



Climate Emergency: Bovey & Heathfield

Electric powered vehicles – are you thinking of changing?

Some of us, including the Town Council, are considering whether to change our fossil fuel-powered vehicles to electric cars or vans.

According to the UK government, electric vehicles (EVs) will play a crucial role in the country's drive to become carbon neutral. But when and under what circumstances we make that change is a matter of some debate. As a rural part of the UK, whilst there may be increasing opportunities to car share in future, public transport is likely to remain a limiting factor in the ability for many of us to get rid of our cars altogether. So, what is it like to own an EV? One of our members sets out some of the pros and cons.

When to change to an EV?

If your existing fossil fuel vehicle is still good for a few more years and you do less than 5000 miles a year, then it makes more sense financially and environmentally to stick with your current vehicle until it needs replacement. This is because of the emissions generated from the manufacture and transportation of the components and battery of a new car, and from the scrapping of an old car.

If your existing car needs replacing i.e., it's coming to the end of its life, and/or you travel significant mileage each year, you may want to consider an EV. Currently, a new electric car will be more expensive to purchase than its fossil fuel equivalent, but will be cheaper to run, so there is a payback period. The greater the annual mileage the quicker the payback.

A typical electric car will do 4 miles a kWh which on an off-peak tariff of 12p a kWh is 3p a mile. An equivalent petrol car will do 36 miles a gallon (7.91 miles per litre). Currently petrol is typically around £1.50p a litre which is 19p a mile. So each mile driven saves 16p a mile (off peak electric vs petrol). The average UK annual car mileage is 7,400, hence a potential saving of £1,184 a year. Servicing is simpler as there is less to check and to go wrong on an electric vehicle.

If you have solar panels then the economics improve still further as for six months a year you may be generating surplus power which you could use to top up your EV for free instead of exporting it back to the grid.

The economics of long distance driving where you need to charge en route using a public rapid charger typically at a motorway service station is more marginal at 65p a kWh or 16.25p per mile, which is only a few pence a mile cheaper than petrol.

Alongside the cost of purchasing an EV, other criteria to consider include:

- Whether you have off street parking with access to your house electricity supply.

- Whether you have a smart meter for your electricity so you can take advantage of off peak tariffs.
- You will need a 13 amp socket car charging cable, normally provided with an electric car.

The benefits I have found from owning and driving electric cars are:

- They are easier, smoother and more pleasurable to drive
- Superior acceleration from a standing start or low speeds than for a fossil fuel equivalent
- You can't stall it and it will always start on a cold morning
- Convenience of 'refuelling' at home
- Electric cars are quiet which is great for in car music, radio or conversation
- Regenerative braking means less brake wear
- Plus, they are less polluting, both in terms of carbon and particulate emissions.

The downsides of owning and driving electric cars are:

- **Range anxiety and planning longer trips**
The worry that the charge point will not be working, be occupied by another user or run by a company that requires an app or a subscription to use. Fortunately this is becoming less of an issue as the typical electric car now has a range of 200 miles on a charge; larger models even more. A majority of charge points have a contactless card option. Gridserve operates contactless charge points at virtually all motorway services. These are reliable based on my recent experience and now permit two cars to charge on one charger at the same time. The Zapmap website lists all UK public charger locations, with details of the operator, payment details and whether they are working.
- **Battery life and cost** – A typical electric car battery is guaranteed 8 years or 100,000 miles and to have at least 80% capacity at that point. In reality batteries may last longer than that, typically 12-15 years. An electric car battery doesn't suddenly fail but just slowly loses effective range. The batteries can be replaced although they are relatively expensive. Investment in battery technology is proceeding steadily and will result in batteries with longer range, quicker charging, greater efficiency and longer life.
- **Variability of performance across the seasons**
Heating, air conditioning, lights and windscreen wipers have a significant impact on the EV battery and reduce the car's range. This can take some getting used to.

- **Cost**

The upfront costs of a new or secondhand EV are still very high, and the payback period before making savings can be lengthy. This can be offset by keeping your EV for a long period of time. It may also be worth exploring leasing arrangements.

- **EVs are quieter**

This may be pleasanter for the car's occupants but can be a hazard for other road users and pedestrians. Drivers need to be alert to pedestrians and cyclists in particular.

- **No off-street parking where I live so I can't charge at home**

In the next 12 months it is planned to install a number of public electric charge points in Bovey Tracey at one or more of our car parks. However these will be at a higher tariff. There may also be lamp-post charging points in the future.

After getting used to the differences in how they drive and how to charge them I feel very fortunate to have an EV and would encourage anyone whose current vehicle is coming to the end of its life to consider the EV option if they can.

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