



ITEZZE

## The \$23,000 Solar Car

### The New Paradigm in Electric Vehicles

Electric vehicle (EV) batteries can catch fire and this is a serious risk in EVs. The EV is normally burnt to the ground. ITEZZE deals with Thermal Runaway by making all the batteries in the vehicle able to be 'ejected'.

This led to a new Paradigm in EVs. Because *all* the batteries need to be removable in order to deal with any battery fires, the ITEZZE vehicle is supplied '**bare**' without batteries. Thus, the carmaker sells the EV just as a car/vehicle (no batteries). Batteries are supplied later by the car dealer or the customer can source their own (or rent them) and every battery has a built-in cradle to eject them. This removes **Battery Risk** entirely from the carmaker (see: itezze.com/technical – '**Battery Risk**' Button) and reduces the purchase price of ITEZZE EVs significantly, to under the price of equivalent Internal Combustion Engine (ICE) cars. ITEZZE, because the swap battery is the primary power source, can use Nickel batteries which are far less likely to catch fire.

This lets customers buy their batteries or rent them from ITEZZE. People will buy their 2-3 kWh battery for regenerated power coming from braking etc (the **Regen Battery**) but instead of buying a 5½ kWh **Resident** battery for the car (or 30 kWh for a council bus) to stay in their car as a backup, they hire one from ITEZZE for US\$3/day plus 17½ cents/kWh for the energy used; (1.7 kWh is equivalent to about 1 litre of petrol).<sup>i</sup>

They can then run their vehicle on solar using the ITEZZE \$23,000 Solar Car Format; they rent a designated 17½ kWh '**Solar Swap Battery**' for recharge on solar power at homes or at ITEZZE Swap Service Stations. The **Solar Swap Battery** rent is \$10/day + GST. This becomes the primary **Drive Battery** for the EV and people are encouraged to swap in the mornings before 1pm to allow easy recharge on solar power. Energy is charged at (US) 51.7 cents /kWh (including the kWh cycle fee). At times wind, hydro and other energy may be used.

**Summary** -The model for selling EVs has changed; ITEZZE means carmakers can now sell safe, affordable EVs without '**Battery Risk**'... and customers can run their vehicles almost entirely on solar.

## ITEZZE (AUS) \$23,000 Solar Car can run on swap batteries charged with 91% Solar power

A Small 2-4 door family size car with -

- ▶ A small 5½ - 10 kWh **Backup battery**; which can be charged with solar in ITEZZE Servos or with normal power using a normal 3 pin household plug;
- ▶ 2-3 kWh '**Regen**' Battery for Regenerated Power from braking;
- ▶ 1 x '**Swap Slot**' for an exchange swap battery;
- ▶ 1 x 17½ to 47 kWh **Solar Swap Battery**<sup>1</sup> in the Swap slot;
- ▶ Most cars use 5-19 kWh per 100 km;
- ▶ Solar Car has a range of 150 - 200 km on 17½ kWh Swap Battery; (and up to 430 Km on 47 kWh Solar Swap battery)
- ▶ People drive on the Solar Swap battery's power and swap at ITEZZE servos; Govt and Companies can use ITEZZE Servos to swap or use their own depot recharge units;
- ▶ Owners buy their **Regen Battery** and can buy or rent the **Swap & Backup** batteries;
- ▶ Car has less weight, can handle normal daily tasks and batteries are ejectable in event of fire;
- ▶ If the owner wants to do long distance, weekend or day trips; they put a larger **Solar Swap Battery** in the slot and can swap at ITEZZE Battery Swap service stations;
- ▶ Very inexpensive AU\$23,000; Hence name - the (AUS) \$23,000 Solar Car
- ▶ CO<sub>2</sub> emissions running on Solar - Zero



And... the AU\$23,000 Solar Car uses much less Lithium -1/3<sup>rd</sup> to 1/5<sup>th</sup> that of a Tesla Model S\*

<sup>1</sup> The Solar Swap Battery is recharged by ITEZZE Service Stations using solar power from solar farms or roof tops.

\*Or None - Because ITEZZE vehicles use a smaller built-in battery other battery material such as Nickel Metal Halide may be used.

<sup>i</sup> In smaller vehicles this is based on Hyundai Ionic which is about the same size as the Hyundai i-30; the i-30 uses 7.1 liters of petrol per 100 km; the Ionic uses 11.7 kWh per 100 km which is about 1.7 kWh per liter replaced.