

NEWS RELEASE

31 March 2022

EV Energy Taskforce report shows UK can deliver the tenfold increase in chargepoints needed to hit Net Zero target

Taskforce identifies five key conditions to hit the ‘sweet spot’ that meets consumer needs, drives uptake of electric vehicles and provides the right chargepoints in the right places

A new report from the multi-stakeholder Electric Vehicle Energy Taskforce makes an independent assessment of the scale of the EV infrastructure challenge facing industry and government if we are to fulfil the ambition of phasing out internal combustion cars and vans in time to deliver Net Zero by 2050.

The Government-backed Taskforce – representing the most wide-ranging collaboration between the UK’s energy, infrastructure and transport industries – has developed a plan to maximise the benefits and minimise the risks of the transition to electric vehicles by focusing on its energy-related impacts as well as the need for EV users to have access to the right chargepoints in the right places.

The Taskforce’s report is published shortly after the UK Government’s Electric Vehicle Infrastructure Strategy¹ said that a minimum of 300,000 public chargepoints will need to be deployed by 2030.

In support of the Government strategy the Taskforce has identified key conditions that will create the ‘sweet spot’ for success, driving uptake and enabling an efficient and successful transition to electric vehicles (EVs) in the UK. To deliver this requires coordinated action from the energy, infrastructure and automotive sectors as well as engagement from EV users.

¹ UK electric vehicle infrastructure strategy (<https://www.gov.uk/government/publications/uk-electric-vehicle-infrastructure-strategy>)

Using a new multi-sector model² the Taskforce assessed, for the first time, what will be required of the UK's public charging network to meet the needs of drivers, investors and the energy system. It shows how infrastructure can support the phase out of sales of new internal combustion engine (ICE) vehicles between 2030-35, and deliver on the transport ambition of Carbon Budget Six.

The Taskforce has calculated that the UK needs between 253,000 and 661,000 extra chargepoints by 2035 (with a central estimate of 490,000). There are fewer than 30,000 in place today. The model assumes that chargepoints will be built ahead of need to encourage EV uptake while, critically, also allowing operators to gain a return over the lifetime of their installations.

However, this is a complex market involving a diverse range of stakeholders and one which is not only fast growing, but very immature. Like many such markets it carries opportunity, risk and uncertainty.

Bold targets need to be backed by coordinated action

In order to meet the Sixth Carbon Budget and net zero emissions targets and end the sale of ICE vehicles by 2035, 2.5 million battery electric cars will need to be available and sold per year in the UK by 2030; a rate 13 times greater than the record-breaking levels seen in 2021 and consuming as much as 7% of forecast global battery car production. By 2035 electric cars and vans are expected to account for 74% of vehicles on the road.

To provide drivers with the confidence to buy electric vehicles and the means to charge them, near home charging provision will be a critical part of the mix. As many as 50% of public chargepoints will need to provide charging for drivers in homes without dedicated parking. The Taskforce believes that local rapid-hub charging could provide a key part of this mix. Higher energy throughput gives such installations the potential to offer better economic returns than on-street charging and, importantly, be price competitive for users.

En route rapid charging is essential to support long-distance journeys. By 2035 60,000 such chargepoints will be needed along the strategic road network, more than 10 times the number in place today.

The rapid deployment of public chargepoints at this scale implies total UK investment in public chargepoints of £7 billion³ by 2035, most of which the Taskforce believes can be delivered by the private sector.

² Energy System Catapult transport-focused framework developed from CVEI model (<https://es.catapult.org.uk/tools-and-labs/our-national-net-zero-toolkit/consumers-vehicles-and-energy-integration-model/>)

³ Investment refers to installation and capex of chargepoints. Distribution network connection costs are accounted at system level and reflect not only EV uptake but electrification of other demand loads.

By 2035, electricity demand from the transport sector is projected to rise to 55 TWh per year by 2035 making up 14% of total UK demand (equivalent to the electricity now consumed by 18 million homes).

Smart charging is an essential component of an efficient, cost effective and low embedded carbon energy system as it can reduce the requirement for network reinforcement by lowering peak demands. Domestic and slow-speed public chargepoints can also reduce charging prices by 25% or more.

Five key 'enabling conditions'

Through consultation with the widest range of expert stakeholders, the Taskforce identified five key 'enabling conditions' to ensure the deployment of a charging infrastructure that delivers good value for EV drivers, that is attractive to investors as well as accessible and available enough to meet and build consumers' confidence about their ability to charge when needed.

The key conditions identified are:

1. Public charging needs to be built ahead of need to gain consumer confidence
2. It's essential that local authorities have the tools, capabilities, powers and resources to ensure integrated energy and transport planning
3. Public chargepoints have to be used and usable – visible, accessible, connected, secure and interoperable to gain consumer confidence
4. Smart charging, wherever appropriate, is essential if system cost is to be managed
5. Informing, educating and protecting EV users is critical to create the understanding necessary for mass market uptake

Speaking at an event to launch the Taskforce report in Westminster today, **transport minister Trudy Harrison MP** said: "I'm delighted to see such brilliant collaboration across industry, as Government and the private sector comes together to make sure we're EV-fit by the end of the decade.

"The EV Energy Taskforce's plan comes hot on the heels of our landmark EV Infrastructure Strategy, which sets out our expectation to see around 300,000 chargers across the UK by 2030 – backed by over £1.6bn. The insight of industry is crucial as we roll out the Strategy, and I look forward to continuing to work together as we drive towards our cleaner, greener EV future."

Philip New, Chief Executive, Energy Systems Catapult and the **EV Energy Taskforce Chair** said: "A key challenge in making the UK's ambition to electrify road transport deliverable, is to define the type and scale of infrastructure that we'll need and agree a coherent view of the goal and the order and priority of the steps needed to get us

there. With greater certainty, we can build the confidence of those thinking of buying an electric vehicle, investing in a chargepoint or reinforcing the distribution network.

“The EV Energy Taskforce’s latest report covers a significant range of work to meet this challenge. It shows what an infrastructure that addresses consumer needs, integrates into the energy system, is investable and good value, would look like. It also highlights the key enablers required if it is to be delivered and to perform as needed.”

James Court, Chief Executive EVA England said: “Although most EV drivers will charge at home, improving public electric vehicle charging confidence now will pave the road to the rapid adoption of electric vehicles needed over the next decade.

“Drivers want to easily pay for a charge at convenient and reliable public chargepoints and across chargepoint networks. Real-time information, such as service conditions and availability of chargepoints, are crucial for drivers planning to use the public charging network.

“Smart charging offers an opportunity to charge cost effectively and environmentally, but EV drivers need to be confident in this approach to charging.”

Nina Skorupska, Chief Executive at the Association for Renewable Energy and Clean Technology (REA) said: “The work of the EV Energy Taskforce highlights the important role that charging infrastructure has to play in making electric vehicles a viable option for all consumers and businesses.

“The UK electric vehicle charging network is already growing rapidly and ahead of demand, driven largely by private investment. To continue delivering infrastructure at the rate required – and to ensure equitable access to charging across the country – a combination of public funding and innovative business models will be needed.

“Combined with the significant public funding announced by Government in their recent EV Infrastructure Strategy, prospects for the UK’s EV charging infrastructure network have never been brighter. Public and private sector stakeholder groups must now come together to ensure that the network continues to grow in the interests of the EV users of today and tomorrow.”

Fintan Slye, Executive Director at National Grid ESO said: “Smart charging and vehicle-to-grid provides an opportunity to reduce peak demand, driving down system operation costs and consumers’ bills.

“This enhanced charging flexibility also allows EVs to charge when more renewable energy is on the system, reducing the need for fossil fuel generation and helping us to achieve our plans to run a 100 per cent zero-carbon grid.”

Andy Eastlake, Zemo Partnership’s Chief Executive and Deputy Chair of the EV Energy Taskforce said: “The development of a multi-stakeholder coordinated view on

what is needed to deliver the electric vehicle charging revolution in the UK over the next decade is vital in aligning activity across sectors.

“Zemo Partnership has been working to decarbonise UK road transport since 2003. We’re proud of our role in convening the EV Energy Taskforce and bringing the broadest range of stakeholders together to tackle the electrification of transport, ensuring the electricity system and the charging infrastructure is ready for the mass take-up of EVs.

“We look forward to continuing to work with government, industry and user groups to deliver the ‘system of systems’ necessary to achieve net zero road transport.”

Notes to Editors

DOWNLOAD THE EV ENERGY TASKFORCE REPORT AND A SELECTION OF RELATED IMAGES HERE ([CLICK HERE](#))

1. The Electric Vehicle Energy Taskforce was established in autumn 2018; an initiative announced at the Prime Minister’s Zero Emission Vehicle Summit, held in Birmingham, in September 2018. The Taskforce was established to make suggestions to Government and industry to ensure that the GB energy system is ready for and able to facilitate and exploit the mass take-up of electric vehicles.
2. In order to meet net zero targets, the Government has already announced that sales of new cars powered by petrol and diesel will be phased out by 2035 at the latest.
3. Zemo Partnership is convenor of the EV Energy Taskforce. It was established in 2003 as a public-private partnership working to accelerate a sustainable shift to lower carbon vehicles and fuels and create opportunities for UK businesses. Over 220 organisations are engaged from diverse backgrounds, including automotive and fuel supply chains, government, vehicle users, academics, environment groups and others. In February 2021 the organisation changed its name (from LowCVP) to reflect heightened ambition as the UK embarks on a trajectory to achieve net zero greenhouse gas emissions by 2050.
4. The EV Energy Taskforce is chaired by Philip New, CEO of the Energy Systems Catapult. The Energy Systems Catapult was established in 2015 to provide technical, commercial and policy expertise to drive innovation across the whole energy system.

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