

The EV ball is rolling

Car manufacturers are releasing pre-production and concept electric vehicles at an ever increasing rate. While some will never make it into showrooms, many are destined to hit the roads as soon as this year.

Yes, it's an SUV

Phoenix Motors in Ontario, California, is aiming to release both an SUV and an SUT (sport utility truck, basically an SUV with the back half utilised as a cargo tray) in the near future and are taking reservations.

The SUV has a 380 volt, 35kWh lithium titanate battery pack that gives it a range of up to 208km. The vehicle has a 0-100km/h time of under 10 seconds and a top speed of around 150km/h, making it a versatile vehicle. Both the SUV and SUT are front-wheel-drive vehicles.

The Phoenix SUV comes in four models, with the top level, the Luxury, having a full range of features, so it should satisfy most gadget-hungry people.

While it would have been great to see Phoenix produce something a bit smaller than a two tonne plus vehicle as their first car, it goes to show that the majority of practical electric vehicles that will soon hit the roads won't come from the major auto makers, but instead from smaller start-ups who are not restricted in their thinking about vehicle design. www.phoenixmotorcars.com



And not just cars!

Yes, there are electric motorcycles out there and indeed there are quite a few already in production. The Electric Motorsport GPR-S is a road-going bike with a 14.2kW motor and 3.3kWh battery pack. Range depends on the mode it's ridden in, but is quoted as 56 and 96km for power/economy modes respectively.

Battery recharge time is four hours with the on-board charger or 1.5 hours with the optional fast charger with integrated BMS.

Other specifications include a 750mm seat height, a maximum weight of 255kg (the bike weighs 130kg), 17" wheels, direct chain drive (so there's no gearbox) and a top speed of around 110km/h.

See www.electricmotorsport.com

A practical sedan

Coda Automotive, a California-based start-up, plans to release a four-door, five-seat mid-sized sedan in 2010. It has a real-world range of 144 to 192 km per charge and is built to exceed US safety requirements.

Power comes from a 333 volt, 33.8kWh lithium-iron-phosphate battery. The 100kW, 300Nm motor drives the wheels via a single speed reduction gearbox.

Safety equipment includes anti-lock brakes, electronic stability control and airbags with an occupant detection system. The vehicle is backed by a three-year/36,000 mile (58,000km) warranty, with the battery covered for eight years/100,000 miles (160,000km).

Price is set at around US\$45,000 before rebates. www.codaautomotive.com



Not one, but four electric models!

Renault is aiming to have no less than four all-electric models on the road, with the first introduced by 2011 and all models available by 2013. Their range of Z E concept cars makes for interesting viewing. It's just a pity they didn't choose better names for them.

The Twizy Z E is an urban two seater, what would be classed in most countries as an NEV or low speed vehicle. Not legal in Australia, but legal in many other countries.

The Kangoo Z E is a compact commercial vehicle for those who need a small delivery van and the like.

The Zoe Z E compact saloon is a 54kW small car with a 160km range and a kerb weight of around 1400kg.

Lastly, the Fluence ZE concept (shown here) is a full size vehicle for urban or highway driving. It features a 75kW motor, 160km range and it weighs in at 1600kg. The Fluence Z E will go into production during the first half of 2001 and will feature the rapid battery swap system developed by Better Place (www.betterplace.com). www.renault.com.au/about-us/renault-ze



Build your dreams

We looked at the BYD (Build Your Dreams) F3e some time back and now a new model, the e6 is hitting the market.

The e6 is a five seater crossover vehicle. It has a rated range of a huge 330km (we suspect this is rather optimistic) and its twin motors develop 200kW of power and 550Nm of torque. But it needs it—at 2295kg, this is a very heavy vehicle.

The onboard 380V, 100A (yes, 38kW) charging system can recharge the lithium iron phosphate battery pack 50% in as little as 10 minutes, according to BYD, but these figures don't add up, as a 38kW charger can only provide around 6kWh of energy in 10 minutes, meaning the battery would be a tiny 12kWh. This is impossibly small for the stated range and such a heavy vehicle, so the real figures are anyone's guess. www.byd.com

Audi A1 e-tron

The Audi e-tron range of pre-production concept vehicles includes a number of different models, including the plug-in hybrid A1 e-tron shown here.

The A1 e-tron features a 45kW continuous (75kW peak) synchronous electric motor with peak torque of 240Nm. The motor drives the front wheels via a single-speed transmission.

This is all powered by a 380 volt, 12kWh lithium-ion battery which provides a driving range of up to 50km—ideal as an around town vehicle. Recharge time is around three hours from a 380 volt supply.

The interesting thing about the A1 e-tron is that it has a tiny range extender engine. And when we say tiny, we mean it! The engine is a 254cc Wankel rotary engine that runs at a continuous 5000rpm and can produce 15kW of electrical power, which is enough to push the car along at freeway speeds. The fuel tank for the range extender holds just 12 litres of fuel.

While this vehicle is still a concept, it will be fairly representative of what eventually makes it into production.

