

MARMORE

MENA INTELLIGENCE

A  Subsidiary

Powering the Future: Pioneering Renewable Energy Projects in the GCC

January 2025



Authors



SRIYA ARUN

Junior Analyst - Research



SANKARA NARAYANAN

Assistant Vice President - Consulting & Advisory Services



AJAY SAMUEL

Senior Manager

Disclaimer

This report has been prepared and issued by Marmore MENA Intelligence Ltd (Marmore), a fully owned research subsidiary of Kuwait Financial Centre “Markaz” K.P.S.C. Marmore is a private limited company registered with the Registrar of Companies in India.

This Report is owned by Marmore and is privileged and proprietary and is subject to copyrights. Sale of any copies of this Report is strictly prohibited. This Report cannot be quoted without the prior written consent of Marmore. Any user after obtaining Marmore’s permission to use this Report must clearly mention the source as “Marmore.” The Report is intended to be circulated for general information only and should not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction.

The information and statistical data herein have been obtained from sources we believe to be reliable, but no representation or warranty, expressed or implied, is made that such information and data is accurate or complete, and therefore should not be relied upon as such. Opinions, interpretations, estimates, and projections in this report constitute the current judgment of the author as of the date of this Report. They do not necessarily reflect the opinion of Markaz or Marmore or other identified parties and are subject to change without prior notice. Neither Marmore nor Markaz have an obligation to update, modify, or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast, or estimate set forth herein, changes or subsequently becomes inaccurate, or if research on the subject company is withdrawn.

This Report may not consider the specific investment objectives, financial situation, and the particular needs of any specific person who may receive this report. Investors are urged to seek financial advice regarding the appropriateness of investing in any security or investment strategy discussed or recommended in this report and to understand that statements regarding future prospects may not be realized. Investors should note that income from such securities, if any, may fluctuate and that each security’s price or value may rise or fall. Investors should be able and willing to accept a total or partial loss of their investment. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily indicative of future performance.

Markaz may seek to do business, including investment banking deals, with companies covered in its research reports. Markaz may have interests in the areas covered in this research report. Markaz, Markaz managed entities, its clients, or its employees may have from time to time long or short positions in any security, derivative or other types of assets referred to in this research report. As a result, investors should be aware that Markaz may have a conflict of interest that could affect the objectivity of this report.

This report may provide the addresses of or contain hyperlinks to websites. Except to the extent to which the report refers to website material of Markaz and Marmore, Markaz has not reviewed the linked site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to Markaz’s or Marmore’s own website material) is provided solely for your convenience and information, and the content of the linked site does not in any way form part of this document. Accessing such website or following such link through this report or Markaz’s or Marmore’s website shall be at your own risk.

For further information, please contact ‘Markaz’ at P.O. Box 23444, Safat 13095, Kuwait; Email: info@e-marmore.com; Tel: 00965 22248280; Fax: 00965 22495741.

As the world embraces the challenge of climate crisis and increasing pollution, governments across the globe are striving to make their growth and development sustainable. Sustainable development involves managing current resources wisely to preserve them for future generations. In the past 30 years energy consumption has increased by fourfold in the GCC region, reflecting high income levels and living standards.

Intensification of the climate crisis has made countries transition towards renewable and cleaner sources of energy. For GCC countries, which continue to rely heavily on oil and gas as energy sources, the shift towards sustainability began due to volatility in oil prices and growing concerns of environmental degradation.

In Saudi Arabia and the UAE, the electricity generation in the renewable energy market is estimated to be 891.20m kWh and 9.04bn kWh in 2024 with an estimated annual growth rate of 14.27% and 16.57% for the period from 2024 to 2029.¹ Bahrain has set a target of 20% reliance on solar energy by 2035.² Oman's renewable energy company OQAE has signed agreements with France's TotalEnergies to develop 300 MW of renewable energy projects with an aim to source 30% of its power capacity from renewables by 2026.³ Ministry of Electricity, Water and Renewable Energy of Kuwait has planned to take the total electricity capacity in the next five years to 17,350 MW and 30% of that is expected to be sourced from renewable energy with a total investment estimated at KD 5 billion.⁴ Qatar's Ministry of Environment and Climate Change (MECC) launched its 2024-2030 Renewable Energy Climate Change Strategy which aims to reduce greenhouse gas emissions by 25% and restore 30% of the impacted natural resources.⁵ Qatar also seeks to increase its large-scale renewable power generation to about 4 GW by 2030.⁶

Low-carbon energy sources are increasingly replacing hydrocarbons in today's energy landscape, and GCC countries are transitioning with ambitious sustainability goals. For this reason, sustainable development in the region is not just an environmental imperative but also a strategic necessity. With rapid urbanization and economic diversification, these countries ought to balance growth with environmental stewardship. Sustainable development helps mitigate the effects of climate change, reduce dependence on fossil fuels and ensure long-term economic stability.

¹ Statista Market Insights

² Bahrain eyes 20% reliance on solar power - Zawya

³ OQAE, TotalEnergies to develop 300 MW renewable projects in Oman - Zawya







⁴ Kuwait's MEW to add 17,350 MW of new power capacity in next 5 years - Zawya

⁵ Qatar 2024-2030 Renewable Energy Climate Change Strategy - International Trade Administration

⁶ Qatar eyes to generate 4 GW renewable power by 2030 | The Peninsula Qatar

Initiatives

In line with the Paris Agreement, GCC countries have targets to reduce emission and impact of climate change as part of their nationally determined contribution.

Country	Targets		
	Emission Reduction	Renewable Energy	Net Zero by the Year
United Arab Emirates 	19% by 2030 wrt 2019	Triple share of renewable energy by 2030; 44% capacity by 2050	2050
Qatar 	25% by 2030 wrt BAU 2019	Additional 2 – 4 GW by 2030	-
Saudi Arabia 	278 MtCO ₂ eq/yr wrt 2019	50% electricity by 2030	2060
Kuwait 	7.4% by 2035 wrt BAU 2015	15% power by 2030	2060
Bahrain 	30% by 2035 wrt BAU 2015	20% energy mix by 2030	2060
Oman 	7% by 2030 wrt BAU 2019	20% electricity by 2030	2050

Source: International Renewable Energy Agency – Renewable Energy Markets: GCC 2023, wrt – with respect to; BAU – Business as Usual⁷

The total renewable electricity capacity of the MENA region as of 2017-2023 was 26.9 GW and the forecast for 2024-2030 is 95.8 GW.⁸ In the [COP28](#) meeting held in Dubai last year, the region has established its commitment to triple the global energy capacity from 3,400 GW in 2023 to 10,500-11,000 GW by 2030 which amounts to an annual addition of 1,500 GW by 2030.⁹ The electricity generation in renewable energy market in the GCC region is projected to reach 10.96 bn kWh in 2024 and is estimated to grow at a CAGR of 16.4% between 2024 and 2029.¹⁰

⁷ BAU - Baseline scenario that examines the consequences of continuing current trends in population, economy, technology and human behaviour






⁸ Renewables 2024 – Analysis - IEA

⁹ Middle East Utilities

¹⁰ Statista Market Insights

Sustainable Finance

Sustainable finance in the GCC region is gaining momentum as countries integrate environmental, social, and governance (ESG) factors into their financial systems. Saudi Arabia’s Vision 2030 and the UAE’s initiatives, such as the Dubai Green Fund and Masdar City, highlight the region’s commitment to green bonds and sustainable investments. Qatar and Oman are also developing frameworks to support renewable energy and sustainable infrastructure projects. This growing focus on sustainable finance is driven by regulatory advancements and increasing international investor interest, positioning the GCC as a key player in global efforts to achieve sustainable development goals. Being at the forefront of integrating innovative solutions with development strategies, the GCC’s game is strengthened with the following initiatives:

Renewable Projects	Country	Type	Capacity	Investment	Salient Features
Mohammed bin Rashid Al Maktoum Solar Park	United Arab Emirates	Solar 	Produce 5,000 MW by 2030	\$13.61 billion	Reduce 6.5 million tons of carbon emissions every year
Barakah Nuclear Energy Plant	United Arab Emirates	Nuclear 	5,600 MW	\$2.42 billion	After testing, it is set to produce 25% of UAE’s electricity needs and support the country’s target of generating 50% of its energy from clean sources by 2050
Dumat Al Jandal Wind Farm	Saudi Arabia	Wind 	400 MW	\$500 million	Has earned ‘Renewable Deal of the Year’ from Project Finance International in 2019 for record-breaking low electricity generation rate of \$0.0199/ KWH
Al Marmoom Wind Farm	United Arab Emirates	Wind 	100 MW	-	This is a pilot project part of UAE’s broader strategy to integrate wind power into its energy mix
Dhofar Wind Farm	Oman	Wind 	50 MW	-	Harness strong winds of the Dhofar region to generate renewable energy and help save 110,000 tons of CO2 annually

Source: Various



Global Green Finance presents an opportunity of USD 2 trillion in economic growth and more than 1 million jobs by 2030 which could be leveraged by the GCC countries. Although it is estimated that USD 4.5 trillion of annual investment is needed in clean and renewable energy to attain net zero goals by 2030.¹¹ However, according to World Bank, such investments into GCC have declined by 40% over the last decade, measured as a percentage of the GDP.¹² GCC governments ought to focus on enacting sustainable policies, create a new green investment body, strengthen their capital markets and build transparent reporting system.

Since its inception in COP26 in Glasgow, IRENA's Energy Transition Accelerator Financing (ETAF) has received pledges from global financial partners to scale up renewable energy projects that contribute to NDCs in developing countries and bring benefits to improve energy access and security to communities while also promoting economic growth worth more than USD 4 billion.¹³ In recent years, the GCC countries have prioritized renewable energy in their urban development projects. This commitment is evident in initiatives designed to create sustainable cities that operate entirely on renewable sources. These projects not only aim to reduce carbon footprints but also to diversify energy sources, enhance energy security and promote economic resilience.

Masdar City

As an urban development project, Masdar City uses some innovative techniques like solar panels and membrane bioreactor Power Plant to generate maximum energy.

NEOM City

A megacity project in Saudi Arabia, it will eliminate traditional roads and cars, instead focusing on advanced transportation solutions and urban planning. However, ambitious plans such as NEOM are facing delays in implementation.

By integrating renewable energy into urban planning, the GCC countries are setting benchmarks for sustainable development, aligning with global climate goals while fostering innovation and attracting investment.

As the GCC countries make an effort to move towards renewable energy resources and sustainability, it still faces several significant challenges despite increasing efforts towards environmental and economic reform. Key challenges include:

¹¹ IRENA: On the State of Renewables in 2024 | Entrepreneur

¹² Green Finance: \$2 Trillion Opportunity | Strategy& Middle East

¹³ IRENA: On the State of Renewables in 2024 | Entrepreneur

¹⁴ An Overview of the GCC Unified 2016 2035 - wstaggcc.org

¹⁵ Will GCC countries be economies of the future or old oil ghost countries? | Oxford Economics





1. Energy Dependency

Although there is a strong push towards renewable energy, the GCC economies are still heavily dependent on oil and gas revenues which accounts for over 70% of the total revenues in the region except for UAE and Saudi Arabia. Over 40% of the GDP in GCC countries except UAE and Bahrain is supported by oil and gas production.¹⁵ Transitioning to a more diversified and sustainable energy mix presents economic and logistical hurdles.



2. Water Scarcity

The GCC countries experience extreme aridity and have limited freshwater resources, making water conservation and management critical. Desalination is heavily relied upon, which can be energy-intensive(10-33% of primary fuel consumption)¹⁴ and environmentally taxing.



3. Climate Extremes

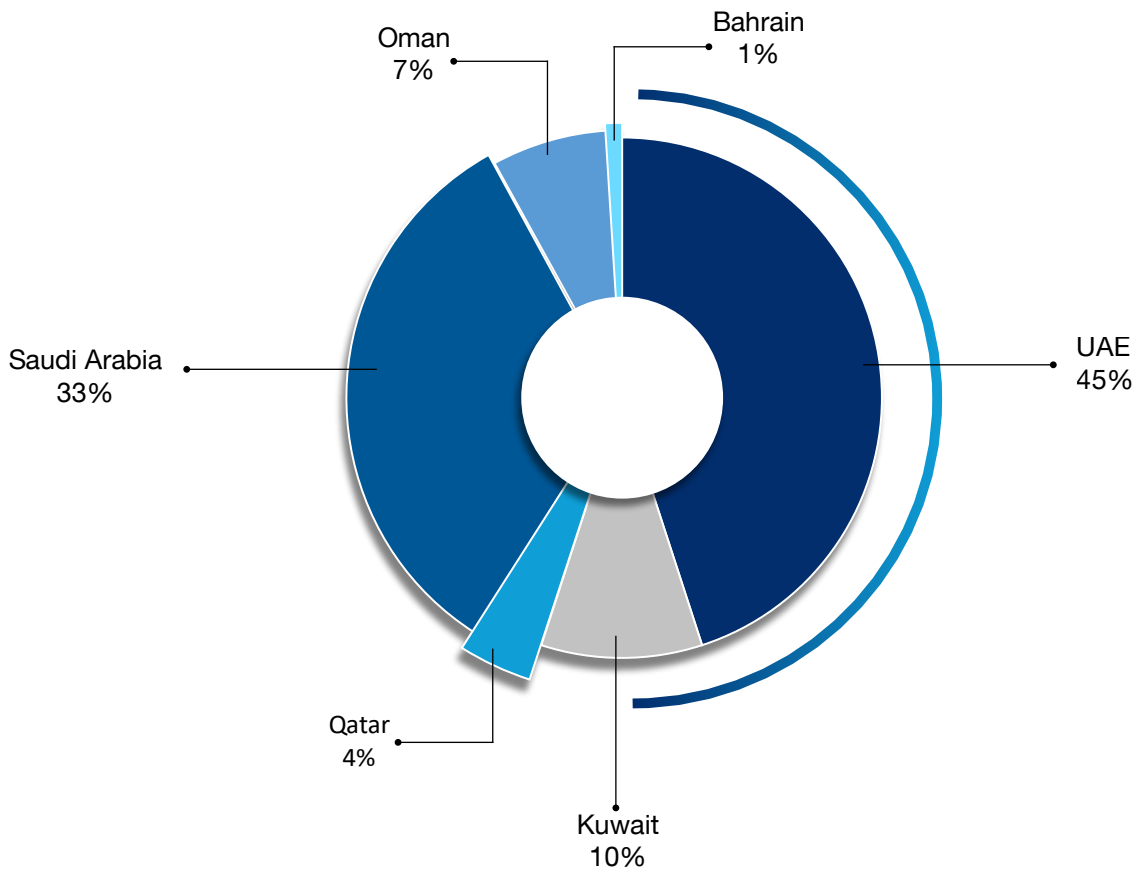
High temperatures and humidity in the region pose challenges for the efficiency and maintenance of renewable energy technologies, including solar panels and wind turbines.

The GCC countries have realized that the extraction cost of fossil fuels is likely to increase if the reserves get exhausted. Having relied on oil and gas production for their prosperity traditionally, the GCC countries are tapping into the renewable energy market, investing quite heavily to secure a sustainable and green economy. For example, Oman’s state-owned oil and gas company OQ, Kuwait-based energy investor Enertech Hydrogen and Hong Kong-based renewable hydrogen developer InterContinental Energy have invested USD 2.825 billion to build one of the world’s largest green hydrogen plants in Oman’s Al Wusta governorate as of April 2024.¹⁶ The green hydrogen market is expected to reach USD 2.5 trillion by 2050.¹⁷

¹⁶ OQ Website – News

¹⁷ Energy Global

Total Jobs in Renewable Energy Sector by 2030



Source: IRENA

IRENA estimates that if the region were to progress towards its renewable energy targets it could create an average of 135,000 direct jobs every year and by 2030 could reach 220,500. United Arab Emirates and Saudi Arabia are projected to create most jobs due to their high demand. Renewable energy supports the economy and provides employment opportunities.

Conclusion

The GCC region is making significant strides towards sustainable development, driven by ambitious renewable energy projects, innovative urban planning, and a commitment to reducing carbon emissions. Initiatives such as Saudi Arabia's Vision 2030, the UAE's Masdar City, and the Middle East Green Initiative highlight the region's dedication to diversifying its energy sources and enhancing environmental stewardship. However, challenges such as water scarcity, energy dependency, and rapid urbanization continue to pose hurdles. Addressing these issues requires sustained effort and collaboration across governments, businesses, and communities.

In the COP28 Meeting held in Dubai which ended on 13th December 2023, the Presidency took some bold and decisive strides through the Action Agenda which has 4 pillars of the Paris Agreement: "Fast tracking a just and orderly energy transition; Fixing climate finance to make it more available, affordable and accessible; Focusing on people, nature, lives and livelihoods; Fostering full inclusivity in climate action." Over USD 85 billion has been mobilised along with 11 pledges and declarations which was agreed to by 198 parties.¹⁸

Though attempts are being made by the GCC region to shift to renewable energy, it is evident that they are still dependent on oil and gas. For instance, Qatar has invested heavily in North Field East (NFE) and North Field South (NFS) which will increase the country's LNG production from 77 metric-tonnes-per-annum (mtpa) to 126 mtpa by 2027. The latest expansion of North Field named North Field West will add 16 mtpa of LNG annually. With the valuation of USD 28 billion, the North Field project seeks to expand output by 85% from the current production levels, to 142 mtpa by 2030.¹⁹ Jafurah, Saudi Arabia's largest liquid-rich shale gas field in the Middle East is expected to increase production of natural gas from 200 million standard cubic feet per day to 2 billion standard cubic feet per day of sales by 2030 with total lifecycle investment exceeding USD 100 billion.²⁰

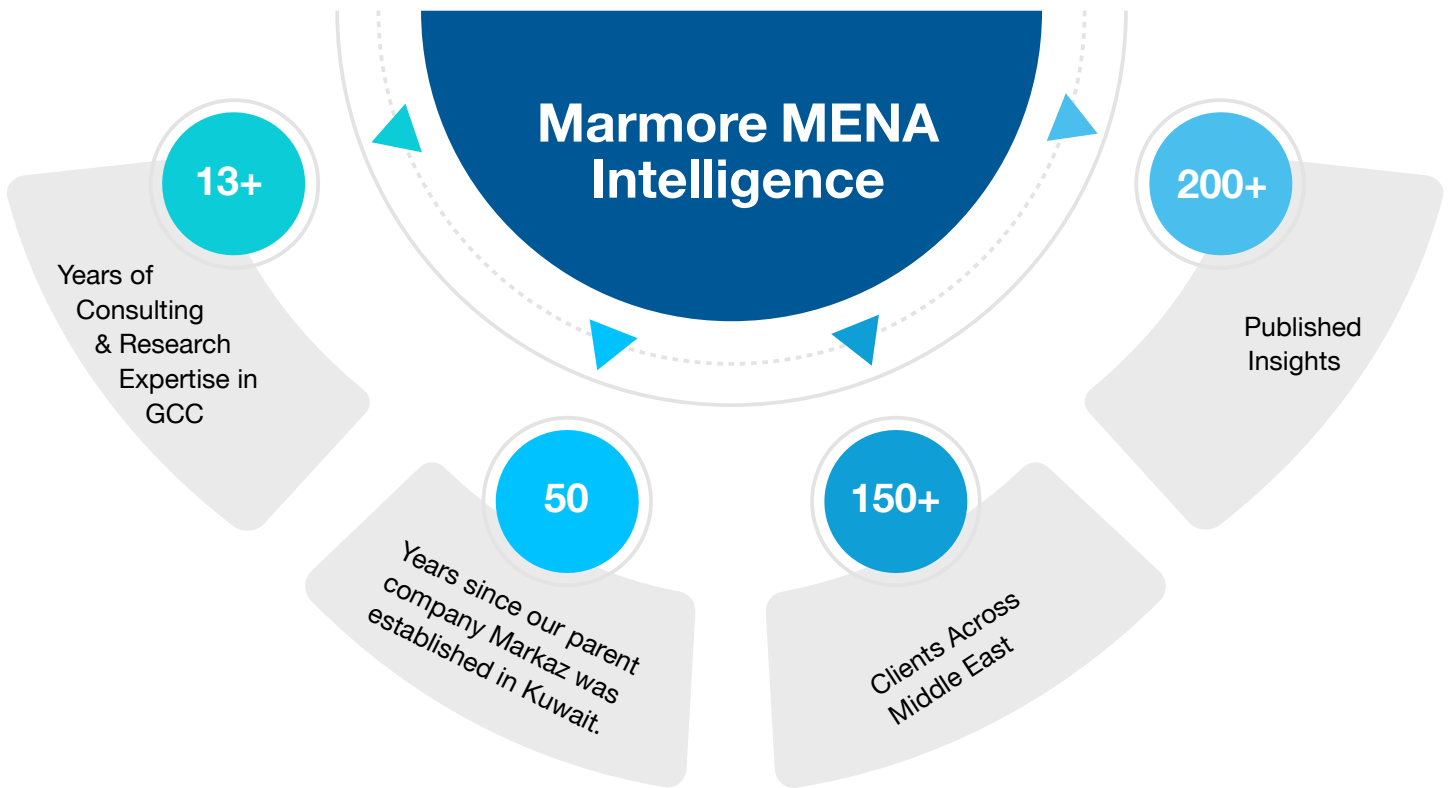
In conclusion, although the GCC countries continue to plough money into the oil and gas sector to bolster their economies, concerted efforts are being made by them to reduce carbon emissions and transition to renewable sources of energy. By balancing their traditional energy investments with innovative renewable initiatives, the GCC region seeks to create a more sustainable energy landscape that addresses both economic and environmental challenges.

¹⁸ COP28 UAE | COP28 delivers historic consensus in Dubai to accelerate climate action

¹⁹ North Field Expansion (NFE) Project in Qatar (qatarstalk.com) & Master Gas System Jafurah contracts awarded 2024 | Aramco Life

²⁰ Jafurah Gas Field, Saudi Arabia (offshore-technology.com)

ABOUT MARMORE



Key Contacts



M R RAGHU

CEO, Marmore MENA Intelligence
rmandagolathur@e-marmore.com



KARTHIK RAMESH

Director
kramesh@e-marmore.com



SANKARA NARAYANAN

Assistant Vice President - Consulting & Advisory Services
snarayanan@e-marmore.com

Our Areas of Expertise

Our Business Operates in Two Key Verticals



Consulting

- Strategic/Competitors Intelligence
- Market Entry Strategies
- Business Plan
- Fintech Adoption/Integration
- Digital Banking Intelligence
- Robo-Advisory Solutions
- Company Valuation



Research Services

- Macro Economic Research
- Industry Research
- Capital Market Research
- Equity Research (Buy-side/Sell-Side)
- Thematic Reports
- White Papers

To know more Scan here

