

A breath of fresh air for EV owners

As electric vehicles become a fixture on UK roads, charging infrastructure remains a major concern for drivers. Now, a new solution is emerging: wind-powered EV charging. Pioneered in Wales, this green technology promises faster, cleaner, and more affordable charging – offering hope for a smoother, more sustainable EV journey. Maxine Ashford reports:

Whether you accept it with open arms or are dragged kicking and screaming towards it, electric vehicles have arrived and they are most definitely here to stay. Yes, there are constant complaints about the lack of an efficient charging infrastructure and the doubters have every reason to be sceptical on that front.

Simple

We nearly got caught out recently on what should have been a simple journey down the M4 from London to Wales. We stopped at Membury services where there were only four mid-speed chargers and that was it (apart from a bank of Tesla fast-chargers). After about 40 minutes that generated a painfully slow 35 miles, we opted to limp on, air con off, to the first services in Wales at Magor. That was even worse with

just one charger, which we waited 'patiently' to use and again the whole experience proved pretty soul destroying.

Process

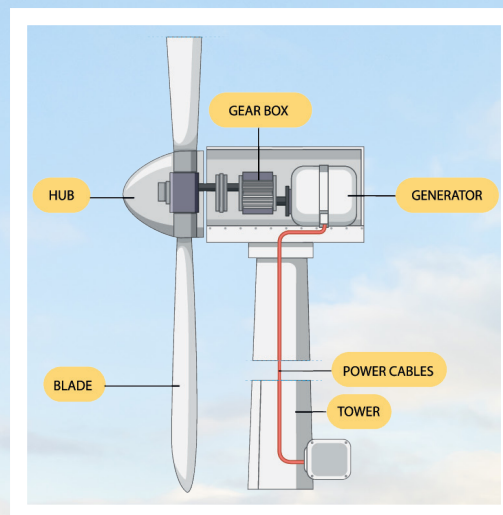
So, it comes as welcome news to *Good Motoring* that new approaches to the charging process are being explored – and that includes using power naturally generated by wind turbines. One of the first forecourts to offer this kind of technology in the UK is based in Wales and has recently been opened by Infinite Renewables, a Welsh-based company that specialises in the design, development and management of renewable energy schemes.

Since 2010, the company that now employs 13 and is based in Bridgend, has built and managed a portfolio of wind turbines undertaking projects

as far afield as Sierra Leone and Dubai. Closer to home, the firm has been working with the Royal Mint since 2016 to assist them in decarbonising their high-power usage. The local energy centre, developed by Infinite, has supported the Royal Mint's ambitions to be net zero by 2050. As a result, the Royal Mint rewarded the company's excellence with its 'Net Zero Contributor Award' in 2024.

Additionally, in 2022, Infinite was commissioned to assist the island of Sark in its goal of building an updated, island-owned electricity system. As Sark is a small island with no cars or lorries, the project presents unique challenges.

Since last year there has been a wind turbine-powered EV charging station at Tafarnaubach, Tredegar in south east Wales that offers discounted green energy direct



from the turbine to the car.

Unlike more traditional charging stations that depend entirely on the National Grid for their energy (a factor that often causes the speed of charging to rise and fall quite considerably) Infinite Renewables under the brand Infinite Charge has charging points powered by green energy when the turbine is turning. This has a two-fold benefit in that it helps to make EV vehicles more sustainable and also reduces the cost for users.

Development

The 74-metre-high turbine has been in operation since 2015. Prior to the development of the EV charging forecourt, it supplied energy to the National Grid.

We caught up with Infinite Renewables director Andrew Crossman (pictured above) to find out just how the technology works.

"The EV chargers are directly connected to the wind turbine on site," he told us. "When the blades

of the turbine turn, they generate electricity that directly feeds into the EV chargers."

But what happens if there is no wind to turn the turbine's blades? How will there be enough electricity to charge cars? Andrew explained that the chargers are also connected to the grid. "Power generated by wind is prioritised. However, when levels are low, the chargers can utilise the grid's power," he told us.

At present there are four ports at the site and they can charge at speeds of up to 160kW. The power boosts are competitively priced too. "According to the Zapmap price index of May 2025, the average cost for rapid or ultra-rapid charging is 77 pence per kiloWatt hour (kWh). The cost to charge at our location is currently 60p. This means the users enjoy a saving of around 22 per cent compared with the average cost for rapid charging."

Another issue that concerns would-be EV owners is the methods

of paying for a charge away from the comforts of a home wallbox. There are apps and all manner of incentive schemes that can be accessed, although the majority of motorists want a simple contactless solution, Andrew said: "There are a number of payment options available. Users can pay using contactless or the ProjectEV app; the chargers are also compatible with Octoverse cards."

Sites

At present, wind-powered charging sites are few and far between in the UK with one of the largest being at Checkley Wood, Leighton Buzzard, run by AWEnergy. This location has 14 rapid chargers with speeds of 250kW, at a cost-cutting 39p/kWh, along with four additional points for buses, commercial vehicles and trucks up to 7.5 tonnes. There is also a Starbucks coffee shop and toilet on site.

The introduction of additional wind turbines can be a contentious issue, with many home owners seeing them as a blot on the landscape and protesting to planning authorities about any proposed developments. The government, however, has simplified the process so that more of these greener, cleaner wind-powered charging stations can be set up.

From 2015, planning changes in England allowed a single local objection to block an onshore wind farm, effectively halting new developments despite no outright legal prohibition. This 'de facto' ban made developing such schemes almost impossible. But when the new Labour government came into power last year, they removed the key barriers and pledged to double the number of onshore wind farms in England by 2030.

Suppliers

This has not surprisingly been welcomed by renewable energy suppliers. A spokesman for AWEnergy said the group was delighted to see the change, which paved the way for developments such as Checkley Wood to become commonplace.

Hopefully more of these wind-powered charging forecourts will be springing up to help alleviate the pressure at busier locations, making EV ownership and driving less stressful in the process. ■

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