

Engineering genius

Air, there and everywhere

Could this be a breath of fresh air for the transport sector? French based Motor Development International's (MDI) AirPod 2.0 has a reversible compressed air engine, powered by a renewable energy source or it can be plugged in, compressing air into tanks. When released, the compressed air powers the same engine to drive a vehicle or generate electricity. The lightweight, two-seater vehicles can be customised for different tanks, engine sizes or engine revs. The car has a range of 120km on compressed air alone, or up to 360km as a hybrid model, with a top speed of 80kph. Manufacturing can be decentralised from MDI's base in France, and Christchurch-based Air Future Ltd is working towards financing demonstration models in New Zealand, with an eye to manufacturing and developing the vehicles in Aotearoa and Australasia.

The AirPod 2.0 can be customised to meet transport and energy storage needs, with standard, pickup and cargo models.

The reversible air engine compresses air into tanks of different capacities at a pressure of 248 bars, with expansion then achieving efficiencies of up to 68 percent between the tank and the engine output.

Vehicle can be recharged at home from an electric plug (depending on local grid) for seven hours, or 3.5 hours at terminals for electric charging, or at the air station in two minutes.

Weighing 300kg, composite materials – fibreglass, vegetable resin, foam polyurethane – create a light but rigid framework, resistant to stress and sound.

Compressed air tanks mean no chemical batteries, and stored energy remains available without deterioration, with each tank having an estimated lifespan of 20,000 cycles.



Chassis and bodywork are designed to integrate many functions, meaning fewer materials are used, saving weight and space.