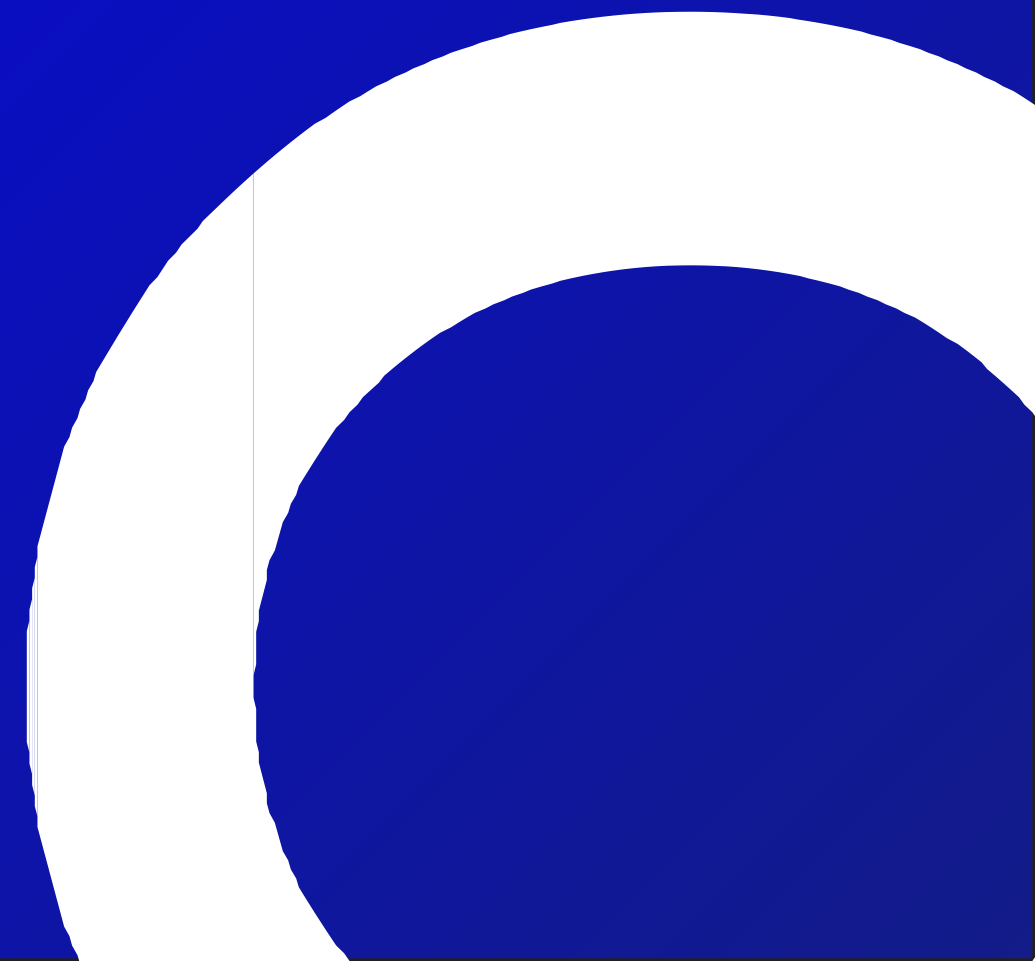


Driving Change: : The Future of the Electric Vehicle Market in the Middle East

A whitepaper by  investopia

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INTRODUCTION

The global automotive industry is on the cusp of a major transformation, with electric vehicles (EVs) emerging as the leading force in the drive for sustainable transportation. As the world accelerates towards a greener future, the Middle East—traditionally known for its oil wealth—is making significant progress in embracing EVs.

The EV market in the Middle East is rapidly emerging as a key component of the region's transition towards sustainable energy and economic diversification. Driven by ambitious government policies, significant investments in infrastructure, and a growing awareness of environmental concerns, the EV sector is poised to become a major player in the region's transportation landscape. Countries like the UAE and Saudi Arabia are leading the charge with comprehensive strategies that include the development of local manufacturing capabilities, expansion of charging networks, and incentives for consumers to adopt cleaner, more efficient vehicles. As the Middle East seeks to reduce its reliance on fossil fuels and embrace cutting-edge technology, the growth of the EV market represents a crucial step towards a greener, more innovative future.

In this regard, both EV and EV charging industries in the Middle East have experienced significant growth in recent years. Government policies and the focus on energy transition have spurred increased investments in EV charging infrastructure throughout the region.

Within this transformation of the automotive sector by EV, the Investopia ecosystem emerges as a proactive advocate for investments into more advanced EV technologies and infrastructure in the Middle East. Investopia is committed to supporting initiatives that harness the power of EV and support innovation.



CURRENT LANDSCAPE OF THE EV MARKET

The UAE ranks as the 4th most affordable country globally for (EV) charging. By switching to electric, a driver in the UAE could reduce their fuel costs by 88%, surpassing savings in some of the world's top EV markets like the US, UK, and Korea. The affordable cost of EV charging is among the various subsidies provided by the UAE government to encourage the adoption of electric vehicles in the country. In July, the UAE's Energy Minister introduced the National Electric Vehicle Strategy, targeting an increase in EVs to 50% of all vehicles on the roads by 2050. These initiatives have led the country to ranking seventh in the global Electric Mobility Readiness Index. The younger generation seems to be responsible for a major portion of the demand in the UAE, with the proportion of green vehicle owners in the 16-34 age range being 30% higher than the national average in Dubai.

In line with the national vision to reduce carbon dioxide emissions through clean energy and electrification, Abu Dhabi released its regulatory policy for EV charging infrastructure in 2022. This policy outlines the key principles for the ownership, installation, and management of Electric Vehicle Supply Equipment (EVSE), as well as the provision of electricity to EVSE and the pricing structure for end customers, all aimed at supporting the 2050 goal. Similarly, Dubai has launched the "2030 Green Transport Strategy" with a target of having 42,000 NEVs on the roads by 2030.

Saudi Arabia has implemented similar policies to expedite the transition to green mobility. The Kingdom plans to invest \$ 50 billion in EV production over the next decade, with a goal of making 30% of new vehicles electric by 2030. According to the international management consultancy Arthur D. Little, the Saudi EV market is considered more dynamic than those in advanced OECD countries such as Australia and Singapore.

Qatar has been actively pursuing the development and adoption of EVs as part of its broader sustainability and environmental goals. As part of Qatar's National Vision 2030, the country aims to promote sustainable development, which includes a strong focus on reducing carbon emissions and adopting cleaner energy sources. The transition to EVs is a significant part of this strategy. The Qatari government aims to transition its government fleets and public transportation to EVs and achieve a 10% market share for EVs by 2030, while also committing to expanding EV charging infrastructure.

Given the surging demand for EVs in the region, some of the world's leading EV manufacturers have already established a strong presence there, competing fiercely for market dominance. Brands like Volkswagen, Nissan, Hyundai, BMW, and Tesla are among the most popular with local consumers. However, new players are increasingly entering the Middle Eastern market, expanding their reach through partnerships with local organizations. Recent examples include the Chinese EV maker NIO, which secured a \$1.1 billion investment from Abu Dhabi's CYVN Holdings to strengthen its balance sheet and support business growth. Saudi Arabia's Ministry of Investment has also formed a \$5.6 billion partnership with Chinese EV startup Human Horizons to develop, manufacture, and market electric vehicles. Recently, the Saudi Transport General Authority (TGA) announced that Lucid electric cars are now available for rent to residents and tourists, aligning with the country's initiative to embrace clean energy and protect the environment. In September 2023, Lucid Group, supported by the Public Investment Fund (PIF), inaugurated its first international manufacturing plant in Jeddah, Saudi Arabia. This development is part of an agreement to advance the country's electrification efforts, including a commitment from the Kingdom to purchase up to 100,000 vehicles from Lucid over the next decade.

INFRASTRUCTURE DEVELOPMENT

A strong charging infrastructure is crucial for the widespread adoption of EVs. In the Middle East, governments are taking significant steps to establish a network of charging stations, making EVs more accessible and convenient for drivers. For instance, by 2025, the Saudi Electric Vehicle Charging Infrastructure Development Initiative (SEVCIDI) and the Dubai Electricity and Water Authority (DEWA) aim to install 50,007 and 1,008 charging stations in Saudi Arabia and Dubai, respectively. This initiative not only enhances practicality but also highlights the region's dedication to sustainability.

Public charging infrastructure remains a bottleneck to accelerating EV adoption in the region. For instance, in the case of the UAE, while the country has been heavily investing in renewable energy projects with the goal of achieving carbon neutrality by 2050, there were only about 2,000 public charging stations in the UAE as of 2023, with over 65% being slow chargers. The gap between the current pace of infrastructure deployment and the growing demand is expected to widen. To meet the UAE's National Electric Vehicles Policy target for EVs on the road, the demand for charging points is projected to reach 45,000 by 2035. However, if the current rollout rate continues, there will only be 10,000 charging points available by that time.

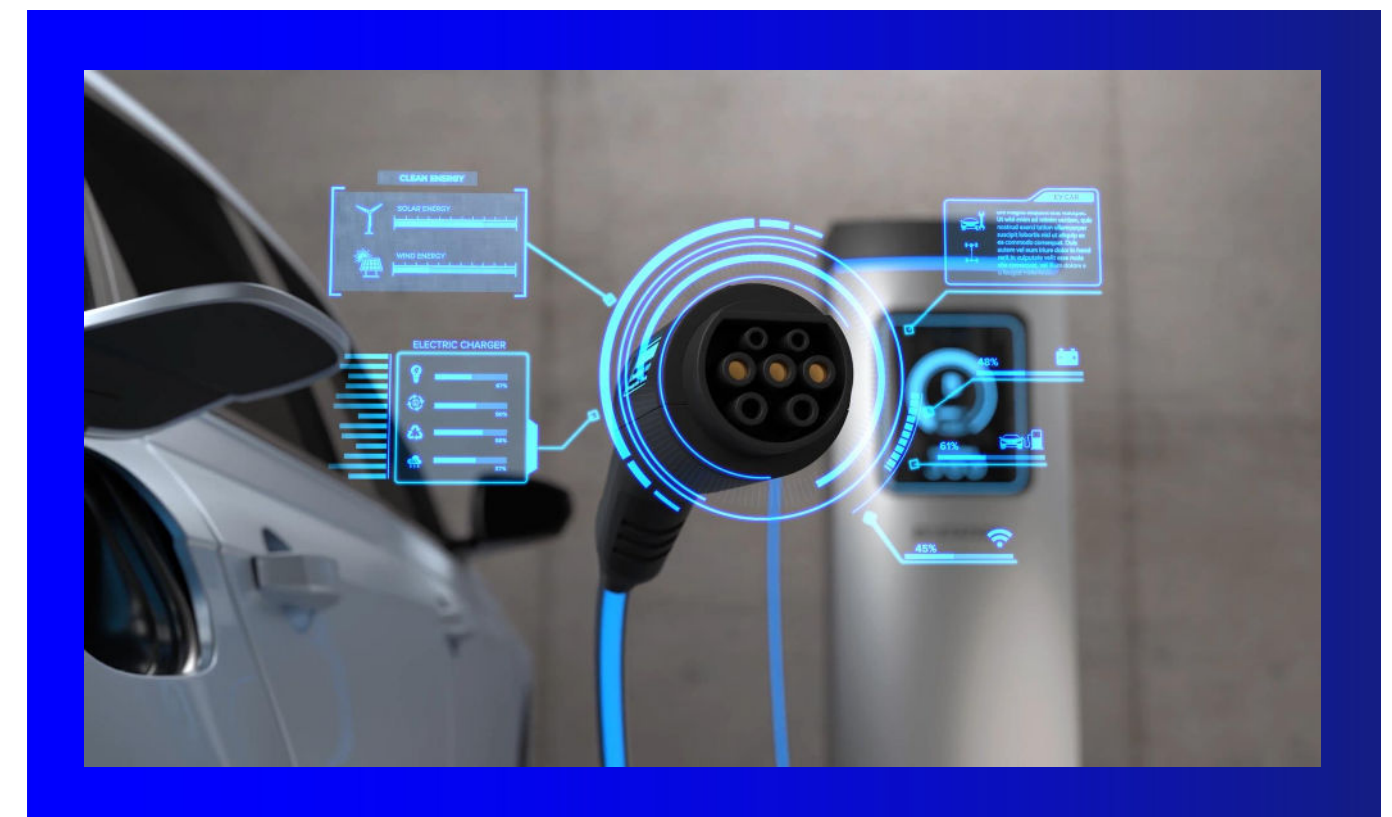
Collaboration between the public and private sectors is crucial to the UAE's EV strategy. The National Electric Vehicles Policy (NEVP) seeks to foster cooperation between federal and emirate-level stakeholders and the private sector to create a nationwide network of EV chargers. The NEVP has several objectives, including reducing energy consumption in the transport sector by 20% and developing a centralized database of EV charging stations to simplify the charging process and improve convenience for EV users across the UAE.

In 2023, ADNOC Distribution and Abu Dhabi National Energy Company (TAQA) announced the creation of a new mobility joint venture, E2GO, to develop and manage EV infrastructure in Abu Dhabi and across the UAE.

Saudi Arabia has also undertaken significant investments through its sovereign wealth fund, the Public Investment Fund (PIF). In 2023, PIF and Saudi Electricity Company formed a joint venture, the Electric Vehicle Infrastructure Company (EVIQ), with ownership split 75%/25%. EVIQ plans to install over 5,000 fast chargers across more than 1,000 locations in Saudi Arabia by 2030. Additionally, the company aims to encourage private sector involvement in the network's development and support the localization of research, development, and manufacturing of advanced technological materials.

In 2022, Saudi Arabia's Ministry of Industry and Mineral Resources announced the establishment of a \$2 billion EV battery metals plant to supply essential materials for EV batteries. Furthermore, in 2023, Saudi Arabia committed \$2.6 billion to invest in Vale's base metals division, aligning with its energy transition strategy.

Smart cities play a pivotal role in the integration of EVs, particularly in the Middle East, where transportation contributes nearly 15% of global greenhouse gas (GHG) emissions. By prioritizing EV adoption, smart cities are leading the charge in reducing carbon footprints and promoting sustainable urban mobility. Even cities that aren't yet classified as "smart," like Riyadh, are setting ambitious targets for EV adoption, aiming for 30% by 2030 and reaching 100% by 2060. This commitment underscores the crucial role that both smart and emerging smart cities will play in the region's transition to cleaner, more efficient transportation systems.



ENVIRONMENTAL AND ECONOMIC IMPLICATIONS

In the Middle East, governments, businesses, and communities are collaborating to advance sustainable practices, including the adoption of EVs. They are offering incentives like tax breaks, toll exemptions, and preferential parking to make EVs more affordable and convenient, ultimately driving broader adoption among the population.

The UAE Ministry of Energy and Infrastructure (MoEI) has announced plans to have 50% of all vehicles on UAE roads be electric by 2050. This ambitious goal is bolstered by Dubai's target of having 42,000 EVs on its roads by 2030—approximately six times the current number of EVs in the Emirates. The country has already transitioned 20% of its federal government agency vehicles to electric powertrains. This initiative is backed by government incentives, including free registration, free parking, and reduced charging and toll fees for EVs. This is in line with the country's decarbonization targets and essential to it achieving those.

The increased use of EVs will lead to a reduction in air pollution in the Middle East. EVs produce zero tailpipe emissions, which helps reduce air pollution in urban areas. This can lead to improved public health outcomes, as lower levels of pollutants like nitrogen oxides and particulate matter reduce respiratory and cardiovascular diseases. EVs are also quieter than traditional vehicles, which can contribute to a reduction in noise pollution, especially in densely populated urban areas. This can improve the quality of life for residents and create more pleasant urban environments.

The localization of EV manufacturing, as in the case of countries such as Saudi Arabia, will lead to job creation in the vehicle manufacturing sector. Saudi Arabia's dedication to electrification is exemplified by the launch of its first EV company, Ceer Motors. This Saudi-origin business is projected to contribute approximately \$8 billion to the Kingdom's GDP by 2034. This initiative will not only bolster the nation's expanding economy but also play a significant role in advancing decarbonization efforts in the Middle East through the automotive sector. Additionally, Ceer itself is expected to attract more than \$150 million in foreign direct investment.

The emerging automotive sector in Saudi Arabia has the potential to significantly enhance GDP, as it is one of the most impactful industries globally, and create skilled, future-focused jobs. According to a recent study by the Royal Commission in Jubail, by 2040, the automotive industry could attract nearly \$11 billion in direct investment and create 27,000 direct jobs. With a cornerstone investment like Ceer, the entire Saudi value chain can be energized, fostering off-take agreements with local suppliers, maximizing synergies within the automotive ecosystem, and generating positive spillover effects on other industries, leading to a comprehensive impact. This model can be replicated in the entire Middle East region, causing the EV sector to be a driver of GDP and jobs, ultimately contributing to the region's goal of economic diversification.

New, quality jobs are essential, especially in the expanding EV sector, which requires a highly skilled workforce capable of rapidly adopting evolving technologies and applying innovation. Creativity is crucial in the EV industry. It offers opportunities for workers to gain expertise across the engineering spectrum: from developing tools like hardware (products, circuits, and systems) and software (functions and services) to mechanical design (components), manufacturing (processes), and supply chain logistics. Consequently, a skilled workforce can thrive, contributing to GDP growth and the localization of R&D capabilities.

FUTURE OUTLOOK AND OPPORTUNITIES

Recent data indicates that the EV market in the Middle East is projected to grow to US\$3.33 billion by 2024 and reach US\$9.42 billion by 2029, with a compound annual growth rate of 23.2%. The countries with the highest demand for EVs are the UAE, Saudi Arabia and Turkey. This rapid growth is fueled by several factors, including government initiatives to encourage electric vehicle adoption, heightened awareness of energy storage solutions, the expansion of 5G telecommunications networks, and the implementation of Vision strategies in Saudi Arabia, the UAE, Qatar, and Kuwait.

The EV sector is expanding rapidly in the UAE and Saudi Arabia, driven by ambitious targets and policies supported by EV-specific regulations. This swift growth is reflected in their climbing GEMRIX rankings. Saudi Arabia has also pledged to manufacture EVs domestically, but to fully realize this potential, it will need to focus on technology transfer, developing a skilled workforce, and establishing robust supply chains.

The UAE's EV market is expected to expand at an annual growth rate of 27% from 2023 to 2027, with the country having recorded a two-fold increase in green vehicles sales since 2020. PwC projects that by 2030, EVs will account for over 15% of new passenger car and light commercial vehicle sales across the UAE, translating to approximately 58,000 vehicles. By 2035, this market share is expected to rise to 25%, or around 110,500 vehicles.

Limited access to financing options remains a challenge for the EV market in the region. Limited lending coverage, high insurance premium and renewal risks are key consumer concerns, presenting an opportunity for car financing within the EV sector in the Middle East. This presents an opportunity for financial institutions and startups to provide EV loans that offer lower interest rates than for internal combustion engine cars.

The high cost of EV repairs, particularly due to integrated designs and expensive battery replacements, presents a significant opportunity for financial instruments in the Middle East. As manufacturers gain a deeper understanding of EV-specific risks, they are increasingly venturing into the insurance sector. For instance, Tesla offers behavior-based dynamic pricing in the U.S., adjusting premiums based on how safely, how often, and what type of vehicle the customer drives. This model could inspire similar innovations in the Middle Eastern market, creating tailored insurance solutions for EV owners and opening new avenues for financial services.

Technological advancements in the EV sector in the Middle East are expected to drive the region's transition towards sustainable transportation. The integration of EVs with smart grids is a technological advancement gaining traction in the region. This allows for better energy management, enabling EVs to act as energy storage units that can feed electricity back into the grid during peak demand times, supporting overall grid stability.

AI and data analytics are being used to optimize the performance and efficiency of EVs. These technologies are applied in predictive maintenance, energy management, and even in the customization of driving experiences, enhancing the overall value proposition of EVs in the region.

The use of advanced materials, such as carbon fiber and aluminum, is increasing in EV manufacturing in the Middle East. These materials reduce vehicle weight, which improves energy efficiency and extends the range of EVs.

CONCLUSION

The Middle East market is on the cusp of a transformative era driven by a combination of government initiatives, increasing environmental awareness, and advancements in infrastructure. The region is witnessing substantial investment in EV infrastructure, including the development of widespread charging networks. This is crucial to overcoming one of the major barriers to EV adoption—range anxiety.

As Middle Eastern countries increasingly invest in renewable energy, particularly solar power, there is potential for synergies with the EV market. EVs can be powered by clean energy, reducing their overall carbon footprint and aligning with broader sustainability goals.

While the initial adoption rate has been slow, consumer awareness about the benefits of EVs, including lower running costs and environmental impact, is growing. As more models become available and costs decrease, market demand is expected to rise.

For many oil-dependent economies in the Middle East, fostering the EV market aligns with broader economic diversification strategies. By reducing reliance on fossil fuels, these countries can position themselves as leaders in the global transition to sustainable energy.

Investors and industry players who recognize and adapt to these emerging trends stand to gain significant advantages.



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