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DRIVING THE FUTURE

Egypt's Energy Transition Journey Unveiled

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Egypt's Energy Transition Journey Unveiled

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Key Takeaways

Energy Strategy

Egypt's NDCs were Updated to advance the goal of increasing the percentage of renewable energy in the energy mix in 2030 instead of 2035.

42% The renewable energy share in the energy mix by 2030

60% Boosting Renewable Energy Capacity Targets by 2040

Energy Efficiency Strategy Phases

Saving Energy Consumption

10% First (2022-2027)

18% Second (2025-2035)

The world is in a state of constant gradual energy transition. This transition is already well underway with significant progress achieved in past years. Notably, the total global renewable generation capacity grew by 9.6% in 2022 from 2021, according to the International Renewable Energy Agency (IRENA).

Egypt aims to achieve energy transition by raising low-carbon and renewable energy utilization rates. The Egyptian government developed a comprehensive strategy built on three main pillars; establishing a strong political framework, strengthening the collaborative ecosystem, and investing in infrastructure and human capital.

Egypt is actively encouraging foreign and local investment in renewable energy projects. Egypt's renewable energy capacity is seen to increase by 65% by 2027 and provide more than 25% of total renewable energy capacity in the Middle East and North Africa (MENA) region as expected by the International Energy Agency (IEA).

This report covers the significant progress of Egypt towards energy transition and its initiatives, as well as the major external and internal challenges that slow down Egypt's transformation process.

Updated Egypt's 2030 Vision

Egypt Launched its first version of the National Strategy for Sustainable Development, named Egypt Vision 2030, in 2016. It is a cornerstone for a comprehensive developmental process that achieves sustainable development.

In light of the challenges witnessed through the past years on the global, regional, and national levels, the vision was updated in November 2023 to identify four guiding principles. These principles represent the main pillars that direct the implementation of the six strategic goals while utilizing seven enablers that serve as tools to accelerate the achievement of sustainable development in Egypt, according to the Ministry of Planning and Economic Development (MPED).

The fifth target of the updated Egypt Vision 2030 is "Development Infrastructure" which includes "Promoting Sustainable Energy sources and Systems" as one of the main goals of the fifth target. This target copes with the sixth, seventh, and eleventh targets of the Sustainable Development Goals (SDGs). Moreover, this target is linked to the first and second ambitions of the Africa Agenda 2063, as stated in the Updated Version of Egypt Vision 2023.

Energy Strategy

Egypt has updated its nationally determined contributions (NDCs) to advance the goal of increasing the percentage of renewable energy in the energy mix to 42% in 2030 instead of 2035.

The Energy strategy is being updated until 2040 in light of global developments related to renewable energy, the development of energy storage technologies, and the new trend towards green hydrogen, according to the Ministry of Electricity and Renewable Energy (MoEE). Moreover, Egypt aims to increase its renewable energy capacity to 60% by 2040, according to the Egyptian Cabinet.

Egypt's Initiatives & Actions

Despite the development challenges that Egypt faces, it was still able to embark on a broad range of policies and projects that serve its energy transition and climate change goals, through working on several energy transition pillars.

Egypt's NDC Implemented Actions since 2015

Key Actions

- Applying Comprehensive Energy Policy Reforms
- Encouraging Renewable Energy investments
- Improving Energy Efficiency & Using Low Carbon Fuels in the Petroleum Sector
- Applying Energy Efficiency in the Electricity Sector
- Applying Energy Efficiency on the Demand Side
- Shifting to Low Carbon Mass Transport
- Adopting Policy Reforms & Conducting Investments in Solid Waste Management
- Mobilizing National & International Green Finance
- Conducting Climate Adaptation Action Projects

Oil & Gas Sector's Efforts

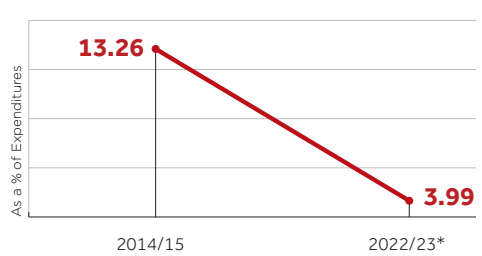
Energy Transition & Emissions Reduction Program

Egypt's oil and gas sector has made great progress in the field of energy transition and enhancing energy efficiency. It has adopted an action plan which includes goals for improving energy efficiency and decarbonization, through working on six main pillars. The following part will highlight the most significant pillars related to achieving energy transition.

1. Energy Policy Reforms

The Government has launched a comprehensive subsidies reform program. The program comprised energy subsidy phase-out and comprehensive reforms for electricity and oil and gas sectors that were initiated in July 2014 and expected to be completed in fiscal year (FY) 2024/25.

Energy Subsidies



*Projected

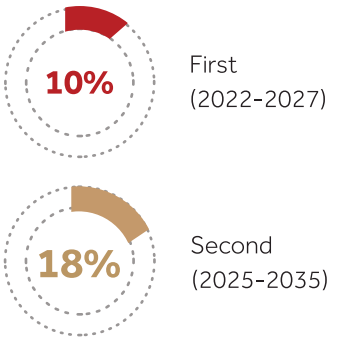
Source: The Ministry of Finance (MoF)

2. Energy Efficiency Improvement Activities

Egypt's oil and gas sector launched in 2016 Egypt's Oil and Gas Sector Modernization Project where its fourth pillar focuses on improving the energy efficiency within the sector. Further, the sector announced the Energy Efficiency Strategy (2022-2035) during COP27, to improve the energy efficiency activities in the sector and contribute to supporting energy security and reducing emissions, according to the Ministry of Petroleum and Mineral Resources (MoPMR).

Energy Efficiency Strategy Phases

Saving Energy Consumption



3. Expanding the Use of Natural Gas

In line with Egypt's vision to diversify its energy mix, and enhance the transition towards green fuels, the oil and gas sector works continuously on sustaining the use of gas as a substitute for diesel in electricity generation, vehicles, houses, and industries. In this regard, Egypt's consumption of natural gas expanded by around 257% from FY 1999/2000 to 2022/23, according to the NDC Document. Meanwhile, 14 million households are now connected to natural gas, and around 480,000 cars were converted to compressed natural gas (CNG), according to the MoPMR.

4. Supporting Carbon Emissions Reduction Projects

From its side, the government spares no effort to reduce the oil and gas sector's emissions by 65% as well as controlling the routine flaring by 2030. This is in addition to developing the internal regulations for methane emissions in the sector by the end of 2024.

Reducing Carbon Emissions Projects (MM TPA CO_2)

5.4 Completed

1.4 Ongoing

Implemented Zero Flare Projects

30

$200 million
Annual Savings

1.4 mmt equivalent
Annual Co_2 Emissions Reduction

Methane Emissions

Preparing a Detailed Roadmap

Reducing
30% in 2030 compared to 2020 levels

5. Renewable Energy and Green Petrochemicals Projects Expansion

Implemented Renewables Projects

24

~ $1 million
Annual Savings

50,000 tons equivalent
Annual Co_2 Emissions Reduction

Green Petrochemicals Projects

~ $1.2 billion
Investment Cost

2.1 MMPTA
Annual Co_2 Emissions Reduction

Major Partnerships & Agreements

On the sidelines of EGYPS 2022, Egypt signed 4 memorandum of understanding (MoUs) for various decarbonization projects. They were signed by the Egyptian Natural Gas Holding Company (EGAS), and several international companies like Shell, Schlumberger, DNV, and Worley, according to the MoPMR.

Additionally, during EGYPS 2023, the MoPMR signed 5 MoUs with major national and global energy and technology companies in the fields of reducing carbon emissions, digital transformation, supporting sustainability, and crude oil marketing, according to the MoPMR.

Consequently, during COP27, the European Union (EU) and Egypt signed an MoU to boost energy transition, establish a strategic partnership on renewable hydrogen, and prepare the ground for a just energy transition in Egypt. The partners also signed a Joint Statement with the European Bank for Reconstruction and Development (EBRD), to contribute about €35 million in support of Egypt's Energy Wealth Initiative, according to the EU.

Egypt's Rankings in 2023

■ Overall Rank ■ Overall Score

ETI **52.4%**

79th (out of 120)

RECAI **56.5%**

31st (out of 40)

CCP **59.4%**

20th

Main Challenges

Global Challenges

Egypt's energy transition faces significant global challenges that can impact its shift towards renewable energy sources. These challenges include:

Overcoming Economic Uncertainties for Energy Transition Progress

Navigating Access and Affordability for Energy Transition Technologies

Addressing Price Fluctuations and Geopolitical Risks in the Energy Transition

Climate Change Impacts

National Challenges

In addition to these global challenges, Egypt faces national challenges in its energy transition, which can be categorized into three main areas:

Economic Challenges
- Balancing Energy Allocations for Transition and Sectoral Development
- Limited Fiscal Space
- Unemployment and Poverty

Challenges Specific to the Energy Sector
- Reliance on Fossil Fuels
- Surplus Power Generation Capacity
- Infrastructure Upgrades

Environmental Challenges
- Water Scarcity and Nile Dependence
- Rising Sea levels and Coastal Zones
- Air Pollution and Waste Management

Addressing these economic, energy sector-specific, and environmental challenges is crucial for Egypt's successful energy transition. It requires implementing effective policies, investing in renewable energy infrastructure, improving water management, enhancing waste management systems, and fostering sustainable economic growth, according to the IRENA 2023 report.

Egypt has promising potential and capability to become a major energy hub in the MENA region. Further, Egypt is experiencing substantial growth, increased interest, and the formation of invaluable partnerships in the field of energy transition in a way that accelerates this ascendancy. Despite this, there are many challenges that Egypt faces on the way to achieving energy transition that needs further serious efforts. It is crucial to expand and stabilize Egypt's renewable energy resources, build even more strong partnerships with proven clean energy and supply partners, and apply appropriate legislation, policies, security, and incentives to achieve carbon reduction targets.

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