



ACE EV GROUP



getgreen.net.au

Australia's Queensland Electric Vehicle Assembly and Charging Infrastructure Project

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Terms of Reference

Inquire into and report on the following matters:

- the potential economic, environmental and social benefits of widespread electric vehicle uptake in Australia;
- opportunities for electric vehicle manufacturing and electric vehicle supply and value chain services in Australia, and related economic benefits;
- measures to support the acceleration of electric vehicle uptake;
- measures to attract electric vehicle manufacturing and electric vehicle supply and value chain manufacturing to Australia;
- how federal, state and territory Governments could work together to support electric vehicle uptake and manufacturing, supply, and value chain activities; and
- any other related matters.

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the potential economic, environmental and social benefits of widespread electric vehicle uptake in Australia;

1. all-electric vehicles (EVs) powered solely by electricity, which is produced from natural gas, domestic coal, and renewable resources.
2. they can have a strong fuel-cost advantage over their conventional ICE vehicles.
3. the electric grid is in close proximity to most locations where people park, PEVs can charge overnight at a residence, as well as at a fleet facility, workplace, or public charging station when available
4. Vehicle prices are already decreasing as production volumes increase and battery technologies continue to mature.
5. Australia can become a maker rather than a taker
6. Australia has all the raw resources for EV manufacturing.
7. Utilising disruptive technologies and processes viable business is possible enhanced by exploiting export market segments.
8. Germany and other high labour and energy cost nations do it so can Australia.

opportunities for electric vehicle manufacturing and electric vehicle supply and value chain services in Australia, and related economic benefits

1. Automotive that corporate knowledge and skills are ready to embrace EV,
2. Since ACE-EV Group launched its vehicles and project concept at the Smart Energy Council in Brisbane, Inverell, Noosa, Brisbane, Adelaide - it has generated strong supply chain interest and drawn out highly skilled engineers and technical support.
3. Lithium interests in Australia
4. Minerals mined and specific to EV
5. Universities involved with research in this space now better positioned to commercialise to the benefit of Australian jobs and new industry innovations, examples with links already developing - plastics, nanoparticle projects extremely useful for future development of EV where lightness, recyclability, low energy inputs are important.
6. Business models based on boutique manufacturing indicate that ACE-EV Group as a start up is forecast to have a value of \$200 million within 5 years.
7. Significant export potential and unique model and design capabilities with EV
8. Low cost set up principles with unique technology IP adoption and sharing available with EV

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measures to support the acceleration of electric vehicle uptake

1. Positive community and business focussed political positions by parties with policy
2. Focus on benefits
 - Reduced transport costs
 - Reduced pollution impacts
 - Increased energy security
 - Virtual storage opportunities
 - Low voltage electric motors and drive trains
 - Puts research work in Australia to practical commercialised outcomes
 - New export opportunities raw materials to key EV manufacturing countries.
 - Export opportunities to specific market segments for Ikea pack vehicles or complete builds.
 - Plastics and nanoparticles
 - Virtual micro grids based on EV two way charge points
 - Battery technologies
 - Battery management systems
 - Universal charge options for vehicles
 - High speed chargers
 -

measures to attract electric vehicle manufacturing and electric vehicle supply and value chain manufacturing to Australia

1. ACE-EV Group has been working for three years to demonstrate that Australia is well positioned with international alliance partners a conglomerate out of Germany, Switzerland and Taiwan ready to help build a viable job creating EV auto industry low CAPEX.
2. The alliance venture in place had huge potential for rapid growth. The alliance partner ready to inject \$5 million in seed funding to support the startup of ACE-EV Group manufacturing in Australia.
3. A due diligence investigation including visit to the proposed site saw a withdrawal of the funding offer.
4. Positives included - Australia has a strong appetite for vehicles per head of population 1.28 million
5. Negatives - federal government let the automotive industry die, and corporate history and supply chains contract. No policy or positions taken at a federal level that would encourage an EV industry
6. What should be done - set in place a grants process that actually stimulates rather than frustrates growth in this area - case in point ATS the automotive transformation scheme criteria to qualify for funding requires production levels of 30,000 vehicles per annum. No one in Australia qualifies.

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how federal, state and territory Governments could work together to support electric vehicle uptake and manufacturing, supply, and value chain activities;

1. Put together an EV policy working group with a 3 month report back, draw on existing policies, regulatory frameworks from countries well ahead of Australia, China, Singapore, New Zealand, Norway, Germany, France, India and USA. The working group should be structured to act on matters that address Carbon Reduction, community uptake, building codes, training, mining and value adding with refining and manufacturing.
2. Focus on policy that improves Australia's transport and energy security with EV
3. Keep the focus simple with key pillars that ensure EV uptake in Australia provides benefits through jobs growth, research based commercialisation, encourages new and existing supply chains and supports export opportunities.

any other related matters

INTRODUCE PERKS AND INCENTIVES

- Vehicle Rebates and Tax Credits

EVALUATE VEHICLE REGISTRATION FEES

- Resisting Anti-EV Registration Fees
- Sales Tax Exemptions
- special Lane Access
- States with Waived or Reduced Vehicle Registration Fees for EV Drivers

ELECTRIFY VEHICLE FLEETS

- Government Fleet Mandates
- Transit Bus Fleet Upgrades

EXPAND EQUITY AND ACCESS

- Rebates for low-income drivers
- Electric car-sharing programs
- Charging access for underserved communities

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EXPAND CHARGING POINT ACCESS

- charge your EV at work with a grant for your workplace

PROMOTE CONSUMER EDUCATION & PROTECTION

- EV-Ready Wiring Codes and Ordinances
- EV Proclamations & Driver Rights
- Multi-Unit Dwellings with charge points
- Ride and Drive Events
- Streetlight and Power Pole Charging Access
- Open Access and Interoperability to charge points
- Right-of-way Charging
- Uniform Signage Requirements
- EV-Utility Investments
- Best practices for installing EVSE

Links 2nd Quarter 2018

A. Motor Traders Association-Queensland page 26 ACE-EV

[Future mobility support by MTA Queensland](#)

B. Bloomberg forecast Australia

[Australia starts slow on EVs, but could overtake global market](#)

C. Clean Energy Finance Corporation Australia latest survey EV

[Scan of Australia's readiness for EV June 2018](#)

D. ACE-EV Group Website

[Australian Clean Energy - Electric Vehicle Group Website](#)

E. Assembly Link

[Disruptive assembly and manufacturing process ACE Electric Vehicles](#)

F. Australian Alliance for Energy Productivity/Smart Energy Council Soft Launch April 2018

[Conference presentation - is Australia missing opportunities with EV uptake](#)

G. National Media Coverage.

[Aussie EV start up National Stories](#)

F. Linked-In profile

[Greg McGarvie](#)

G. Teebar Clean Energy Pty Ltd

[Solar Farm Project 150MW](#)

Contact for further information

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ACE Yewt

QUEENSLAND EV COMPANY SET TO RECHARGE AUTO MANUFACTURING INDUSTRY

THE RISE OF the electric vehicle over the past decade has been extraordinary. In what seems like a blink of the eye, auto manufacturers have gone from barely registering the possibilities of EV technology to embracing it so fully that every major company now has an EV strategy and the future of the industry looks to be battery powered.

Currently, more than two million electric vehicles cruise the world's roads and some projections forecast that number to hit 17 million by 2025. In China, consumers bought nearly 700,000 EV and hybrid vehicles last year and the number of models

and brands seeking to service that market is growing fast. In Norway, one-third of the new car market is EV and some European countries – the UK and France included – have said they will ban sales of new diesel and petrol cars by 2040, presumably leaving EVs to pick up the pieces.

It would be fair to say that Australia has been somewhat lagging when it comes to EVs. There are, in fact, just 4000 of them on our nation's roads today. That will, and must, change - where the world goes, we will surely follow – and the opportunity is ripe for some pioneering Australian company to step in and bring that manufacturing sector to our shores.



Greg McGarvie, Managing Director of ACE Electric Vehicles, attended the Myriad festival with MTA Queensland to promote the Yewt and Cargo vehicles

“THE VEHICLES WILL BE SOLD WITH A CHARGER AND AN APP . . . THE APP WILL ALLOW A PERSON WITH A CHARGING STATION AT HOME TO INFORM OTHERS WHEN THEIR CHARGER IS VACANT AND WHEN THEY CAN COME AND USE IT.”

Enter ACE Electric Vehicles.

Based in Queensland's Fraser Coast region, ACE – an offshoot of energy management industry leader Get Green – is embarking on an EV project that could make the state not only the hub of the nation's EV industry but the centre of a new automotive manufacturing industry too.

At the core of this project are the sub-\$40,000 Cargo Van and Yewt, two vehicles set to go into production next year and designed for the urban light commercial

vehicle market. A passenger vehicle, the Urban Switch is also on the drawing board.

The Cargo and the Yewt are, said ACE Managing Director Greg McGarvie, designed specifically for the light commercial sector. The Cargo has a payload of 500kg and both vehicles have a range of 350km – perfect for a range of urban-oriented businesses, from couriers to caterers to tradies - and not only do they deliver low-cost, efficient and economical transportation, but also a potential source of income for owners and, in future models, a power source for the home.

“The vehicles will be sold with a charger and an app that works a bit like an AirBnB app,” said Greg. “The app will allow a person with a charging station at home to inform others when their charger is vacant and when they can come and use it. This means charging station owners may be able to earn money from it.

“And at some point down the track we also will be in the position where the ►

technology will allow you to use your car as an emergency back-up energy supply for the home.”

For the moment, ACE vehicles will be assembled from components built in China and shipped to Australia. True manufacturing – in which all components for the vehicles are also produced here – will occur at a facility located in SE Qld once demand reaches a critical point.

“Once we reach, or look like we will reach, a production rate of 10,000 units, full manufacturing will be set up,” said Greg. “For the moment, the vehicles are basically an Ikea-style pack that come to our assembly plant where we put them together and do all the tests required to put them on the road.”

The vehicles incorporate a carbon fibre chassis and passenger protective structure – offering light weight but great

“ONCE WE REACH, OR LOOK LIKE WE WILL REACH, A PRODUCTION RATE OF 10,000 UNITS, FULL MANUFACTURING WILL BE SET UP”

strength – while the panels are made from ABS plastic. Everything is glued together in a similar process to that used for modern commercial aircraft such as the Boeing Dreamliner – again offering great strength with less weight. And coming from a parent company that deals with environmental issues through energy management, it is no surprise to discover that what happens to the vehicles once they have been sold has been taken into consideration.

“The beauty of our vehicle is that the amount of energy needed to build it is about 30 per cent compared to a traditional vehicle,” said Greg. “And we have a cradle-to-grave solution in place so that when the car reaches the end of its life we have options for recycling all the materials as well as the lithium batteries.”

The ACE vehicles have been in development for five years and are the result of a relationship between a conglomerate of supply-chain companies and individuals connected to industries related to EVs and automotive manufacturing. These include Ernst Thomke, who was part of the design team

ACE Cargo Van can carry 500kg and has a range of 350km





“WE HAVE BEEN SWAMPED BY EMAILS FROM PEOPLE WANTING TO INVEST AND HAVE PICKED UP SOME VERY CLEVER PROCESS AND DRIVETRAIN ENGINEERS”



and who is recognised for his work with Swatch/Daimler-backed Smart car brand.

Having that sort of heavyweight support, while also securing the IP for both the technology used in the production line and the right-hand drive version of the vehicles, means ACE is sitting in an extremely advantageous position.

“Along with my business partner, with whom I have worked for the past 8 years, we negotiated the position to have that IP exclusively,” said Greg. “And that opens all the right-hand drive markets in the world to us.”

The interest in the ACE vehicles has been very positive. Following recent launches in Sydney and Queensland, including as part of the MTA Queensland Garage program at the Myriad 2018 tech and innovation festival, Greg and his team have, he said, had plenty of contact with those keen to be part of the project.

“We have been swamped by emails from people wanting to invest and have picked up some very clever process and drivetrain engineers” he said. “While we are trying to get real traction with the Queensland Government, we went to South Australia ▶



“WE ARE NOT GOING TO SET UP TRADITIONAL DISTRIBUTION NETWORKS . . . PEOPLE WILL BE ABLE TO BUY THE VEHICLES ONLINE, BUT WE ALSO WILL ENGAGE WITH OTHERS WHO WANT TO BE INVOLVED WITH THE PROJECTS . . .”

to be part of a show there, and met with one of the investment bodies of Future Manufacturing Industries.”

The buzz around the ACE vehicles is – excuse the pun - electric, and the distribution and sales model that the company is considering is equally exciting and opens a door for the auto industry – including members of MTA Queensland – to join the EV revolution.

“We are not going to set up traditional distribution networks,” said Greg. “People will be able to buy the vehicles online, but we also will engage with others who want to be involved with the project including, we would like to think, members of MTA Queensland.

“If they are interested, they would be trained on the technology – and that

would include an endorsement on the vehicle – so they get a really good feel, and develop a passion for, what they are selling, and know they are selling something with real integrity. The other benefit, of course, would be the charging stations – MTA Queensland members can be some of the first with charging stations, and that will bring in customers!”

For those interested in taking a chance on the future of EVs - and recognise that the future is electric and getting in early might be a positive thing - there's a deal on the table that could prove to be one of the greatest bets in history.

“The deal is that we'll take pre-orders of 100 vehicles and when the customer takes delivery of the vehicle they will receive 1000 bonus shares in the company,” said Greg. “If we end up doing well, those shares will be worth quite a bit!”

With the future of electric vehicles apparently all but assured thanks to growing global demand, that sounds like a good bet indeed.

If you want to find out more, visit the ACE Electric Vehicles website or email admin@ace-ev.com.au 

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OUT MORE
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WEBSITE



