

A man wearing a white thobe and a red and white checkered ghutra is sitting at a desk, looking down at a laptop. He is holding a blue pen in his right hand. The background is blurred, showing an office environment.

leader^x

Navigating the Energy Transition

Aligning Vision. Accelerating Transformation. Leading with
Purpose.

“We are determined to reinforce and diversify the capabilities of our economy, turning our key strengths into enabling tools for a fully diversified future. As such, we will transform Aramco from an oil producing company into a global industrial conglomerate. We will transform the Public Investment Fund into the world’s largest sovereign wealth fund.”

His Royal Highness Mohammed bin Salman

K.A.CARE - Navigating the Energy Transition Program

Program Schedule Everyday Sunday June 14 through Thursday June 18 from 8:00 a.m. to 2:00 p.m. Lunch from 2:00 p.m. to 3:30 p.m.

DAY 1 (Sunday) Global Energy Landscape and Saudi Vision 2030	DAY 2 (Monday) Policy, Governance and Regulatory Frameworks	DAY 3 (Tuesday) Energy Security and Sustainability	DAY 4 (Wednesday) The Impact of Alternative Energy Technologies	DAY 5 (Thursday) Geopolitics and Market Dynamics
- Review global energy trends and Saudi Arabia's strategic direction. - Examine how the Kingdom's Vision 2030 blueprint drives energy sector transformation. - Link international developments and national ambitions.	- Review the policy and regulatory frameworks governing Saudi Arabia's energy transition. - Navigate policy and regulatory complexity. - Discuss solutions to drive national progress in the energy sector, from renewable energy targets and regulations to climate initiatives like the Saudi Green Initiative (SGI). - Investigate the key public sector stakeholders (regulators, government agencies, etc.) involved in driving the energy transition. - Examine tools used by government (laws, regulations, incentives, tariffs) to shape energy markets. - Understand how effective policy design can encourage renewable energy investment, ensure grid reliability, and protect consumers, thereby creating a sustainable market ecosystem.	- Explore how to balance the Kingdom's need for a reliable, affordable energy supply with sustainability and climate goals. - Review applicable frameworks such as the Circular Carbon Economy and strategies for reducing carbon emissions while maintaining energy security. - Undertake case studies (for example, integrating solar and wind projects into the national grid). - Assess how to manage the trade-offs and synergies between economic and environmental goals.	- Investigate the policy implications of technologies shaping the future of energy. (This includes renewable energy technologies (solar, wind), energy storage solutions, green and blue hydrogen, carbon capture utilization and storage (CCUS), nuclear energy, electric vehicles (EVs), energy storage and other solutions as part of the energy mix.) - Assess how emerging technologies can be integrated into Saudi Arabia's energy portfolio and what challenges and opportunities they bring. - Cultivate an innovative mindset to understand the emerging energy solutions, and technological change in their organizations. (This segment includes global best practices in renewable energy, using a simulation for maximum learning impact. MIT En-Roads and others)	- Analyze external factors influencing the energy transition, including geopolitical developments, international agreements (e.g. the Paris Agreement), global oil and gas market dynamics, and regional cooperation. - Discuss scenarios such as fluctuations in oil demand, investments by other nations in renewable energy, international pressure for decarbonization, and how these affect Saudi energy policy and projects. - Understand big-picture forces supports participants to anticipate risks and leverage opportunities. (This theme reinforces strategic thinking, enabling leaders to factor in global drivers when planning and executing domestic energy initiatives.)

COURSE OUTCOMES

1 INTERPRET AND ANTICIPATE ENERGY TRENDS

Analyse global and regional energy trends (such as shifts in renewable energy, oil markets, and climate policies) and assess their implications for KSA's strategy. As a result, participants will be able to contribute proactively to energy related programs and initiatives.

2 NAVIGATE POLICY AND REGULATORY FRAMEWORKS

Navigate KSA's energy policy and regulatory environment to advance the transition. Participants will understand the policies, laws, and incentives that enable the energy transition (e.g. renewable procurement programs, efficiency standards, carbon reduction targets) and will know how to leverage these tools or contribute to their development.

3 UNDERSTAND THE ENERGY TRANSITION

Contribute effectively to energy transition initiatives. This includes understanding how renewable energy and new technologies are integrated into the existing energy mix, balancing considerations of energy security and sustainability, and managing the complexities of the energy landscape.

4 IDENTIFY OPPORTUNITIES FOR ALTERNATIVE ENERGY TECHNOLOGIES AND ADOPTION

Analyse viable new technologies and innovative solutions for the country's energy portfolio, including emerging technologies like solar, wind, hydrogen, energy storage, and carbon capture.

5 BUILD CRITICAL SKILLS

Demonstrate improved capabilities for driving the energy transition. Participants will practice techniques for engaging stakeholders, evaluating policy and regulatory frameworks, global and national drivers, and building collaborative partnerships.

6 PREPARE FOR ACTION

With a strong understanding of Vision 2030 and their organization's strategic objectives, participants will be ready and able to connect their daily work and critical decisions to these overarching goals.

KSA Ministry of Energy – Vision 2030 Message

Insights from the Last 6 Speeches

1. ENERGY TRANSITION AS NATIONAL TRANSFORMATION

The Ministry reaffirmed that the energy transition is a cornerstone of Vision 2030, driving economic diversification, industrial growth, and job creation. The Kingdom is building a future energy system that is sustainable, reliable, and built for generations to come.

Our transition powers the nation's future.

2. ACHIEVING NET ZERO WITH REALISTIC, RESPONSIBLE ACTION

The Ministry emphasized that Net Zero 2060 is not just a target, but a long-term commitment built on innovation, technology, and global partnerships. The approach is pragmatic, technology-neutral, and focused on real, measurable results across the entire energy value chain.

Real ambition. Real solutions. Real impact.

3. BUILDING A DIVERSE, RELIABLE AND AFFORDABLE ENERGY MIX

The speeches highlighted the importance of balancing all available energy sources – oil, gas, renewables, hydrogen and emerging technologies – to ensure energy security, affordability and reliability while enabling sustainable growth and global competitiveness.

All energies. One future.

4. INVESTING IN PEOPLE, INNOVATION AND FUTURE CAPABILITIES

The Ministry underlined that people are the greatest asset in the energy transition. Investment in talent, research, digitalization and local capabilities is essential to lead the future, create high-value jobs, and build homegrown solutions.

Empowered people. Innovative nation.

5. GROWING THE ECONOMY AND CREATING GLOBAL VALUE

The Ministry reinforced the role of energy in expanding non-oil exports, strengthening industries, attracting investment and unlocking new markets. The Kingdom is positioning itself as a global energy leader and a hub for sustainable energy solutions.

Energy for prosperity. Value for the world.

6. PARTNERSHIP, RESPONSIBILITY AND A BETTER TOMORROW

The Ministry called for stronger international collaboration and shared responsibility to address climate change and energy challenges. The Kingdom remains committed to environmental stewardship, community well-being, and building a cleaner, safer, brighter future.

Together for a sustainable tomorrow.

BEFORE ENERGY TRANSITION AND VISION 2030

BUILT ON OUR GREATEST ENABLER. POWERING GROWTH. ENABLING PROGRESS.

THE BIGGEST ENABLER OF THE ECONOMY



OIL & GAS

The foundation of Saudi Arabia's economy for decades.



Primary source of national income and export revenue



Driver of government revenues and public spending



Creator of jobs and development across the Kingdom



Strengthening Saudi Arabia's role in global energy markets



DISCOVERED IN 1938. TRANSFORMED A NATION.

ECONOMIC IMPACT



SUSTAINED ECONOMIC GROWTH
Oil revenues fueled rapid economic growth and development.



MAJOR CONTRIBUTION TO GDP
Oil & gas contributed the majority share of GDP.



STRONG EXPORT EARNINGS
Dominant source of export revenues and foreign reserves.



NATIONAL DEVELOPMENT
Enabled large-scale investments in infrastructure, education, healthcare and public services.



GLOBAL ENERGY LEADERSHIP
KSA became a key player and reliable supplier in global energy markets.

A FOUNDATION OF PROGRESS

BEFORE OIL DISCOVERY



OIL DISCOVERY (1938)



EARLY DEVELOPMENT (1940s-1960s)



GROWTH & MODERNIZATION (1970s-1990s)



PRE-VISION 2030 ERA



KEY TAKEAWAY

For generations, oil & gas has been the greatest enabler of Saudi Arabia's economy—powering growth, prosperity and national development.



THE BIGGEST ENABLER OF THE ECONOMY



CLEAN ENERGY & SUSTAINABILITY

The engine powering Saudi Arabia's diversified and future-ready economy.



Catalyst for economic diversification and industrial transformation



Attracts investment and drives innovation and competitiveness



Creates high-quality jobs and develops human capital



Enhances energy security and strengthens resilience



Positions KSA as a global leader in clean energy and climate solutions

Driven by clean energy. Powered by people. Built for generations to come.



VISION 2030 IN ACTION. A PROSPEROUS, SUSTAINABLE FUTURE.

ECONOMIC IMPACT



DIVERSIFIED & RESILIENT ECONOMY
Sustainable growth across multiple sectors beyond oil.



INCREASED GDP & INVESTMENT
New industries, innovation, and green investment drive long-term value.



JOB CREATION & HUMAN CAPITAL
High-quality jobs and a skilled workforce power the future.



EXPORT LEADERSHIP
KSA becomes a global leader in clean energy, hydrogen, and green products.



NET ZERO & ENVIRONMENTAL STEWARDSHIP
A cleaner environment for a better quality of life and a sustainable future.

A THRIVING, DIVERSIFIED ECONOMY

CLEAN ENERGY LEADERSHIP



Abundant renewable energy powers our nation and fuels economic growth.

NEW INDUSTRIES & INNOVATION



Advanced manufacturing, green hydrogen, and circular economy drive new value chains.

SUSTAINABLE CITIES & INFRASTRUCTURE



Smart, sustainable cities and world-class infrastructure enhance quality of life and attract investment.

DIGITAL ECONOMY & TECHNOLOGY



Digital transformation and AI accelerate productivity, innovation and global competitiveness.

TOURISM & CULTURE



World-class destinations and rich heritage create jobs and share Saudi culture with the world.

MINING & MINERALS



Our mineral wealth supports industries and the global clean energy supply chain.



OUR PATH

Energy transition is the foundation. Diversification is our strength. Sustainability is our legacy.



A Vibrant Society



A Thriving Economy



An Ambitious Nation



A Responsible Government

POWERING VISION 2030 GOALS

CLEAN ENERGY TODAY.
PROSPERITY TOMORROW.
A SUSTAINABLE LEGACY FOR GENERATIONS.



رؤية
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

Saudi and Uganda



1. Want people to succeed
2. Sharing economic opportunities
3. Tax breaks
4. Government services
5. Digitalization

1. Ruling through poverty
2. Infrastructure weaknesses
3. Free....free.....free.....
4. Poor government services
5. Fraud and corruption





Record-breaking carbon...

Norwegian che...

⇒ share.goo...

Yara opens Europe's
largest industrial
carbon capture plant
<https://share.google/CsrkHzfHNcGCfYjD1>

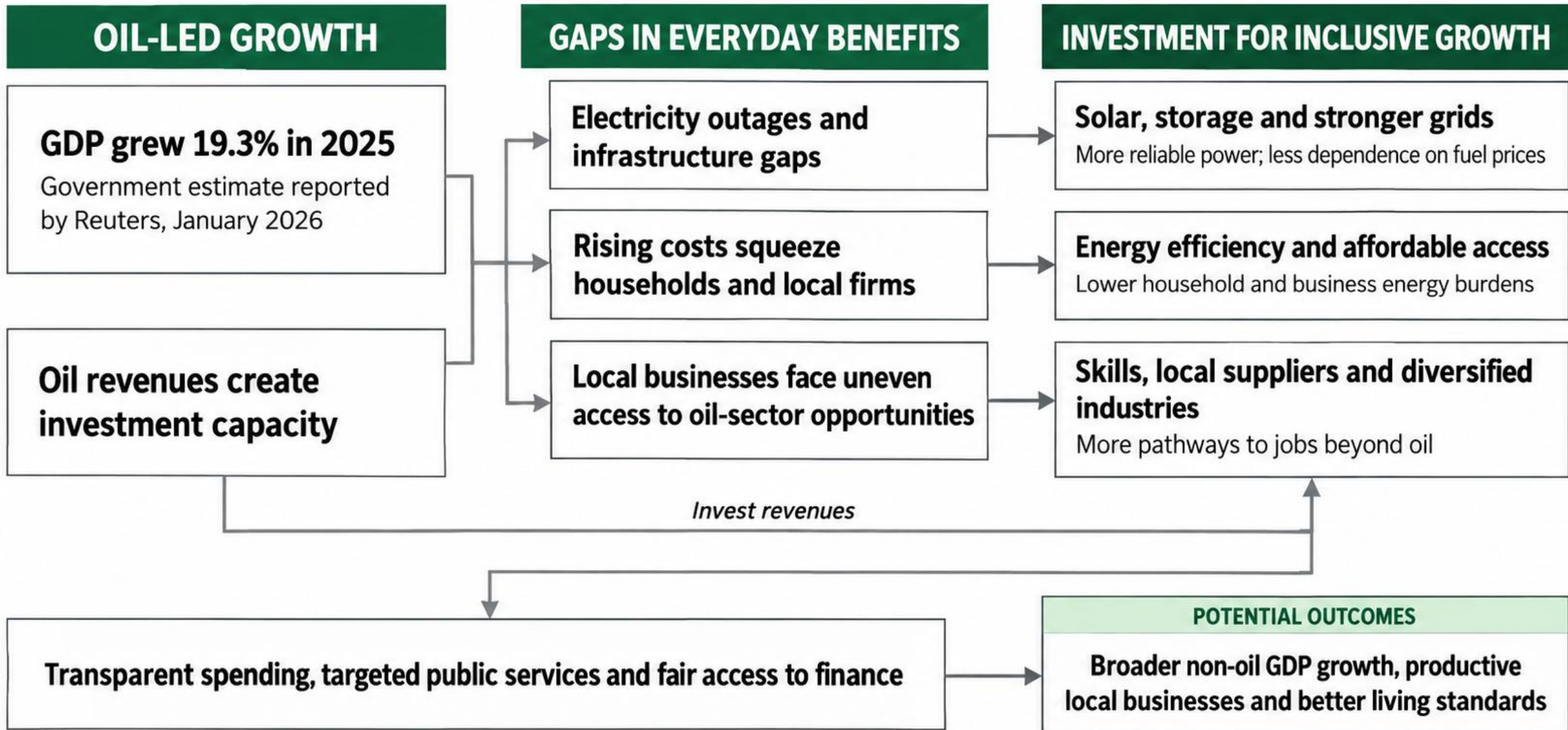
The Carbon Capture Boom Is Starting to Crack | OilPrice.com

Carbon capture and storage
attracted massive investment
as a climate solution, but rising
costs, underperforming projects,
and limited emissions reductions
are fueling doubts about its lon...

⇒ share.google

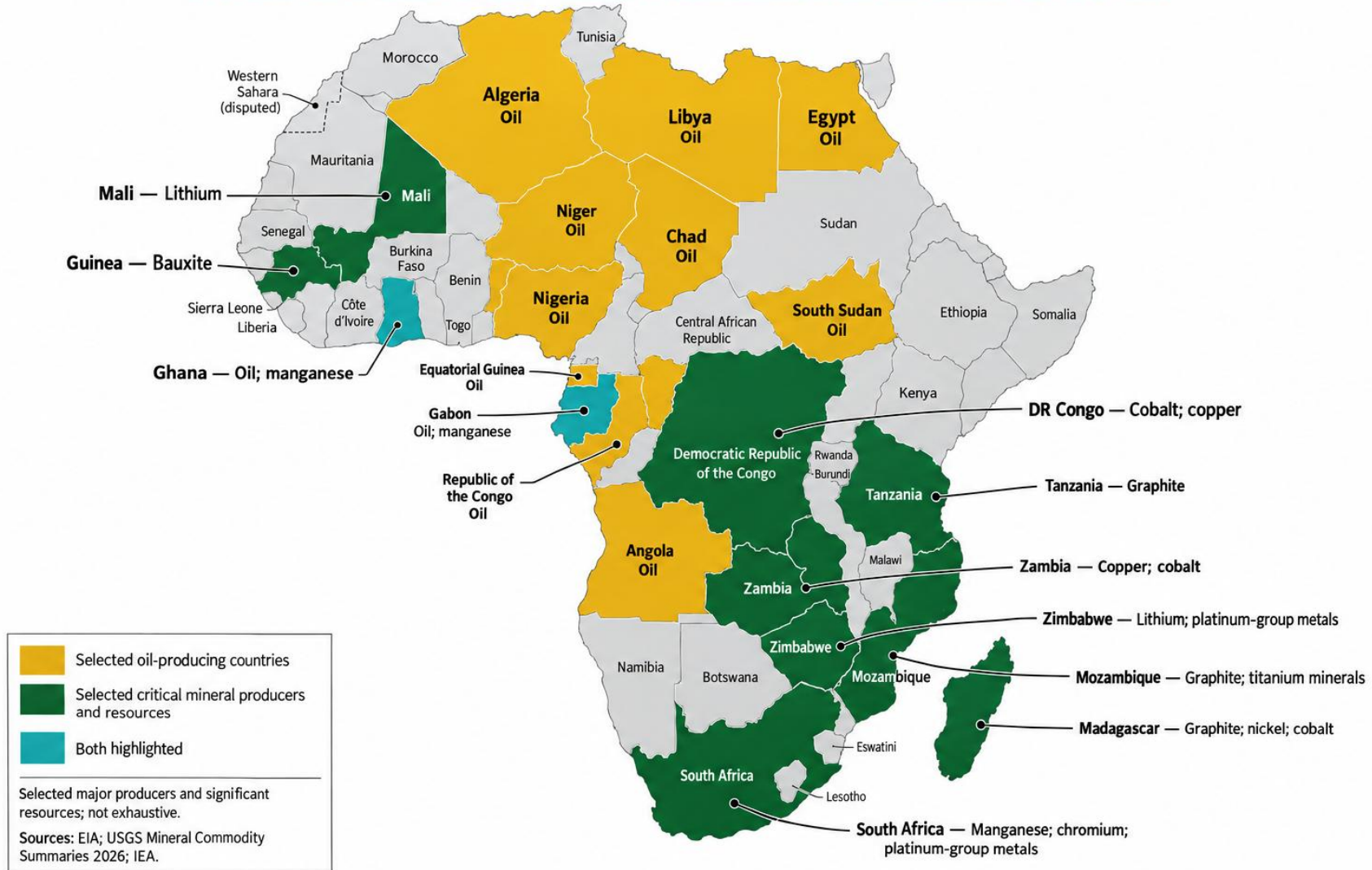
The Carbon Capture
Boom Is Starting to
Crack | [OilPrice.com](https://share.google/HLiMtZjpywFjKTmJ2)
<https://share.google/HLiMtZjpywFjKTmJ2>

GUYANA: FROM OIL WEALTH TO SHARED PROSPERITY





AFRICA: OIL AND CRITICAL MINERAL RESOURCES



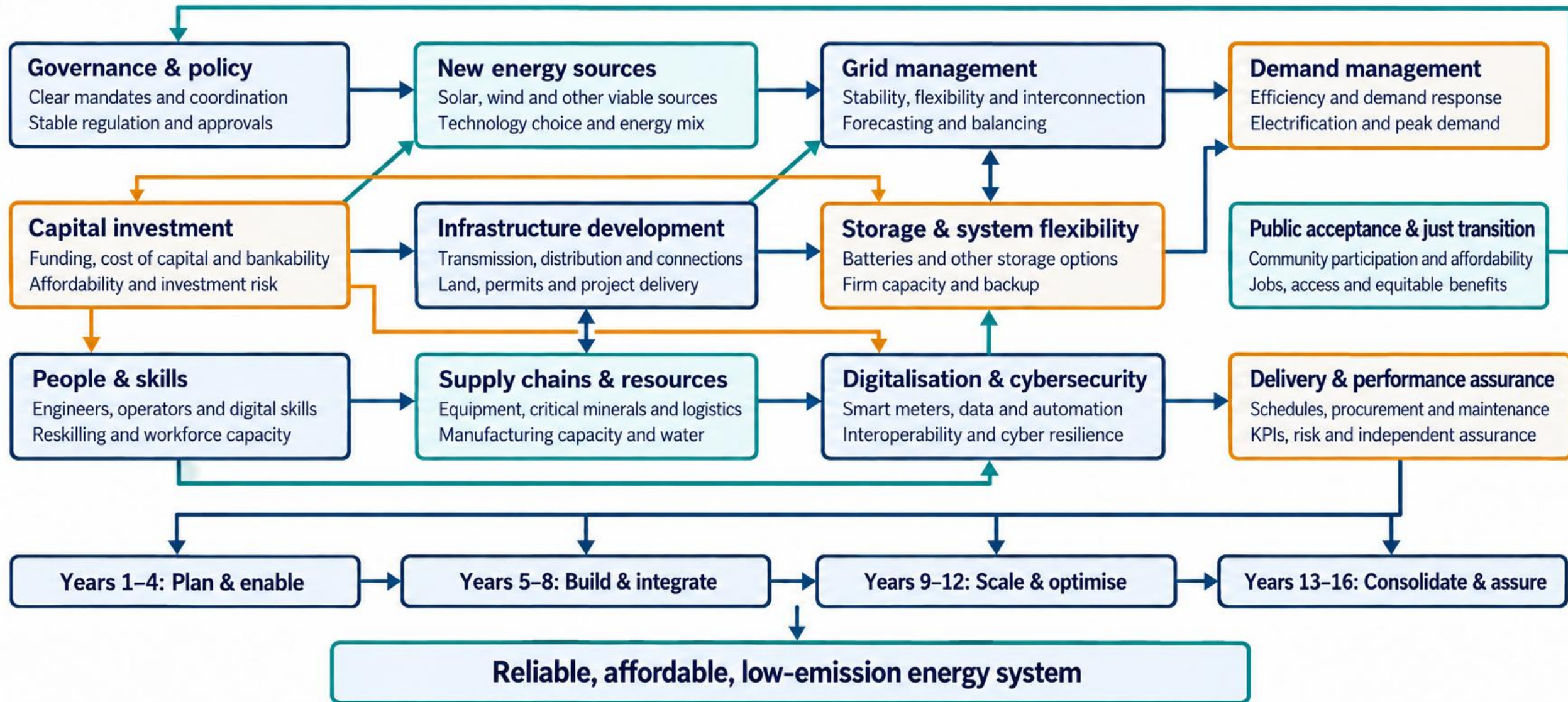
SAUDI VISION 2030

10 VISION REALIZATION PROGRAMS IN OPERATION

Continuing to drive transformation and deliver the ambitions of Vision 2030

1. FINANCIAL SECTOR DEVELOPMENT PROGRAM Develops a strong, stable and inclusive financial sector that supports economic diversification, encourages savings and investment, and drives sustainable growth.	2. HUMAN CAPABILITY DEVELOPMENT PROGRAM Builds a capable, creative and empowered society by investing in education, skills, health and social development to prepare citizens for the future and a thriving economy.	3. HEALTH SECTOR TRANSFORMATION PROGRAM Improves the efficiency, accessibility and quality of healthcare services to enhance quality of life and build a sustainable and world-class health sector.	4. PILGRIM EXPERIENCE PROGRAM Enriches the experience of pilgrims and visitors to the Two Holy Mosques by improving services, infrastructure and crowd management to the highest standards.	5. QUALITY OF LIFE PROGRAM Enhances the quality of life for all by expanding opportunities in culture, entertainment, sports, tourism and urban development.
6. NATIONAL TRANSFORMATION PROGRAM Drives government transformation, digitization and operational excellence	7. PUBLIC INVESTMENT FUND PROGRAM Maximizes the impact of the Public Investment Fund by building a diversified	8. HOUSING PROGRAM Increases homeownership and improves housing supply and affordability to	9. NATIONAL INDUSTRIAL DEVELOPMENT AND LOGISTICS PROGRAM Develops local industries and logistics capabilities across four core sectors:	10. PRIVATIZATION PROGRAM Increases private sector participation in the economy by optimizing government

Challenges to Deliver an Efficient Energy Transition in 16 Years



LEGISLATIVE, POLICY, REGULATORY FRAMEWORK

FOUNDATIONAL LAWS & ENABLERS

Basic Law of Governance (1992)

Defines the state's governing principles, institutions and responsibilities.

Public Investment Fund Law (2019)

Provides PIF's legal framework for investment and economic diversification.

Competition Law (2019)

Protects fair competition and addresses anti-competitive practices.

Private Sector Participation Law (2021)

Governs public-private partnerships and privatisation arrangements.

Bankruptcy Law (2018)

Provides procedures for restructuring, liquidation and creditor protection.

Oversight and Anti-Corruption Authority Law (2024)

Strengthens Nazaha's oversight, investigation and anti-corruption mandate.

National Strategy for Data & AI (2020)

Guides data and AI capabilities, investment, innovation and governance.

SECTOR POLICIES & STRATEGIES

National Investment Strategy (2021)

Attracts investment and supports diversification across priority sectors.

National Industrial Strategy (2022)

Expands industrial capacity, competitiveness and advanced manufacturing.

Energy Mix & Efficiency Policies

Guide energy diversification, efficiency and a more sustainable power system.

National Renewable Energy Program (2017)

Supports renewable deployment and the electricity transition towards 2030.

Local Content & Government Procurement

The 2019 procurement law and related rules support fair tendering and local value.

National Tourism Strategy (2019)

Develops destinations and services; targets 150 million annual visits by 2030.

National Transport & Logistics Strategy (2021)

Integrates transport infrastructure, logistics services and global connectivity.

REGULATORY FRAMEWORKS

Capital Market Law (2003)

Regulates securities markets, investor protection and market integrity.

Cooperative Insurance Companies Control Law (2003)

Provides the insurance sector's legal framework; supervised by the Insurance Authority.

Labour Law — Amendments Effective 19 February 2025

Updates employment rights, obligations and labour market arrangements.

Environment Law (2020) & Implementing Regulations

Govern environmental permits, pollution control and compliance.

Health, Safety & Quality Requirements

Apply sector-specific workplace safety, technical standards and conformity rules.

E-Commerce Law (2019)

Regulates online trading, disclosures and consumer protection.

NCA Essential Cybersecurity Controls (2024)

ECC 2-2024 strengthens governance and protection of information and technology assets.



Saudi Arabia 2017 Policy

National Renewable Energy Program

This program aims to maximise the potential of renewable energy in the country. It sets the government's vision to diversify energy sources, stimulate sustainable growth and reduce GHG emissions.



Saudi Arabia 2021 Policy

Saudi Green Initiative

SGI unites environmental protection, energy transition and sustainability programs with the overarching aims of offsetting and reducing emissions, increasing afforestation and land restoration, and protecting the Kingdom's land and sea. Three overarching targets guide SGI's work - emissions reduction, afforestation and land regeneration, and land and sea protection. SGI t...



Saudi Arabia 2020 Policy

National Renewable Energy Tender Program

The National Renewable Energy Program is the policy through which the Ministry of Energy implements the "Vision 2030" renewable energy targets of 27.3 GW of renewable power capacity by 2023 and 58.7 GW by 2030. US\$30–50 billion for renewable energy tendering scheme (bids of US\$ 2-3/kWh in first round). New Developments: Round 3 of the program was launched in January 2020, ...

KSA – SUSTAINABLE FUTURE

- **KSA ENERGY STRATEGY**
- **KSA RENEWABLE ENERGY POLICY**
- **KSA ENVIRONMENTAL REGULATIONS**

“The boardroom listens most to those who can connect risk, performance and purpose.”





OUR STRATEGIC PILLARS



ENERGY SECURITY & RELIABILITY

Deliver affordable, reliable and diversified energy to meet the needs of the Kingdom and the world.



ECONOMIC GROWTH & DIVERSIFICATION

Maximize value from energy resources, localize technologies, develop talent and grow new energy industries.



SUSTAINABILITY & NET ZERO

Drive the energy transition, reduce emissions and achieve Net Zero by 2060 through all available levers.



GLOBAL LEADERSHIP & PARTNERSHIP

Strengthen global energy security through responsible supply, innovation and international collaboration.

KSA ENERGY STRATEGY

Powering a Sustainable Future for Prosperity and the Planet

A reliable, affordable and sustainable energy system that drives economic diversification, supports global energy security and accelerates the Kingdom's Net Zero ambitions.

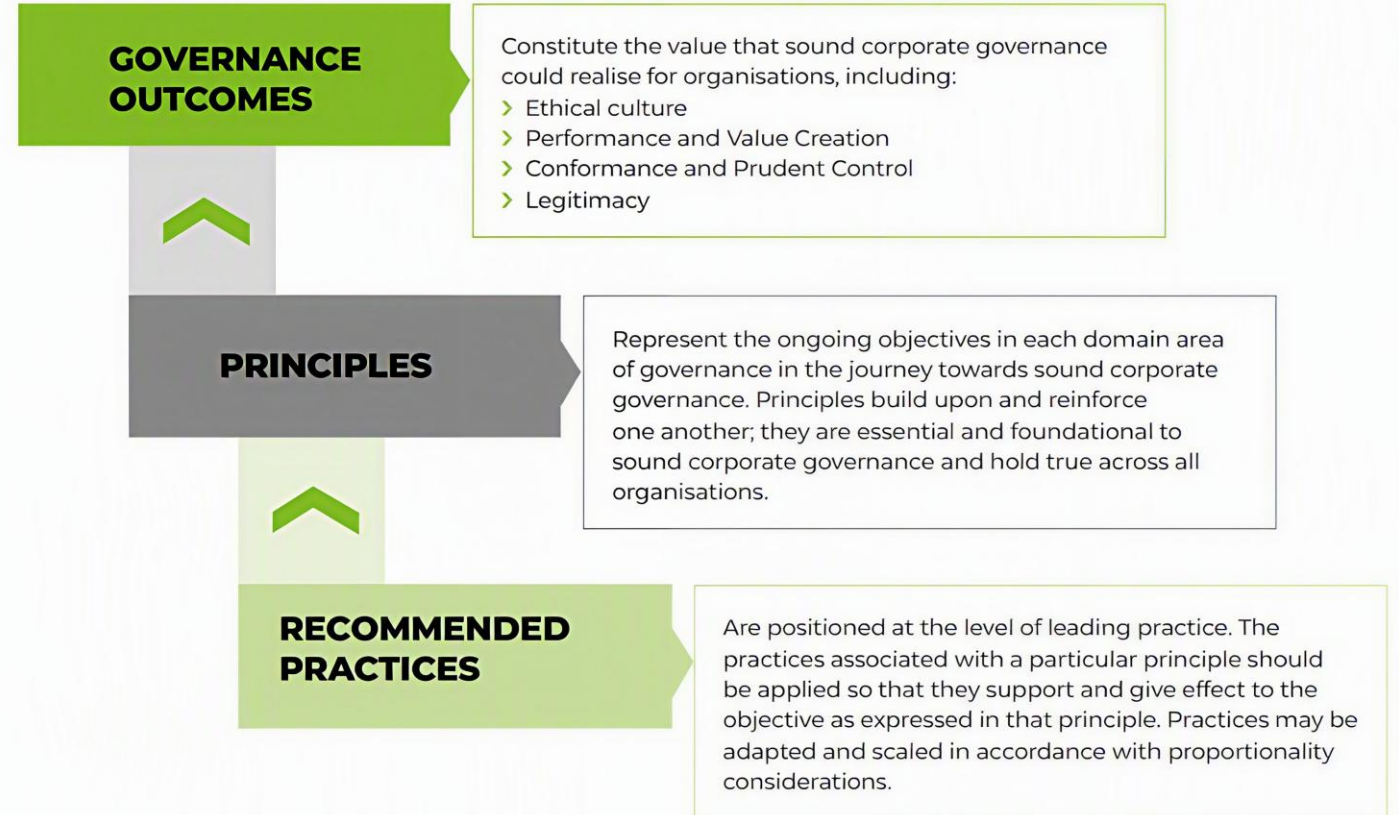


ENERGY STRATEGY DIMENSION	RELATIVE PERFORMANCE VS INTERNATIONAL EQUIVALENTS		KEY INSIGHT
	WEAKER THAN INTERNATIONAL EQUIVALENTS	BETTER THAN INTERNATIONAL EQUIVALENTS	
1. ENERGY SECURITY Ensuring reliable, affordable and diversified energy supply and managing risks	-100 -50 0 +50 +100	+45	STRONG Strong resource base and infrastructure provide a solid energy security advantage.
2. ENERGY TRANSITION Accelerating the shift to clean and renewable energy sources		+35	MODERATE - STRONG Clear targets and projects in place; pace of deployment can improve
3. EMISSIONS REDUCTION Reducing GHG emissions and supporting global climate goals	-40		WEAKER Emissions intensity remains high; deeper and faster decarbonization needed.
4. ENERGY INVESTMENT Mobilizing capital and investments in energy infrastructure and innovation		+50	STRONG High level of investment commitment across the energy value chain.
5. TECHNOLOGY & INNOVATION Driving innovation, R&D and adoption of advanced energy technologies		+30	MODERATE - STRONG Investing in key technologies; investment ecosystem still maturing
6. ENERGY EFFICIENCY Improving efficiency across supply, demand and end-use sectors	-25		WEAKER - MODERATE Efficiency gains are underway but remain below global best-practice levels
7. ENERGY MARKET & REFORMS Developing competitive, transparent and efficient energy markets	-30		WEAKER - MODERATE Market liberalization and competition are limited compared to leading peers
8. LOCAL CONTENT & INDUSTRIAL DEVELOPMENT Building local capabilities and growing energy industries		+25	MODERATE - STRONG Strong focus on local content and industrial growth across energy sectors.
9. INTERNATIONAL LEADERSHIP & PARTNERSHIPS Strengthening global partnerships and contributing to energy stability		+20	MODERATE Active global engagement and partnerships continue to expand.
10. PEOPLE & HUMAN CAPITAL Developing talent and building capabilities for the energy future		+15	MODERATE Investments in human capital are growing; skills for future technologies and scaling.

What are the enablers?

- Leadership
- Effective governance and policy
- Investment and financing
- Regulation and market development
- Infrastructure and supply chain
- Digitalization and data
- Research, development and innovation

Figure 2: Governance Outcomes, Principles and Recommended Practices



KSA ENERGY STRATEGY

ENERGY SECURITY

Leverage abundant hydrocarbons for affordable, reliable energy while diversifying supply and building a resilient energy system.

ENERGY TRANSITION

Accelerate the shift to clean energy, targeting approximately 50% renewable electricity generation by 2030 and net zero by 2060.

EMISSIONS REDUCTION

The December 2025 NDC aims to reduce, avoid and remove 335 million tonnes of CO₂-equivalent annually by 2040 against a dynamic baseline, with 2019 as the base year, through the Circular Carbon Economy approach.

ENERGY MIX DIVERSIFICATION

Balanced approach: grow renewables, develop hydrogen, and maintain hydrocarbons as a transition fuel.

INVESTMENT & INNOVATION

Mobilize significant investment in energy infrastructure, hydrogen, CCUS, and emerging technologies.

ECONOMIC VALUE & GROWTH

Maximize economic value from energy resources, drive industrial growth, and create high-quality jobs.

SUSTAINABILITY & STEWARDSHIP

Protect the environment, optimize resource use, and enhance quality of life for future generations.

INTERNATIONAL EQUIVALENTS

ENERGY SECURITY

Many countries focus on reducing import dependence and enhancing resilience through diversification and strategic reserves.

ENERGY TRANSITION

Leading economies target net zero between 2040–2060 with higher current shares of renewables and phased fossil fuel decline.

EMISSIONS REDUCTION

In March 2026, the EU adopted a 90% net GHG emissions reduction target by 2040 versus 1990: 85% domestic reductions and up to 5% international credits.

ENERGY MIX DIVERSIFICATION

Most advanced economies have higher shares of renewables and are phasing down coal and oil faster.

INVESTMENT & INNOVATION

Global leaders invest heavily in R&D, clean tech innovation, and scale-up of breakthrough technologies.

ECONOMIC VALUE & GROWTH

Focus on green growth, energy efficiency, and just transition to drive long-term economic sustainability.

SUSTAINABILITY & STEWARDSHIP

Strong emphasis on biodiversity, circular economy, and social equity alongside climate goals.

KEY INTERNATIONAL FRAMEWORKS



PARIS AGREEMENT
Limiting global warming to well below 2°C.



UN SDGs
Sustainable development for people and planet.



IEA NET ZERO ROADMAP
Global pathway to net zero by 2050.



IPEEC CLEAN ENERGY TRANSITION
Collaboration for secure, affordable, and clean energy.



G20 & G7 COMMITMENTS
Accelerating clean energy, investment, and innovation.

KSA RENEWABLE ENERGY POLICY

POWERING A SUSTAINABLE FUTURE

Building a clean, competitive and resilient energy system to drive economic growth and achieve Net Zero by 2060



OUR POLICY ENABLERS



CLEAR REGULATORY FRAMEWORK
Transparent laws, policies and standards to attract investment and ensure bankability.



COMPETITIVE MARKETS
Competitive tenders and open access to ensure cost efficiency and value for money.



INVESTMENT ATTRACTION
Enabling policies, incentives and financial support to mobilize local and international capital.



INFRASTRUCTURE DEVELOPMENT
Strengthen grid, interconnections and storage to integrate renewables at scale.



INNOVATION & LOCAL CONTENT
Promote R&D, technology transfer and local manufacturing for long-term industry growth.



STAKEHOLDER PARTNERSHIP
Engage public, private and community stakeholders for shared success and acceptance.

RENEWABLE ENERGY POLICY DIMENSION	RELATIVE PERFORMANCE VS INTERNATIONAL EQUIVALENTS		KEY INSIGHT
	WEAKER THAN INTERNATIONAL EQUIVALENTS	BETTER THAN INTERNATIONAL EQUIVALENTS	
1. POLICY AMBITION & TARGETS Ambitious targets for renewable capacity and share in the energy mix	-100 -50 0	0 +50 +100	STRONG KSA has one of the most ambitious targets in the region with a clear path to 2030 and beyond.
2. POLICY FRAMEWORK & STABILITY Clear policies, laws and long-term visibility for renewable development			MODERATE – STRONG Policy framework is well established with improving regulatory clarity and credibility.
3. FINANCIAL INCENTIVES & SUPPORT MECHANISMS Availability of incentives, concessional finance and funding programs	-30		WEAKER – MODERATE Incentives are available but less comprehensive compared to leading countries.
4. PROCUREMENT & MARKET DESIGN Effectiveness of tendering, PPAs and market mechanisms			STRONG Competitive tenders and long-term PPAs provide strong market cost curves and cost competitiveness.
5. GRID ACCESS & INFRASTRUCTURE Policies enabling grid integration, transmission and infrastructure expansion	-25		WEAKER – MODERATE Grid infrastructure is expanding but integration policies and standards need further strengthening.
6. ENERGY STORAGE & FLEXIBILITY Policy support for storage, flexibility solutions and ancillary services	-40		WEAKER Storage and flexibility policies are in early stages compared to global leaders.
7. INNOVATION & LOCAL CONTENT Encouraging innovation, R&D and local manufacturing in renewables			MODERATE Local content requirements and innovation initiatives are growing but still maturing.
8. SUSTAINABILITY & ENVIRONMENTAL INTEGRATION Aligning renewable development with environmental and social safeguards			MODERATE – STRONG Strong commitment to sustainability and biodiversity with improving policy integration.
9. STAKEHOLDER ENGAGEMENT Engagement of government, private sector and other stakeholders			MODERATE Stakeholder engagement is increasing with more structured consultation processes.
10. INTERNATIONAL COOPERATION Collaboration, knowledge sharing and participation in global initiatives			MODERATE Active in global forums and partnerships with opportunities to expand leadership role.

RENEWABLE ENERGY POLICY COMPARISON

KSA renewable energy policy	Key dimension	International equivalents
Strategic targets Plans for 100–130 GW of renewable capacity by 2030, depending on demand; approximately 50% of electricity generation from renewables, and net zero by 2060.	Vision & targets	Global targets Many countries target net zero by 2050, with renewable electricity ambitions varying by country.
National champions PIF-backed developers such as ACWA Power and Badeel support large-scale development; SPPC acts as principal buyer and procurer.	Institutional structure	Market-driven ecosystems Decentralized markets with strong private developers, independent operators and mature ecosystems.
Competitive procurement Utility-scale projects awarded through competitive tenders, supporting very low tariffs.	Market design & procurement	Diverse market mechanisms Multiple mechanisms: auctions, feed-in tariffs, power purchase agreements and contracts for difference, tailored to market maturity and risks.
Local value creation Strong focus on local content, supply chain development and job creation under national transformation programmes.	Local industry & value chain	Established supply chains Mature domestic manufacturing and global supply chains in many leading countries.
Enabling regulatory framework Defined roles for the Ministry of Energy, SERA, SPPC and grid operators support private sector participation.	Policy & regulatory maturity	Mature policy environment Well-established regulatory frameworks with long track records and bankability.
Diversification of technologies Solar, wind and green hydrogen, with rapid battery storage expansion: 12 GWh of Group 2 projects entered qualification in April 2026.	Technology & innovation	Technology leadership Higher adoption of storage, offshore wind, green hydrogen and advanced grid solutions in leading markets.
Sustainability commitment Integrated with Vision 2030, the Saudi Green Initiative and Circular Carbon Economy; December 2025 NDC adds a 2040 mitigation ambition.	Sustainability & integration	Integrated sustainability Strong integration of biodiversity, land use and social equity in energy planning.

KSA ENVIRONMENTAL REGULATIONS

NATURAL RESOURCE MANAGEMENT

Protect and sustainably use land, water, biodiversity and natural resources.

POLLUTION PREVENTION & CONTROL

Set standards to prevent air, water, soil and noise pollution and safeguard public health.

ENVIRONMENTAL GOAL

Protect natural resources and public health, support environmental excellence,

ENVIRONMENTAL IMPACT ASSESSMENT

Assess and mitigate project before implementation through applicable environmental assessment and permitting requirements.

WASTE MANAGEMENT CIRCULAR ECONOMY

Promote waste reduction, recycling and safe disposal. In April 2026, MOWA and NEPCO launched procurement interface a national digital waste management platform.

ENVIRONMENTAL REGULATORY AREA	RELATIVE PERFORMANCE VS INTERNATIONAL EQUIVALENTS		KEY INSIGHT
	WEAKER THAN INTERNATIONAL EQUIVALENTS	BETTER THAN INTERNATIONAL EQUIVALENTS	
 1. LEGAL FRAMEWORK Comprehensiveness, maturity and enforcement of environmental laws		+65	STRONG Robust and evolving legal framework aligns with global best practices.
 2. STANDARDS & REQUIREMENTS Stringency and alignment of environmental standards (e.g., air, water, chemical)	-35		MODERATE - WEAKER Standards are improving but generally less stringent than international leaders.
 3. ENFORCEMENT & COMPLIANCE Effectiveness of enforcement, penalties and compliance monitoring		+40	MODERATE - STRONG Enforcement capacity is growing with increasing inspections and penalties.
 4. TRANSPARENCY & DISCLOSURE Public access to environmental information and reporting (ESG, NCDE, PATRI)	-45		WEAKER Transparency is improving but still below leading international standards.
 5. CLIMATE & DECARBONIZATION Policies, targets and mechanisms for GHG reduction and net zero transition		+70	STRONG Ambitious Net Zero 2030 target with comprehensive strategies and initiatives.
 6. WASTE MANAGEMENT Regulations on waste management, reduction, recycling and circular economy		+30	MODERATE Solid regulatory foundation with ongoing improvements in implementation.
 7. WATER RESOURCE MANAGEMENT Water quality standards, conservation, wastewater treatment and reuse		+25	MODERATE Strong focus on water security and reuse, more work on quality and river basin management.
 8. BIODIVERSITY & PROTECTED AREAS Protection of ecosystems, wildlife and natural habitats		+55	STRONG Expanding protected areas and strong biodiversity conservation programs.
 9. POLLUTION PREVENTION & CONTROL Regulation of industrial emissions, chemicals and pollution prevention	-20		MODERATE - WEAKER Regulations in place but implementation and monitoring need strengthening.
 10. STAKEHOLDER ENGAGEMENT Public participation, consultation and community involvement in environmental decisions		+20	MODERATE Stakeholder engagement is increasing through consultations and initiatives.

KSA ENVIRONMENTAL REGULATIONS

1. LEGAL FRAMEWORK

Comprehensive national laws and regulations include the Environment Law, environmental impact assessment requirements and waste management regulations.

2. STANDARDS & REQUIREMENTS

Environmental standards and emissions limits support compliance, with ongoing development to match global benchmarks, including NCEC requirements.

3. ENFORCEMENT & COMPLIANCE

Strengthening enforcement through digital systems and inspections. NCEC reported 20% growth in environmental permits issued in the first half of 2026 versus the first half of 2025.

4. TRANSPARENCY & DISCLOSURE

Improving public access to environmental information and corporate disclosures, including NDC and national transparency reporting.

5. CLIMATE & DECARBONIZATION

National net-zero ambition for 2060. The December 2025 NDC aims to reduce, avoid and remove 335 million tonnes of CO₂-equivalent annually by 2040 against a dynamic baseline.

6. STAKEHOLDER ENGAGEMENT

Increasing stakeholder involvement and public participation in environmental decision-making.

INTERNATIONAL EQUIVALENTS

1. LEGAL FRAMEWORK

Established environmental laws include the EU environmental acquis and the US Clean Air Act. International examples also include ISO standards and IFC environmental and social requirements.

2. STANDARDS & REQUIREMENTS

Science-based requirements include EU ambient air quality legislation and IFC Performance Standards. Stringency varies by jurisdiction and sector.

3. ENFORCEMENT & COMPLIANCE

Established regimes use inspections, penalties and oversight. Enforcement capacity and compliance performance vary across countries.

4. TRANSPARENCY & DISCLOSURE

Environmental disclosure and public access are key features. In February 2026, the EU adopted narrower CSRD reporting scope and simplified sustainability requirements.

5. CLIMATE & DECARBONIZATION

In March 2026, the EU adopted a 90% net emissions reduction target for 2040 versus 1990. Carbon pricing and renewable energy policies vary by jurisdiction.

6. STAKEHOLDER ENGAGEMENT

Many frameworks provide formal public consultation and community participation in environmental decisions.



KSA vs EU FIT FOR 55: COMPARING CLIMATE & ENERGY TRANSITION PATHWAYS



VS



Two regions. One goal: A sustainable, prosperous, and resilient future.

POLICY / FOCUS AREA	EU FIT FOR 55 (Adopted 2021)	SAUDI ARABIA'S FRAMEWORKS	SIMILARITIES	DIFFERENCES	LESSONS TO BE LEARNT
CLIMATE TARGET	55% net emissions reduction by 2030 (vs. 1990 levels) - Climate neutrality by 2050 (EU Green Deal)	- Net Zero by 2030 through the Circular Carbon Economy (CCE) framework - Long term emissions reduction pathway			
CARBON PRICING & MARKETS	- EU Emissions Trading System (ETS) expansion - Carbon Border Adjustment Mechanism (CBAM) to level the playing field	- Developing carbon market framework - Focus on emissions reduction through CCE, not border adjustments			
TRANSPORT	- Phase-out of internal combustion engine (ICE) vehicles by 2035 - Strong push for EV adoption & infrastructure	- EV adoption growing with local manufacturing - Fuel economy standards & infrastructure expansion			
BUILDINGS & ENERGY EFFICIENCY	- Renovation Wave: doubling renovation rate by 2030 - Stricter energy performance standards	- Energy Efficiency Program under SDG - Targeting improved efficiency across buildings, industry & appliances			
CLEAN ENERGY TRANSITION	- Large scale renewable deployment - Strong grid interconnections across member states	50% of power from renewables by 2030 (~58.7 GW of renewable capacity) - Major projects: NEOM, Red Sea, Qiddiyas			
HYDROGEN STRATEGY	EU Hydrogen Strategy (2020) for green hydrogen development and import partnerships	- National Hydrogen Strategy - Developing both blue and green hydrogen for domestic use and export			
NATURE & GREEN INITIATIVES	- Biodiversity Strategy 2030 - Farm to Fork, Circular Economy Action Plan	- Saudi Green Initiative (SGI) 100 treaties, protect 30% of land & sea - Reduce 278 MtCO₂e by 2030			
GOVERNANCE & IMPLEMENTATION	- Strong supranational governance - Binding legislation, monitoring, and compliance - Significant public & private investment mobilised	- National frameworks aligned with Vision 2030 - Whole-of-government approach - Public investment and strategic partnerships			

KSA vs EU FIT FOR 55: COMPARING CLIMATE & ENERGY TRANSITION PATHWAYS

Two regions. One goal: A sustainable, prosperous, and resilient future.



POLICY / FOCUS AREA	EU FIT FOR 55 (Adopted 2021)	SAUDI ARABIA'S FRAMEWORKS	SIMILARITIES	DIFFERENCES	LESSONS TO BE LEARNT
CLIMATE TARGET	55% net emissions reduction by 2030 (vs. 1990 levels) - Climate neutrality by 2050 (EU Green Deal)	- Net Zero by 2060 through the Circular Carbon Economy (CCE) framework - Long-term emissions reduction pathway	✓ Strong long-term net zero ambitions	✗ EU target for 2030 is more stringent; EU net zero by 2050 vs KSA by 2060	💡 Ambitious interim targets (2030) create accountability and investor confidence.
CARBON PRICING & MARKETS	- EU Emissions Trading System (ETS) expansion - Carbon Border Adjustment Mechanism (CBAM) to level the playing field	- Developing carbon market framework - Focus on emissions reduction through CCE, not border adjustments	✓ Recognize role of carbon pricing/markets in driving emission reductions	✗ EU has operational ETS & CBAM; KSA carbon market still emerging, no CBAM	💡 Carbon pricing & border mechanisms can drive industry transformation.
TRANSPORT	- Phase-out of internal combustion engine (ICE) vehicles by 2035 - Strong push for EV adoption & infrastructure	- EV adoption growing with local manufacturing - Fuel economy standards & infrastructure expansion	✓ Accelerating clean mobility transition	✗ EU mandates phase-out of ICE by 2035; KSA focuses on gradual transition & fuel efficiency	💡 Clear phase-out timelines accelerate innovation and market transformation.
BUILDINGS & ENERGY EFFICIENCY	- Renovation Wave: doubling renovation rate by 2030 - Stricter energy performance standards	- Energy Efficiency Program under SEEC - Targeting improved efficiency across buildings, industry & appliances	✓ Energy efficiency is a key pillar	✗ EU: binding renovation targets & building codes; KSA: efficiency programs & standards in place	💡 Binding efficiency standards and renovation programs can unlock major savings.
CLEAN ENERGY TRANSITION	- Large-scale renewable deployment - Strong grid interconnections across member states	50% of power from renewables by 2030 (~58.7 GW of renewable capacity) - Major projects: NEOM, Red Sea, Qiddiya	✓ Large-scale renewable deployment	✗ EU relies on diversified imports & interconnections; KSA has abundant solar/wind resources	💡 Grid integration, storage, and regional collaboration are critical as renewables scale.
HYDROGEN STRATEGY	EU Hydrogen Strategy (2020) for green hydrogen development and import partnerships	- National Hydrogen Strategy - Developing both blue and green hydrogen for domestic use and export	✓ Hydrogen is a strategic future fuel	✗ EU largely green hydrogen & imports; KSA pursuing blue and green for export advantage	💡 Build international hydrogen partnerships and standards early to create markets.
NATURE & GREEN INITIATIVES	- Biodiversity Strategy 2030 - Farm to Fork, Circular Economy Action Plan	- Saudi Green Initiative (SGI): 10B trees, protect 30% of land & sea - Reduce 278 MtCO₂e by 2030	✓ Commitment to nature restoration and circular solutions	✗ EU has regulatory biodiversity obligations; KSA initiatives are ambitious but newer	💡 Stronger measurement, reporting, and nature-linked targets enhance impact.
GOVERNANCE & IMPLEMENTATION	- Strong supranational governance - Binding legislation, monitoring, and compliance - Significant public & private investment mobilized	- National frameworks aligned with Vision 2030 - Whole-of-government approach - Public investment and strategic partnerships	✓ Whole-of-government strategies with clear implementation plans	✗ EU governance is supranational and legally binding; KSA framework is national and adaptive	💡 Transparent governance, monitoring, and public-private mobilization are key to delivery.

A VIBRANT SOCIETY

Building a thriving, healthy and empowered society

MAJOR ACHIEVEMENTS

1 HEALTHIER NATION



+30%

Increase in healthy life expectancy (2016 – 2023)



2 QUALITY EDUCATION FOR ALL



91%

Literacy rate in 2023 (vs. 86% in 2016)



3 EMPOWERING WOMEN & YOUTH



36%

Female labor force participation in 2023 (vs. 19% in 2016)



4 ENHANCED QUALITY OF LIFE



+10

Improvement in quality of life index (2016 – 2023)



5 ACTIVE & ENGAGED COMMUNITIES



+60%

Increase in sports participation in 2023 (vs. 13% in 2016)



6 RICH CULTURE & HERITAGE



8

UNESCO World Heritage sites in Saudi Arabia (up from 2 in 2016)



7 GROWING ENTERTAINMENT & LEISURE



+150%

Growth in entertainment events attendance (2017 – 2023)



8 STRONGER SOCIAL PROTECTION



1.5M+

Saudi citizens supported through social programs in 2023



9 SAFE & SECURE SOCIETY



-50%

Reduction in crime rate (2016 – 2023)



10 INCLUSIVE & EQUITABLE SOCIETY



100+

Initiatives promoting inclusion, volunteering and community engagement



VISION 2030 | A THRIVING ECONOMY – 10 MAJOR ACHIEVEMENTS

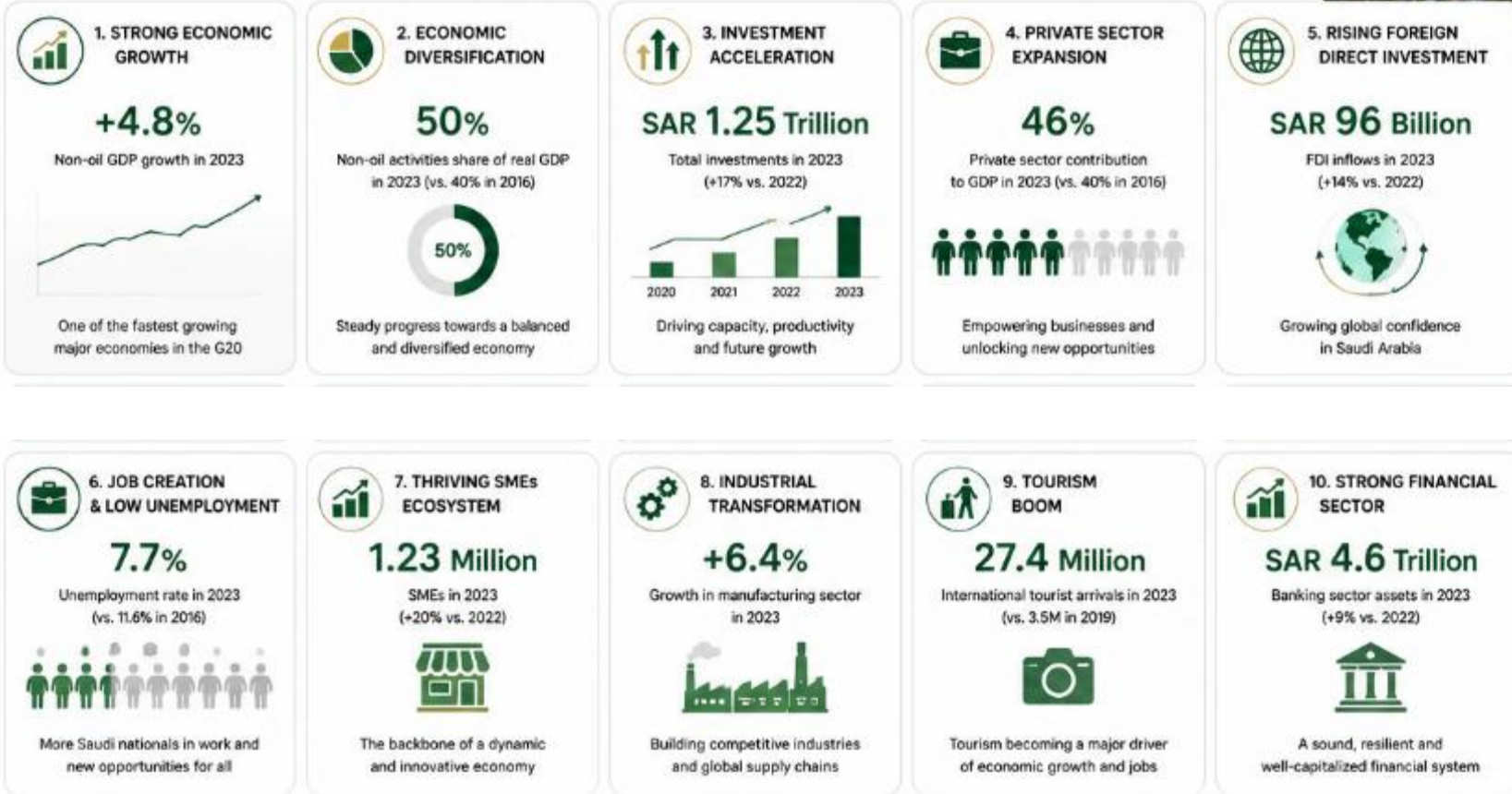
ALIGNED WITH THE ROLES OF KEY ENERGY TRANSITION PLAYERS

[illegible]

A THRIVING ECONOMY

Building a diversified, sustainable and competitive economy that creates opportunities for all

MAJOR ACHIEVEMENTS



[illegible]

AN AMBITIOUS NATION

A government that empowers its people and is effective, accountable and future-oriented

Building a world-class government, strengthening our leadership and maximizing our position on the global stage.



MAJOR ACHIEVEMENTS

1 EFFECTIVE & EFFICIENT GOVERNMENT



81%

eGovernment services availability in 2023 (vs. 62% in 2016)

Improved government performance and service delivery for citizens and businesses.

2 TRANSPARENCY & ACCOUNTABILITY



6 places

Improvement in Government Transparency Index in 2023 (vs. 2018)

Strengthened integrity, anti-corruption efforts and institutional accountability.

3 FISCAL SUSTAINABILITY & FINANCIAL MANAGEMENT



A+ Rating

Moody's credit rating outlook stable (2023)

Strong fiscal position and prudent financial management.

4 DIGITAL TRANSFORMATION LEADERSHIP



7th

globoty in the UN E-Government Development Index 2022 (vs. 33rd in 2016)

Advancing digital government and a leading digital society.

5 STRONG INTERNATIONAL LEADERSHIP



100+

international agreements and MoUs signed since Vision 2010 launch

Expanding Saudi Arabia's influence and global partnerships.

6 DEFENSE & NATIONAL SECURITY



2.2%

of GDP allocated to defense in 2023

Strengthening national defense capabilities and safeguarding our interests.

7 STRATEGIC INVESTMENT IN THE FUTURE



SAR 3+ Trillion

invested in strategic and giga projects

Building future industries, cities and infrastructure that create long-term value.

8 REGULATORY & LEGISLATIVE REFORM



450+

regulatory reforms implemented since 2016

Creating an enabling environment for growth, innovation and private sector participation.

9 SAUDI TALENT DEVELOPMENT



66%

increase in training opportunities provided to public sector employees (vs. 2016)

Investing in people to build a high-performing government.

10 RANKED GLOBALLY COMPETITIVE



16 global indices

where Saudi Arabia improved rankings since 2016

Progress across key global competitiveness and governance indicators.

[illegible]

SUSTAINABILITY

Protecting our environment today for a better tomorrow

Saudi Arabia is committed to a sustainable future, balancing economic growth, environmental protection and resource efficiency for current and future generations.

MAJOR ACHIEVEMENTS

1 CLIMATE ACTION LEADERSHIP



-18.3%

Reduction in projected GHG emissions by 2030 (vs. BAU)

Committed to Net Zero emissions by 2060.

2 RENEWABLE ENERGY EXPANSION



58.7 GW

Renewable energy capacity under development (as of 2023)

Powering a cleaner future and diversifying our energy mix.

3 ENERGY EFFICIENCY IMPROVEMENT



20%

Improvement in energy efficiency by 2030 (vs. BAU)

Enhancing efficiency across sectors and industries.

4 CIRCULAR CARBON ECONOMY



44 Mtpa

CO₂ capture capacity under development by 2035

Investing in CCUS to enable low-carbon growth and new industries.

5 WATER SUSTAINABILITY



21%

Reduction in water intensity by 2030 (vs. 2019)

Improving water use efficiency and ensuring long-term security.

6 PROTECTED AREAS EXPANSION



18.1%

Of terrestrial and marine areas protected by 2023 (target: 30% by 2030)

Conserving biodiversity and natural habitats.

7 TREE PLANTING INITIATIVE



122+ Million

Trees planted across the Kingdom by 2023 (towards 10B by 2030)

Combating desertification and enhancing green cover.

8 WASTE MANAGEMENT ADVANCEMENT



94%

Of cities have waste collection services (as of 2023)

Building an integrated waste enhancement system.

9 SUSTAINABLE CITIES DEVELOPMENT



100%

Of new mega projects designed with sustainability at their core

Creating livable, resilient and sustainable communities.

10 ENVIRONMENTAL LEGISLATION



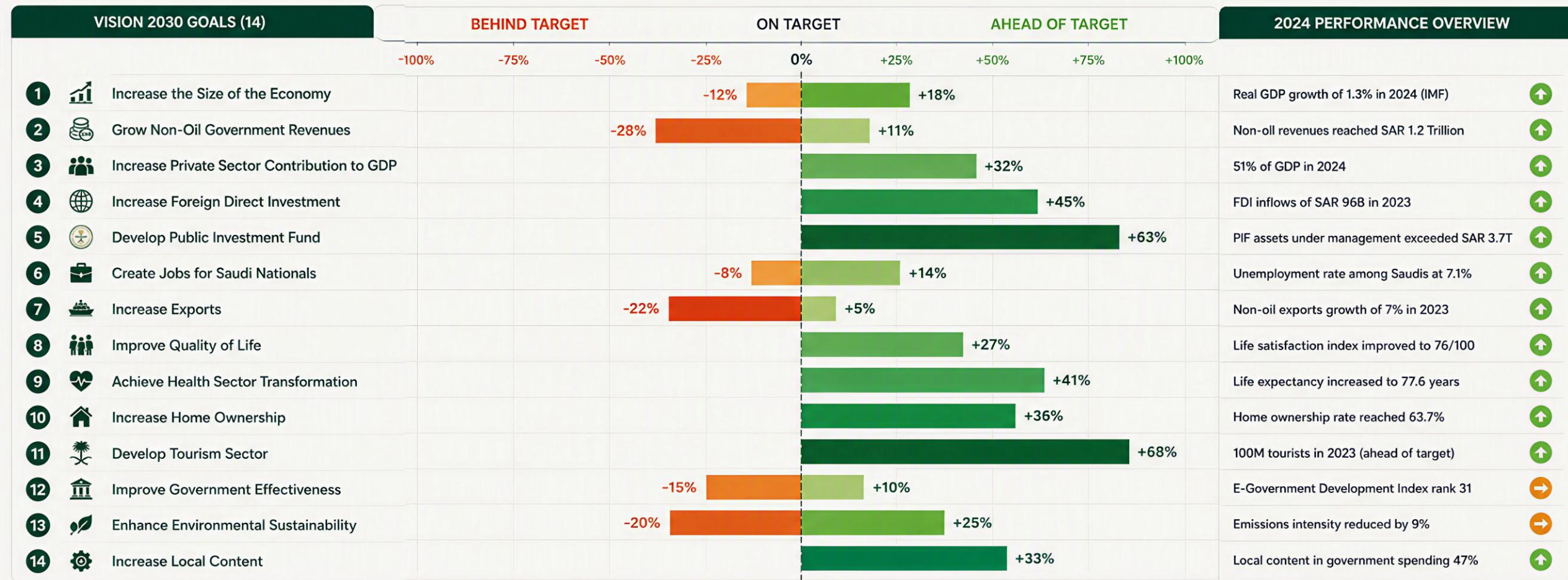
20+

Environmental regulations and policies enacted since 2016

Strengthening compliance and environmental governance.

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KSA PERFORMANCE AGAINST VISION 2030 GOALS



KSA PERFORMANCE AGAINST VISION 2030 GOALS

1 Reducing dependence on oil revenues?



- Non-oil revenues reached SAR 1.2T
- Private sector contribution >50% of GDP
- PIF assets exceed SAR 3.7T
- Tourism well ahead of target

2 The role of energy efficiency?



- Environmental sustainability improving
- Government effectiveness improving
- Digital government ranks high

3 How should PIF investments support the transition?



- PIF assets exceed SAR 3.7T
- FDI continues to increase

4 Balancing sustainability and economic growth?



- Environmental sustainability improving
- Emissions intensity reduced by 9%
- Tourism & industrial growth continue

5 What next after Vision 2030 achievements?



- Tourism, FDI, PIF, private sector, health, and digital transformation ahead of target

BEST PRACTICE ANSWER



KEY TAKEAWAY

Diversification + hydrocarbons leadership = long-term prosperity.



KEY TAKEAWAY

Efficiency delivers the fastest, cheapest, cleanest energy.



KEY TAKEAWAY

Balance returns with transformation to build future industries.



KEY TAKEAWAY

Growth and emissions reduction can go hand in hand.



KEY TAKEAWAY

Move from energy exporter to energy solutions leader.

Current Strategic Objectives of KSA Related to the Energy Transition

1. Energy Security Ensure a reliable, secure and diversified energy supply to support economic growth, industrial development and national resilience.	2. Renewable Energy Expansion Increase the share of renewable energy in the energy mix, develop world-class renewable projects and attract investment in clean energy technologies.	3. Carbon Emissions Reduction Reduce greenhouse gas emissions and advance towards net zero through cleaner technologies, carbon capture and circular carbon economy initiatives.	4. Energy Efficiency and Demand Management Improve energy efficiency across all sectors and implement demand-side management to optimize resource use, reduce costs and enhance grid flexibility.	5. Economic Diversification Grow new industries, create jobs and develop local supply chains through the energy transition, including green hydrogen, advanced manufacturing and clean technology.
6. Infrastructure and Grid Modernisation Build a resilient and flexible electricity grid and supporting infrastructure to integrate renewables, enable new technologies and meet future demand.	7. Innovation and Technology Leadership Accelerate research, development and innovation, adopt digital solutions and position KSA as a regional leader in energy technology and clean energy services.	8. Human Capital Development Build a skilled and future-ready workforce through education, training and capability development to support the energy transition and new industries.	9. Environmental Stewardship Protect natural resources, conserve biodiversity, manage water and waste responsibly and ensure environmental sustainability across the energy value chain.	10. Governance, Collaboration and Global Partnerships Strengthen regulatory frameworks, promote transparency and collaboration with international partners to accelerate the energy transition and achieve Vision 2030.

NATIONAL STRATEGIES AND INITIATIVES (2018–2025)

01 2018 Integrated Strategy for Mining and Mineral Industries	02 2020 Comprehensive Strategy for the Real Estate Sector	03 2020 Labor Market Strategy	04 2021 National Transport and Logistics Strategy	05 2021 Asir Region Development Strategy
06 2021 National Investment Strategy	07 2022 Custodian of the Two Holy Mosques Scholarship Program	08 2022 Financial Technology Strategy	09 2022 National Gaming and Esports Strategy	10 2022 National Industry Strategy
11 2024 National Biotechnology Strategy	12 2024 National Red Sea Sustainability Strategy	13 2024 Transformation Strategy for the Institute of Public Administration	14 2025 National Privatisation Strategy	

Practical application

Saudi Vision 2030 and Energy Transition

00 INTRODUCTION

01 A FAST GROWING ECONOMY — THEORY

01 A FAST GROWING ECONOMY — QUIZ

02 AN EMPOWERED SOCIETY — THEORY

02 AN EMPOWERED SOCIETY — QUIZ

03 A LEADING DESTINATION — THEORY

03 A LEADING DESTINATION — QUIZ

04 A SUSTAINABLE VISION — THEORY

04 A SUSTAINABLE VISION — QUIZ

VISION 2030 AND THE KSA ENERGY TRANSITION

Progress 3%

FACILITATOR VIEW

SAVE PROGRESS

RESET

INTERACTIVE LEARNING JOURNEY

Vision 2030 and the KSA Energy Transition

Explore four dimensions of Vision 2030, test your understanding and then apply the learning to one strategic question: **How does Vision 2030 enable the energy transition in KSA?**

01
A FAST GROWING
ECONOMY

02
AN EMPOWERED
SOCIETY

03
A LEADING
DESTINATION

04
A SUSTAINABLE
VISION

Learning proposition: Energy transition is enabled by the whole of Vision 2030 — economic transformation, societal capability, destination development and sustainability working together.

40

KSA ECONOMY TODAY

RESILIENT. DIVERSIFIED. TRANSFORMING.

Economic Performance

Position: 17th | Score: 62.3



Government Efficiency

Position: 17th | Score: 69.3



Business Efficiency

Position: 12th | Score: 81.4



Infrastructure

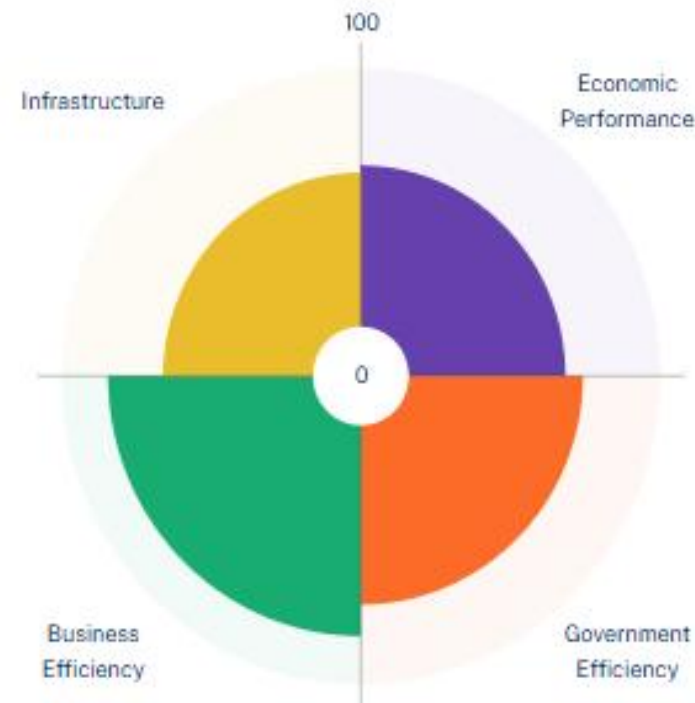
Position: 31st | Score: 59.5



Switzerland



Saudi Arabia



Expanding the Energy Mix

Renewable capacity

64GW

Battery energy
storage capacity
projects

30GWh

Battery energy
storage projects
connected to the
electrical grid

8GWh

Total capacity
of projects

20.6GW

Total capacity
of projects
connected to the
electrical grid

12.3GW

Among the Lowest Cost Worldwide

Solar Energy

\$1.04

cents/kWh
(Shaybah)

\$1.09

cents/kWh
(Najran)

Wind Energy

\$1.33

cents/kWh
(Dawadmi)

\$1.57

cents/kWh
(Al Ghat)

World's First Renewable Energy Storage System

Successfully Operated by Aramco to Support Gas Well Production

◆ 1 MWh energy storage system supporting long-term operations across gas wells

◆ Based on **Saudi patented technology**, designed for reliability in harsh conditions

◆ Adapts to changing energy demand while maintaining efficiency



Advancing Low-Carbon Energy Solutions

NEOM Green Hydrogen Project

600

tons per day

Yanbu Green Hydrogen Hub

◆ Integrated production and export facilities

A Labor Market in Motion

Labor market reform has focused on expanding participation, improving mobility, and strengthening the role of the private sector in job creation.

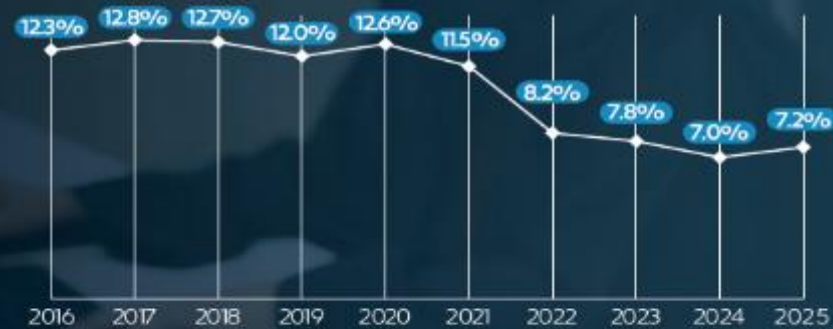
Reforms aligned education and training with market demand, expanded localization across sectors, and reduced barriers to entry, particularly

for women. At the same time, regulatory changes and increased investment have supported the growth of the private sector as the main driver of employment.

Digital platforms such as Qiwa and Mudad have modernized labor market operations, improving transparency,

contract documentation, and dispute resolution. More flexible work models, including remote, part-time, and freelance work, have also expanded access to employment, allowing participation across different life stages and circumstances.

Saudi Unemployment Rate



Saudi Women's Participation in the Labor Market



Saudis in the Private Sector

2020 1.7M
2025 2.6M

Support Systems

Human Resources Development Fund (HRDF - Hedef)

\$2.18B+
training and career
guidance programs

2.17M+
beneficiaries

222K+
Saudi citizens
entered the job market

Empowering Saudi Women

43.9%
women in middle and
senior management

52K+
women utilized the child
care program (qumsh)

1.7K
trained and mentored in a
designated leadership program

121K+
learned on job skills through
the parallel training initiative

370K+
women benefited from commute
support programs

Flexible Work Models

Flexible Work
726K+
contracts

Remote Work
339K+
contracts

Freelance Work
1.7M+
certificates

250K+
active freelancers

Developing Human Capital

2.8M+
Training campaign
participants (Waad)

999K+
Training opportunities (Dorood)

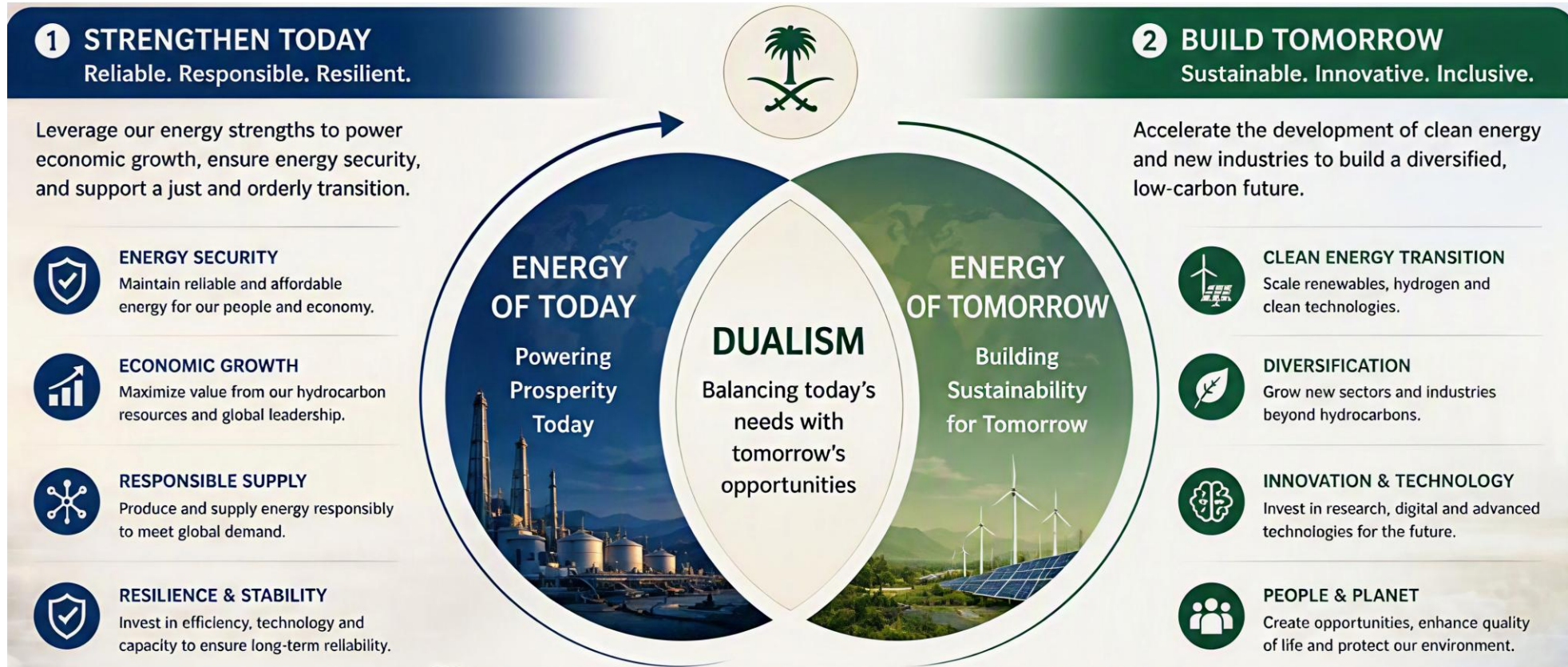
12 MOST SUCCESSFUL FLAGSHIP ENERGY TRANSITION PROGRAMS IN KSA TO DATE

1. SAKAKA SOLAR PV IPP One of the world's largest single-site solar PV plants, establishing KSA's renewable energy procurement model.	2. DUMAT AL JANDAL WIND FARM KSA's first utility-scale wind project, setting a benchmark for large-scale renewable development.	3. NEOM GREEN HYDROGEN World-scale green hydrogen project to produce clean fuels and ammonia for domestic use and export.	4. THE RED SEA DEVELOPMENT 100% renewable energy powered destination, integrating clean energy, storage and sustainable tourism infrastructure.	5. AMAALA Renewable energy powered ultra-luxury destination with integrated clean energy and sustainability solutions.	6. DIRIYAH GATE Large-scale development powered by renewable energy and energy-efficient infrastructure.
7. ROSHN COMMUNITIES Sustainable housing developments incorporating energy efficiency, smart infrastructure and low-carbon design.	8. QIDDIYA Sustainable entertainment city powered by renewable energy and energy-efficient infrastructure.	9. KING SALMAN PARK One of the world's largest urban parks with renewable energy and sustainable infrastructure.	10. JEDDAH CENTRAL DEVELOPMENT Major urban regeneration project incorporating clean energy, smart infrastructure and sustainability solutions.	11. KING SALMAN INTERNATIONAL AIRPORT Next-generation airport designed for net-zero emissions, powered by renewable energy and advanced energy-efficiency systems.	12. RENEWABLE ENERGY LOCALISATION (NREP SUPPLY CHAIN) Development of a local renewable energy manufacturing ecosystem to support solar, wind and energy storage projects across KSA.

12 KEY ROLE PLAYERS IN KSA ENERGY TRANSITION

1. LEAD Ministry of Energy (MoE) Leads national energy policy and strategy, oversees the energy transition and ensures energy security and sustainability.	2. THINK KAPSARC Provides independent energy research, policy analysis and modelling to support evidence-based decision making.	3. THINK KA CARE Develops atomic, renewable and emerging energy technologies, builds national capabilities and supports research and innovation.	4. GOVERN Saudi Energy Efficiency Center (SEEC) Leads national energy efficiency programmes and promotes demand-side efficiency across all sectors.	5. GOVERN Saudi Electricity Regulatory Authority (SERA) Regulates the electricity sector, ensures fair competition and protects consumers.	6. GOVERN Nuclear and Radiological Regulatory Commission (NRRC) Provides independent regulation of nuclear and radiological activities, ensuring safety, security and environmental protection.
7. OPERATE National Grid SA Operates and develops the national transmission network, integrates renewable energy and ensures grid stability and reliability.	8. OPERATE Saudi Electricity Company (SEC/SE) Generates, distributes and supplies electricity, modernises networks and implements demand-side management initiatives.	9. OPERATE Saudi Power Procurement Company (SPPC) Leads competitive procurement of power projects and manages PPAs and offtake agreements.	10. INVEST & BUILD Public Investment Fund (PIF) Mobilises strategic capital, invests in energy transition projects and accelerates economic diversification.	11. INVEST & BUILD ACWA Power Develops, invests in and operates large-scale renewable power, water and hydrogen projects locally and globally.	12. INVEST & BUILD Saudi Aramco Reduces emissions across its operations, develops CCUS and hydrogen, and invests in lower-carbon and cleaner energy solutions.

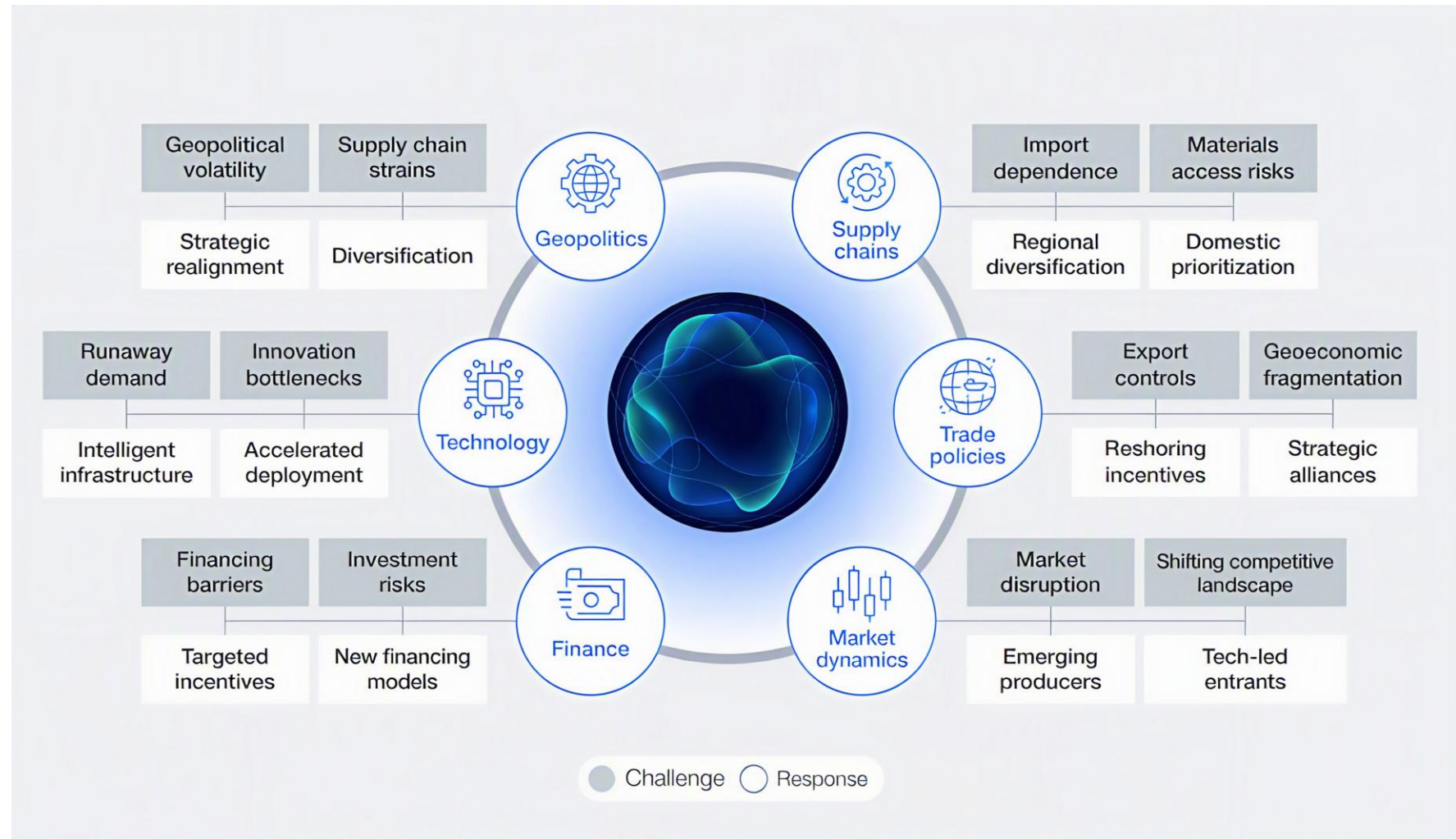
THE PRINCIPLE OF DUALISM ADOPTED BY KSA



NORWAY & SAUDI ARABIA

DIMENSION	NORWAY	SAUDI ARABIA
1. Economic foundation	Diversified high-income economy built on energy exports, maritime, manufacturing and knowledge industries.	Diversifying beyond oil into tourism, logistics, manufacturing, mining and technology.
2. Energy strategy	Hydropower and wind alongside oil and gas, with carbon capture.	Hydrocarbon value alongside solar, wind, hydrogen and circular carbon initiatives.
3. Sovereign wealth	Government Pension Fund Global invests internationally for future generations.	Public Investment Fund invests in domestic transformation and strategic industries.
4. Population	Productivity, inclusion and quality of life.	Youth employment, skills and diversification.
5. Innovation	R&D, digitalisation and green technology.	Emerging technology and digital transformation.
6. Industry	Maritime, seafood, clean technology and advanced manufacturing.	Petrochemicals, mining, automotive, aerospace and supply chains.
7. Sustainability	Net-zero goal for 2050 and strong environmental governance.	Circular economy, emissions reduction and habitat protection.
8. Governance	Democratic institutions, rule of law and trust.	Vision-led reform, execution and regulatory modernisation.
9. Global role	Multilateral diplomacy and sustainability.	Strategic partnerships and regional and G20 engagement.
10. Society	Natural heritage and social welfare.	Quality of life, culture and cities.

Strategic forces reshaping global energy systems



Strategic pillars of Energy reform | Best practice examples

Strategic pillar	Old paradigm	New paradigm	Geographic considerations	Best practice examples
Policy design	One-size-fits-all global policies	Context-aware policy design: region-specific energy strategies aligned with international goals, tailored to local capacities and industrial needs	Differentiated by industrial maturity – e.g. heavy industry hubs versus service economies (United Arab Emirates, Singapore)	Chile's <i>National Green Hydrogen Strategy</i> (2020): uses regional renewable strengths to design differentiated hydrogen hubs, targeting environmental safeguards, local jobs and exports ⁹⁴
Financing	Unequal capital access, market-led	Closing of the capital gap: blended finance, risk-sharing and international support mechanisms for emerging economies	Emerging economies (Africa, South Asia) facing highest capital costs	Sustainable Energy Fund for Africa (SEFA): provides blended capital and technical assistance for early-stage, high-risk clean energy projects across Sub-Saharan Africa ⁹⁵
Infrastructure	Centralized, uniform tech deployment	Localized innovation: context-specific infrastructure like decentralized grids, hydrogen hubs and AI tools adapted to national and regional conditions	Africa: decentralized grids; Europe: hydrogen hubs; Asia: AI-powered energy optimization	Denmark's energy islands: establishes artificial islands in the North Sea to centralize offshore wind generation, enabling local use, storage and cross-border clean energy exports ⁹⁶
Cooperation	Globalized trade and tech	Strategic sovereignty: national energy independence, balanced with global cooperation on trade, tech and investment frameworks	EU/US: tech alliances; MENA: interconnectors; Asia: supply chain coordination	Laos-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP): a regional power integration project to balance supply and improve resilience ⁹⁷
Workforce	One-size-fits-all labour strategies	Targeted workforce development: inclusive, localized strategies to build adaptable talent pipelines for diverse energy systems	Fossil-heavy regions need re-skilling e.g. Gulf Cooperation Council (GCC); youth-skewed economies need up-skilling (e.g. Saudi Arabia)	Germany's Ruhr transition model: combines re-skilling, income support and innovation hubs to repurpose a former coal region into a clean technology economy ⁹⁸
Business case	Subsidy-heavy and unstable	Market-driven transition: competitive, innovation-led conditions supported by stable policies and innovation-driven incentives to ensure a strong business case for needed energy investments and make clean energy the preferred business option	Investment hubs (US, EU, United Arab Emirates) versus markets needing de-risking (Sub-Saharan Africa, Southeast Asia)	US IRA: De-risked over \$200 billion in private clean energy investment by linking subsidies to domestic manufacturing and project bankability ⁹⁹

Practical application

KSA's Energy Strategies

ENERGY TRANSITION

Instructions

Framework

1. Geopolitics
2. Supply Chains
3. Trade Policies
4. Market Dynamics
5. Finance
6. Technology

Mix & Match Quiz

Results

External Environment and the Energy Transition

Six elements → two challenges → one response to each challenge

RESET QUIZ

The Six-Element Framework

The framework shows six external forces surrounding the energy-transition environment. The grey blocks represent challenges; the white blocks represent strategic responses.



INDICATORS

Measure outcomes across four key dimensions

1. EMISSIONS MANAGEMENT

CO₂ emissions intensity
Total greenhouse gas emissions
Methane emissions
Emissions reduction progress

2. CARBON UTILISATION

CCUS deployment
Use of CO₂ in products and materials
Share of low-carbon hydrogen
Innovation in carbon utilisation

3. CLEAN ENERGY

Share of renewables in energy mix
Energy intensity
Low-carbon fuel production
Electrification and clean energy deployment

4. CIRCULAR ECONOMY

Material efficiency
Waste management and recycling
Circular use of resources
Low-carbon industrial processes

KAPSARC CCE INDEX

Measures country progress toward a Circular Carbon Economy

ENABLERS

Provide the conditions to achieve progress

1. POLICY AND REGULATION

Climate policies and targets
Regulatory frameworks for CCUS and hydrogen
Incentives for low-carbon technologies
Alignment with international commitments

2. TECHNOLOGY AND INNOVATION

R&D investment
Technology development and deployment
Localisation of clean technologies
Innovation ecosystems and partnerships

3. MARKET AND INVESTMENT

Capital investment in clean energy and CCUS
Market structures and demand for low-carbon products
Public and private sector collaboration
Access to finance

4. PEOPLE AND CAPABILITIES

Human capital and skilled workforce
Education and awareness
Institutional capacity
Knowledge sharing and international collaboration

KAPSARC analysis

Enablers score

44

48.45

Click on indicator name to expand

INDICATOR	2025 RANK	2025 SCORE	2024 RANK	2024 SCORE	TREND 2024 - 2025
✓ Policies and regulation	65	42.37	59	41.32	↗
✓ Technology, knowledge and innovation	52	21.28	54	19.72	↗
✓ Finance and investment	47	21.31	52	18.7	↗
✓ Business environment	11	80.42	12	79.89	↗
✓ System resilience	34	76.88	32	76.99	↘

Indicators ^

NET ZERO TRACKER

PURPOSE

The Net Zero Tracker is a strategic monitoring tool that tracks progress towards net zero emissions across key dimensions of the energy transition and sustainable development.

WHAT IT DOES

Monitors progress against clear targets and benchmarks, tracks key indicators across emissions, energy, economy, society and governance, identifies gaps and risks to inform timely decisions, supports course correction and policy alignment, and enhances transparency and accountability for stakeholders.

HOW IT WORKS

Collects data from credible sources and reporting frameworks, assesses progress against national commitments and international goals, visualizes insights through dashboards and trend analysis, and enables informed decisions and accelerated implementation.

INTENDED OUTCOME

Accelerate the transition to a net zero economy, improve achievement of climate and development goals, create long-term value for people, planet and prosperity, and strengthen resilience and intergenerational equity.

COUNTRY COMPARISON

OUTCOME DIMENSIONS	NORWAY	CHINA	SAUDI ARABIA	KUWAIT
1. GHG EMISSIONS (MtCO ₂ e, 2023)	40	11,400	626	120
2. RENEWABLE ENERGY SHARE (% of total final energy consumption, 2023)	89%	31%	8%	2%
3. ENERGY INTENSITY (MJ per USD PPP, 2023)	2.7	8.0	12.5	13.8
4. GREEN INVESTMENT (USD billion, 2023)	27	675	70	9
5. ECONOMY – GDP (Growth %, 2023)	0.5%	5.2%	-0.8%	-3.6%
6. POPULATION (million, 2023)	5.5	1,409	36	4.3
7. CLIMATE POLICY STRENGTH (0 = Weak, 100 = Strong)	76	60	58	55
8. NET ZERO TARGET (Target Year)	2050	2060	2060	2050
9. CARBON PRICING (Status, 2023)	Implemented	Piloting	Under development	Under development
10. CLIMATE RISK INDEX (0 = Low Risk, 100 = High Risk)	26	48	42	45

Illustrative source image data (mostly 2023); verify before use.

CLIMATE ACTION TRACKER

COUNTRY COMPARISON

PURPOSE

The Climate Action Tracker is a strategic monitoring tool that evaluates countries' climate commitments, policies, implementation and outcomes.

WHAT IT DOES

Provides clear, comparable insights by comparing national and international targets, identifying gaps, and supporting decisions to drive stronger climate action.

HOW IT WORKS

Collects credible data from national and international sources, assesses performance against key indicators, compares countries, and informs action.

INTENDED OUTCOME

Accelerate emissions reductions, enhance resilience and adaptation to climate impacts, mobilize finance for low-carbon solutions, and build a more equitable future for all.

DIMENSION	NORWAY	CHINA	SAUDI ARABIA	KUWAIT
1. GHG emissions (MtCO ₂ e, 2022)	40	11,400	626	120
2. Renewable energy share (% of total final energy consumption, 2022)	89%	31%	8%	2%
3. Energy intensity (MJ per USD PPP, 2022)	2.7	8.0	12.5	13.8
4. Climate policy strength (0 = Weak, 100 = Strong)	76	60	58	55
5. NDC target ambition (Compared to 1.5°C pathway)	High	Medium	Medium	Medium
6. Progress toward NDC targets (% of target achieved)	On track	On track	Behind	Behind
7. Adaptation and resilience (0 = Low, 100 = High)	75	60	50	45
8. Climate finance (USD per capita, 2021)	1,090	105	60	85
9. Carbon pricing (Status, 2024)	Implemented	Piloting	Under development	Under development
10. Climate risk index (0 = Low Risk, 100 = High Risk)	26	48	42	45

Illustrative figures transcribed from supplied image; verify before use.

Practical application

Element	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Effective oversight					
Strategic decisions					
Organizational structure silos					
Visibility – transparency					
Integration of key processes					
Duplication					
Excessive cost					
Fragmentation					
Wasted resources					
Wasted information					
Complexity					
Integrity					



UN Sustainable Development Goals



Practical application

UN Sustainability Development Goals

00 INTRODUCTION

01 GOVERNANCE — THEORY

01 GOVERNANCE — QUIZ

02 SOCIETY — THEORY

02 SOCIETY — QUIZ

03 ECONOMY — THEORY

03 ECONOMY — QUIZ

04 ENVIRONMENT — THEORY

04 ENVIRONMENT — QUIZ

05 SDG ENERGY TRANSITION APPLICATION

THE UN SUSTAINABLE DEVELOPMENT GOALS AND THE ENERGY TRANSITION

Progress 32%

INTERACTIVE LEARNING JOURNEY

The UN Sustainable Development Goals and the Energy Transition

Explore all 17 UN Sustainable Development Goals through four connected dimensions — Governance, Society, Economy and Environment — then apply the learning to one strategic question: **How do the SDGs enable a sustainable energy transition?**



Governance

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

EXIT FACILITATOR

SAVE PROGRESS

RESET

Free climate tracking tools

GREENHOUSE GAS ACCOUNTING & EMISSIONS TRACKING  GHG Protocol Calculators ghgprotocol.org/calculators Official calculators for corporate value chain (Scope 1, 2 & 3) emissions.  Cool Climate Calculator coolcalculator.org Calculate and understand your business emissions.  SME Climate Hub smecimatehub.org Free emissions calculator and tools for SMEs.	CARBON FOOTPRINT CALCULATORS  Carbon Footprint Calculator (UNFCCC) footprint.unfccc.org Calculate your carbon footprint for lifestyle and businesses.  My Climate myclimate.org/en/ Measure, understand and reduce your footprint.  Carbon Independent carbonindependent.org Calculate, reduce and offset your carbon footprint.	CLIMATE & WEATHER DATA VISUALIZATION  NASA Climate Data climate.nasa.gov Access global climate data and visualizations.  Copernicus Climate Change Service (C3S) climate.copernicus.eu Free climate data and tools on global climate change.  NOAA Climate.gov climate.gov Explore climate data, articles and teaching resources.	ENVIRONMENTAL MONITORING & AIR QUALITY  IQAir Air Quality Index iqair.com/air-quality-map Real-time air quality map and data.  OpenAQ openaq.org Global open-source air quality data and API.  PurpleAir map.purpleair.com Real-time air quality map from global sensors.	DEFORESTATION & LAND MONITORING  Global Forest Watch globalforestwatch.org Monitor forests, deforestation, and land use change.  GLAD glad.earthengine.app Explore global forest change from 2000 to present.  Land & Carbon Lab map.purpleair.com Free tools to monitor land, carbon and emissions.
RENEWABLE ENERGY & ENERGY DATA  Global Solar Atlas globalsolaratlas.info Explore solar resource and PV potential worldwide.  Global Wind Atlas globalwindatlas.info Assess wind energy potential anywhere in the world.  Our World in Data – Energy ourworldindata.org/energy Explore global energy data and trends.	CLIMATE RISK & IMPACT ASSESSMENT  Climate Impact Explorer climateimpactexplorer.climateanalytics.org Explore future climate impacts by location.  ND-GAIN Index gain.nd.edu Assess climate vulnerability and readiness of countries.  Coastal Risk Screening Tool coastal.climatecentral.org Understand coastal flood and risk exposure.	ESG & SUSTAINABILITY REPORTING TOOLS  B Impact Assessment bimpactassessment.net Free tool to assess and improve social and environmental impact.  Sustainability Tracker (UNSDGs) sdg-tracker.org Track progress on the UN Sustainable Development Goals.  Open-Source Sustainability (OS-S) os-s.org Open-source platform for sustainability reporting.	COMMUNITY SCIENCE & CITIZEN MONITORING  iNaturalist inaturalist.org Track biodiversity and contribute to citizen science.  eBird ebird.org Track bird observations and biodiversity.  Globe Observer observer.globe.gov Collect local environmental data and contribute to research.	EDUCATION & LEARNING PLATFORMS  Project Drawdown drawdown.org Explore climate solutions and track solutions progress.  Climate Literacy Project climateliteracy.org Learn science-based climate concepts and solutions.  FutureLearn – Climate Courses futurelearn.com Free climate and sustainability courses from top universities.



“Great leaders do not create followers — they create owners.”



Deon van der Westhuizen

Integrated Governance and Risk | Integrated Reporting |
Psychological safety | Oil and gas and ESG | Supply Chain
Sustainability | Artificial Intelligence | | Leadership Development and
Coaching |

agile Agile Group of Companies



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