

# THE TRANSITION.

TO A NET-ZERO FUTURE

A PROFOUND ECONOMIC OPPORTUNITY  
FOR PAKISTAN



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**A**s the world transitions towards a net-zero future, the opportunities for countries like Pakistan to leverage this shift have never been more profound. With growing global urgency to address climate change, coupled with significant financial stakes, Pakistan stands at the cusp of an economic transformation. The rising demand for carbon credits, nature-based solutions (NBS), and the broader adoption of sustainable practices across industries opens new avenues for investment, economic growth, and environmental stewardship. By aligning with global sustainability goals, Pakistan has the potential to carve out a leading role in the carbon credit market, attracting both domestic and international investments. This document explores these opportunities, shedding light on the strategic steps Pakistan can take to capitalize on this transition, while also highlighting the economic and environmental benefits of embracing a net-zero future.

# Global Financial Stakes

Amid the escalating global climate crisis, there is an urgent need for an unprecedented realignment of financial strategies and investments towards achieving net-zero emissions by 2050. The global economic landscape is currently characterized by staggering figures: a total global debt nearing \$307.0 trillion and stock market valuations of over \$112.8 trillion as of early 2024. These figures are not merely indicators of the level of economic activity but also highlight vulnerabilities to physical and transitional risks due to climate change. Financial assets across various sectors—from agriculture to insurance—are exposed to unprecedented risks if climate change continues unmitigated. The potential disruptions could lead to substantial losses, affecting livelihoods globally.

The financial stake of inaction could be far higher than currently predictable. The economic ramifications of failing to achieve a net-zero carbon economy are formidable yet essential to address. Estimates suggest

a necessary global expenditure ranging from \$275.0 trillion to \$309.0 trillion, equating to an annual investment of about \$9.2 trillion to \$10.3 trillion. This financial outlay underscores not just an environmental necessity but a strategic economic intervention designed to avert catastrophic economic and social consequences predicted due to climate change.

Political rifts often stem from a complex interplay of economic interests, political ideologies, and social factors, hindering climate action. Energy systems, global trade practices, infrastructure development, and industries like fertilizers, pesticides, and chemicals, along with traditional agricultural and livestock businesses, have historically contributed to global warming. Any sudden disruptions may result in significant losses, necessitating alternative strategies such as carbon capture and removal technologies or carbon offsets.

The economic rationale for substantial change in practices and investment in climate action is clear: the costs of inaction far surpass those of the proposed solutions.



# Nature-Based Solutions (NBS)

## A Dual Benefit Approach

NBS, coupled with the use of advanced technology and data, represent practical mechanisms not only for their direct benefits—such as carbon sequestration and ecosystem resilience—but also for their cost-effectiveness relative to technological interventions. Projects like sustainable regenerative agriculture, reforestation, wetlands restoration, mangroves, and conservation of marine life not only enhance biodiversity, improve water, and air quality, and increase ecological resilience to climate impacts but also offer economic benefits by protecting against the financial losses from natural disasters and the degradation of essential natural resources.

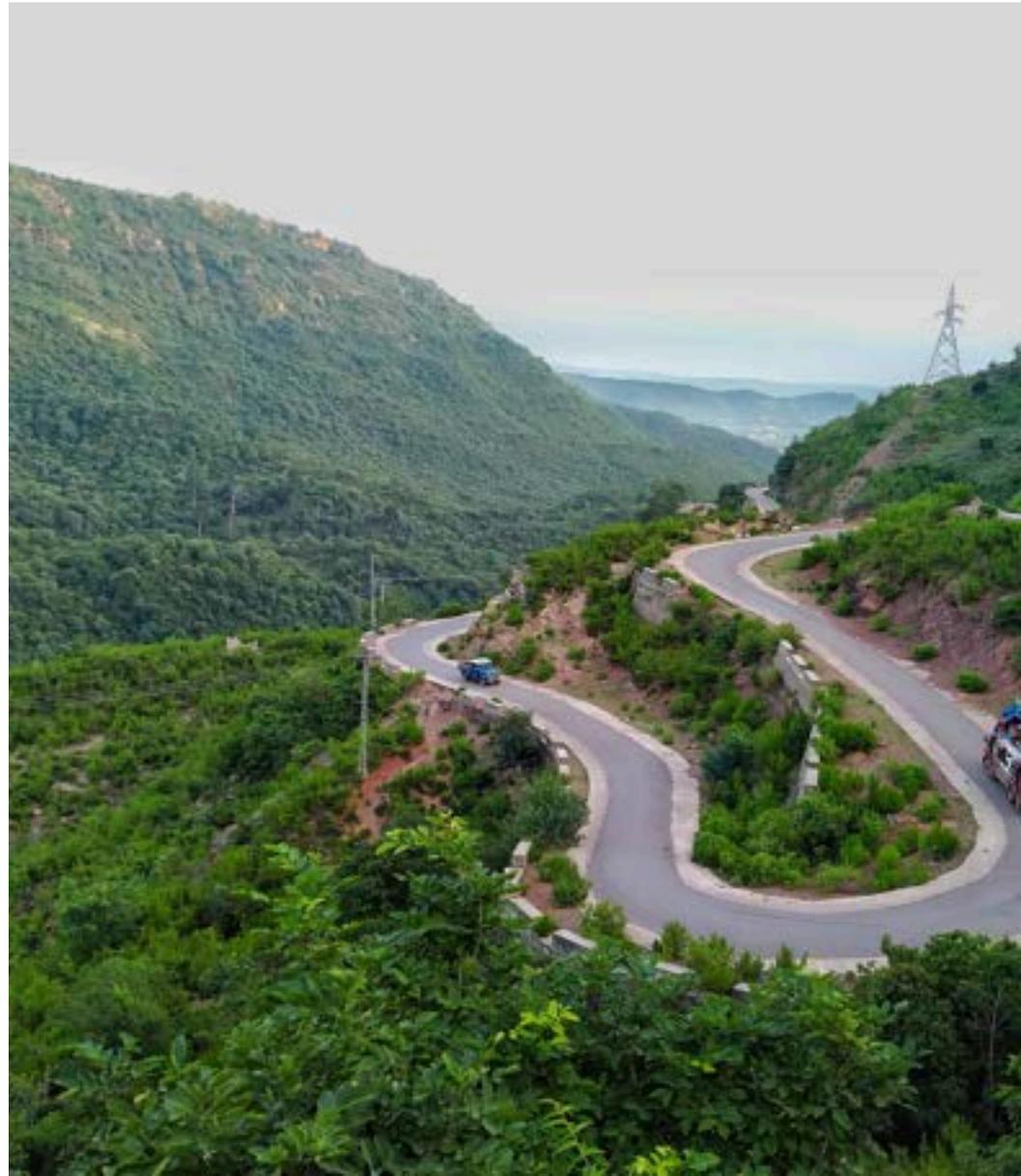
Integrating NBS into broader climate strategies ensures a holistic approach to adaptation and mitigation, providing a sustainable path forward that aligns economic growth with ecological stability. For investors and businesses, the growing emphasis on ESG (Environmental, Social, and Governance) criteria makes NBS an attractive area due to their significant co-benefits and potential for high returns on investment in terms of operating profits, capital gains, and offering GHG emissions avoided, reduced, or removed as carbon offsets to other businesses globally.



# Pakistan's Strategic Position in the Global Carbon Market

Pakistan, with its rich natural landscapes and significant agricultural base, holds considerable potential for developing carbon projects that could reduce GHG emissions. The agriculture sector in Pakistan is a major contributor to and simultaneously vulnerable to climate change impacts. An additional 10.9 million acres of land yet to be converted into cultivable land poses further challenges if not developed under tech-led sustainable large-scale farming.

Initiatives could range from large-scale regenerative agriculture to afforestation efforts that both sequester carbon and enhance food security, economic returns, reduce involuntary migrations, and attract domestic and foreign investment. Substituting imports, increasing exports, and selling carbon credits in the international market also help address the current account deficit.



Companies like Amazon, Microsoft, Netflix, and Google have aggressive plans for carbon footprint reduction and offsets, albeit with relatively rigid standards for the quality of the projects and co-benefit structure. Pakistan, being in the global south, can take advantage of these initiatives. Engagement and roadshows with such companies, presenting viable business cases, are necessary for countries like Pakistan.

CORSIA is a new benchmark (previously only used in the aviation/airline industry) for the voluntary carbon market (VCM) (in addition to Verra and Gold Standards, where





upgrades are in progress for the processes and frameworks), with 127 states voluntarily adopting these by 2025.

Strategically, Pakistan can leverage its position by developing agroforestry-led carbon projects that attract investments and integrating these projects within international carbon trading frameworks. Engaging with global economic leaders like China, the UK, and the EU, Pakistan could enhance its participation in their regulatory carbon trading schemes. Such integration would not only bolster Pakistan's economic

standing but also provide the necessary capital to fund these large-scale environmental projects.

The global carbon credit market size was valued at \$0.5 trillion in 2023 and is anticipated to reach around \$13.0 trillion by 2033, growing at a CAGR of 39.42% from 2024 to 2033, which reflects the shift in approach to reduce GHG emissions, i.e., using carbon offsets in several industries rather than achieving those goals through the transition and transformation of operations.

# Financial Mechanisms and Investment Opportunities

The financial structuring of investments in the carbon credit market and NBS projects is critical. With the global shift towards stricter environmental regulations and carbon neutrality goals, the demand for carbon credits is expected to surge, pushing up their price and generating substantial market returns. This scenario presents a lucrative opportunity for investors to diversify portfolios while contributing to a sustainable future.

Moreover, the anticipated rise in carbon credit values makes it an attractive investment proposition, promising both financial and reputational gains. For countries like Pakistan, establishing robust frameworks for carbon credit generation and trading can function as a catalyst for attracting international funds and technology transfers, propelling economic growth and sustainable development.



# Evolving Regulations, Policies, and Carbon Credit Pricing

The evolution of Cap-and-Trade regulations in the EU, followed by other countries, results in putting a limit on emissions by industry, requiring carbon reduction or offsets to continue their industrial activities, regulated carbon trading schemes. Carbon Border Adjustment Mechanism (CBAM) regulations require importers or exporters to offset carbon emissions associated with the products before they cross the EU border, and SEC US carbon emission disclosure requirements for direct emissions (Scope-1) and emissions from purchased energy (Scope-2) and upstream/downstream value chain emissions (Scope-3) are major disruptions for the global supply chain. The regulations and policies in place today and as they evolve, the need for GHG emission reduction and offset is imperative, raising the need for a more efficient carbon market in voluntary and regulated regimes.

The average carbon credit price in forestry & land use and agriculture were \$11.2 and \$6.4 respectively in 2023, against the renewable energy credits which averaged at \$3.9 in the voluntary market. In the EU ETS, carbon credits are traded above \$75 (EUR 69).

To optimise the impacts of these enhancing policy frameworks and investments in carbon projects at both international and national levels is essential. Internationally, policies that facilitate the seamless integration of markets for carbon credits can help stabilize prices and provide clear, consistent signals to investors. Nationally, Pakistan needs to develop and enforce policies that support the development of carbon projects, protect investors, and ensure that the benefits of these projects extend throughout the economy.



# Future Directions and Strategies

The integration of NBS for climate action into investment strategies offers a pathway that leverages economic incentives for environmental sustainability. For Pakistan, the development of carbon projects represents a strategic avenue to harness this potential, inviting international collaboration and investment. As the world moves closer to the 2050 deadline, the actions taken today will determine the financial and environmental landscape of tomorrow. In this pivotal era, strategic investments in NBS stand as both a safeguard and a catalyst for a sustainable future.

Looking ahead, there are several strategies that can be employed to maximize the effectiveness of investments in NBS and carbon markets.

Firstly, increasing the transparency and accountability in carbon markets is crucial. This involves improving the verification processes for carbon credits, ensuring that they represent genuine, quantifiable, and permanent reductions in emissions with co-benefits.

Secondly, focusing on the agroforestry sector with international partnerships to support the exchange of technology, funds, and best practices can enhance the global response to climate change and expedite economic growth. These partnerships can also help standardize the approaches to valuing and trading carbon credits, making it easier for countries like Pakistan to participate effectively in global voluntary markets and regulated emission trading schemes (ETS) e.g., the EU, the UK, China, and California through trade agreements.

Lastly, investing in public awareness and education on the benefits of NBS and the importance of sustainable practices can foster broader societal support for climate initiatives, thereby enhancing the social license to operate for businesses involved in these areas.

The transition to a net-zero future is not just an environmental imperative but a profound economic opportunity.

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## **About the Author:**

Sajjeed, the co-founder of Spectreco LLC (USA) and founder of Matriarch Ventures Economy (Pakistan), is a seasoned executive with 25+ years of experience in organizational vision, growth strategies, and risk management. Specializing in climate action, ESG investing, and technology, he collaborates globally with governments. His diverse experiences span continents, and he is a public speaker, professional accountant, certified board member, and alumnus of prestigious institutions like INSEAD and the CFA Institute.

## **About Spectreco:**

Spectreco, a global sustainability technology, advisory, and implementation company, partners in building a better world with innovative, data-driven solutions. With a century of collective expertise, they streamline compliance across multiple jurisdictions, focusing on built environments and transforming sustainability challenges into strategic advantages for investors, businesses, and governments.