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Building economic resilience

The financial imperatives of nature and land conservation in the Middle East

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The Global Ethical Finance Initiative (GEFI) is a specialist mainstream sustainable finance independent development body with over a decade of experience. It is recognised globally for its ability to convene policymakers, multilateral development bodies and financial institutions to develop supportive ecosystems that deliver systemic change. GEFI also has extensive experience in building practically focused programmes that include both conventional and Islamic finance perspectives to ensure finance better serves people and the planet.

GEFI has built an ecosystem of over 100 financial institutions, regulators, service providers and other financial services market stakeholders committed to climate action. GEFI now has a specialist database of over 12,000 finance practitioners from across the globe comprising of mid-to-senior-level financial services stakeholders focused on Environment, Sustainability and Governance (ESG), sustainable finance and Islamic finance.

Please see **globalethicalfinance.org** for more information.

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The GEFI and PwC Middle East partnership

Following the success of its Path to COP28, the first and largest finance-focused campaign for the 28th United Nations (UN) Climate Change Conference (COP28) held in Dubai in December 2023, GEFI, in partnership with PwC Middle East, launched the pioneering ESG Majlis Dubai series.

The series, which saw three events take place in Dubai in 2024, draws on GEFI's proven track record of designing and delivering specialist, practically focused programmes that convene key players to discuss commercial market issues. The unique format facilitates the sharing of expert insights, allowing for open and challenging discussions.

Bringing together financial services leaders, the invitation-only sessions take a practically focused look at the key regional finance opportunities and challenges across the components of ESG.

The inaugural ESG Majlis Dubai series event, held on 5 March 2024, was themed "UAE COP28 Legacy: from Finance Sector Opportunities to Economic Sustainability" and featured expert insights from GEFI Global Steering Group Chair Dame Susan Rice and PwC Partner Amal Larhlid. The second ESG Majlis Dubai, which took place on 21 May 2024, was themed "Decarbonising the Built Environment: The Role of Finance" and heard expert insights from Jonathan Keyes, formerly of HSBC, and Abdullatif Albitawi of the Emirates Green Building Council.

This white paper was published to coincide with the final ESG Majlis of 2024, which took place on 5 December 2024 under the theme "Building Economic Resilience: The Financial Imperatives of Nature and Land Conservation". Marina Antonopoulou, Senior Director – Conservation, Climate & Energy, Emirates Nature – WWF was the guest speaker for this session.

Find out more at **www.globalethicalfinance.org/our-work/esg-majlis-dubai**

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Introduction

Land degradation is among the most significant socio-environmental challenges confronting communities today. The Middle East faces severe land degradation challenges driven by natural vulnerabilities such as hyperaridity, water scarcity and rapid population growth, compounded by unsustainable practices and governance issues. With 12 of the world's 17 most water-stressed countries located in the Middle East, nations like Saudi Arabia and the UAE experience per-capita water consumption levels that exceed double the global average.[1]

In Jordan, for example, where over 80% of land is desert, overgrazing and limited water resources exacerbate land degradation, straining agricultural capacity and the economy. Weak land tenure systems have resulted in resource mismanagement, while conflicts and mass displacement have led to abandoned lands and disrupted agricultural systems. Land degradation is also a serious environmental problem in Lebanon, resulting in losses estimated at US$132 million yearly.[2]

Against this backdrop, the UN Convention to Combat Desertification (UNCCD) is hosting its conference (COP16) for the first time in the Middle East in Riyadh in December 2024 under the theme "Our Land. Our Future".

Given the deep interconnection between natural ecosystems and our economy, the degradation of our environment poses significant risks to financial stability. By recognising the economic value of nature, financial institutions can play a crucial role in fostering sustainable development and resilience.

This white paper explores the relationship between nature conservation and financial strategy in the Middle East, particularly for institutions aiming to integrate economic resilience, regulatory compliance and AI-enhanced solutions. It highlights the financial sector's role in meeting global conservation standards and nature-positive goals.

Global outlook for nature finance

The economic importance of nature

More than half of global GDP (55%), an estimated US$58 trillion, is moderately or highly dependent on nature and its services.[3] Yet, our economic system values nature almost at zero. According to the UN, the global population is expected to reach US$9.8 billion in 2050 and US$11.2 billion in 2100, placing increased strain on the world's natural capital.[4] With nearly all measures of ecosystem health declining dramatically over the past 50 years and one million species threatened with extinction, the World Economic Forum identifies biodiversity loss and ecosystem collapse as the third most significant global risk over the coming decade, after extreme weather events and major shifts in Earth's systems.[5]

Key challenges facing the natural world

The next five years will be crucial in determining the future of life on Earth, according to the World Wildlife Fund (WWF) 2024 Living Planet report.[6] Two of the most pressing challenges facing the natural world are biodiversity loss and land degradation.

1. Biodiversity loss

Between 1970 and 2020, the average size of monitored wildlife populations shrunk by 73%. Freshwater populations suffered the heaviest declines, falling by 85%, followed by terrestrial (69%), and marine populations (56%)[7]. The degradation of these resources could lead to substantial losses across essential major industries reliant on nature – including construction, agriculture, and food – due to increasing raw material prices, stranded assets, adjustment or relocation of activities, and outright loss or impairment of capital assets. The World Bank estimates that a global decline in ecosystem services could reduce global GDP by USD$2.7 trillion by 2030.[8]

Low-income countries are expected to be disproportionately affected, with potential GDP reductions exceeding 10%, underscoring the severe economic vulnerability of these regions to biodiversity loss.[9]

2. Land degradation

Land that is degraded has lost some degree of its natural productivity due to human-caused processes.[10] In its Global Land Outlook 2, UNCCD highlights that 40% of global land is degraded, impacting nearly half of the world's population and intensifying issues related to climate change, biodiversity loss and human livelihoods.[11] The Outlook states that each year degradation affects over 100 million hectares of productive land, with droughts increasing by 29% since 2000 due to climate change and unsustainable land management practices. By 2050, the Outlook forecasts that drought could impact up to 75% of the global population, disproportionately impacting vulnerable groups, including women, indigenous communities and people with disabilities. According to the Outlook, achieving a land-degradation-neutral world requires restoring 1.5 billion hectares of land by 2030.

Research from Asia and Africa shows that the cost of failing to address land degradation is at least three times greater than the cost of acting. On average, the benefits of land restoration are tenfold compared to the costs, calculated across nine different biomes.

The US$700 billion nature finance gap

The current trends of biodiversity loss and land degradation highlight an urgent need for substantial investment, with the existing nature financing gap estimated by the World Economic Forum to be US$700 billion annually.[13] The Kunming-Montreal Global Biodiversity Framework (GBF) aims to close this gap by reforming US$500 billion in environmentally harmful subsidies and increasing annual funding for biodiversity from diverse sources to US$200 billion by 2030, up from the current US$120-140 billion.

At the recent Convention on Biological Diversity (CBD) COP16 (or the Nature and Biodiversity COP as it is commonly known) in November 2024, finance continued to be a highly debated topic, with discussions centring on the creation of the Global Biodiversity Framework Fund (GBFF). The GBFF aims to mobilise capital from a combination of sources, including public funds, private investment and philanthropic contributions.

Notable achievements from CBD COP16 included the launch of the Cali Fund and enhanced participation of indigenous peoples and local communities in biodiversity initiatives. The Cali Fund is a global mechanism to facilitate benefit-sharing from digital sequence information on genetic resources. Companies in sectors such as pharmaceuticals and biotechnology will contribute a portion of their profits to support biodiversity projects in developing countries and indigenous communities, with a focus on empowering women and youth. Despite these achievements, progress was constrained by the delay of a crucial resource mobilisation strategy needed to secure essential funding for biodiversity goals.

Why nature matters for financial institutions

Building economic resilience

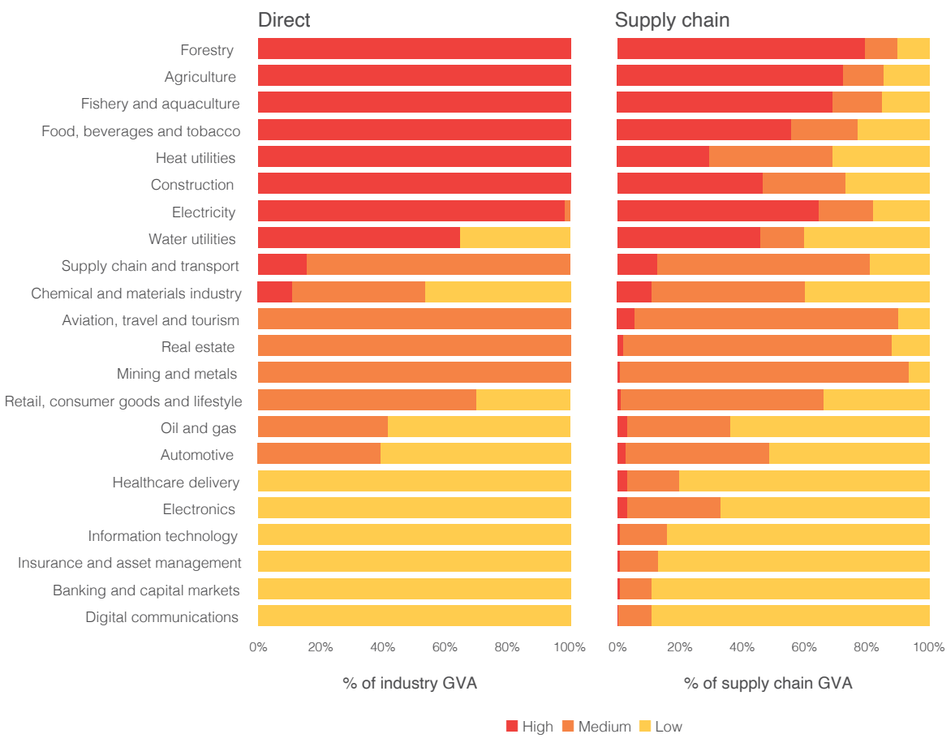

Figure 1: Percentage of direct and supply chain Gross Value Added (GVA) with high, medium, and low nature dependency, by industry.[14]

Addressing the nature financing gap is crucial for both conservation and the financial sector's stability. Natural ecosystems can significantly impact organisations' financial performance and ignoring these could lead to major market disruptions, with potential valuation declines of up to 50% and multiple-notch credit rating downgrades.[15] Degraded habitats and ecosystem changes increase the frequency and severity of natural disasters, disrupting supply chains, diminishing productivity and raising credit default risks in exposed sectors, as illustrated in Figure 1. By 2030, 180 large, publicly traded companies could see profit losses beyond 10% if they fail to manage nature risks.[16]

Due to the interconnectedness of natural ecosystems and industries, systemic risks from biodiversity loss and land degradation can destabilise entire sectors and regions, creating ripple effects across markets and economies. As ecosystems near tipping points of sudden, irreversible losses, recovery becomes difficult or even impossible.

Organisations need to address environmental impacts across the entire value chain, particularly in sectors where nature loss poses substantial financial risks. The Abu Dhabi marine restoration project, recognised by the UN as one of the 10 pioneering initiatives in restoring the natural world, aims to ensure the resilience of coastal ecosystems, which are pivotal to several industries such as fisheries and aquaculture, tourism, ports and shipping. Around 7,500 hectares of coastal areas have already been restored with another 4,500 hectares under restoration for 2030.[17]

As economies shift toward a nature-positive future, financial institutions face transition risks, including regulatory pressures, reputation management, ESG demands and the need to adopt new technologies.

Regulatory compliance

Regulations, frameworks and initiatives

As National Biodiversity Strategies and Action Plans (NBSAPs) gain global traction, the Middle East is experiencing the ripple effects of mandatory nature-related disclosures. The EU's European Sustainability Reporting Standards (ESRS) under the Corporate Sustainability Reporting Directive (CSRD) require biodiversity and ecosystem impact reporting. Germany's Supply Chain Due Diligence Act (GSCA), effective from 2023, extends accountability to global supply chains, while upcoming US Securities and Exchange Commission (SEC) regulations will mandate biodiversity and ecosystem dependency disclosures. These frameworks are encouraging Middle Eastern companies to align with international standards, with countries like Saudi Arabia and the UAE exploring sustainability mandates under initiatives such as the Saudi Green Initiative.

Financial institutions face growing pressure to measure and report on climate and nature-related finance, driven by regulations, voluntary frameworks, and client demands.

The Middle East's green finance momentum reflects this shift. The UAE's Sustainable Finance Framework, launched in 2021, promotes public-private collaboration in renewable energy, green buildings, and social welfare. The Abu Dhabi Global Market Sustainable Finance Framework emphasises transparency, accountability, and green certification, encouraging investments in green bonds, sukuk, and nature-positive projects.

Saudi Arabia, under its Vision 2030, is prioritising biodiversity with initiatives like the Green Financing Framework to fund ecosystem protection. Oman's Sustainable Finance Framework also supports its low-carbon transition, while Qatar is preparing its first green bond to finance environmentally sustainable projects.

Building a nature-positive, resilient economy

Amidst escalating biodiversity loss and land degradation, building a resilient economy requires both 'financing green' initiatives – directly funding nature-positive projects – and 'greening finance', which integrates nature into mainstream finance. This dual approach seeks to address nature and biodiversity challenges while promoting economic stability.

Mobilising capital: Funding nature-based solutions

Financing nature-based solutions in the Middle East is critical for addressing climate change, biodiversity loss and land degradation. In the UAE, afforestation, marine ecosystem conservation and blue carbon projects such as mangrove restoration are designed as "bankable" solutions, attracting investment while achieving sustainability goals.[18] Initial funding in projects like these demonstrates commercial viability and fosters entrepreneurship, encouraging broader private sector engagement while offering strong potential for enhancing climate resilience and biodiversity.[19]

Mainstreaming nature into equity funds

Nature-based private equity funds in the Middle East are addressing sustainability challenges, such as food and water security, carbon sequestration and environmental restoration. The UAE-backed Alterra fund, launched at COP28, is the largest private climate fund globally, seeking to mobilise US$250 billion by 2030.[20] Natural Ventures, a US$100 million venture capital fund, is headquartered in Abu Dhabi Global Market, aligned with initiatives like the AgriFood Growth and Water Abundance (AGWA) cluster, aiming for US$34 billion in investments by 2045.[21] Additionally, the Emirates WWF Global Islamic Finance Programme (GIFP) seeks to mobilise US$30–100 billion annually to fund nature-based climate solutions in the Global South. These initiatives reflect the region's shift toward leveraging natural capital for sustainable development.[22]

Debt-for-nature swaps

Debt-for-nature swaps (DNS) are financial mechanisms where a portion of a country's debt is forgiven in exchange for commitments to invest in environmental conservation and biodiversity. While much of the prominent DNS activity has been reported in regions like Latin America – including Ecuador and Belize – limited examples exist specifically within the Middle East.

In general, countries participating in DNS seek to address debt distress while promoting ecological projects. The potential applications in the Middle East could focus on combating desertification, preserving water resources and protecting biodiversity hotspots for the Arabian Peninsula's unique fauna and flora. Notable cases from other regions – such as Belize's use of DNS to protect coral reefs – suggest that Middle Eastern countries with substantial external debt might leverage such swaps to enhance resilience against climate challenges, particularly as the region faces increasing water scarcity and extreme heat.

Project Finance for Permanence (PFP)

PFP is an innovative financing model that has gained attention in the Middle East for its potential to support long-term conservation and climate solutions. It offers a way to secure sustainable funding for projects that aim to preserve ecosystems and biodiversity, such as in desert or grassland regions. The model ensures that funding commitments are tied to long-term environmental outcomes, offering investors greater confidence that projects will achieve lasting impacts.

The Middle East Green Initiative, led by Saudi Arabia, aims to use a PFP model to achieve the world's largest reforestation effort, planting 50 billion trees and rehabilitating 200 million hectares of land across the region.[23] At UNFCCC COP27 in Egypt in 2022, the Kingdom announced a commitment of US$2.5 billion over the next decade to support Middle East Green Initiative projects.[24]

Biodiversity credits

Biodiversity credits are emerging as a new mechanism to finance conservation efforts in the Middle East, although the market is still developing. These credits are designed to fund initiatives that protect and restore biodiversity, like carbon credits for climate change. While the concept is gaining traction globally, including in the Middle East, challenges persist in establishing robust standards and reliable verification systems for biodiversity credits. In the region, there is increasing interest in integrating biodiversity conservation with environmental strategies, such as the UAE's significant investments in African carbon credits and its broader environmental goals. However, the nascent market for biodiversity credits faces scepticism regarding its scalability and effectiveness compared to carbon credits, and concerns have been raised about the risk of "greenwashing" if the credits are not properly regulated.

Risk management: Incorporating nature risks

Nature-related financial risks pose significant challenges to financial institutions in the Middle East, where ecosystems play a critical role in supporting agriculture, water security and energy systems. These could impose financial institutions to credit, market, liquidity and operational risks by impacting asset value, cash flow stability and stock value.

Financial institutions in the region should consider integrating nature-related risks and opportunities into their decision-making processes, as this can help mitigate long-term financial risks and drive sustainable growth. Many institutions are beginning to assess the potential financial impacts of nature degradation, recognising that failure to address such risks could lead to significant economic losses. As a result, banks and financial entities are increasingly developing nature strategies to align with global sustainability goals.

Emirates NBD recently strengthened its commitment to safeguarding biodiversity by joining the Partnership for Biodiversity Accounting Financials, becoming the first regional partner of the worldwide initiative that provides financial institutions a standardised approach to assess and disclose impact and dependencies on biodiversity of loans and investments.[25]

Creating financial incentives for nature-positive actions

The Middle East is uniquely positioned to develop innovative financial incentives for fostering nature-positive actions, which simultaneously address environmental, social and economic challenges. Recognising the region's dependency on natural resources and vulnerability to climate change, such initiatives are critical for sustainable development.

Areas of focus could include:

- **Policy-driven subsidies and tax incentives**
  Governments can implement tax benefits or direct subsidies for businesses that invest in conservation projects or adopt sustainable practices, such as renewable energy integration, water conservation technologies and biodiversity restoration. These incentives can reduce financial barriers and encourage wider participation in nature-positive initiatives.
- **Green bonds and sustainability-linked loans**
  Financial institutions can issue green bonds or sustainability-linked loans targeting projects with clear environmental benefits, including reforestation, wetland restoration and eco-tourism. Establishing regional frameworks for such financial instruments will attract investment, especially from international entities focused on ESG goals.

- **Public-Private Partnerships (PPPs)**
  Collaboration between governments and the private sector can fund large-scale nature-positive initiatives. By aligning private sector innovation with public sector resources, PPPs can deliver long-term benefits such as desert ecosystem restoration or improved agricultural sustainability.
- **Market-based mechanisms**
  Introducing mechanisms such as carbon credits or biodiversity offsets can create financial value for nature-positive activities. These programmes provide economic incentives for companies to engage in practices that minimise their ecological footprint.
- **Capacity building for financial institutions**
  Developing expertise among regional financial entities to assess and manage nature-related risks and opportunities ensures sustained support for nature-positive projects. Frameworks like the "Finance for Nature Positive" model serve as valuable references for building capacity.

Barriers to implementation

Nature's vast, interconnected ecosystems pose complex challenges for conservation, requiring adaptable management across regions and regulations. The challenges faced in the Middle East align broadly with global issues but have region-specific nuances. For example, the Red Sea, shared by Egypt, Saudi Arabia and Sudan, hosts crucial coral reefs but faces threats from overfishing, unregulated tourism and oil spills.

Major obstacles to effective conservation and nature-positive investment include:

Regulatory fragmentation

Protections against nature, biodiversity and land risks are based on a complex array of international and regional agreements that are inconsistently implemented by different countries, creating enforcement loopholes. While some progress has been made in 'greening' financial regulation, comprehensive measures by central banks and financial regulators addressing nature loss and its impacts on businesses, communities and livelihoods remain limited.[26] Current legislative efforts primarily focus on illegal wildlife trade and expanding protected zones, particularly under indigenous stewardship. There is also growing international momentum to classify 'ecocide' – the destruction of natural ecosystems – as a crime on par with genocide and crimes against humanity.

Data challenges

Despite advances in data collection and the growing use of Artificial Intelligence, data quality, coverage and standardisation remain significant challenges. There is a need for more localised and sector-specific data to support decision-making at the industry level and a set of well-defined comparable metrics that capture all nature- and land-related risks, impacts and opportunities. Access to this data is complex, raising concerns over security, fair distribution and potential misuse.

Currently, high-quality environmental data is largely accessible only to well-resourced organisations, governments and institutions, while smaller businesses, local communities and developing nations often lack such access due to financial and technical barriers. Particularly in the Middle East, several countries lack the financial and technical resources to invest in sophisticated systems.

Bankability of nature financing

One of the primary obstacles to mobilising private capital for nature-positive projects is the absence of clear return-on-investment (ROI) models and structured revenue streams. Nature projects in the region such as reforestation in desert areas or water resource management often entail high initial costs, long timelines and limited impact data, deterring investors accustomed to shorter payback periods. The lack of alignment between nature projects' long-term funding needs and investors' shorter-term profit expectations further complicates financing efforts, making bankability a persistent issue in conservation finance.

Institutional capacity deficits

Environmental institutions in the Middle East often face budgetary and staffing constraints, limiting their ability to enforce environmental laws and support nature finance initiatives. Budget allocations for environmental agencies vary widely and are typically low compared to other sectors, diminishing their capacity to fulfil regulatory responsibilities.

Regulatory challenges of tech advancements

Rapid technological advancements often outpace regulatory frameworks, complicating efforts to assess and mitigate their environmental impacts. Innovations such as Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) gene-editing technology have made genetic engineering more accessible, allowing research and development to occur outside traditional laboratory settings, often without established safeguards.[27] This trend heightens the risks associated with the release of genetically modified organisms into ecosystems and challenges regulators to ensure ethical benefit-sharing of genetic resources. The UAE is considering adopting CRISPR gene-editing technology, but fears around ethical dilemmas, regulatory gaps and societal implications pose significant challenges to its implementation.

Advancements in agricultural technology have revolutionised farming practices, making them more accessible and cost-effective than ever before. Technologies such as the Farm management software, Internet of Things (IoT), machine learning, and AI have become integral tools for farmers and agribusinesses. By utilising these technologies, they can gather crucial data on crop conditions, soil quality, and weather patterns, enabling informed decision-making regarding planting, fertilisation, irrigation, and harvesting schedules. This is particularly significant in the Middle East, where resource constraints pose efficiency challenges.

Looking ahead

The Middle East faces significant environmental challenges, including biodiversity loss, land degradation and water scarcity, which pose substantial risks to financial stability and economic resilience. Financial institutions can help the region address these challenges by integrating nature conservation into their strategies.

Key considerations for regional stakeholders

Raise awareness of the economic dependency on nature: Over half of global GDP is dependent on nature, yet it remains undervalued in economic systems. Recognising the economic value of nature is essential for fostering sustainable development.

Source effective ways to address environmental threats: The region's ecosystems are under severe threat from climate change, urbanisation and unsustainable practices. Addressing these threats requires coordinated efforts in sustainable resource management and effective governance.

Recognise the financial sector's role: Financial institutions have a pivotal role in promoting economic resilience by incorporating nature-related risks into their decision-making processes. This includes funding nature-based solutions and integrating nature into mainstream finance.

Embrace regulatory and technological advances: Tech-enabled conservation is offering financial institutions data-driven tools to address nature-related risks. Advanced technologies like Artificial Intelligence (AI) enhance biodiversity tracking, remote sensing, and real-time ecosystem monitoring by analysing satellite images, drone footage, and Internet of Things (IoT) sensor data. These innovations enable financial institutions to integrate nature into investment models, strengthen supply chains, and unlock value through sustainable practices.

Consider innovative financing mechanisms: Debt-for-nature swaps, biodiversity credits and Islamic finance are emerging as viable pathways for funding conservation projects. These initiatives can help bridge the estimated US$700 billion annual nature finance gap.

Address barriers to implementation: Challenges such as regulatory fragmentation, data quality issues and institutional capacity deficits need to be addressed to effectively mobilise private capital for nature-positive projects.

Building a resilient, nature-positive economy in the Middle East requires a multifaceted approach that includes developing progressive policy, embracing global frameworks, closing the finance gap and fostering transparent data disclosure. The financial sector's commitment to these efforts is vital for achieving sustainable economic growth and environmental stewardship. By recognising the interconnectedness of natural ecosystems and economic stability, financial institutions can lead the way in creating a sustainable future for the region.

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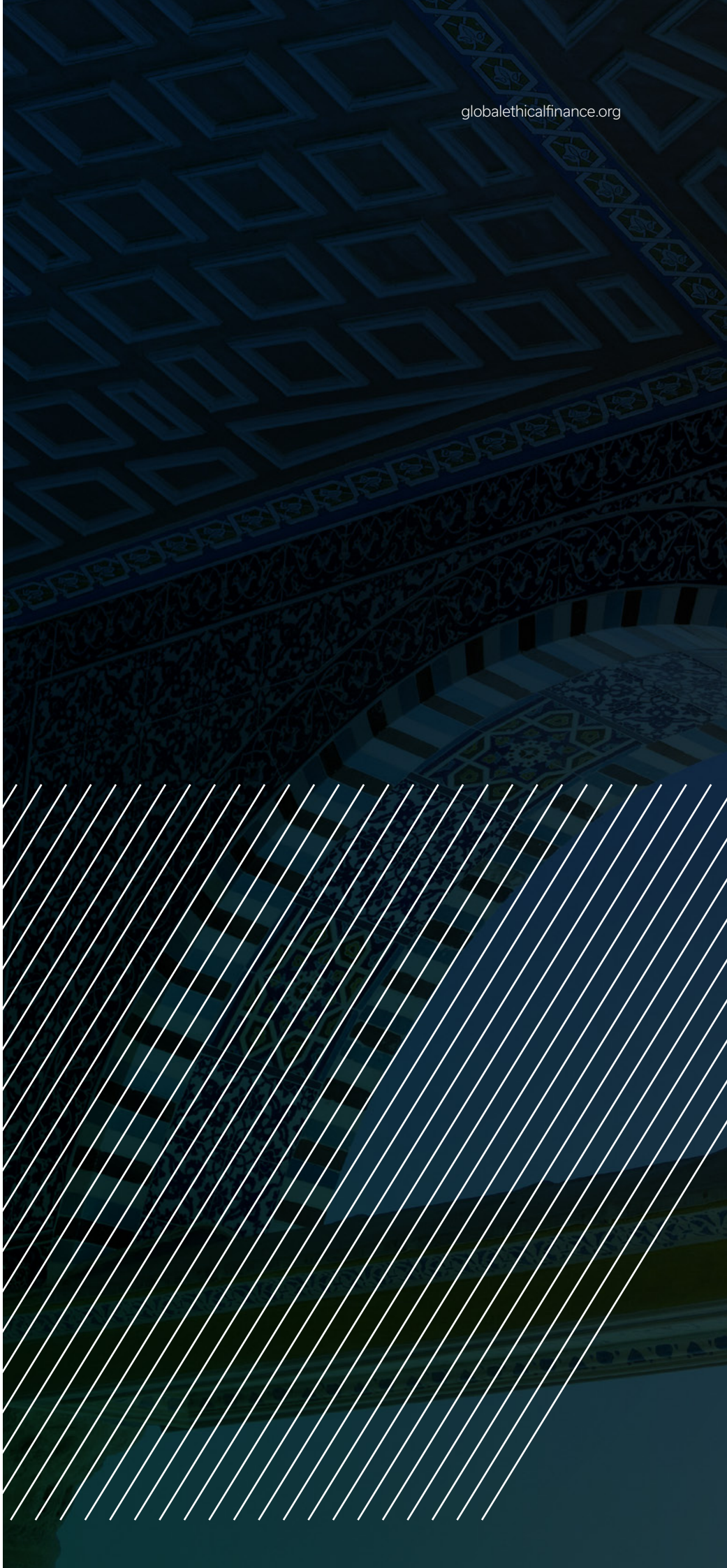

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