

Monthly EV Charging Market Report

July 2023

hanetf

HANetf & ELEC Index Providers

Electric Vehicle Charging Infrastructure UCITS ETF

ELEC

65 bps

IE000HMSHYJ6

Product Inception Date: 25/04/2022

For Professional Clients Only. Capital at risk.

All data as of 30/06/2023

This report was written by, and is the opinion of, the ELEC index providers.

Electric Vehicle Charging ETF Key Takeaways

Charging station companies are increasingly switching to Tesla's North American Charging Standard (NACS) due to its growing support and adoption by several major automakers, such as Ford, GM, and Rivian. ChargePoint, EVgo, Wallbox NV, Kempower and Tritium have announced their support for NACS. The Society of Automotive Engineers (SAE) International has also announced that it will standardize the NACS connector. This support is expected to make NACS the official standard connector for electric vehicles in North America. The adoption of NACS in charging stations and electric vehicles enhances compatibility, enabling more EVs to conveniently connect and recharge, including at Tesla's Supercharger network. By adopting NACS, charging station companies are preparing for an expected increase in NACS-equipped EVs entering the U.S. market in 2025.

Wallbox NV (WBX.N) showcased its first CCS bidirectional charger, Quasar 2. The live demonstration featured vehicle-to-home (V2H) and vehicle-to-grid (V2G) capabilities with a CUPRA BORN 77kWh EV, confirming compatibility with Quasar 2. Wallbox plans to launch the first projects for Quasar 2 in Q4 of this year. The bidirectional charger allows EV owners to save on home energy costs through V2H and V2G functionalities, potentially saving up to 1,000€ annually. Quasar 2 transforms an EV into an energy device, enabling it to power a European home for over 3 days on average. Users can schedule charging sessions during off-peak energy rates or utilize their EV to power their home during high-rate periods, reducing reliance on the grid and promoting sustainability. Wallbox also demonstrated Quasar 2's power recovery feature, offering critical backup power during blackouts.

Beam Global (BEEM.OQ) has executed a binding Letter of Intent to acquire Amiga DOO Kraljevo, a European-based manufacturer of specialized structures and equipment for streetlights, communications, and energy infrastructure. The acquisition aims to expand Beam Global's business into the European market, increase its production capabilities, and enhance engineering expertise. The transaction is subject to completion of due diligence and is expected to be finalized in Q3 or Q4 of 2023. In addition, Beam Global has announced a proposed public offering of its common stock. The offering is not conditioned on the completion of the Amiga acquisition.

Kempower (KEMPOWR.HE) has partnered with Arnold Clark, one of Europe's largest car retailers, to provide rapid DC charging solutions for the new Arnold Clark Charge network. Approximately 500 Kempower Satellite charging points will be installed at 100 charging hubs across the UK. The Arnold Clark Charge network will be accessible through the Arnold Clark app, allowing users to book charging sessions securely on a 24/7 basis. The network will also utilize Kempower's ChargeEye charging management software to enhance the user experience. The partnership aims to alleviate range anxiety and contribute to Arnold Clark's sustainability strategy.

Kempower (KEMPOWR.HE) is opening a new production facility in Lahti, Finland, to meet the growing demand in the e-mobility market. The production facility will be opened gradually throughout 2024 and will double Kempower's production capacity in Europe. The new premises will also include a research center.

Kempower (KEMPOWR.HE) is partnering with National Car Charging (NCC), the largest and most experienced EV charging station reseller and installer in the US. Kempower is introducing its Kempower Satellite and Kempower Power Unit products in North America, marking a crucial step in its growth strategy. Its North Carolina production facility, set to open later this year, will help meet the increasing demand for DC fast charging units in the US.

Tritium (DCFC.OQ) has installed 10 of its chargers at Sacramento's Power Inn light rail station. This initiative has resulted in the creation of one of California's largest universal fast charging hubs. The charging hub is designed to cater to both regular drivers and commercial fleets, with designated spots for large vehicles such as buses and semi-trucks. Sacramento Municipal Utility District (SMUD) predicts that the greater Sacramento region will have approximately one million electric vehicles by 2040.

bp ventures has invested €7.5 million in Berlin-based electric vehicle (EV) charging infrastructure services provider, Service4Charger GmbH, leading its €10 million Series A funding round. Service4Charger specializes in the installation and maintenance of EV charging stations throughout Germany, with in-house trained and digitally equipped electrical engineers, known as "Mobile Heroes". The collaboration with Service4Charger is expected to support the installation and servicing of EV charge points in Germany, where bp's e-mobility business, Aral pulse, operates with around 1,500 ultrafast charging points. Together, Aral pulse and Service4Charger plan to offer Aral customers a full suite of charging infrastructure services, including planning, installation, operation, and maintenance.⁸

US electric vehicle (EV) startup, Lordstown Motors, has filed for Chapter 11 bankruptcy protection after its investment agreement with Taiwan's Foxconn fell through. The auto manufacturer accuses Foxconn of fraudulent conduct and failing to adhere to its commitment of investing up to \$170 million in the company. Foxconn has already invested \$52.7 million in Lordstown and holds an 8.4% stake. Foxconn contends that Lordstown breached the agreement when its stock price dropped below \$1 per share. The news marks a significant setback for Lordstown, which had ambitions to produce its flagship EV, the Endurance and also highlights the challenges faced by many electric vehicle manufacturers trying to scale up production. However, with Lordstown now seeking a buyer, its operations and assets, including the Endurance, could potentially attract other automakers interested in a fast entry into the EV market.

Sources available upon request. **Please note that all performance figures are showing net data.** Past performance is not indicative of future performance. When you invest in ETFs, your capital is at risk.

Macro Outlook

Toyota aims to halve the size, cost, and weight of its electric vehicle (EV) batteries following a breakthrough in its solid-state battery technology. The company plans to simplify the production process for battery materials, thereby reducing the cost. As a result, it could also lower the cost of solid-state batteries to levels similar to or less than those of liquid-based lithium-ion batteries. Toyota is also working on the technology with Panasonic through their joint battery venture. Toyota aims to begin mass production of solid-state batteries for EVs by 2027 or 2028, claiming its technology will allow an EV to have a range of 1,200 km and a charging time of 10 minutes or less. However, it also cautioned that the technology might not be the "ultimate solution" for battery challenges and suggested room for further development in liquid-based batteries.

The Biden administration plans to invest \$2 billion from the Inflation Reduction Act to expedite the domestic manufacturing of EVs and revive struggling plants. The funding, which will be disbursed as grants and subsidies, is intended to assist the conversion of existing auto plants to EV production. The Department of Energy's Vehicle Technologies Office stated that priority will be given to projects that renovate or retool manufacturing plants that have recently ceased operations or are anticipated to close soon. The objective is to preserve jobs, particularly union jobs. This investment is part of the Biden administration's broader goal of decarbonizing the economy by 2050, with the Environmental Protection Agency proposing rules that could lead to a two-thirds shift to EVs in the new vehicle market by 2032.

The US Department of Energy's Loan Programs Office (LPO) is set to provide a \$9.2 billion loan to Ford and SK On for the construction of EV battery factories. This loan is part of a clean energy investment push by the government that was supercharged by last year's passage of the Inflation Reduction Act and supports President Biden's Investing in America agenda to onshore and reshore domestic manufacturing of technologies that are critical to reaching the clean energy and transportation future. Ford and SK On are building three factories in Kentucky and Tennessee to support Ford's growing EV lineup.

Germany plans to allocate up to €900 million in subsidies to expand EV charging stations for households and companies. The country currently has around 90,000 public charging stations and aims to increase this number to one million by 2030. As of April, Germany had 1.2 million fully electric vehicles on its roads, far short of its 2030 target of 15 million. High costs, limited range, and a lack of charging infrastructure, particularly in rural areas, have hindered EV sales. The government will soon launch two funding programs to support the creation of charging stations with independent power supplies for private households and companies. These subsidies are on top of the €6.3 billion approved in October for a three-year plan to boost the number of EV charging stations nationwide.

In the recently announced "Atlantic declaration," the UK and US have agreed to collaborate on electric vehicle (EV) supply chains. However, UK carmakers and battery producers are likely to miss out on the benefits. The agreement allows UK minerals to qualify for tax credits when used in US-made vehicles. To be eligible for these tax credits, both the vehicles and batteries must still be

assembled in North America. UK negotiators are pushing for a broader definition that would include tax credits for UK-built EVs exported to the US: The current proposal would exclude companies like Jaguar Land Rover and China's Envision from receiving these benefits.

The Portuguese regulator has issued a positive declaration of environmental impact for the Barroso lithium mine, a venture by Savannah Resources, marking a significant step towards securing raw materials for Europe's electric car industry. The mine is expected to produce enough lithium to facilitate the manufacturing of 500,000 electric vehicles per year. Lithium demand in Europe is projected to quadruple by 2030, contributing to a quarter of the global demand. However, the region currently produces less than 1% of the world's lithium supply. Savannah's project is seen as a pivotal test for Europe's ability to develop a battery raw material supply chain. The company aims for the mine to commence production before mid-2026.

Saudi Arabia is planning to build a second Lithium processing facility in a partnership with Australian lithium start-up European Lithium and Saudi industrial conglomerate Obeikan Investment Group. The \$350-\$400 million facility, which will use lithium ore sourced from Austria to produce lithium hydroxide for BMW, is part of Saudi Arabia's broader strategy to diversify its economy and strengthen its role in the electric vehicle production and battery supply chain. The plant is expected to start producing lithium hydroxide in 2026. Currently, China accounts for nearly 60% of global lithium processing, which is a critical element in electric car batteries. This project represents efforts to develop more processing capacity outside China.

All sources available upon request. **Please note that all performance figures are showing net data.** Past performance is not indicative of future performance. When you invest in ETFs, your capital is at risk.

Electric Vehicle Charging ETF Performance

As of 30/06/2023

	1M	3M	6M	YTD	12M	SI
Electric Vehicle Charging Infrastructure UCITS ETF	-4.31%	-23.87%	-13.51%	-13.51%	-40.67%	-54.87%
<i>Solactive Electric Vehicle Charging Infrastructure Index</i>	-4.03%	-23.49%	-12.89%	-12.89%	-39.99%	-54.27%

Please note that all performance figures are showing net data. Source: Bloomberg / HANetf. Data as of 30/06/2023
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Product Details

Electric Vehicle Charging Infrastructure UCITS ETF aims to capture the trend of electric vehicle (EV) transition and provide investors a specific opportunity to gain exposure to the EV charging infrastructure industry. The theme is highly related to the electric vehicle industry but has so far not enjoyed as much investor spotlight as the EV manufacturers.

The fund provides exposure to two crucial enabling industries for the emerging electric vehicle ecosystem in covering both charging infrastructure as well as battery technology: Battery Charging Equipment Manufacturing and Electric Vehicle Charging Stations.

The fund tracks the Solactive Electric Vehicle Charging Infrastructure Index NTR (SOLEVIFN Index).

Visit the [ELEC fund page](#) for more information.

Exchange	Ticker	RIC	SEDOL	ISIN	Valoren	WKN	CCY	Listing Date
LSE	ELEC LN	HAELEC.L	BMD1WW9	IE000HMSHYJ6			USD	27/04/2022
LSE	ELEP LN	ELEPL	BMD1WX0	IE000HMSHYJ6			GBP	27/04/2022
Borsa Italiana	ELEC IM	ELECT.MI	BPCJF71	IE000HMSHYJ6			EUR	27/04/2022
Xetra	ELEC GY	ELECP.DE	BPCJFQ0	IE000HMSHYJ6		A3DGLA	EUR	27/04/2022

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The ETF Prospectus, Metals ETC Prospectus, FCA Carbon ETC Prospectus, CBI Carbon ETC Prospectus and Cryptocurrency Prospectus can all be downloaded from www.hanetf.com.

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