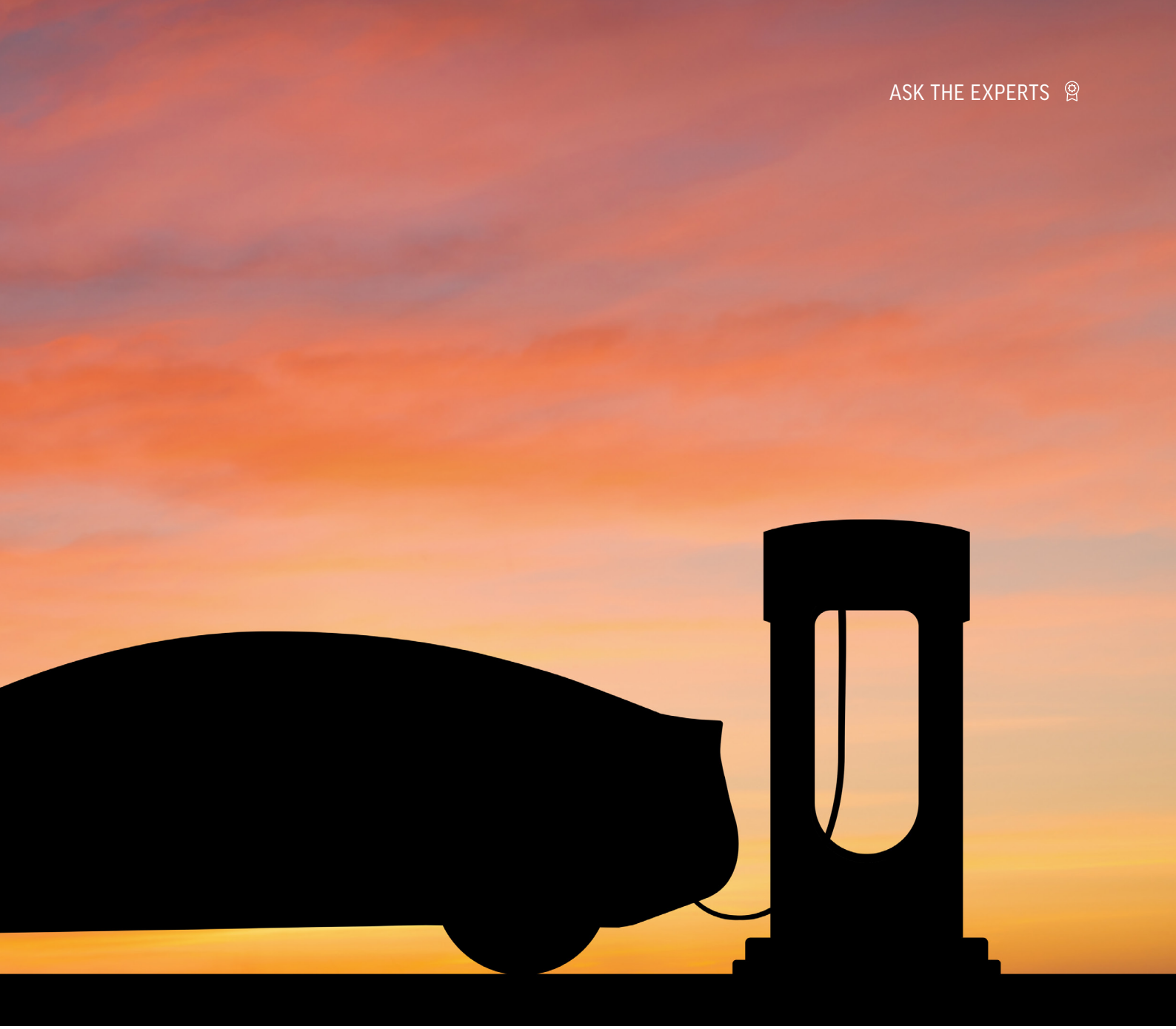
Moving in to top gear with EVs

Fuel prices are rising exponentially across the world and demand for cleaner, cheaper electric vehicles is growing. We thought it was a good time to catch up with Soltaro CEO Tynan Coles, to get his take on the market, the opportunities it presents for the solar industry and what uptake has been like so far.

PES: Welcome to PES Tynan, thanks for taking the time to speak with us. It would be useful to begin with some brief background to Soltaro, for readers who may not be aware, if you wouldn't mind?

Tynan Coles: Soltaro is a 100% Australian owned and operated solar battery manufacturer, having a combined 30+ years' experience in the renewable industry. We started in Australia and our head office, along with our core business, research and development and design team are based there.

We now have offices in Australia, United Kingdom, Netherlands, Portugal and South



Africa, with an expanding network of approved installers and partners worldwide.

In 2016, Soltaro opened its own battery manufacturing and assembly facility. We offer our customers a selection of unique energy saving battery solutions of the highest quality. Our experienced R&D team are passionate innovators, dedicated to their craft.

PES: There has been much focus in the news of course around the energy crisis, how do you see the rise of EV helping with this potentially?

TC: Switching from petrol to electric vehicles is a must if we are going to meet our carbon emission reduction targets. In some sense, with the increase in petrol costs, people are being forced into making the change to EVs sooner than they would have liked. However, once they make the change, they'll never regret it. Not only are they saving the environment, but their running costs become considerably lower too.

PES: The expansion of EV has been gaining momentum for a while now hasn't it? How has it been evolving from your point of view and why?

TC: Yes, it's been evolving quite rapidly over the past couple of years. Tesla has done a lot of work to promote its EVs and now other car manufacturers are following in their footsteps. It's created a more competitive market which ultimately is making the investment for an EV cheaper. This will allow more people to make the switch to an EV sooner.

Another barrier was the amount of charging points for EVs. Every day, countries are investing in new EV charging infrastructure so that it's practical to travel in your EV to wherever you need without the worry of running your battery empty. There is still a long way to go before charging points are as available as petrol pumps, but we are heading in the right direction at a reasonably rapid rate.

PES: Is cost the biggest problem and the main consideration for your customers?

TC: At this stage, yes. If electric vehicles were cheaper then it wouldn't even be a consideration to purchase a new petrol vehicle over an EV. The running costs are much cheaper too, so we just need to get the overall purchase price down to see a greater deployment of EVs.

Tynan Coles

Supply chains are also a major problem. Many people are waiting over 12 months from the date of purchase before they receive their EV. Some people need a new vehicle now, so purchasing an EV is just not an option in this circumstance.

PES: Are your customers also mindful of the environmental advantages of switching to EV?

TC: Most definitely. The overall costs for a petrol vehicle, including running costs, are still much less than an EV. I believe most people make the switch because of the environmental advantages, rather than being driven by cost at this point.

PES: As the EV market evolves are you witnessing different types of EV charging coming through too?

TC: The EV chargers themselves are pretty settled in the design of what has been previously available. However, what we are seeing coming through now are different types of ways to utilize the actual EV charger. There is progression in these areas, such as only utilising excess solar, or taking advantage of tariffs that the utilities offer to use power at certain times of the day.

For example, in Australia there is an energy company that offers free power between 12pm and 2pm every day. This is a perfect opportunity to charge your car for free, which ultimately assists the utilities by taking power off the grid when there is generally an oversupply of solar.

PES: Can you give some examples of your latest products?

TC: Soltaro has just released its 7kW single phase and 22kW three phase EV charger. Our EV chargers are compatible with our smart software that can control the EV charger based on multiple factors. For example, we have a solar-only mode, where it will ramp up and down the charge rate based on how much excess solar is available at the site. Energy tariffs can also be tracked so the EV charges at the lowest tariffs only, to avoid any high tariff peaks. This is all done automatically through our software, once you have specified the parameters and modes you would like the charger to work in.

PES: Is workplace charging for businesses proving popular, or is there more to be done to increase interest here?

TC: I feel that the increased uptake in EVs will make it more feasible for workplaces to install EV charging stations. I believe that once EVs become more common, the workplace will be the most practical place to charge your EV. It makes the most sense as we can utilize the cheapest form of renewable energy in solar power while people are at work.

If you charge your car at home, then you need to rely on battery power, or lower overnight tariffs to maintain lower charging costs. This still doesn't compare to excess solar power

that is generated throughout the day whilst you are at work. I can see a model where the property owner sells its excess solar to staff that are working at their premises at a significantly discounted rate. This means that the property owner gets a better return on their solar PV investment and the staff are reducing their car charging costs.

PES: Is it possible do you think for the technology and production to keep up with demand?

TC: I don't think production can keep up with demand at this stage. While the energy crisis is driving the fuel costs up, there is going to be a greater demand for EVs than the market can supply. It may take a couple of years for the EV manufacturing market to be able to supply enough EVs to keep up with demand.

That said, the technology is available now. What we need to see is more utility companies working with smart technology companies to help stabilize the grid through an EV charging network. This will allow a more stable energy grid and allow more opportunities for new renewable energy generators.

PES: What measures are you taking at Soltaro to ensure this is the case?

TC: Our in-house software developers are constantly working on improving the functionality of our smart software so utilities can have access to our EV charger network through their servers.

PES: For the solar industry in particular, are there benefits to be gained from EV here? If so, what are the main advantages?

TC: EVs create many opportunities for the solar industry. The major issue the solar industry has now is that new solar PV generators are creating problems for energy distribution networks. When the solar is not being consumed by the site, the excess solar can cause an oversupply which leaves the network operators the only option of limiting the solar export. EVs can take that excess solar off the grid creating an opportunity for more solar PV generators to be installed.

PES: What can be done, do you think, to incentivise more people to switch to EV? Are there grants and other incentives available that might help?

TC: The major difference in cost for new EVs versus petrol vehicles, is the battery. Over the life of the vehicle, the running costs can recoup the initial costs of the battery in the EV. In effect, you're paying for the running costs for the life of the vehicle up front in an EV. A way to subsidize an EV could be with an interest free loan on the battery costs, bringing the up-front cost of the EV in line with a petrol vehicle. The loan could then be paid back annually with the savings you make from your EV running costs. This would then allow everyone to transition to an EV when they purchase a new vehicle.

PES: This is a growing market for sure, and one that holds enormous potential. What do you think the future holds for EV, particularly in terms of the solar industry?

TC: The future for EVs is very bright. It's going to provide greater flexibility for the solar industry, through smart technology, with almost double the amount of solar generation. We can also start using EVs as a remote power source or even in a blackout. With the current energy crisis, I believe the transition to EVs will be fast tracked with at least 90% of new vehicles purchased in 2030 to be EVs.

PES: And for Soltaro? Do you have new products in the pipeline that you are able to give us an idea of?

TC: We have just launched our single phase and three phase EV charger. In September we will be launching our 3 Phase All In One ESS. This will include an inverter range from 5kW-12kW and a battery range from 16kWh to 32kWh. Our US All In One ESS will then be launched by the start of next year. This will be the last All In One ESS that we needed to release to cover all domestic and small commercial solar battery applications.

Our smart software is also coming along nicely, with new features becoming available every few months. The next feature will be our arbitrage model which can better utilize batteries based on the wholesale pricing the utilities offer. We should see this available on our software platform well before the end of this year.

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