**Michael Brown’s interview with Peter Diskon, 2EAR-FM, 23 February 2023**

*(close approximation of transcript)*

Good morning Disko, and thanks for chance to chat with you and our listeners about electric vehicles, which we can refer to as EVs for short. I’m involved with SHASA, the South Coast Health and Sustainability Alliance, and in 2 and a half weeks we’ll put holding our 2nd South Coast EV Day, where people can come and see a range of EVs, have a warts and all talk with their owners about them, go for a test drive, visit 19 different stalls, meet a range of suppliers and take part in a Q and A session. That’s on at Hanging Rock in the Batemans Bay area, Sunday 12 March, 10am-3pm, so our chat this morning is pretty timely.

**1. Electric vehicles seem to be on the roads much more these days.  Has there been a shift to EVs and if so why?**

There’s a huge shift happening globally. In 2022 one in every seven new passenger vehicles globally was a plug-in EV. That includes hybrids. One in every 10 was fully electric.

Australia’s really started to catch on. In 2022, EVs in Australia doubled to 70,000. A specific example: the Tesla 3 outsold the Toyota Camry. And 2023 has started strongly. By now there are already 80-90,000 EVs in Australia. About 4 out of every 5 are fully electric and 1 in 5 is a plug-in hybrid. In January almost 20% of new passenger vehicle sales were electric vehicles and one of them, the Tesla 3, was the 3rd top seller across all vehicle types after the Ford Ranger and the Toyota Hilux. On top of this base 2023 is set to be a boom year with about 100,000 – that’s more than double again! - and a further 150,000 in 2024. By 2030, EVs are expected to make up more than 1 in 3 of Australian car sales.

Why?

The first reason people are making this big switch is environment.

EVs reduce our carbon footprint. And most of us want to do that.

Even if EVs are just charged from the grid, they produce far less in the way of carbon emissions per km driven. And as grids become greener, with a higher and higher proportion of renewable energy in the mix, the difference becomes even more stark.

EVs do generate more carbon emissions during their manufacture than ICEs – about 73% more – but it doesn’t take much driving to overcome that difference and for an EV to have a net beneficial impact on carbon emissions compared with ICEs – anywhere between 6 months and 2 years. In my case, because I drive over 40,000 kms a year and only use electricity sourced from renewable energy, it’s taken me about 6 months for my switch to an EV to have a net beneficial impact.

Second, health benefits across the community. Pretty well all of us want better health for the whole community. And those of us involved with SHASA here on the South Coast aren’t just keen on sustainability – health is a priority too.

EVs give us cleaner air and that makes a tangible difference to our health. A new study just released by USC covering 2013-2019 showed that postcodes that had even 2% of their vehicles being zero-emissions vehicles saw a measurable drop in annual average nitrogen dioxide concentrations which correlated with a 3.2% drop in annual asthma-related ED visits. In other words, even in these early stages of zero-emission vehicle uptake, an increase in EVs goes hand in hand with a decrease in the health impacts of air pollution.

Third, EVs can power other things in our lives. That’s especially important for those of us in rural and regional areas. We’re starting to see more and more of this. These cars not only get us from A to B but also function as a powerful mobile battery. That makes them really useful for powering other things. Cars like the Ioniq 5 (and Ioniq 6 which went on sale yesterday), Kia EV6, BYD Atto, MGs and Genesis vehicles – they are all designed with what we call bi-directional charging. Bidirectional charging means the ability to feed power back into the grid or into the house to run the fridge and the lights or into specific devices. We’re still in the baby steps phase and these cars are only doing this in a small way so far, but they can already be used to run a mobile office, power tools, appliances, fridges, ovens, caravans, lights etc or powering much of the house if the power is out. Most of us have very bad memories of blackouts, especially during our terrible and tragic summer 3 years ago, which those of us in the RFS remember especially well, and though blackouts represent a risk for EVs they also represent an opportunity for most EVs to fill in the gap and keep that fridge going or keep those lights on. Most EV manufacturers are moving in that direction. VW say all of their vehicles will be capable of bi-directional charging in 2022.

The fourth reason people are starting to make the big switch is financial – but I think we might come to that a bit later.

**2. Are electric vehicles readily available in the Australian market?**

They are indeed readily available. Demand is still outstripping supply but they’re out there and you can get ‘em.

The variety of vehicles available is rapidly expanding and the wait times are coming down.

We now have 33 different passenger vehicles and 6 light commercial vehicles, available in Australia.

And there’s more choice – not just at the top end of the market but at the more affordable end too. We’ll probably see 12 different Chinese models released in 2023, not to mention those from other countries – and these Chinese models are pretty decent quality. We might come to the question of affordability in a sec, but basically this influx of other models is going to bring EVs within the reach of many more folk.

At our EV Day at Hanging Rock on Sunday 12 March, 10-3pm, we’re going to have about 11 of these different EVs there for you to see, and they’ll be brought along by their owners who’ll be happy to talk about what’s good about them, what’s not so great, why they chose their model, and what it’s like driving them in this part of the world.

**3.  Are electric vehicles affordable?**

An EV can make really good sense financially, when you look at the overall cost of a vehicle over its lifetime.

But there are 2 different things: the up-front cost and then what it costs to run it.

First the up-front cost. A recent survey showed that most Australians would prefer an EV if the price was right. You still do have to fork out a bit more to pay for an EV, so that’s a barrier, but that barrier is getting lower and lower quite quickly.

We already have a couple of EVs in the mid $40,000s – cars like the MG ZE EV and the BYD Atto 3. This year’s releases will probably include the BYD Dolphin which we expect will be under $40,000, and the MG-4, around $40,00, and the ORA Funky Cat, around $45K probably. Those price points are starting to make it possible for more of us.

But then on top of that there are the NSW State Govt subsidies. The State Govt is waiving the stamp duty on cars under $78k – I know that made a big difference for me last year. And the State Govt is giving $3000 cash back on cars under $68,750 – the first 25,000, and we must be getting close to that limit now. Together those incentives can bring another $5,000 off the price.

But wait there’s more! The Federal Parliament late last year brought in more incentives. Not only did they remove the 5% import tariff on EVs, which is already being reflected in the lower prices, but they also brought in FBT exemptions for fleets and novated leases. For some of our listeners that will make a big difference.

So that’s the up-front cost. More and more within reach.

But once you’ve paid the up-front cost, then it doesn’t need to take long before you’ve broken even.

Most people find that running an EV costs 10-20% of what it costs to run a conventional vehicle. In my case I’ve found it to be even a tad under that. In 6 months I’ve travelled 22,000 km and spent just over $300 all up. A fair part of that was on a road trip with my Dad where I often needed to pay for fast charging.

**4.  What are your options for charging your EV?**

I’ll tell you what I do, and it costs me almost nothing.

Mostly I charge at home. I installed a charger that has 4 settings and I almost always set it to put just excess power from my solar panels into my vehicle. That is, any power that the house isn’t using at the time. I got that installed locally – for example, the good folk of MESA, Micro Energy Systems Australia, will install a range of home chargers. So I keep the car topped up in that way, and all I forgo is a measly feed-in tariff. Even if I were silly enough to let my car get down to 0% charge, which I don’t, to fully charge it I’d be giving up the cost of half a cup of coffee and that would get me 400km. 400km for half a cup of coffee isn’t too bad.

But on the road I can often charge for free. Locally, in Batemans Bay there are 4 free fast chargers, three of them provided by the NRMA. Here in Moruya there are a couple of charging stations too – a bit slower than the four Batemans Bay fast chargers, but handy.

Most people find that 80-90% of their charging is done at their destination – whether that’s at home or wherever they’re off to. That means you’re rarely wasting time on the way. There are many so-called destination chargers around Australia, often at hotels and motels – most commonly Tesla (but this is broadening) and most often free.

And the public fast charging networks are pretty good – they are sometimes free or subsidised by NRMA or by local or state Govt. For the fastest chargers, called ultra-rapid chargers, you usually get a discounted rate if you’re an NRMA member. You’d use those for a road trip. They’ll typically do your car in around 15 minutes, depending on how much charge you have in your battery when you start. That’s about enough time to walk into the roadhouse, order your coffee, go to the loo, come and pick up your coffee, and walk back to the car.

The overall network of public chargers increased by close to 50% in 2022.

In October last year the NSW Government announced it’s investing almost $40m in the first round of Fast Charging Grants to co-fund 86 new fast and ultra-fast EV charging stations, each with four to 15 bays. In our area, that will particularly fill a need in Narooma. We’ll have good fast charging stations then well-spaced in Batemans Bay, Narooma and Bega. They’ll all be powered from renewable sources. The NSW Govt is partnering with several successful applicants to co-fund these stations: Ampol, BP, Evie Networks, Tesla, the NRMA and Zeus Renewables.

All stations will be built over the next 24 months with a mix of highway and inner-city sites. The NSW Government has an overall target to add about 250 fast and ultra-fast charging stations in total across NSW. The chargers will be no more than 5km apart in metropolitan areas and no more than 100km apart on major roads and highways.

The charging network across Australia needs continued public and private investment. You can already travel from here to Far North Queensland without too much problem. You can get from here to Perth too though that requires a little more patience. The network is pretty good and improving all the time. And there are really good apps available to help plan out where to charge up.

**5. What sort of range can you get from an electric vehicle?**

Most EVs will give you 300 to 500 km of range, and up to 630km in some vehicles. Mine gives me about 400 km. Of course it depends on how hilly it is, the temperature, how smoothly you drive, how fast you drive but the range of most EVs these days doesn’t constrain you very much.

**6. There are plenty of unsealed roads in rural and regional areas such as ours.  Can EVs manage those?**

I have this little side project of walking the whole of the NSW south coast in bits and pieces, from Bundeena to Mallacoota, 660km. Access to get to the nooks and crannies for the start and finish of these walks is often via rough unsealed roads. My EV has had no problem at all negotiating those roads. In fact it has done it easier than conventional vehicles have. We who live on the far south coast know plenty about rough roads and many EVs are built to suit. For me, what I was looking for in a vehicle was good clearance, ideally AWD, good towing capacity, plenty of internal capacity to carry both people and stuff, and a good range. I think those specs are pretty common for people who live around here. I had at least three really good options – Tesla Model Y; Kia EV6; Ioniq 5 and now 6 - that met all those specs, and I simply chose the first suitable EV that I could get my hands on. I haven’t been disappointed.

**7.  What about towing trailers and campers?**

Many EVs are rated for towing – usually 750kg unbraked, and commonly around 1600kg braked, but up to 2500kg braked in the Australian EV market. If the Ford F-150 Lightning, very popular in the US, were to be made available in Australia, then that would almost double to 4500kg towing capacity.

**8.  Are working vehicles such as utes available as EVs?**

There’s currently LDV eT60 dual cab ute. We need more options. Manufacturers have been dragging the chain a bit on this.

The Ford F-150 Lightning “pickup” is very popular in the US and is quite ground-breaking – started at 30,000 vehicles a year from the start but tripling its output this year – and there’s also the Rivian E1T. It would be good to have that option available in Australia – it would be lapped up, I reckon.

Though Toyota itself haven’t been speedy to develop EV working vehicles, the WA-based mining giant Mineral Resources has just taken matters into its own hands and is about to take delivery of its first electric Toyota Hilux ute and LandCruiser vehicle as part of its efforts to dump diesel vehicles and cut emissions.

Their new electric trucks are being retrofitted by a local Australian electric conversion specialist, SEA Electric, which has set a target of converting 8,500 Hilux utes and Landcruisers over the next 5 years for the mining industry as part of a deal with the start-up Mining Electric Vehicle Company (MevCo).

This conversion of popular Toyota vehicles is happening well ahead of the Toyota’s own electrification plans. Toyota is now reviewing its EV strategy following the announced resignation of its CEO. Perhaps this initiative by Mineral Resources will nudge them forward.