

Jordan's EVs Experience

by

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The transition to electric transportation holds significant importance in enhancing the safety, reliability, and availability of the electrical system. It also plays a crucial role in parallel efforts to reduce carbon emissions, offering a solution for carbon reduction and green recovery amid the energy transition. It is noteworthy to mention that one of our goals in the Jordan Energy Sector Strategy is to achieve a 10 per cent reduction in carbon emissions by the end of 2030.

During our work on preparing the energy balance, it became evident that the transportation sector plays a significant role in greenhouse gas emissions where the data indicated that the transportation sector consumed approximately 43 per cent of the final energy consumption in 2022. This necessitates intensified efforts to streamline energy consumption in this sector and enhance energy efficiency.

MEMR took a significant stride in advancing the EV agenda by establishing a high-level committee for Encouraging the Expansion of Electric Transportation. The committee serves as a central hub for strategic decision-making, policy formulation, and the coordination of efforts aimed at promoting the widespread adoption of electric transportation by uniting representatives from key ministries and regulatory bodies.

During the past five years, the spread of EVs in Jordan faced various challenges:

- The inadequate infrastructure proved problematic since the widespread availability of charging stations is essential for the practical adoption of EVs.
- Insufficient investment in this sector for both public and private entities hindered their ability to participate in the EV market.
- A shortage of expertise and knowledge among key stakeholders in managing EVs, including regulatory bodies and governmental entities, created a hurdle in effectively managing and regulating the electric transportation sector.
- Conflicting opinions faced at the beginning regarding the idea of replacing petroleum-based vehicles with EVs as a positive approach to alleviate harmful environmental emissions.
- Concern from the National Electric Power Company (NEPCO) regarding the impact of the widespread adoption of EVs on the national grid since they are a new type of load that requires further planning.

In line with the Jordan Energy Strategy (2020-2030), MEMR initiated the implementation of spreading the use of EVs by taking a proactive role in overseeing and coordinating the mapping out of all studies and projects carried out in Jordan by various donors in the field of electric transportation over the last five years. This strategic step was taken to ensure a comprehensive understanding of the existing landscape, prevent redundancy, and avoid the unnecessary reimplementation of prior initiatives.

In this context, efforts are underway to formulate a study on the options of EVs strategies, which the ministry is working on implementing with the support of the World Bank in collaboration with a technical team from various entities in energy sector. The purpose of this study is to explore the required infrastructure options and incentives needed to encourage EVs in Jordan. The study also aims to assess the impact of charging stations on the electrical grid and explore tariff options in this regard.

This study, and the implementation of its recommendations, will launch in April 2024.

The objectives of this study are:

- Develop and evaluate options for systematically deploying the infrastructure for electric charging.
- Develop and evaluate options for determining electricity tariffs.
- Develop and evaluate options to incentivize stakeholders in the electric transportation sector.
- Develop and evaluate options to address the impacts of EVs on the national grid.

As work on the study was underway, the fourth quarter of 2023 saw a rapid and sudden increase in the total number of EVs which reached approximately 60,000 by the end of 2023 compared to zero in 2014.

The number of licensed (public and private) electric charging stations also reached 68 stations across the kingdom.

EMRC also issued approvals for the installation of electric vehicle charging meters in homes, reaching 3,000 approvals. The aim of this initiative is to transfer citizens to a dedicated meter with a fixed tariff of 20 fils per kilowatt-hour and not to use the home meter with a segmented tariff.

One of the reasons that contribute to this surge in the number of EVs is the rise in fuel prices, which has made EVs more economically attractive. Consumers are increasingly turning to these vehicles as a strategic choice to save on operational costs and reduce their dependence on traditional fuels.

Another strong reason that supported the transition to EVs is the modification of the electricity tariff and the support for household meters. This initiative aimed to reduce the

cost of electricity, leading consumers to opt for charging their electric vehicles directly from the household meter. This behavior has contributed to an increase in household consumption values which had an impact on studies analyzing load evolution. Consequently, EMRC imposed a license on electric vehicle meters. However, the tariff for these meters is cheaper than the household meter, as it is a fixed-rate and does not depend on consumption segments, unlike the household meter.

On the other hand, EMRC also implemented time of use tariffs for charging stations. This approach encourages electric vehicle owners to charge their vehicles outside peak hours, benefiting from a lower tariff to avoid the risk of peak load escalation.

Furthermore, commendation should be given to the efforts of EMRC in overcoming barriers to investment in electric transportation. This has been achieved by increasing the electricity tariff for charging stations to approximately 8.5 fils per kilowatt-hour, aiming to enhance the return on investment in this field and stimulate investors to participate.

It is important to note that the customs tax rate on electric cars does not exceed 15% according to the size of the motor.

Finally, as for renewable energy, which accounts for 27 per cent of electricity generation, it stands as a pivotal factor contributing to the growing adoption of electric cars. This trend is particularly evident among homeowners who choose to install renewable energy systems on their rooftops.