ensures that financial solutions are not only technically sound but also socially meaningful. 2. Regulatory enablement Strong frameworks and public-private sector collaboration are needed to scale takaful markets. 3. Addressing market challenges Limited size, high costs, and nascent regulation require innovation and capacity building.
Waqf	1. Stakeholder engagement Effective waqf management depends on collaboration across sectors, including government, NGOs, academia, and local communities. 2. Green waqf initiatives Expanding the use of traditional waqf to include land endowment for conservation can facilitate nature-based solutions and green job creation. 3. Growth barriers Regulatory support, fund management, and public awareness are essential for scale.

Special Focus: Islamic Climate Fintech and Digital Asset

Fintech is transforming the financial services industry, reshaping how financial products are delivered, accessed, and utilized globally. Fintech offers flexibility compared to traditional financial instruments, such as speedy processing time, low marginal cost per transaction, and transparency, making it an ideal choice for financing projects (Feyen et.al, 2023). As of 2023, the global fintech market is valued at US\$12.27 trillion³⁶, whereby the Islamic fintech market is valued at US\$138 billion³⁷ or 0.01 percent of the global total.

Fintech and technology are increasingly being recognized as transformative tools to bridge the climate funding gap. Climate fintech innovation is driven by the demand for adaptation and mitigation efforts to support climate goals. Digital platforms, blockchain, artificial intelligence (AI), mobile banking, and new methods of climate-related data verification are enabling faster, more

transparent, and more inclusive climate finance solutions. Climate fintech is focused on facilitating the reduction of GHG emissions and decarbonization, such as green digital banking and payments, green crowdfunding, and environmental and climate data provision (IMF, 2024). These innovations have the potential not only to unlock capital in developed markets but also to empower communities and entrepreneurs in developing economies who are often excluded from traditional finance channels. The climate fintech market currently represents a small fraction of the global fintech market, estimated at US\$2.3 billion as of 2023.³⁸ Advanced economies largely drive innovation in climate finance, which remains less accessible to many EMDEs and the OIC. Expanding climate fintech innovations to include Shariah-compliant financial products can significantly grow their funding base while reaching a broader range of recipients.

Role of Fintech and Technology in Climate Finance

Climate fintech solutions, such as digital assets, have emerged, leveraging advanced technologies to offer more flexible, efficient, and inclusive financial mechanisms. Digital assets have the potential to facilitate innovative forms of climate finance by enabling decentralized cooperation among stakeholders and fostering trust through transparent, automated, and standardized transactions (GSMA, 2023). More recipients, particularly in the EMDEs, can benefit from these advancements by broadening the funding base through digital assets. These solutions often utilize blockchain technology, smart contracts, and tokenization to streamline processes and reduce barriers to entry. Blockchain and tokenization offer opportunities to connect investors with beneficiaries efficiently, ensuring capital flows to decarbonization efforts (EBRD, 2024).

Tokenization offers an innovative way to fund decarbonization projects by creating digital representations of tangible or intangible assets, such as carbon credits or renewable energy. These tokens can

be traded on a digital platform known as an exchange, providing a transparent and efficient mechanism for raising funds. Tokenization enables fractional ownership, allowing a wider range of investors, including retail investors, to participate in funding decarbonization initiatives. The nature of blockchain enhances trust by ensuring traceability and accountability, creating a robust foundation for sustainable investments (GSMA, 2023). Decentralized digital asset platforms break down geographical and financial barriers, enabling direct funding between global investors and local beneficiaries. This cross-border connectivity fosters collaboration and channels resources to underserved or developing regions, where access to traditional financing is often limited.

For example, Project Genesis 2.0, led by BIS Innovation Hub, utilizes digital asset technologies to explore digitized green bonds and associated carbon forwards. Specifically, the project employs blockchain technology and smart contracts to digitize and track these

³⁶ Statista

³⁷ Global Islamic Fintech Report 2023/24

³⁸ Climate Fintech Report 2024

instruments. By tokenizing green bonds and carbon credits, it integrates digital assets into the financial and environmental ecosystems (BIS, 2022). It also demonstrates the benefit of allowing issuers in countries with low capability to access low-cost financing for green projects. This platform will empower communities to

advance climate-resilient development. Moreover, the direct connection between investors and beneficiaries reduces intermediaries, lowers transaction costs, and improves the overall efficiency of capital allocation for climate-focused projects. Below are some examples of climate fintech companies (Table 3.2).

TABLE 3.2
Climate Fintech Examples

Type of technology	Example
Blockchain and Smart Contracts Blockchain technology can improve transparency and trust in climate finance by recording immutable transactions and enabling real-time audits. Smart contracts, which automatically enforce the terms of agreements, can be used to distribute payments based on verified emissions reductions or project milestones.	Toucan Protocol Launched in 2021, Toucan brings carbon credits on-chain using blockchain. This enhances traceability and liquidity in voluntary carbon markets. Toucan has partnered with Verra and other registries to tokenize high-quality offset projects. Carbonplace + South Pole (Global/Latin America) Carbonplace is a global carbon credit transaction network backed by banks like UBS and Standard Chartered. It enables institutions to trade verified carbon credits in real-time with full traceability. South Pole uses this network to manage credits from projects in Latin America and Southeast Asia.
Mobile and Digital Banking In developing economies, mobile banking enables financial inclusion, allowing low-income households to access microloans, pay-as-you-go solar energy, and climate insurance.	M-KOPA (Kenya) M-KOPA uses mobile money to provide pay-as-you-go solar energy solutions to over 1 million homes in East Africa. Customers pay small daily fees until the product is fully owned. The model has reduced reliance on kerosene, improved indoor air quality, and created employment for over 3,000 agents.
Green Fintech Platforms and Crowdfunding Crowdfunding and peer-to-peer platforms allow small investors to directly finance green infrastructure and clean energy projects. These platforms are often supported by digital MRV tools to validate project outcomes.	Trine (Europe/Africa) Trine enables people to invest in solar energy projects in Sub-Saharan Africa. It combines crowdfunding with due diligence and impact measurement tools. As of 2023, it has mobilized over €50 million in private investments, providing electricity to over 5 million people.
AI and Big Data for Risk Assessment AI and big data tools can analyze climate-related risks and generate project-level forecasts. This helps financial institutions make better lending decisions and insurers underwrite climate-smart products.	Jupiter Intelligence (USA) Jupiter uses AI, machine learning, and big data to model and predict climate-related risks like flooding, extreme heat, wildfires, and hurricanes. Their platform helps companies and governments make decisions based on forward-looking climate risk data.

BOX 3.3

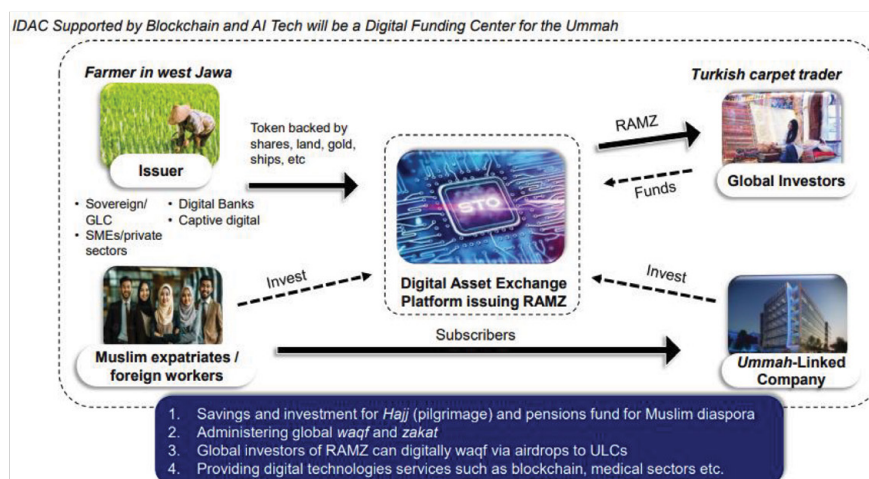
Labuan Financial Services Authority (LFSA) – Leading the Development of Shariah-Compliant Digital Asset Ecosystem for Sustainability

LFSA has established itself as a pioneer in fostering a comprehensive Shariah-compliant digital asset ecosystem by establishing the Islamic Digital Asset Centre (IDAC) in 2022. IDAC integrates a digital asset framework with Shariah-compliant financial solutions, providing a technology-driven platform for attracting diverse global investors and stakeholders and promoting economic development across the finance and non-finance sectors (Nik Musa, 2023). A key regulation supporting the digital asset framework is the Guidance Note on Shariah-compliant Securities Token (RAMZ) Offering that aims to ensure seamless integration of Islamic finance into the digital asset ecosystem.

IDAC is intended to be a catalyst for integrating Shariah-compliant digital assets and sustainable finance. Consequently, in the same year, IDAC launched the

world's first Shariah-compliant and ESG-based digital asset exchange. This platform facilitates the issuance, listing and trading of Shariah-compliant and ESG-aligned Securities Token Offerings (STO), also referred to as RAMZ (Figure B 3.1). Leveraging blockchain technology and smart contracts, the platform ensures transparency, traceability, and trust in transactions. Supported by a robust regulatory framework and comprehensive guidelines, it offers a cost-effective, secure, and highly liquid environment. RAMZ enables risk-sharing fundraising that is globally accessible, particularly for Muslim stakeholders and those seeking ethical investments. This facilitates efficient cross-border transactions, attracting a diverse pool of investors, channeling funds into impactful sustainability projects, and driving economic growth, particularly in OIC countries.

FIGURE B 3.1
Virtual Fundraising and Investment Hub under RAMZ



Source: Labuan IBFC (2024)

Since its establishment, IDAC has seen significant growth, bolstering the market for Shariah-compliant digital assets. As of 2024, 18 tokens valued at US\$1.05 billion were listed on RAMZ. Moving forward, LFSA's initiatives focus on enhancing regulatory frameworks, promoting ESG-compliant and Shariah-aligned digital products,

and fostering international collaborations. These efforts aim to position LFSA's role as a resilient, inclusive, and innovative financial hub, capable of leading the digital asset ecosystem while supporting sustainable economic development.

Challenges and Opportunities

Integrating Islamic finance into climate fintech and digital assets poses several challenges that require attention to unlock its full potential for climate finance. Firstly, the absence of standardized Shariah-compliant frameworks for digital assets creates regulatory uncertainty and may discourage investors and financial institutions from participating. This challenge is not unique to Islamic finance and is also applicable to conventional digital assets. Additionally, many EMDEs face technical expertise and infrastructure constraints, limiting their capability to adopt advanced fintech solutions (IMF, 2024). This challenge is especially evident in many less developed OIC countries, with limited access to digital infrastructure, regulatory frameworks tailored

to digital finance, and capacity-building initiatives to effectively integrate fintech innovations into their financial ecosystems. Furthermore, policymakers and private sector stakeholders remain limited in their awareness of how Islamic finance can contribute to climate action, resulting in missed opportunities to align Islamic finance with broader sustainability objectives. According to our survey (see Section 2.3), Islamic finance professionals indicated that Islamic climate fintech could be beneficial in fostering financial innovations such as financing platforms and project databases, along with enhancing the information ecosystem by supplying reliable sustainability and climate-related data to aid in risk assessments and decision-making processes (Figure 3.9).

FIGURE 3.9
Five Main Areas of Development by Islamic Fintech



Despite these challenges, developing Shariah-compliant climate fintech presents substantial opportunities to scale sustainable financing for decarbonization in the OIC. Drawing on the experiences of AEs, the OIC can gain valuable insights to design regulatory frameworks that are both effective and context-specific. These lessons can also support efforts to overcome challenges in building robust digital infrastructure and fostering innovative climate fintech and digital asset solutions. Moreover, cross-border cooperation is critical in enhancing these opportunities, facilitating the management of international fintech transactions, and promoting the adoption of global standards (Vijayagopal & Viswanathan, 2024). Fintech platforms enable access to global capital markets, empowering many beneficiaries, such as small-scale farmers and renewable energy

developers, to secure funding for sustainable projects. Fintech platforms further enhance this potential by improving the visibility of investment opportunities and offering investors greater flexibility to directly participate in small-scale projects (Schulz & Feist, 2021).

The integration of Islamic finance into climate fintech represents a promising pathway for addressing the dual challenges of climate change and sustainable development financing. The success of these approaches depends not only on the technology itself but also on the broader ecosystem—policy, infrastructure, education, and trust. To realize this potential, policymakers, financial institutions, and technology providers must work together to establish enabling frameworks, build capacity, and increase awareness.

BOX 3.4

Insights from Climate Fintech Players

For this report, written interviews with three companies were conducted to gain further insights into the opportunities and challenges in climate fintech.

Pantas Climate Solution (Malaysia)

Pantas offers an AI-powered platform for carbon management and ESG reporting, enabling enterprises and financial institutions to accurately measure, manage, and report their Scope 1, 2, and 3 emissions.

Access to finance

Pantas enabled financial institutions to assess businesses' sustainability performance by providing standardized ESG and carbon emissions data, which is critical for assessing SME compliance with sustainability-linked financing requirements, including reductions in energy consumption and increased renewable energy usage. Pantas was the strategic partner to the Greening Value Chain (GVC) Program, established by BNM in 2023, and, as of 2025, has facilitated the measurement of 236,796 tons of CO₂, providing SMEs with actionable insights to manage their carbon footprint.

What more could be done?

- Climate-risk assessments: Enhance climate risk assessments to facilitate better climate investment decisions.
- Inclusive technology access: Ensure inclusive access, particularly to SMEs and rural areas that struggle with adoption due to cost and infrastructure constraints.
- Regulatory support: Review policies and regulations to ensure they keep up with the latest technological progress.
- PPPs: Develop stronger partnerships to accelerate investment and innovation in climate technologies.

Space4Good (the Netherlands)

Space4Good harnesses geospatial technology to monitor, verify, and report (MRV) vegetation insights across agroforestry, forest conservation, biodiversity, and regenerative agriculture projects.

Access to finance

Its MRV platform, CarboCatch, developed together with the Louis Bolk Institute, delivers precise above-ground biomass and carbon estimates in the Netherlands, with the aim of helping smallholder agroforestry projects obtain green finance and access voluntary carbon markets. A separate high-profile partnership with Rabobank's Acorn program demonstrates the technology's impact in the tropics facilitating the issuance of satellite-linked, high-quality carbon credits bought by international companies such as Microsoft.

What more could be done?

- Frameworks and policies: Integrate geospatial technology into certification frameworks and environmental policies to reduce reliance on ground-based data collection while improving transparency.
- Affordability: Reduce the cost barriers through subsidies, grants, or PPPs, and support open-access high-resolution datasets.
- Accessibility: Develop training programs, university partnerships, and industry collaborations to build technical expertise and facilitate technology transfer.
- Regulatory and financial support: Implement clear regulations and robust environmental policies and create financing mechanisms like Horizon Europe to de-risk investments and accelerate innovation.

iFarmer (Bangladesh)

iFarmer bridges Islamic fintech and climate-smart agriculture to develop resilience among Bangladesh's small-holder farmers.

Access to finance

iFarmer introduced the first crowdfunded financing facility for farmers in Bangladesh, offering both traditional and Shariah-compliant options based on Mudaraba. They partnered with six banks to provide formal financial services, helping marginalized farmers access low-cost banking through a technology-driven approach. This facilitates sustainable business operations and supports green financing initiatives. iFarmer also facilitates climate-smart agricultural inputs and provides farmers with expert advice that significantly contributes to reducing the negative environmental impact induced by traditional farming. Farmers who adopted iFarmer's Fertilizer Recommendation System reduced their chemical fertilizer usage by 36.6 percent and increased their yield by 12.5 percent. By adopting the Alternate Wetting and Drying method, farmers reduced their irrigation cost and overall production expenses by 22.7 percent.

What more could be done?

- Regulatory support: Develop a thematic regulatory sandbox to test Shariah-compliant agricultural financing models.
- Financial ecosystem: Develop early-stage VC funding, specifically for facilitating Shariah-compliant green financing.
- Capacity building: Creating formal mechanisms for knowledge sharing and technology transfer among OIC countries to scale up successful models.



CHAPTER 4

Key Actions for Islamic Climate Finance Development

Generally, developing a climate finance ecosystem in the OIC, whether conventional or Islamic, faces common challenges. OIC countries, many of which are low- or middle-income and some affected by fragility and conflict, encounter barriers such as weak governance, limited institutional capacity, and inadequate and often fragmented policy frameworks in both the real economy and financial sectors. For most of these countries, the environment conducive to private sector investment is also weak, with inadequate risk mitigation tools, underdeveloped capital markets, and a lack of green finance products. When their domestic financial sectors are underdeveloped, accessing international climate funds becomes necessary. However, this process is often complicated and lengthy, with higher borrowing costs and strict accreditation requirements that many national institutions find difficult to meet. This situation is worsened by low technical capacity, data scarcity, and limited awareness of designing and implementing bankable climate projects.

This report focuses on the challenges specific to Islamic climate finance, which is part of the broader climate finance ecosystem within the respective OIC financial markets. To fully realize Islamic finance's potential in bridging the climate funding gap, policymakers and the Islamic finance industry must address key issues related to the market size and its technical and institutional capabilities. In many OIC countries, Islamic financial sectors are mainly led by Islamic banks with relatively smaller capital market activity, low liquidity, and a narrow range of products. This restricts their ability to provide long-term, affordable financing for climate-related projects, which often require significant upfront capital and extended repayment periods (World Bank, 2024a). Strengthening Islamic climate finance markets through regulatory reforms, capacity building, and product innovation is crucial for unlocking Islamic climate finance and advancing sustainable development within the OIC.

This report details a three-pillar strategic call to action to catalyze and scale Islamic climate finance across the OIC member countries. This call to action identifies key stakeholders including policymakers, financial regulators, MDBs, Islamic financial institutions, and private sector actors, responsible for the leadership and implementation of each action.

First: Mainstreaming and Deepening Islamic Climate Finance Instruments

Mainstreaming Islamic climate finance involves transforming sukuk, Islamic bank financing, and takaful into accessible, standardized, and competitive financial vehicles

for domestic and foreign issuers, borrowers, and investors, thereby establishing a deeper and more liquid market. This will require:

(i) Developing a strong climate project pipeline

OIC policymakers must take the mandate to identify and structure a robust list of eligible climate-aligned projects in their respective jurisdictions. As such, they must accelerate efforts through collaboration between the public and private sectors to develop a pipeline of financially viable projects that can be financed through green sukuk or other modes of Islamic bank financing. Governments can help develop the Islamic climate finance market through sovereign sukuk issuances to establish market benchmarks for emerging climate-aligned projects and financial products, such as green sukuk, blue sukuk, biodiversity sukuk, and nature-based solutions. Sovereign issuances can demonstrate policy commitment to climate action and provide essential reference points for pricing, maturity profiles, and contractual structures. The development of the Climate-Aligned Takaful market significantly lags behind Islamic banking and capital markets. Islamic finance standard-setting bodies and MDBs are urged to lead strategic policy discussions to address critical gaps, namely, small market size, limited product innovation, and a lack of integration into the climate project risk-transfer pipeline.

(ii) Introducing well-designed incentives for utilizing Islamic finance instruments

Policymakers can introduce targeted tax incentives and grants to facilitate the issuance of climate-aligned sukuk and Islamic bank financing, which aligns with their respective national climate strategies. Such incentives must be designed to optimize the net present value (NPV) of climate projects, specifically lowering issuance costs (e.g., waiving stamp duties, reducing regulatory fees) and improving yield profiles to enhance project viability and attractiveness to a broader investor base.

(iii) Technical collaboration with MDBs

The IsDB, the World Bank, and other MDBs have extensive technical expertise in project development, financial structuring, and environmental impact assessment. Their collaboration can help OIC members identify suitable projects and structure climate-aligned Islamic financial instruments effectively. MDBs can also provide crucial anchor investments, credit enhancements, and co-financing options to reduce financing risks, thereby boosting investor confidence and making the project more attractive to a diverse range of investors.

Second: Accelerate Capacity Building and Technical Exchanges

This focuses on building the necessary Islamic climate finance expertise to help with Islamic climate finance market development. This will require:

(i) Developing a dedicated online knowledge resource to expand access to critical training

The financial development index of most OIC countries is low, and there is a general lack of expertise in Islamic and climate finance. Training for financial regulators in these countries is essential to equip them with not only foundational knowledge in Islamic finance, but also knowledge to effectively assess and supervise climate-related financial risks (including transition and physical risks), to develop appropriate regulatory sandboxes, and implement global best practices.

Islamic finance standard-setting bodies, such as IFSB, AAOIFI, and CIBAFI, advanced Islamic financial regulators, (e.g., Malaysia and the UAE) and MDBs can enhance collaboration to develop a dedicated, multi-lingual online knowledge hub on Islamic climate finance development. This resource should include sector-specific Islamic finance toolkits and cross-region technical knowledge exchanges, leveraging existing knowledge resources to be adapted for Islamic finance regulators and practitioners. These resources can significantly improve technical capabilities and promote the harmonization of Islamic climate finance standards implementation across various jurisdictions.

(ii) Enhancing Islamic climate finance data infrastructure

In the information and data environment, while the development of critical infrastructure, such as taxonomies and reporting disclosures, applies to both Islamic and conventional markets, there is an urgent need for the standardized, concurrent development of an Islamic Climate Finance-Centric Dashboard. Islamic finance regulators and the industry must support centralized dashboards that track not only the volume and progress of Islamic climate finance but also the ESG performance of the Islamic finance industry and, crucially, the measurable impact of supported climate mitigation and adaptation projects (e.g., GHG emissions reduction, number of protected households).

(iii) Strategic focus on both climate adaptation and mitigation strategies

A key strategic imperative involves the simultaneous, integrated deployment of climate adaptation and mitigation strategies to build long-term resilience and ensure sustainable growth. Currently, a key focus of MDBs and policymakers is climate mitigation efforts, such as accelerating the transition to renewable energy, directly addressing the root causes of climate change by reducing greenhouse gas emissions. However, climate adaptation efforts are still lagging, in part due to a lack of expertise. Climate adaptation efforts, such as investments in climate-resilient infrastructure and developing early warning systems, are crucial for minimizing the unavoidable physical and economic impacts of current and future climate hazards. Accordingly, it is essential to prioritize capacity building on climate adaptation solutions and financing models, ensuring they receive appropriate attention and emphasis.

Third: Enhance the Development of Islamic Climate Finance Products

This focuses on expanding Islamic climate finance products and services. This will require:

(i) Developing innovative Islamic climate finance products, including blended finance

Islamic finance has a significant opportunity to leverage its inherent risk-sharing principles (e.g., Mudarabah, Musharakah) in developing Shariah-compliant PE and VC for climate innovation. PE and VC are essential sources of funding due to their unique ability to finance innovation, scale emerging technologies, and close significant investment gaps in transitioning to a low-carbon economy.

Islamic blended finance can catalyze public and private capital. To unlock their full potential, strong public-private collaboration is essential. Coordinated fund governance and multi-stakeholder alignment are critical to ensuring scale, impact, and sustainability. Policymakers should establish enabling legal and regulatory frameworks to support the creation, governance, and operation of Islamic Blended Climate Funds. These frameworks must explicitly mandate Shariah-compliant risk-return structures, uphold transparency, and ensure operational efficiency to build trust and attract diverse pools of concessional and commercial capital.

Islamic financial institutions can serve as catalytic actors, functioning as fund sponsors, coordinators, or implementers, leveraging their institutional capacity to manage fund structures, assess project viability, and channel capital effectively. In parallel, regulatory support can facilitate innovation of Islamic financial products which contribute to climate outcomes.

MDBs can facilitate access to global climate finance funds and investor networks, enhancing the credibility and visibility of member states. In particular, MDBs can enhance collaboration to facilitate Islamic finance schemes or blended facilities, within the existing global climate facilities such as the Green Climate Fund, the Global Environment Facility and the Climate Investment Funds. MDBs can reinforce these efforts by facilitating intergovernmental cooperation, harmonizing climate finance policies, and co-investing in transnational projects.

(ii) Establishing financial innovation platforms

Islamic financial institutions can position themselves to create a market by prioritizing and innovating in climate mitigation and adaptation financing instruments, targeting the halal industry and MSMEs. Collaboration among Islamic finance regulators, Islamic financial institutions, and private sector players is essential for the development of innovative Islamic climate finance products and services. Leveraging collective expertise can promote the development of impactful solutions that can be scaled up for broader implementation. Islamic finance regulators can support this collaboration by actively facilitating Proof-of-Concept (PoC) pilot programs through dedicated regulatory sandboxes and direct stakeholder engagement with relevant

government counterparts. For example, piloting an Islamic fintech solution to finance climate-smart agriculture practices by small-scale farmers and halal food producers. Such a pilot program will require collaboration between the relevant government agency, technology provider, and farmers' association.

Takaful is also well-suited for product innovation, which can offer much-needed financial protection for communities against climate vulnerability while aligning with social-welfare principles of Islamic finance. The Global Takaful Alliance by UNDP, the IsDB, and other partners can be promoted as a central forum, facilitating technical exchanges with other global initiatives such as the Global Facility for Disaster Reduction and Recovery and the Southeast Asia Disaster Risk Insurance Facility.

(iii) Enhancing utilization of Islamic social finance instruments

Islamic social finance instruments like zakat, waqf, and qard are designed to promote social welfare and economic justice. Their application in Islamic climate finance can provide crucial support where commercial finance might fall short, particularly supporting vulnerable communities, community-based initiatives, and microenterprises. Zakat and Waqf governing bodies need to establish standardized governance, transparency, and reporting frameworks that explicitly allow for the transparent and efficient deployment of funds for climate action, particularly in areas of community-level adaptation and disaster relief. Strengthening the collaboration between these bodies, IFIs, and NGOs is crucial to ensure strategic alignment with national climate strategies and that initiatives are scalable, well-coordinated, and reach the most vulnerable beneficiaries.

CHAPTER 4 – Key Actions for Islamic Climate Finance Development

The following table summarizes the key action plans proposed by this report.

Recommendation	Stakeholder
1. Mainstreaming and Deepening Islamic Climate Finance Instruments	
(i) Developing a strong climate project pipeline	Governments, Islamic finance regulators, private sector players
(ii) Introducing well-designed incentives for utilizing Islamic finance instruments	Governments, Islamic finance regulators
(iii) Technical collaboration with MDBs	Governments, Islamic finance regulators, MDBs
2. Accelerate Capacity Building and Technical Exchanges	
(i) Developing a dedicated knowledge resource to expand access to critical training	Islamic finance standard-setting bodies, Islamic finance regulators, MDBs
(ii) Enhancing Islamic climate finance data infrastructure	Islamic finance standard-setting bodies, Islamic finance regulators, Islamic financial institutions, MDBs
(iii) Strategic focus on both climate adaptation and mitigation strategies	Islamic finance standard-setting bodies, Islamic finance regulators, Islamic financial institutions, MDBs
3. Enhance the Development of Islamic Climate Finance Products	
(i) Developing innovative Islamic climate finance products, including blended finance	Governments, Islamic finance regulators, Islamic financial institutions, MDBs, private sector players
(ii) Establishing financial innovation platforms	Islamic finance regulators, Islamic financial institutions, private sector players, MDBs
(iii) Enhancing utilization of Islamic social finance instruments	Zakat and waqf governing bodies, Islamic finance regulators, Islamic financial institutions, NGOs

In conclusion, Islamic climate finance is uniquely positioned to advance the global climate agenda. It offers the potential to enhance innovative climate finance structures that can support inclusive, just, and climate-resilient development. Its value-based approach can help facilitate climate resilience among underserved communities, while enhancing the competitiveness of halal industries in the transition to low-carbon economies. As the OIC member countries

pursue their climate goals, Islamic climate finance can complement conventional mechanisms and forge cross-sector partnerships. The recommendations presented in this report are intended as a starting point for policy dialogue. They aim to foster collaboration across stakeholders and encourage the development of solutions that are both equitable and effective, ultimately contributing to a more sustainable and climate-resilient future.

Appendix 1: Islamic Sustainable Finance Dataset

This report estimated the size of the Islamic sustainable finance market using the Climate Bond Initiative (CBI) dataset for sustainable bonds and sukuk (January 2017 – November 2024), the Refinitiv dataset for sustainable syndicated loans and financing (January 2017 – December 2024), and the Pitchbook dataset for PE/VC (January 2017 – December 2024). While the Refinitiv dataset includes a broader set of sustainable bonds and sukuk beyond those labeled by CBI, this report has chosen to only use CBI data since it represents most of the sustainable issuances. The universe of sukuk issued globally is derived from the Refinitiv dataset, and hence, the market share calculated in this report represents the lower bound. This report uses the definition of issuing entities available in the respective

source datasets. Government issuances include sovereign, subnational, development banks, and government-backed entities. In addition, corporate issuers are further split into financial corporations and non-financial corporations. The definitions adopted in this report were guided by the following publications: International Capital Market Association (ICMA)'s guidelines (Green Bond Principles 2021, Social Bond Principles 2021, Sustainability Bond Guidelines 2021, Climate Transitions Finance Handbook 2020), the Climate Bond Initiative, World Bank (Toolkits for Policymakers to Green the Financial System), and International Finance Corporation (IFC Guidelines for Blue Finance).

Comparison of Sustainable Dataset, 2017-2024

All countries	Amount Issued (US\$ Billion)		Number of Unique Issuers	
	Sukuk	Syndicated loans and financing	Sukuk	Syndicated loans and financing
Refinitiv	55.2	235.9	554	338
CBI	37.4	19.2	396	32

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Cover photo: The cover illustration is designed to convey a sense of connection and collaboration. It features two tables—one representing Malaysia and the other the Middle East—each adorned with elements of sustainable, green cities that are deeply embedded in their respective cultural identities. These tables are envisioned as gathering places where ideas and solutions are exchanged. The rail connecting them symbolizes friendship, movement, and the exchange of knowledge between regions. The illustration represents the collaborative vision of the World Bank Group and the Islamic Development Bank. It underscores the importance of addressing global challenges, such as climate change and urban growth, through cross-regional partnerships and collective efforts rather than in isolation. Despite the geographical distance between Malaysia and the Middle East, the illustration demonstrates how shared values can bridge this gap. The artwork symbolizes unity, the strength derived from collaboration, and the potential to build a greener, more inclusive future when we connect, listen, and collaborate.



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