

THE FUTURE OF MOTORING MAY
JUST BE BRIGHT GREEN AFTER ALL.

SPARK of promise

words SUE WHITE photography GETTY IMAGES & ISTOCK

We may not be able to see into our motoring future, but to hear it you might try heading to Hamilton Island. Tucked away in the tranquillity of Queensland's Whitsundays, Hamilton has a built-in advantage in terms of peace and quiet. But it also has another tool on its side: electric cars.

Traditional vehicles are banned on the five-square-kilometre island, so residents have come up with a silent solution: electric golf carts that make their way around without gears, complicated mechanics and, best of all, noise.

Unusual it may be, but electric vehicle (EV) communities such as Hamilton Island aren't unique. In the USA, one Georgian high school now

has so many carts it has provided a golf cart parking lot for students, while a 70,000-strong retirement community in Florida boasts about 160km of golf cart trails and even allows them on some streets.

But the future of electric motoring isn't limited to enclosed suburban environments or slow-moving vehicles. While it is still impossible in Australia to buy one from a dealer, manufacturers are beginning to wave dates and figures such as 2012 and \$30,000 around often enough that electric motoring for the masses (in cars, not carts) seems set to become a reality, and soon.

ELECTRICS — WHY WORRY?

Most drivers don't have qualms about the environmental or economic cost of driving electric; charging up with green power means motoring this way costs as little as four cents a kilometre. There's also the added bonus of slashed maintenance costs, because electric cars simply don't have many parts to break down.

But today's motorists are always concerned about range and power of their vehicles; despite the average urban commute rarely exceeding 40km a day at 60km/hour or less, we want to be able to go further and faster and we are reluctant to take on technologies that are unable to provide it. We worry that electric batteries currently last only about 80–100km before needing to be charged and we have the

5 STEPS TO GREENER DRIVING

PUMP UP: Inflating tyres to (or 3–5psi beyond) maximum recommended pressure can improve fuel consumption by 6 per cent.

COMBINE TRIPS: Can you do the groceries, the school run and a couple of chores in one journey?

REDUCE IDLING: Don't believe the myths — idling is polluting. Turn off the car instead.

LOOK AFTER YOUR CAR: Regular wheel alignments, good-quality sparkplugs and clean air and fuel filters will help your car run more efficiently. (Can't find a good mechanic? All the more reason to switch to electric, as they have far fewer parts requiring repairs.)

LIGHTEN UP: Clear the junk out of the boot and back seat — extra weight increases fuel consumption.





misconception that they won't allow a car to be driven fast.

ARE ELECTRIC VEHICLES THE FUTURE?

It's still too soon to say, but the evidence is pointing to a (green-powered) electric future. In backyards and boardrooms across the country, solutions are being hammered out that are quickly removing the remaining barriers to community acceptance of EVs.

Growing numbers of enthusiasts are successfully converting old clunkers to electric. The Victorian non-profit CERES (the Centre for Education and Research in

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Environmental Strategies) is just one group that has taken on the task: it expects that its recently converted 1999 Citroen Berlingo will do about 100km/h on its new lithium-ion battery and, like others converting petrol to electric, they're getting ranges of more than 80km on a charge.

HOW DO YOU EXCITE THE PUBLIC ABOUT ELECTRIC?

It's likely that what's stopping the masses is part cost and part infrastructure. The cost is mainly due to battery prices, which make up almost half of a typical \$30,000 conversion of a petrol car to an electric model. But, as with most environmental technologies, it's anticipated this price will drop radically as demand increases, and batteries are already getting better ranges and becoming lighter with every year that passes.



ALTHOUGH ELECTRICS MAY BE THE CURRENT LEADER IN GREEN MOTORING (ASSUMING, OF COURSE, CHARGING IS DONE ON GREEN POWER), IT'S NOT THE ONLY ALTERNATIVE BEING EXPLORED. HYBRIDS ARE STILL SELLING EXTREMELY WELL, BIODIESEL UPTAKE CONTINUES TO RISE AND HYDROGEN IS BEING SERIOUSLY INVESTIGATED OVERSEAS.

It doesn't take long exploring the realities of electric motoring to see the importance of companies such as Better Place. The US organisation is planning to launch a national electric vehicle recharging network to provide infrastructure and services such as battery switching and charging stations, two services that remove many of the barriers to electric motoring.

From as early as 2012, when the group plans to launch its first Australian site in Canberra, electric vehicle drivers will be able to pull up at a Better Place station and swap their depleted batteries for new ones faster than the time it takes to fill a tank of petrol. Soon after, charging points will be installed in homes, shopping centres and workplace carparks, meaning drivers could travel most of the time with the equivalent of a full tank of petrol.

"Canberra is the first Australian city designed around the motor car," says Ben Keneally, head of marketing and external

affairs for Better Place Australia. "People drive a lot there and have two-car households and off-street parking. Initially, we would aim to be one of the cars in a two-car household, but gradually as they get more confident about their EV's capacity, they'll do more and more of the household driving with it."

The Canberra launch will be followed by a national roll-out in 2013, but in any case, we're not the first cab off the rank. In 2011, Israel will be the first country to take up the Better Place proposition, closely followed by Denmark. The question about what EV all these motorists will drive was answered at 2009's Frankfurt Auto Show when Renault announced its commitment to zero-emissions motoring. One hundred thousand of Renault's

DO IT DIFFERENTLY

If your car sits ignored for most of the week you're at work, think long and hard about how you get around. Can any of the following be incorporated into your transport mix?

PUBLIC TRANSPORT: Embrace it for the good, the bad and the ugly (yes, Sydney, thank you). The reality is, if more of us get on public transport, governments will value it more and finally start to innovate so Australia may one day have the enviable public transport system seen in places such as Germany or Switzerland. In the meantime, take a book or an MP3 player to pass the time between the delayed bus and bungled connections that turn people off the green habit in many Australian cities.

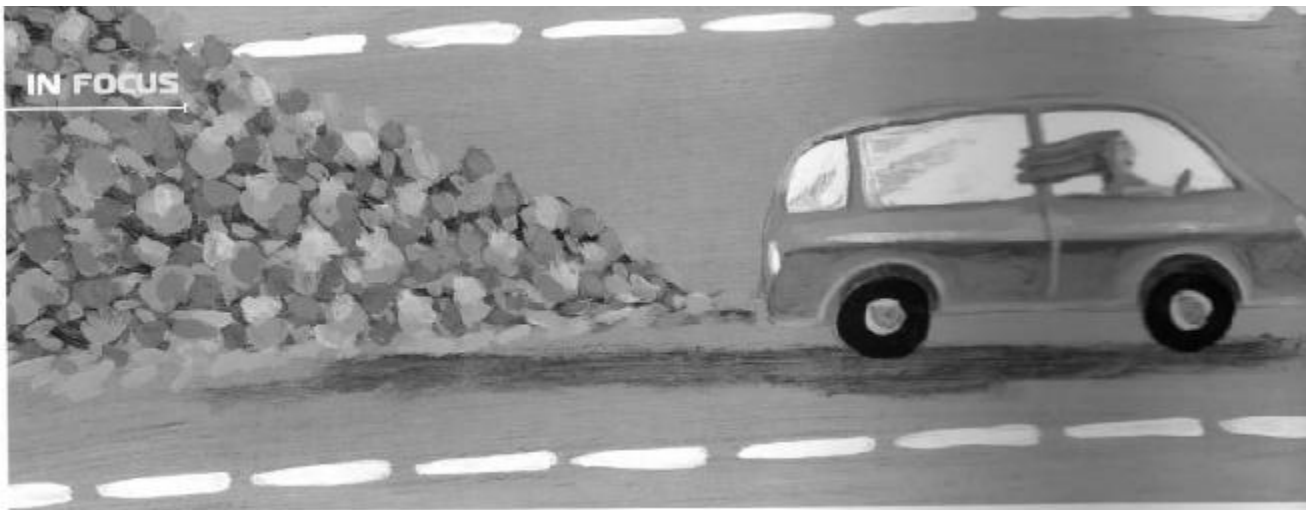
CYCLING: We all know it — cycling is uber healthy for the planet. Ideally, we'd have a set up similar to that in Denmark, where cyclists get their own lanes featuring timed traffic lights and tyre-pumping stations ... sigh. Until then, Australia's urban cyclists should look to their local councils, many of which are finally getting onboard by building more bike lanes and routes to help urban dwellers overcome their (reasonable) fears of being on pedal power among the traffic. If you're too lazy to pedal, invest in an electric variety (www.eureka.com.au); and if you're carrying a load, try a cargobike (www.cargocycles.com.au).

CAR SHARING: Growing in popularity, these programs allow car rental by the hour, day or weekend, ensuring you pay for a car only when you need one. Car sharing is usually much cheaper than renting a car, especially once you factor in the absence of registration and maintenance costs. There's also the convenience of the car being located just a few minutes from your home or workplace. www.goget.com.au; www.charterdrive.com.au; www.flexicar.com.au.

Above: Eco-friendly and affordable electric bicycles such as the Powabyke take the huff and puff out of cycling. www.powabyke.com.au

new Fluence ZEs will be produced for the Israeli and Danish markets and Ben Keneally says many five-seat sedans have already been soft-ordered by businesses to get on board. It's an important breakthrough that gets around the chicken/egg scenario that otherwise hamper the production of EVs. "The infrastructure provides the basis for mass adoption, with infrastructure going in to support the technology," he says. While not being drawn on





price, Ben says the mid-sized cars sold through Better Place will be affordable. "They'll need to be priced competitively so we can make EVs a mass-adoption alternative," he says.

ALTERNATIVES TO ELECTRICS

Although electrics may be the leader in green motoring (assuming charging is done on green power), it's not the only alternative being explored. Hybrids are still selling very well, biodiesel uptake continues to rise and hydrogen is being seriously investigated overseas. NSW Greens MLC Ian Cohen is already embracing a move away from petrol engines. His main vehicle, a Mitsubishi van, runs mostly on biodiesel provided by a company in Byron Bay.

"The company covers both ends of the product life cycle," he says. "They distribute cooking oil and then pick it up for recycling into biodiesel." When he's in Sydney for work, Ian gets around on an electric bicycle that does about 30km/h on the flat. He sees his biodiesel van as a transition towards a world in which we shy away from using fossil fuels, rather than the final solution.

"Biodiesel is a boutique industry, so as a consumer it's possible to be assured you're buying a recycled product," he says. "I wouldn't use it

SURPRISING GREEN CONTENDERS

If you wanted proof that electric is on the up and up, keep an eye on the latest from some of the big names in luxury motoring — all are currently touting their plans to break into the EV market:

AUDI – Electric sports car planned for 2012.

BMW – Hybrid models already in production, with the electric "Project i" planned for 2015.

FERRARI – Surely not. Yes, hybrids are planned for 2015.

ELECTRIC FOR THE MASSES Keep an eye out for an electric version of the Smart car. With a 150km range and a top speed of 120km/h, the word is these may be available in Australia later this year.

if it were made from, say, imported palm oil, or impacted on food supplies, but as a recycled boutique industry it's a reasonable option. Still, I'd prefer to be driving an EV, powered on green power. EV technology has a bit of a way to go, but I'm confident that with the right impetus in terms of investment it'll be right around the corner as a solution."

HYBRID HAPPENINGS

With petrol already being widely acknowledged as old school, it's likely when we look back in 20 years we will see hybrids as another of the transitional products that preceded truly green motoring.

Hybrids are petrol cars with an electric motor. Generally, the petrol engine does most of the work and the electric component kicks in

at low speeds or while idling. In hybrid, you'll use about half the of a standard family car and, while this has been appealing enough to attract thousands to buy one (the much-loved Toyota Prius has sold more than 2 million globally), the hybrid market is moving towards next iteration, the plug-in.

Plug-in hybrids will allow drivers to charge their cars overnight (the difference from an electric car is while holding onto the safety net of their petrol engine. Prius' long-awaited plug-in was unveiled in 2009, offering motorists the chance to cruise for almost 20km on the lithium-ion battery before requiring recharging (which will take about 1.5 hours). But, like those excited electric vehicles, some Prius owners have taken the plug-in option into their own hands. Go Get car share co-founder Bruce Jeffreys has been working on converting one of his eight-strong Prius fleet to plug-in a move that is being applauded by 5000 members.

GREENER HABITS

Regardless of the type of vehicle sharing companies such as Go Get use, their success in renting cars the hour heralds one of the greatest recent changes in motoring: how we view our cars. Although the petrol transport debate rages on in our capital cities, as does the demand from much-maligned cyclists, can only dream of facilities enjoyed by commuters in Europe, the market is gearing up to move greener transport in a big way still taking stepping stones to the complete picture, but the perception is that people are ready. Bruce Jeffreys concludes. **EV**

The Toyota Prius has established itself as the generic for hybrid cars in Australia, now the much-awaited plug-in model is coming to our shores.

