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Electric Vehicle Round-up

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Spotlight: IEA publishes its Global EV Outlook 2022

In May 2022, the IEA published its Global EV Outlook for 2022 which examines key areas of interest such as EV and charging infrastructure deployment, energy use, CO2 emissions, battery demand and related policy developments. Key takeaways from the outlook include:

1. Increased EV sales

— EV sales doubled between 2020 - 2021 to 6.6mn; and
— From 2019 to 2021, market share of EV sales increased 4 times to 10%.

Factors identified as driving the rise in EV sales:

— Increased public spending and availability of subsidies;
— Phasing out of combustion engine vehicles;
— Automotive manufacturers planning to exceed policy targets when electrifying their fleets;
— New EV models available to the market; and
— Narrowing of the price gap between EVs and combustion-based cars in China (this is significant given that in 2020 6.6mn vehicles were sold in China).

2. More needs to be done to support the roll-out of EV charging infrastructure

To meet the targets set in the IEA Announced Pledges Scenario, the quantity of public chargers available must increase by 9 times in order to provide customers with necessary coverage.

3. More needs to be done to support uptake of heavy-duty EVs

Market share of electric truck sales must increase to meet net zero targets, given this was at only 0.3% in 2021.

4. Mineral supply issues are on the horizon

Several factors are causing supply chain challenges such as:

— Significant increase in prices of raw materials (cobalt/lithium/nickel);
— Record battery demand;
— Limited structural investment in new supply capacity; and
— Russian invasion of Ukraine (Russia supplies 20% of the world's high-purity nickel).

The outlook also made 5 policy recommendations to accelerate EV adoption globally:

1. Use budget-neutral rebate programmes as transition policy tools and apply efficiency/CO2 standards to all countries;
2. Stimulate the heavy-duty EV market;
3. Focus on the uptake of EVs in developing nations;
4. Widen public charging infrastructure networks; and
5. Encourage sustainable mining of crucial battery metals, chemical innovation and co-operation between consumer and producer countries to enable supply chains that are robust and sustainable.

Reacting to new smart charging regulations

New smart charging regulations

The UK's new Electric Vehicles (Smart Charge Points) Regulations 2021 came into force on 30 June 2022, and aim to embed smart functionality in domestic and workplace EV charge points. The Regulations cover three key areas:

1. **Default off-peak charging** - the relevant charge points are configured to incorporate pre-set default charging hours outside of peak hours. The user will have to actively choose to charge outside of these hours, and the default provision will be for off-peak charging.
2. **Random charging delay** - all relevant charge points are capable of operating, at each relevant time, with a delay of up to 1800 seconds, such delay to be of a random duration which is determined. However, the charge point must be configured such that no delays occur during a response to demand side response services.
3. **Demand side response ("DSR") services** - the pre-set default charging will not apply if the charge point is sold with a DSR agreement, the charge point is configured to comply with the requirements of the DSR agreement.

If these Regulations are to have the desired effect (of reducing pressure on the UK's electricity infrastructure and smoothing electricity demand), industry has stressed that it is important consumers are educated around grid balancing, why it is in their (and their community's) best interest, and how these regulations may facilitate it. One suggestion is to incentivise participation in smart charging and DSR through initiatives such as loyalty points or reduced charging rates. In this regard, the Regulations could be a catalyst for wider EV roll-out.

However, commentators note that companies must remember to put consumer habits, such as charging patterns, at the centre of their operations. The onus is on industry to make these Regulations work for consumers – and, by extension, for the UK's electricity system and its participants.

EV sales in the UK surpass half a million

The number of EVs sold in the UK has risen from fewer than 100,000 in 2019 to 500,000 in June 2022, meaning EVs now account for about 1.2% of the 40.5mn cars on British roads (with a fifth of those EVs being Tesla models).

The continued rise in EV sales is partly attributable to tightening of regulations on CO2 emissions in the UK. As a result, manufacturers have been forced to prioritise the UK for EV deliveries in order to meet former EU emissions targets that have been transposed into UK law post-Brexit.

The government goal of 22% of new car sales being EVs by end of 2024 could be more ambitious, however. According to the latest data from New AutoMotive, this target fails to keep pace with the increase in consumer demand. Evidence provided by the Climate Change Committee similarly suggests that the adoption of EVs surpasses both its own and the government's growth projections.

Nevertheless, supply chain issues, particularly concerning the semiconductor shortage, alongside the pandemic restrictions in China, have stifled EV production, with typical delivery time of electrics cars now between 40 weeks and a year, according to New AutoMotive's research. As the EV market continues to face surging consumer demand, particularly as motorists face rising fuel costs, weak overall volumes of production threaten not only the ability to meet overall carbon reduction targets, but also to slow the pace of the current growth in popularity of EVs.

All-electric future not possible without critical raw materials

EVs and other electrical appliances all rely on the supply of certain critical elements, including cobalt, strontium, and lithium. The UK Criticality Assessment of Technology Critical Minerals and Metals commissioned by the British Geological Survey in November 2021 aimed to identify the minerals which might be at risk of supply disruption, and to utilise the findings to inform the development of mitigation strategies.

Criticality was assessed from the dimensions of the likelihood of supply disruptions and the economic vulnerability of the UK to such disruptions. Of the 26 critical raw materials evaluated, 18 exceeded the threshold for criticality on both axes, including lithium, cobalt and graphite. China is the leading producer of 16 of the critical elements studied and other leading producers include Brazil for niobium, Russia for palladium, and the Democratic Republic of Congo for tantalum. The concentration of global production in a handful of countries, some of which are linked to conflict and human rights abuses, poses a risk as to the supply continuity of these minerals.

The report signals concern for the UK and its green and digital ambitions, particularly the policy of phasing out internal combustion engines by 2030 and aims to build a robust EV and battery manufacturing industry. Demand for these materials will only accelerate, putting the UK in a potentially vulnerable position in relation to risks associated with the leading producers of these raw materials. The report recognises that these risks can be addressed by greater localisation of the manufacturing and increased involvement of cell manufacturers in the upstream supply chain.

Industry dissatisfaction over Government stopping plug-in grant

The ending of the Government's plug-in grant for EVs, announced on the 14 June 2022, which handed out GBP 1,500 for individual EVs costing less than GBP 32,000, has caused upset amongst the industry. The Government justified its decision, claiming the stimulus is no longer required to encourage demand given that now EVs make up over half of all new cars sold.

The Government state that the end of the plug-in grant will allow Government funding to be re-focused on network expansion of public EV charging points. Furthermore, GBP 300mn of grant funding will be used to increase sales of other electric motor vehicles including taxis, motorcycles, vans and trucks and wheelchair accessible vehicles.

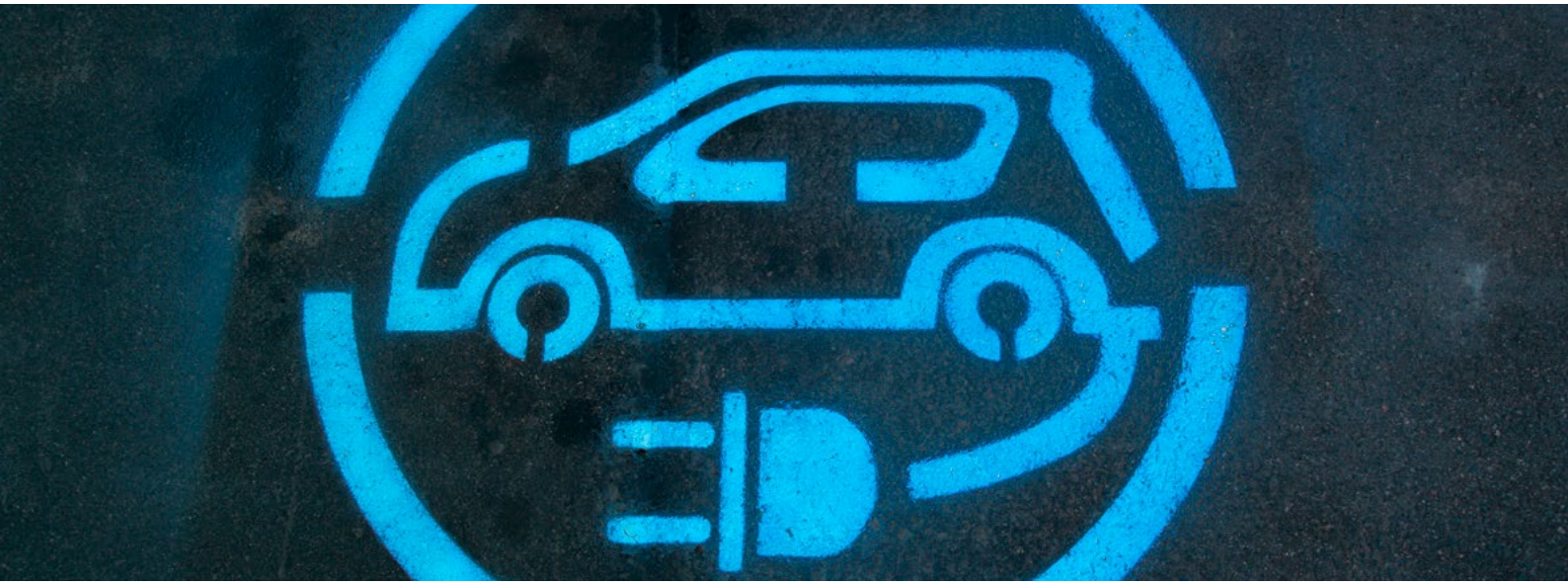
In the context of current geopolitical events and the energy crisis, there is discontent across the industry that the Government are "sending the wrong message" in making this move because it represents a shift away from supporting new technologies.

Criticism has come from various sources, including the president of the AA, Edward King, who stated that this decision would make consumers think twice about transitioning to EVs. This opinion was also shared by the RAC and the Society of Motor Manufacturers and Traders, with the latter suggesting that the Government's decision is misinformed, citing projections that, if retained, the grant would by 2026 increase EV adoption by two thirds.

Lack of home charging is exposing EV drivers to higher prices

New research from Delta-EE has found that 42% of EV drivers are being exposed to higher charging prices due to a lack of dedicated home charging points. Relying on public charging exposes consumers to 15% more VAT than domestic charging, and precludes consumers from benefitting from a time-of-use ("**ToU**") tariff for their electricity supply, which provides benefits with cheaper electricity prices during off-peak periods. This aligns with previous research conducted by Cornwall Insight, which in March 2022 suggested that only a quarter of domestic EV drivers use ToU tariffs in Britain, leaving the majority exposed to high wholesale prices and market volatility which may limit further EV uptake. This is exacerbated by the finding that over half of the ToU tariffs launched ahead of the wholesale volatility are not available for online switches, further dampening the consumer experience of home charging.

Despite the high upfront cost, home charging points can deliver huge running cost savings for domestic EV drivers, with Delta-EE predicting an over 50% reduction in the cost per mile in comparison to internal combustion engine vehicles. Concurrently, there is a greater market for more innovative electricity supply tariffs and products, with major suppliers offering specific EV tariffs which include benefits such as off-peak rate of 4.5p/KWh (EDF's GoElectric 35 tariff) and free periods of charging (Zap-Flash tariff). As such, ToU tariffs offer a strong value proposition for domestic EV owners in light of energy market volatility.



EV battery gigafactories' present significant employment potential

There are growing concerns that EV manufacturers may choose to abandon the UK, offshoring production to other jurisdictions. The Faraday Institution suggests that Germany will have 150,000 more EV jobs than the UK by 2030 and Hungary 30,000 more in battery manufacturing and the supply chain; hence the importance of the UK's commitment to build three gigafactories for EV batteries by 2025. These, based on a calculation by the Faraday Institution, will create at least 30,000 jobs and help Britain hold on to the production of EVs.

The Climate Change Committee (the "Committee") also recently warned that, unless battery gigafactories are located in the UK, "it is unlikely that vehicle manufacturers will manufacture EVs in the UK". The result would not only be direct and indirect unemployment, but the UK would be left with little control over the lifecycle, import of, and embedded emissions in, battery and EV manufacturing. The Committee reported that the UK's 2028 target for 68GWh annual battery production to be competitive in the global market. To this end, the current proposed gigafactories in Sunderland (Envision AESC x2) and Blyth (British Volt) are a highly significant development.

GRIDSERVE accelerates with GBP 200mn boost from Infracapital

GRIDSERVE has secured an initial GBP 200mn investment from Infracapaital in support of the company's drive to decarbonise transport through EV infrastructure in the UK and beyond. This will accelerate GRIDSERVE's plans to further its Sun-to-Wheel model (a network of grid-scale hybrid solar farms which ensure that every kW taken from the grid by EV charging infrastructure is netted off against zero-carbon kW's of solar energy put back into the grid), as well as accelerating the uptake of EVs with leasing a wide range of the latest EVs.

This investment has allowed GRIDSERVE to remain on track to deliver at least 5,000 High Power Chargers across Electric Super Hubs and Electric Forecourts® by 2025. GRIDSERVE will also expand development of its hybrid solar farms and GRIDSERVE Car Leasing will continue to grow.

Infracapital's initial investment joins with the ongoing multi-million pound partnership with financial services company, Mitsubishi HC Capital UK Plc and TPG Rise.

Shell expands EV charging network to Spain and Portugal

Shell España SA has acquired 100% of Cable Energía, a Spanish developer and operator of EV charging points that aims to become one of the largest providers of EV charging services powered by renewable energy in Spain and Portugal. Cable Energía currently has 80 charge points installed across Spain and Portugal, adding to Shell's network of around 20,000 public charge points globally. The acquisition will enable Cable Energía to accelerate its rollout of charge points while also progressing Shell's strategy of becoming a global leader in EV charging.

Antin invests in UK EV charge point operator

Antin Infrastructure Partners announced on 8 July 2022 that it has acquired a majority stake in RAW Charging, a company that installs and owns EV charging points across the UK. Founded in 2018, RAW Charging has rapidly expanded by partnering with Aviva Investors, Greene King, and McArthurGlen to roll out charging points. The company is targeting to have over 1,000 operational EV charge points installed in the UK by the end of this year, with a pipeline of over 10,000 charging points to be installed over the next three years across the UK.

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