

## **Submission to Community Engagement Review.**

I submit that every aspect of modern Australian life critically depends on a constant, reliable, concentrated, supply of low-cost electricity, 24hrs/day, 7days/week.

I believe that the Australian Government's commitment to reducing its greenhouse gas emissions to 43% below 2005 levels by the year 2030. With each Australian state having set 2030 emissions reduction targets and most having a renewable energy target. With finally, the Australian Government having committed to increasing the amount of energy produced from renewable sources to 82% across the National Electricity Market by 2030.

**I submit that the above Federal and State Governments commitments have become an extremely serious set of misjudgements.** And that they have failed to take into account their responsibilities to supply, to every Australian, a constant, reliable, concentrated, supply of low-cost electricity, 24hrs/day, 7days/week.

For Rural Communities the transition to renewable energy and electrification, can only be described as a nightmare of slow torture, which will seriously cripple Australia's energy supplies. Along with greatly reducing long term agricultural production and the overall economic wellbeing of rural Australia. At the same time seriously disrupting the serenity, amenity and peacefulness of Rural Communities.

I believe the above reactions will happen for the following reasons.

1. **Solar and Wind Farms, have a relatively short working life.** Solar and Wind farms have a 100% working life of only 20 years, after which they need to be replaced. Even that 20 years of 100% working life (because of a lack of reliable weather fuel, the Sun or the Wind as the case may be), only averages out at 30% or 8 hours of electricity production every day.

This is compared to coal, gas or nuclear driven power plants which have a 100% working life of 50 years or more. And produce at 100% efficiency 24hrs/day, 7days/week.

Because of this short working life, the capital cost per MWh is much higher for Solar and Wind Farms. Solar Farms also have a much higher risk of damage from hail storms and wildfires, which can severely damage the production of a Solar farm.

**Battery Energy Storage Systems have an even shorter working life of 10 years.** This makes the capital cost of each MWh stored much greater as it has to be spread over a much lower number of MWh's.

2. **Solar Farms are grossly, inefficient.** This is because solar panels, are powered by an unreliable weather fuel, sunshine. The fuel for solar is permanently restricted in that the Sun which is the fuel source ONLY shines (provides fuel) on a very good day in Winter for only nine hours a day. (Good solar fuel for six hours 10am to 4 pm. Fair solar fuel for three hours. 8.30am to 10.00am and 4.00pm to 5.30pm). On some cloudy and rainy days no electricity may be produced at all. So, for at least 62.5% or 15 hours of each of the 365 days of each year, it provides no renewable energy at all, which can only be described as an impossible issue to overcome. The result is that Solar Farms can NEVER produce baseload electricity in a constant, even flow 24/7, as required by the modern Australian economy,

Because of the fact that Solar farms only produce electricity for a maximum of 9 hours per day and for the other 15 hours a day the consumers have to be supplied by a secondary source at a much higher price. When averaged over 24 hours, the cost to the consumer of the Solar produced electricity is almost certainly much higher, than is being quoted.

3. **Wind farms are equally inefficient.** Wind turbines rely on Medieval technology which has 'the wind' as a weather fuel. This means that the Wind Farm operator has no control over their fuel supply. The amount and availability of fuel is completely decided by the uncertainties of the weather. And because they can only produce electricity, when the wind speed is between 12kms/hr and 90kms/hr) they are reported to produce electricity on average for only 30% of their rated capacity or on average for eight hours per day. Leaving random periods of hours, without any electricity being produced. For some calm periods, wind turbines will produce no electricity for days at a time.

Who would buy a car, knowing that you would begin each day not knowing how much fuel would be available for that day or when. That it could suddenly come to a stop because it had run out of fuel. Or you could not drive it at night, because it was a calm, frosty night. That would be a ridiculous idea. And it is ridiculous to think you can power a modern economy that relies on a reliable supply of base load electricity every minute, twenty-four hours a day, seven days a week. (24/7) on wind power. The last time wind was used commercially as a power source was in the 1800's to drive sailing ships and to power Dutch windmills. It was discarded then because it was too unreliable. The result is that wind farms can never produce baseload electricity in a constant, even flow 24/7, as required by the modern Australian economy,

4. **The permanent pollution and devastation of land.** The land on which Solar farms, Wind farms, Battery Energy Storage Systems (BESS) and HV Transmission Lines is sited, will be permanently polluted, (for 100 years or until it is decommissioned). I.e. Solar panels and solar farms contain heavy metals (such as cadmium telluride), glass, metal, sealants, copper, concrete steel reinforced blocks, steel stands, electrical cables, etc. In the case of a hail storm or fire, the risk of toxic contamination of the land and ground water is great. There is a risk that as the solar panels deteriorate with age, the ground will become contaminated. If decommissioning is attempted the solar panels cannot be demolished by bulldozing and removed by excavators. But instead, they have to be removed carefully by hand which makes the cost prohibitive. As is well known, once land is a construction site, it can NEVER be returned to the pristine condition, it once was.

This pollution equally applies to Wind Farms, BESS installations and HV Transmission lines.

5. **Bushfire/Wildfire risk.** As an unintended consequence, Solar and wind farms will provide a monster fire risk of devastating rural Australia with scores of huge bushfires, every summer fire season. The loss of life, the deaths of domestic stock and wildlife and property damage will be unimaginable. The amount of compensation payable by the owner/operators of solar farms, wind farms and HV Transmission Lines, will be for record amounts.

This bushfire risk is because if tens of thousands of wind turbines on 180m to 300m towers. Along with tens of millions of solar panels on solar farms. Additionally add thousands of large lithium batteries. Pack them together in factory farms, with dry grass growing amongst them, encircle them all with a two-metre-high security fence. Have no firefighting equipment, with the required water etc on site.

Scatter solar and wind farms in their hundreds, all across rural Australia, amongst highly combustible grassy, grazing land, bone dry wheat and other grain producing paddocks or highly combustible eucalypt forests and you have wide-scale disasters waiting to happen. On a total fire ban day, with a 43dC temperature and a 70km NW wind and there only needs to be one wind turbine or one solar panel to catch fire and a disaster is likely to occur. Multiply that by ten or twenty and a nightmare scenario is not hard to imagine.

It is exacerbated because, in regards to firefighting, solar farms are a “no-go area” for firefighters, because of the risk of getting trapped. And burning batteries give off toxic smoke and require a lot of water and special treatment. With wind farms, aerial water bombers keep several kilometres away from wind turbines, because of the turbulence they create. Stopping fires when they are small, is the no one priority of current firefighting protocol. But with solar and wind farms that is out of the question.

6. **The loss of agricultural production from the land on which Solar Farms, Wind Farms, BESS and HV Transmission lines are sited.** The agricultural production and income from the sites will be lost to the surrounding communities forever. As mentioned in point 4. Placing renewable energy assets on the sites will permanently pollute the sites and stop any meaningful agricultural production coming from the site for maybe 100 years or more. This money is lost to the local community and surrounding towns and cities, with resultant very serious economic consequences and loss of job opportunities.
7. **The loss of the peace and quiet serenity of rural country sides.** The people who live in Rural Australia. Those originally born there, people retreating from the ‘rat race’ and tourists, value, extremely highly the quietness, visual serenity, natural beauty and isolated safety of rural Australia. Solar farms, wind farms, BESS’s and HV Transmission lines are extremely disruptive and are irreversibly damaging the peaceful and visual serenity of Rural Australia. This is by the hundreds of square kilometres of shimmering solar panels, the never ending, horizon of constantly turning and swishing wind turbines, the 20,000 kilometres of HV Transmission lines. The thousands of kilometres of access roads and the nightmare of whether all this toxic junk is going to be left as a blight on the landscape. Creating a haven for feral pests and increasing the bushfire risk.
8. **The damage to the tourism industry.** The tourism industry is particularly affected by the renewable energy industry. Tourists come to rural areas for the beautiful scenery, wildlife, and peacefulness. To blight it all with millions of solar panels and thousands of wind turbines on skylines, for uncertain short term economic gain is ridiculous. The long term damage will be enormous. Will all tourists have to be evacuated on Total Fire Ban Days?
9. **The loss of our precious wildlife.** Australia’s wildlife is unique and needs to be protected at all costs. In particular the affect that wind turbines have on birds, bats and bees is devastating. As birds, bats and bees can move over a wide area, wind turbines can have an effect over a very wide area. Particularly with Wedge Tail Eagles, if one pair is killed off, another moves in to take their place, they are killed off and the cycle continues. As Wedge Tail Eagles, live long and breed slowly it is not beyond the possibility of them becoming extinct. In any other areas to kill off Wedge Tail Eagles,

bring with it heavy fines and even imprisonment. The operators of Wind Farms should not be exempt from these provisions.

The list of damage to our wildlife and their habitat is endless. Such as putting Snowy 2 in a National Park. Cutting tracks through National Parks for HV Transmission lines. Putting Wind Farms close the National Parks (what stops the endangered birds in the National Park flying into the Wind turbine?).

10. **No obligation or bond being imposed on developers to decommission a site.** I am not aware of any renewable site in Australia. Where a decommissioning bond or obligation to decommission a site at the end of operations, has been imposed, before construction is allowed to commence. This is a dereliction of duty of the governing bodies. They have treated rural communities with contempt.

To summarise. A. The renewable energy projects, solar, wind, BESS, come up as being very expensive when looking at the capital cost per MWh. B. Are extremely expensive and unreliable as to the production cost per MWh. C. Create a very high risk of starting, extremely serious bush/wild fires. D. Create a very serious and long term, loss of agricultural production, with resultant economic losses. E. Severely disrupt the peace and serenity of rural living. F. Damage tourism potential. G. Kill and disrupt our unique wildlife. H. Will leave huge areas of valuable land covered in toxic junk, which will become a haven for feral pests and extreme fire hazards. IT WOULD BE BEST IF THEY WERE NEVER BUILT.

Signed John A Moore 