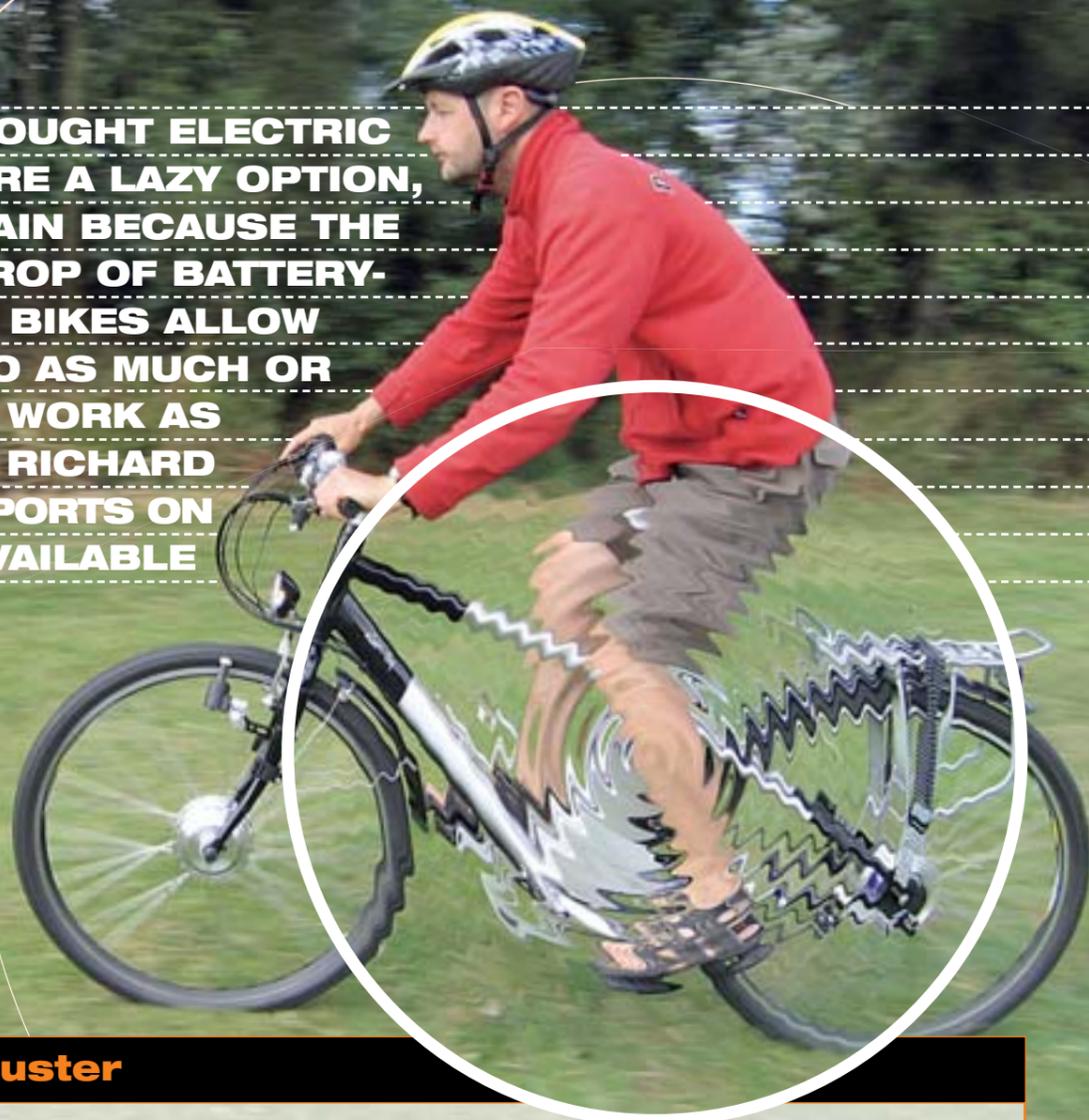


Our friends ELECTRIC

IF YOU THOUGHT ELECTRIC BIKES WERE A LAZY OPTION, THINK AGAIN BECAUSE THE LATEST CROP OF BATTERY-POWERED BIKES ALLOW YOU TO DO AS MUCH OR AS LITTLE WORK AS YOU LIKE. RICHARD PEACE REPORTS ON WHAT'S AVAILABLE



Jargon Buster

- **PEDELEC** Assistance kicks-in when you pedal.
- **E-BIKE** You can pedal independently of applying the power via a throttle device.
- **BATTERY TYPES**
 - **SLA** Sealed lead acid. Heavy with a low power-to-weight ratio. Reliable and cheap to replace.
 - **NI-MH** Nickel metal hydride. Now quite widespread. Have largely replaced NiCads, which had a similar power-to-weight ratio, but could lose capacity if recharged when not fully empty.
 - **LI-ION** The most powerful and newest technology – but ensure you get a quality make. Lithium is unstable and so the batteries need to be well made to be reliable and truly safe under charge, which is a complex process.
- **WATTS** The overall power of a motor (volts x amps).
- **VOLTS** The power potential, usually referring to a battery. Most motors and batteries are 24 or 36 volts.
- **AMPS** Measurement of the 'amount' of electricity delivered, ie the current. You will see batteries rated in amp-hours, which is the amount of amps/current they can deliver over an hour. The larger the amp-hour rating, the larger the capacity of the battery.

You love biking but sometimes you have your doubts, right? It might be a nagging headwind, just one too many steep hills or a late night that means you don't fancy your planned ride. The perfect solution? An electric bike. You might have already unwittingly driven past one, as the new breed of sleeker, quieter and lighter machines can now pass for conventional bikes at a cursory glance. Advances in battery and motor technology have brought about a quiet revolution, meaning there's no better time than now to explore the possibility of getting a helping hand while in the saddle.

Perhaps the biggest myth that has made electric bikes less popular than they should be is that they won't give you exercise, making them a lazy option. Wrong. Electric bikes, known as pedelecs, require you to pedal to activate the power which assists your pedalling effort rather than replacing it. The other main type of electric bike is the e-bike, featuring a throttle which can be used independently of the pedals. You still have the option of pedalling whilst applying as much or as little of the power as you like. Some models from PowaCycle and Powabyke even allow you to switch between the two modes (pedelec and e-bike).

As a long-time owner of numerous non-electric and electric bikes, I've found I get more exercise when I have a choice to use either – so much so that electric cycle journeys have replaced many local trips by car as they are quicker and less effort. I also use electric bikes for longer leisure rides if I feel like it; it all depends on how much or little exercise I want. Of course, on lighter electric bikes you can simply switch off the power and pedal them just like a normal bike. To me the electric bike's great asset is this fantastic flexibility.

It would be fair to say that, traditionally, electric bikes have had a bit of an image problem. Some claim it all started with the Sinclair C5 electric vehicle back in 1983, which was at first eagerly anticipated, then ridiculed on its launch. Many electric bikes – more down-to-earth in appearance – were subsequently launched, but early models, though selling pretty well, suffered from being either simply too heavy, having a limited range or not looking sporty enough – and possibly all three at once!

Fast forward to 2006 and it seems electric bikes have undergone a bit of a revolution. Lithium-ion batteries and sophisticated, now diminutively-sized, highly efficient motors have produced much lighter bikes with much greater ranges. Lithium polymer batteries and increasingly small and efficient motors hold the promise of even less weight and more range. There are more

Contenders...

PowaCycle Oxford

The Oxford provides a nice compromise between power, range, price and practicality. The light and sporty aluminium frame will suit small to medium riders and houses a small, very discrete NiMH battery. Components are definitely at the budget end of the range, the V-brakes being rather spongy and the gears clunky. Grips and chainwheel guard are made of glistening chrome plastic. The price for such a small battery is a rather limited range. On the positive side there is a handy battery level indicator cleverly built into the front light which is also powered by the main battery (you would probably be wiser to fit separate lights to avoid extra drain on the battery). All in all, this is one of the best electric bikes around at this price.

Factfile

- **MODEL** Pedelec and e-bike ➤ **PRICE** £499 ➤ **WEIGHT** 53lb (24kg)
- **APPROXIMATE RANGE** 10-15 miles depending on terrain, surface and weather
- **RECHARGE TIME** Five hours



Oxford offers a great mix of power, range, price and practicality, and the light and sporty aluminium frame will suit small to medium riders.