

The sun shines and humans need to travel

The sun can make electricity, and the solar car has proven humans can travel as long as the sun shines

The future of the electric vehicle is obvious

As I have now worked on the electric vehicle over 30 years I can definitely say I have been frustrated by the lack of progress.

And why did I start that work? Yes I was having a good time racing cars, flying airplanes, racing bikes, boats and wasting Oil as fast as I could.

The change came when the Shah of Iran was removed and there was a fall of oil supply, yes only ten % but it caused panic around the world.

And I were asked to drive an economy car – I said no as that was as boring as watching paint dry or grass grow – the 2000 \$ for the week end changed my mind, and winning made me very interested.

I started the study of energy to see how far on a liter of oil rather than how fast, was frightening when I learned it takes 19 kilojoules of oil to get one kilojoule on to our plate, it is finite fossil fuel so how do we eat let alone travel after oil, and the yanks who think they can turn food in to ethanol for their pick up trucks are kidding.

The answer is electric and I proved that with the first Solar Car that crossed Australia, a continent 5058 km – yet I feel I failed

Many have tried and so far I think we can only find one successful example and that was from a man who saw the luxury marked ego drive. He knew the American market and world desire for a super car or show off contraption from the sale of the likes of Porsche Ferrari Lamborghini Malaren etc.

These cars were doing low mileage and kept as toys, but they were and are expensive so the Tesla had a market because it limited as it appealed to the green part of those people. They could be seen as being good people in a Tesla

And the Tesla has been great for R&D, as money has flowed

I failed in comparison with the World Solar Challenge, as people did not understand we would no more drive a solar car to work, than drive in a F1 Car to get to work

Sadly somehow the F1 car is looked upon as a car for R&D yet when a solar car drives over 3000 km on just sunshine with a human at an average speed over 100 km/h, yes and you know it is just turning the sunshine into propulsion for that human we are impressed but those with the money are not – so yes I feel I failed

The solar car is indeed an R&D platform for the future, for the very best electric car, for the very best electrical engineer, designer and manager, aerodynamics, not to forget the computer and telemetry

The electric car also has a big role to play in renewable power as it has a big battery capacity that can be both charged from renewables and be storage for the home and grid when they need power. While at the present help the efficiency of the coal fired power plant as it can store the spinning capacity presently wasted. The same is relevant for atomic power.

And yes we still have a major problem with renewables as we need power when the sun does not shine and the wind does not blow, for the countries that can have dams it is easy, and we must start to look at dams where ever we can, not just big dam sites.

The future of power transmission superconductors with minimal losses are still a way off, but would offer fantastic opportunities for renewables as the light side can power the dark side as we rotate

So we have to concentrate on developing the electric car that works, and on regulations that favor it from both federal government and local government

Parking is a good tool as we all see the invalid park when we chase a parking spot but we are not going to do a Per Gynt who chopped off part of his foot so he did not have to go in the army

But we would consider an electric commuter or shopping basket if we saw vacant spots for it. And they are also charge stations.

And yes we need the long-range car in the family till we have recharging or battery exchange sorted out, so we need free registration for that extra electric car if we already have an IC car with registration paid that is parked when we use the electric car.

And yes there are other incentives the politicians can give – if they want to

But we must look outside the square like Tesla did

The carmakers are set in their ways, and for as long as Oil is available they will not change as such, mind you they have changed their outlook after seeing Tesla being so successful

We are also starting to get the good hybrid, but we are not there yet, when the Energy Agency gave Toyota the prize for getting involved in hybrid with the Prius they very much looked down their nose when I got the prize for the individual who had done the most for the development of the hybrid as they would have considered one of their engineers I am sure, and in a way that is true.

My hybrid is an electric car with a range extender. Not an IC car with electric drive. No blame to Toyota as they did a good beginning as they understand people do not change so quickly.

But what comes first – the chicken or the egg – is an old question no one seems to answer.

To me it is easy as infrastructure comes first.

So I look to build a nest, and the egg comes but the bird came first as it lays the egg in that nest

All too deep for me,

But YOU students are the future of the electric car!

As I say the future energy lies between the ears of the young people

I might as well say the future electric car is between your ears.

And we must remember energy, so forget diesel and petrol you don't have that amount of massive power for your electric vehicle.

Start with that fresh mind you have, and a clean sheet.

It must be light especially in hilly countries safety must be in the driver who is responsible, not in a half ton of weight to save the silly driver.

Where are the side impact bars on a bicycle?

GM in Detroit who sponsored the first American solar car event, demanded side impact bars on their solar cars in the regulations.

They thought I were crazy when they did not understand my meaning when I said the road train drivers who have 58 wheels, and with that side impact bar it might give them a puncture if they ran over a solar car, on the Steward highway, and they hate flat tires, and I do not want to upset the road train drivers.

I am presently working on a hybrid cargo bike that has no chain and yes it has to be at least a 3 wheeler to support the 4 kg 250 watt solar panel that supplement my pedal cranking generator that only give me 70-80 watt yes I am old and no 200 watt tour de France rider

But this type of electric vehicle can be built in any country and if money is a problem they get the solar panel later

And again they now have a battery they can use at night in the hut, and the kids can pedal up power rather than use batteries in their toys they love so much

It is interesting that the poorest people still find money for a phone, proving they can get money when they want to. We must give them another smart incentive like the smart phone.

Yes the most efficient electric vehicle is the electric assist bike, and Germany sold over 700000 last year
Not bad for a bike we started playing with some 30 years ago.

Yes the challenge is ahead of you and all I ask, is that you think nothing is impossible and stay new, too many old people can not see the trees for the forest

And yes it is your future and we will run out of oil – it is a finite fossil fuel !

But when that day is here, it is too late looking for alternatives, we must start now!

As you are with this conference.