



Afcon-Dor Alon Zichron Site



THE CHALLENGE

Today, EV charging networks are limited by the existing grid infrastructure. Consumer demand for accessible and longer-range EV charging is continuously on the rise, with 240 million EVs expected to be on the road by 2030. This is a tremendous growth rate, and the main roadblock for its realization is the deployment of public charging infrastructure which is lagging behind.

In 2022, Dor Alon decided to expand to the new market of ultra-fast EV charging. Together with Afcon, they searched for a solution to operate an ultra-fast charger at a gas station and C-store in one of Dor Alon's service areas in the north of Israel. Here, the grid was limited to 80 Kw, while the gas station and C-store consumed between 5 Kw and 30 Kw. Dor Alon estimated that the grid would not be upgraded, while the EV traffic would increase.

THE SOLUTION

Afcon and Dor Alon found ZOOZ Power's ZOOZTER™-100 was the best fit for their above-mentioned needs. The ZOOZTER™-100 is a flywheel-based power boosting system, especially designed to enable ultra-fast EV charging in areas where there is limited grid.

The ZOOZTER™-100 is charged with the available power in the station and is able to discharge power back at a rate of 100 Kw for 15 minutes. Thus, in the designated Dor Alon site the grid (limited to 80kW) with that addition of the ZOOZTER™-100 can together provide bursts of power of up to 180 kW, which optimally fits the typical charging pattern of EVs. EMS (Energy Management System) software, integrated within the ZOOZTER™-100, manages the power distribution within the micro-grid of this site by closing the gap between available power and the demanded peak energy consumption, to prevent over-consumption, which may result in power cut due to tripping of the switchgear.



Afcon Electric Transportation is a leading CPO company in Israel with vast experience in the installation and operation of about 50 high-speed DC chargers. Afcon works with the largest, high-quality DC fast- and ultra-fast charger manufacturers in the world.



Dor Alon is an energy company which is engaged in the development, establishment, and operation of a chain of over 215 gas stations and convenience stores around Israel.



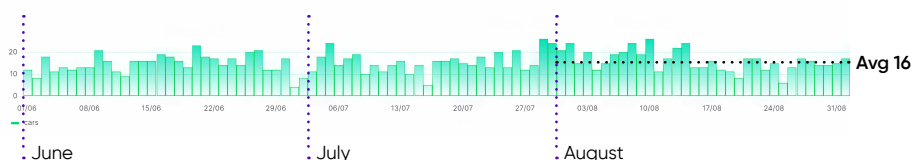
DELIVERY AND INSTALLATION

ZOOZ Power delivered the ZOOZTER™-100 to Afcon and Dor Alon as scheduled in late December 2022. It was installed, calibrated and tested within just a few days, before it was commercially available to charge EVs, as part of the Afcon & Dor-Alon ultra-fast charging network.

The high power combined with the ZOOZTER™-100's high C-Rate and fast response time enable multiple fast charging cycles for consecutive EVs. The figure below (picture #1) nicely demonstrates the typical charging/discharging curves of a ZOOZTER™-100 during one day, while multiple EVs are charged simultaneously. The second graph (picture #2) shows the number of EV charging sessions per day at the station over the months from June to September 2023. The ZOOZTER™-100 enabled the site to attract new EV drivers and reach an average of 16 cars per day, charging around 25kWh per session.



Picture #1 - ZOOZTER State of Charge vs Cars' Power demand



Picture #2 - Site performance in last 3 months



The ZOOZTER™-100 implementation has been a game-changer for stations expanding to ultra-fast EV charging. By harnessing ZOOZ Power Kinetic Power Booster system, we are charging EVs with shorter wait times and enhanced convenience, as more EV drivers choose to charge their EVs in our station, boosting our utilization rates and driving up our profits.

Ilan Dan, Afcon's CTO