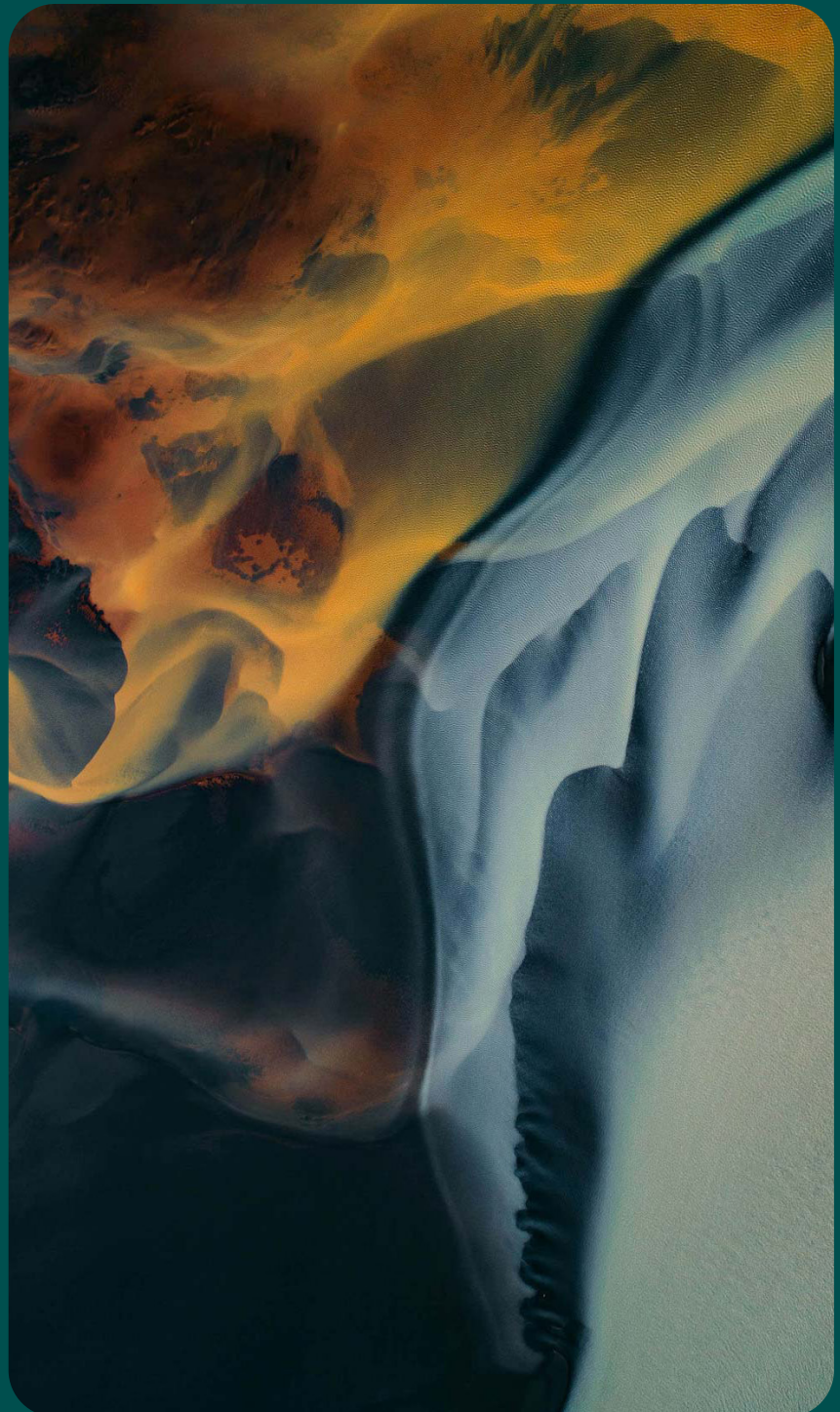


Issue Brief

Climate Change | Recommendations for
the Kingdom of Saudi Arabia





Abstract

Kingdom of Saudi Arabia is the world's second largest petroleum producer, possesses approximately 17% of the world's proven petroleum reserves¹ and is a key economic player, contributing 1.3% to the global economy in 2023². As climate change transforms the global energy sector, the Kingdom, dependent on oil revenue, must pursue effective policy and innovative technology to achieve long-term national wellbeing and maintain its global economic standing.

The Kingdom has exercised several policy measures to tackle climate change. In 2021, Saudi revised its Nationally Determined Contributions (NDCs) to a target of removing **278 million tCO₂e** (tonnes of carbon dioxide equivalent) annually by 2030³.

Saudi Arabia's unconditional Nationally Determined Contribution (NDC) by 2030³.

278 million tCO₂e/year

KSA's 2030 goal for renewable energy⁴

50% of energy mix

The Saudi Council of Economic and Development Affairs founded **Vision 2030**, an economic blueprint which seeks, in part, to diversify the economy and to enhance relevant governance systems⁵. Additionally, the Kingdom has launched the **Saudi and Middle East Green Initiatives**, which aim to plant 10 Billion trees, achieve net-zero by 2060 and produce 50% of electricity from renewable sources by 2030⁶.

The Kingdom has launched the **Circular Carbon Economy National Program**, to reduce emissions and to capture and recycle emissions into innovative products⁷. It is developing the **world's largest carbon capture, utilization and storage (CCUS) hub** and hopes to capture **44 MMtpa of CO₂e** (million metric tons of carbon dioxide per annum) by 2035⁸.

¹ Saudi Arabia facts and figures. (n.d.). OPEC.

² Saudi Arabia Share of Global GDP. (2023). World Economics.

³ Kingdom of Saudi Arabia Updated First Nationally Determined Contribution. (2021). In United Nations Framework Convention on Climate Change.

⁴ Saudi National Renewable Energy Program (NREP) – Policies - IEA. (n.d.). IEA.

⁵ Overview. (n.d.). Saudi Vision 2030.

⁶ MGI: powering regional climate action. (n.d.). Saudi & Middle East Green Initiatives.

⁷ CCE Framework. (n.d.). Circular Carbon Economy.

⁸ Meth-Cohn, D. (2022, December 7). Aramco Jubail. CCUS Hub - Carbon Capture, Use and Storage.



In this Issue we are presenting **eight (8) key pillars** for the Kingdom of Saudi Arabia that shall accelerate the transition to a **climate-first economy**:

- I **Status quo** – With a key focus on environmental sustainability as a part of **Vision 2030**, the **largest unconditional reduction** commitment in the region (278 million tCO₂e pa) and a **50% renewable energy target** (by 2030), Saudi has built a base policy framework for their net-zero transition;
- II **Prioritize** – In order to sustain long-term **GDP growth** rate above 5% (mitigate losses), Saudi Arabia must conduct a thorough Climate Risk Assessment and develop a **National Action Plan** (NAP);
- III **Enhance** – Saudi can enhance global **perception** of it's climate commitments vis a vis the development of a **national digital GHG inventory**, increased **transparency** of it's progress on emission reduction commitments through leveraging **advanced technology** (AI & blockchain);
- IV **Diversify** – Projected **investment of USD 1 trillion** across six (6) key sectors with a focus on **decarbonisation** of the **power sector**. If fossil fuel subsidies are phased out, a potential 100 million tCO₂e pa could be reduced;
- V **Report** – Witnessed a **29% growth in GRI** (since 2020) reporting, Tadawul's introduction of **ESG Disclosure Guidelines** (2021). Regulators (Ministry of Commerce, CMA, SAMA, Tadawul) should make **emissions reporting mandatory** for **large-scale, export enterprises** to enhance investor confidence and competitiveness;
- VI **Reduce** – Saudi enterprises should utilise **Industry 4.0 technology** to enhance emissions reduction in line with **Science Based Targets initiative (SBTi)**. **Aramco** and **SABIC's** leadership with the **Jubail CCUS Hub** (targetted **9 million tCO₂e pa** reduction) shall play a pivotal role;
- VII **Finance** – Saudi Arabia witnessed a significant growth in **sustainable finance** (debt + bonds) from USD 519 million in 2018 to **USD 16 billion** in 2023. The introduction of the **Green Finance Framework 2024** (Ministry of Finance) and mega sustainability projects (PIF, Aramco), we envisage high growth in this sector;
- VIII **Revolutionize** – PIF's launch of the **VCM** of KSA and the Greenhouse Gas Crediting and Offsetting Mechanism (GCOM) furthers their commitment to revolutionize global carbon markets with a projected **KSA VCM target size of USD 10 billion** (by 2030).



Introducing: Ahya

بِسْمِكَ اللَّهُمَّ أَمُوتُ وَأَحْيَا

Bismika Allāhumma amūtu wa aḥyā

In Your Name, O God, I die and I live.

Takniat Ahia Limited Liability Company ("[Ahya](#)") is the region's first end-to-end climate software and consulting venture, with a unified AI-powered platform for climate action. Ahya is headquartered in Riyadh, with operations in UAE and Pakistan.

Our **mission** is to facilitate the region's enterprise led **transition** towards **net-zero** with **accuracy, transparency** and **equitable economic growth**.

"Ahya", in Arabic, Urdu, and Turkish means to re-enliven, rehabilitate or replenish.

Core Products

AhyaOS

AI-enabled greenhouse gas (GHG) management and accounting platform that simplifies the precise **measurement** (GHG Protocol), **analysis** (emissions intensity, value chain, supply chain, financed emissions), **reduction** (SBTi, decarbonisation roadmap) and **reporting** (IFRS-S2, CDP, GRI, CSRD) of emissions.

Tawazun
by Ahya

A digital voluntary carbon marketplace to access climate finance with comprehensive functionality for **buyers, sellers** and **traders** of voluntary emission reductions (carbon offsets). Tawazun offers a wide inventory of verified projects from varying **technologies** (TCCUS, ANE, NBS), **mechanisms**, and **global registries** (Gold Standard, Puro Earth, Verra et al).





Introduction

Saudi Arabia is expected to witness intensified climate-related risks due to its geographical location, which has experienced 50% greater temperature rise than other land masses in the northern hemisphere. Rapidly changing climate patterns adversely impact the country's freshwater resources, agricultural productivity, shorelines, economic growth, biodiversity as well as health and well-being⁹.

Saudi Arabia's economy is significantly reliant on fossil fuels. It is a major producer, exporter and consumer of primary energy. Emissions from energy (79%) and industrial processes (16%) are the top two contributors to national emissions¹⁰. Demand for energy for electricity, manufacturing and air-conditioning has accelerated as the population continues to grow. Approximately 80% of energy consumed within industry is from the petrochemical, cement, iron and steel sectors¹¹. As the world transitions towards a net-zero future, Saudi Arabia has taken substantial steps to diversify its economy away from oil and gas with a 58% contribution to GDP from the non-oil sectors¹².

Industrial, residential and commercial infrastructure is located on low-lying areas of the coast of the Arabian Gulf, which is densely populated. Floods, sand storms and sea level rise can pose a significant threat to coastal infrastructure, such as harbours, fossil fuel terminals, refineries and water desalination plants that are instrumental to trade and economic activities.

Saudi Arabia's economy can lose 12.2% of GDP by 2050 under a high emissions scenario if adequate economic diversification and enhancement measures are not taken¹³. A low emissions scenario where global temperature increase is limited to 2°C is projected to result in a GDP loss of 4.8% by 2050¹³.

In this Issue our team is pleased to share eight key pillars developed via an empirical and quantitative approach based on modern climate science that can leap-frog the Kingdom's net-zero transition, protect its' nature, biodiversity and provide long-term economic growth.

⁹ McCabe et al., M. F., Alshalan, M., Hejazi, M., & Gallouzi, I. E. (2023, October 11). Climate Futures Report: Saudi Arabia in a 3-degrees warmer world. In KAPSARC.

¹⁰ Saudi Arabia Climate Change Data | Emissions and Policies. (n.d.). Climate Watch Data.

¹¹ Saudi Arabia. Biennial update report (BUR). BUR 1. (2018, March). In UNFCCC.

¹² State of the Saudi Economy Annual Report 2022. (2023, July 12). In Ministry of Economy and Planning.

¹³ G20 Climate Risk Atlas & Enel Foundation. (n.d.). Impact, policy, economics - Saudi Arabia. In Centro Euro-Mediterraneo Sui Cambiamenti Climatici.



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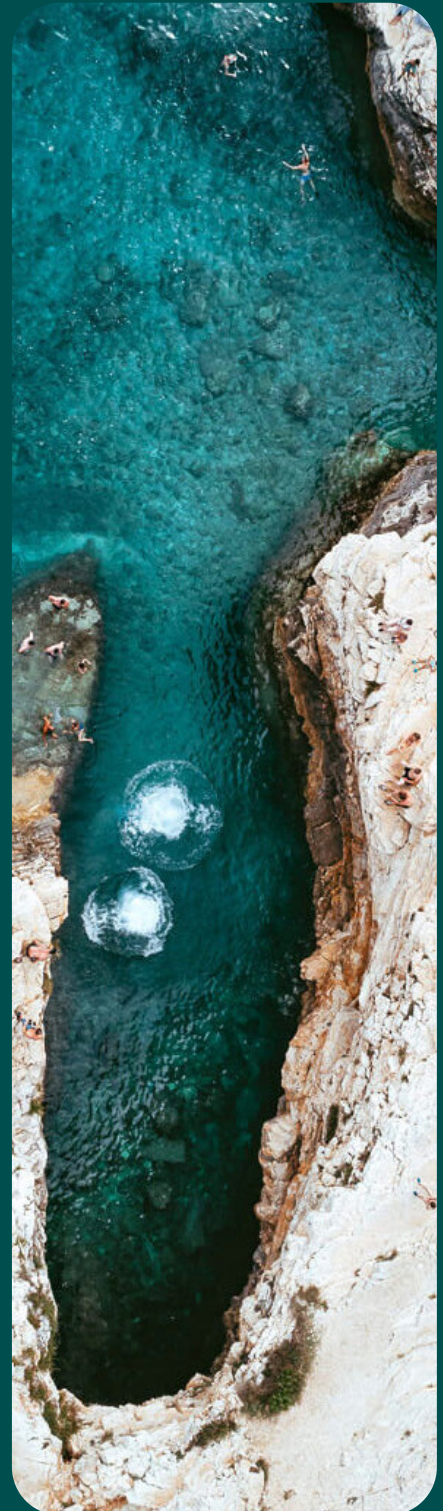
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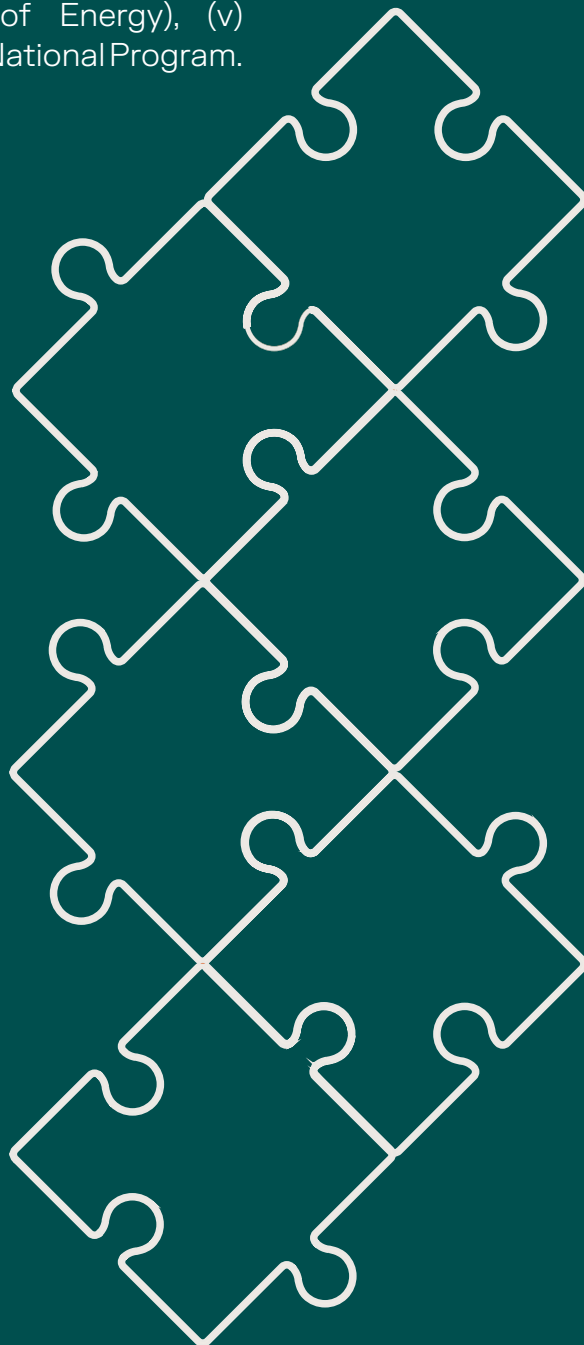
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1.0 | Status quo

A comprehensive policy matrix consisting of five (5) key frameworks to facilitate a national net-zero transition by 2060: (i) Vision 2030, (ii) Saudi Green Initiative and Middle East Green Initiative, (iii) National Renewable Energy Program, (iv) Nationally Determined Contributions (Ministry of Energy), (v) Circular Carbon Economy National Program.





2.0 | Prioritize

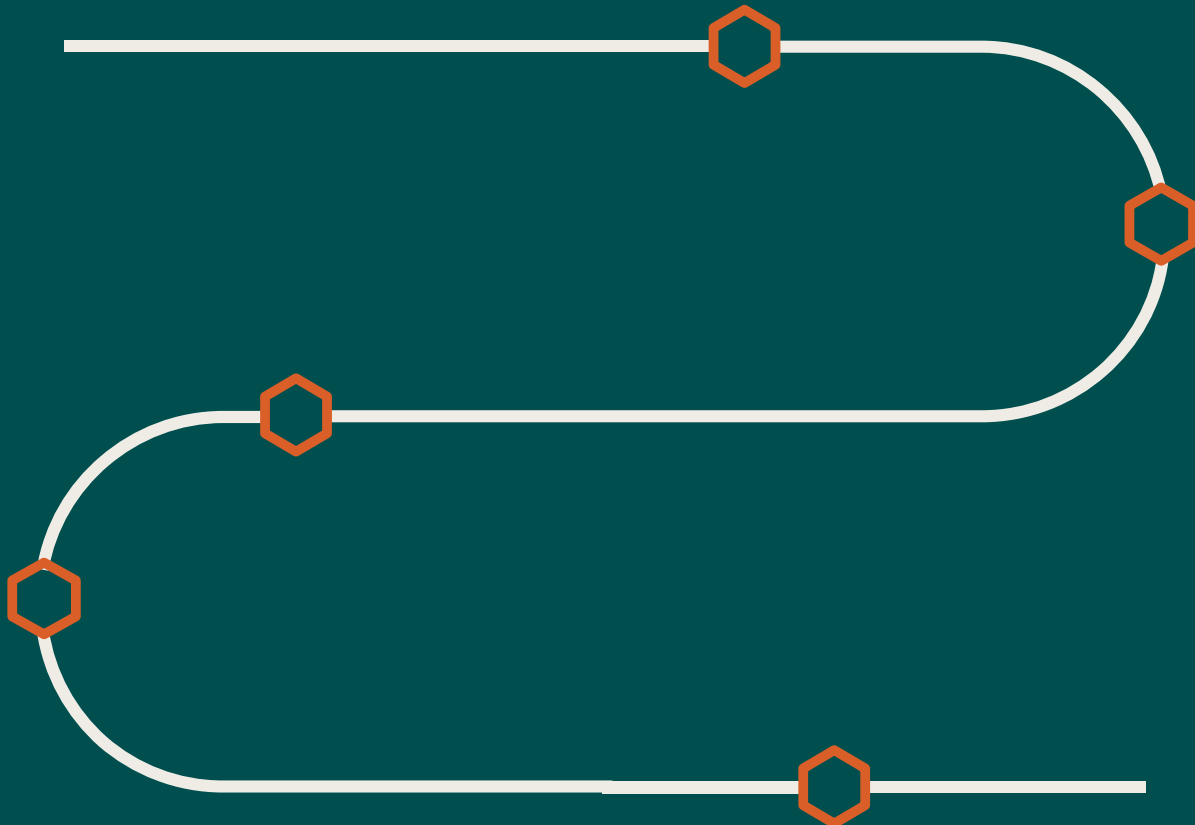
Saudi Arabia must prioritize the management of technological, legal and market risks associated with a global climate transition to remain an economic leader in the region.





3.0 | Enhance

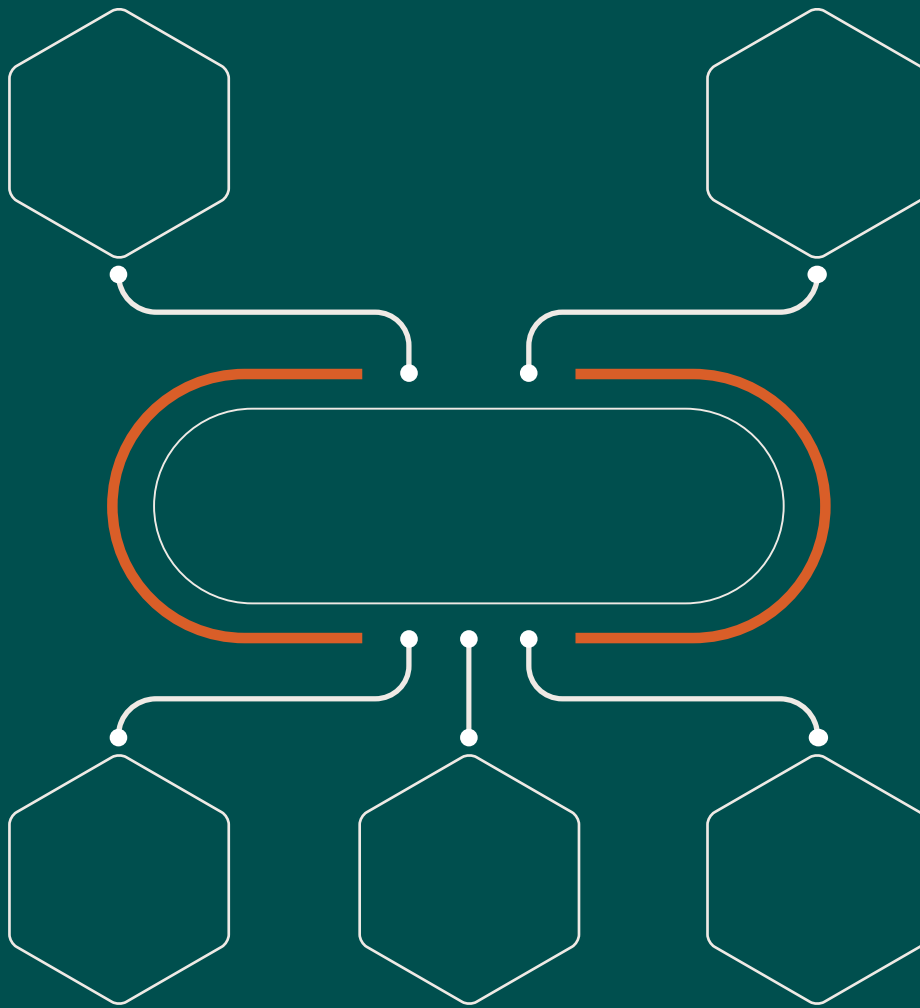
Saudi Arabia can enhance the transparency of its national GHG emissions, progress towards NDCs, renewable energy targets and long-term climate strategy to effectively monitor its net-zero goal by 2060.





4.0 | Diversify

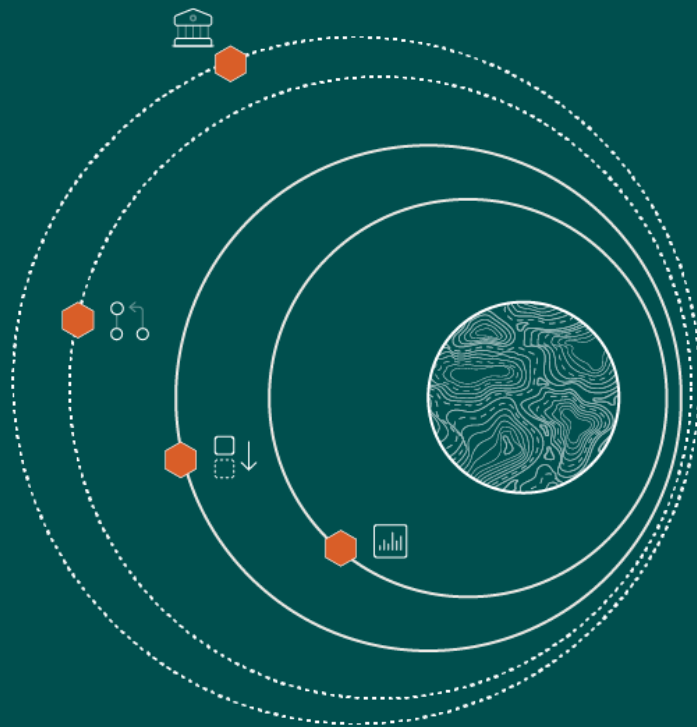
Saudi Arabia has implemented economic reforms under Vision 2030 to diversify its economy from fossil fuels.





5.0 | Report

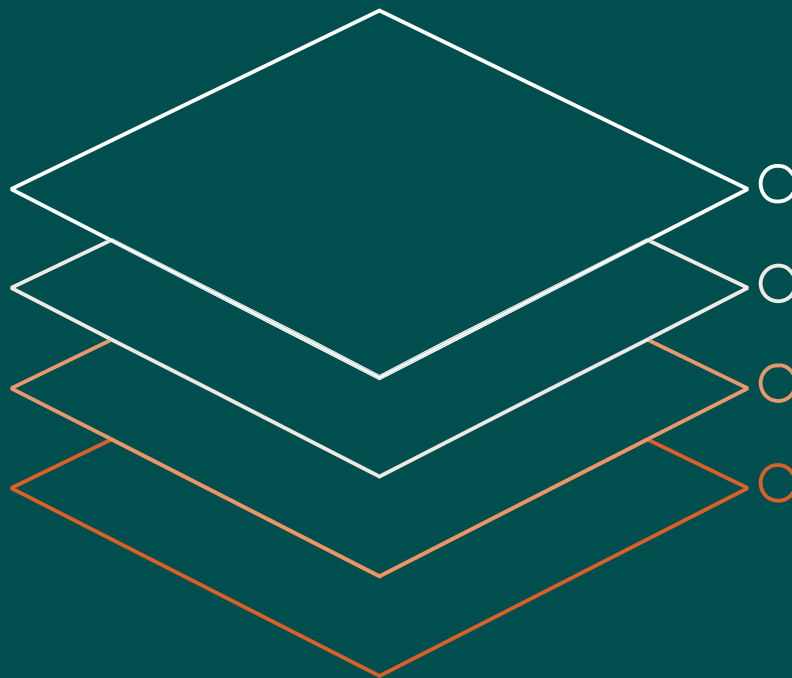
Saudi Arabia must mandate sustainability reporting for its enterprises to enhance competitiveness and build stakeholder confidence amidst a rise in global sustainability regulations.





6.0 | Reduce

Enterprises in Saudi Arabia are primed to adopt advanced technology to manage their emissions for leading the country to become a climate-first economy.





7.0 | Finance

Continued growth in sustainable finance to USD 16 billion (2023), supported by the Green Finance Framework 2024 and mega sustainability projects (NEOM, Red Sea Development).





8.0 | Revolutionize

Saudi Arabia has developed a robust infrastructure to revolutionize carbon markets which is projected to grow to USD 10 billion by 2030 in the Kingdom.



Contact us to learn more about our products and services.



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