Submission Regarding; Australia's transition to a Green Energy Superpower.

As an individual primary producer who has been dealing with a proposed Solar Plant neighbouring our property for the last 4 years (9000 acre lease on rich food producing land, high on the watershed, close to a major river in the Great Barrier Reef Catchment, in a high fire, hail and cyclone zone), I feel that I have valuable and first-hand experience from which to write a submission on this topic.

Firstly, the notion of Australia being in any way a 'super power' (green energy or not) is highly questionable. On a global scale, we are very small population of mostly urbanised people, and our self-sufficiency as a nation has been rapidly declining as governments have steadily outsourced our vital land (both urban and rural), food and dairy production, manufacturing, port facilities, hospitals, prisons, communication and technology networks **and now power supply, construction, generation, and distribution.** We are fast becoming nothing more than a potential colony, rich in resources, waiting to be taken advantage of by countries whose governments have long term agendas (and are genuinely super powers), as opposed to the weak, fickle and vote driven policies of our own government in recent years.

The government's plan to spend billions of dollars (62 billion in QLD alone), transitioning from a reliable energy generation system, (using national coal resources) to one that has already failed in Europe, is not only irresponsible, it is ludicrous. Our chosen replacement 'green energy' is completely reliant on imported infrastructure which is resource hungry, toxic, produced unethically and has a short life span. No less coal will be extracted from Australian mines as a result, but our economy and self-sufficiency as a nation will be placed in further jeopardy.

*'The State Grid Corporation of China (**国家**电网公司), the world's largest electric utility company, is the monopoly power distributor across China……In Australia, State Grid is the largest shareholder in the non-listed ElectraNet which operates the South Australian electricity transmission network and is seeking to expand its stake.'* (State Grid and Australia's national security Interests 24 Nov 2015|Geoff Wade)

Environmentally, there are no measurable benefits. *'It is estimated from IPCC data that carbon dioxide (CO2) from all human-induced sources, not just electricity generation, is 3% of the 0.04% of CO2 in the atmosphere. 97% of greenhouse gases (GHG) are naturally occurring, with water vapour being the major greenhouse gas.* ***Australia is responsible for about 0.036% (i.e. 1.2% of the 3%) of humaninduced amount of total global emissions of carbon dioxide equivalents****.'* (Save Our Surroundings A research paper prepared by SOS November 2022)

Dr Finkel, Chief Scientist of Australia, told a Senate inquiry in 2017 that if Australia reduced its total carbon emissions to zero, it would do virtually nothing to reduce global temperatures. Thus, Australia's policies on emissions reductions should be based on logic and practicality.

'There is no justification for spending many multi-billions of dollars every year in direct and indirect subsidies for no climate benefit, yet causing higher electricity bills, increasing hardship to Australians, damaging our economy and causing wide-scale damage to our environments, both in Australia and overseas.' (Senator Ian Macdonald 2007)

Every attempt by Australia (South Australia), Germany Denmark, US (California and Texas) to introduce solar and wind technologies has only succeeded in dramatic increase of electricity prices and more importantly, destabilisation electricity grids, and therefore economies and National security. *"Doing more of the same thing (i.e. increasing the percentage of weather-dependent renewables) and expecting a different result is totally illogical."* (Mark Intell, US Energy Information Administration 2017)

I would also argue that the construction of Renewable Energy plants does not only fail to benefit the environment, it is actively harmful, especially when placed on valuable and productive food producing land, where chemical leaks and leaching occur into sensitive soils and hydrology, in the midst of thriving rural communities, producing food for the rest of Australia.

"The energy expended to manufacture a solar industrial complex is greater than the energy that will be produced during its working life and the carbon dioxide emissions produced from the manufacture of a solar industrial complex is greater than the carbon dioxide emissions savings….The manufacturing of ultra-pure silicon for solar panels requires the use of highly toxic chemicals such as hydrochloric acid, sulphuric acid, nitric acid, hydrofluoric acid, nitrogen trifluoride, sulphur hexafluoride, 1,1,1-trichloroethane and acetone. Residues of these chemicals are dumped in the country of solar panel manufacture and have created long-term health problems. Cadmium telluride, copper indium selenide, cadmium indium gallium telluride, silicon tetrachloride and lead are also added to the silicon for greater electrical efficiency. Most solar panels are manufactured in the People's Republic of China (PRC) and mostly by Uyghur slave labour." (Statement of evidence of Professor Ian Rutherford Plimer Sep 2022)

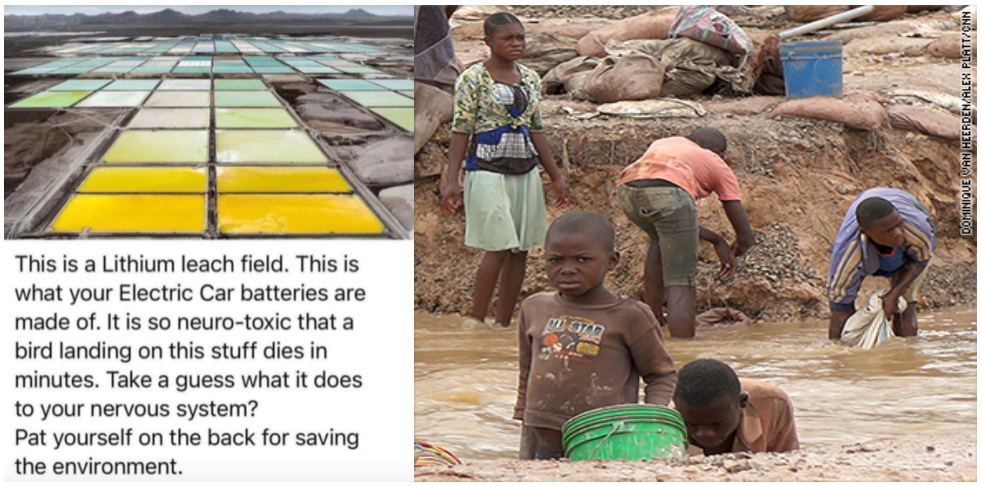
Wind turbine blades weigh 10-20 tonnes and need replacing every 15 years or less. They contain plastic, fibreglass, balsa wood (from Brazilian rainforest) and resins. The Fibreglass is impregnated with epoxy resins made from petroleum. To date most of these are dumped (often in developing countries) rather than recycled. Bisphenol A is a highly toxic synthetic organic compound used in the epoxy resins of turbine blades. Epoxy resins contain 30-40% bisphenol A and turbine blades are the largest global consumer of epoxy resins. This chemical is an endocrine disrupter and linked to about 80 diseases including cancers. It is lethal for young children. In 2012, the World Health Organisation concluded that they pose a global threat to public health. The European Food Safety Authority has reduced by 1,000 times the dietary intake of bisphenol-A to one hundred millionth of a gram per kilogram of body weight per day. **The leading edge of turbine blades shed fine dust and blade edges only have a 5-year guarantee. Each blade sheds a minimum of 0.2 to 2.5 grams of bisphenol A in dust per year. This dust is spread wide and far by wind. If one gram of bisphenol A gets into dam waters, 10 million litres of water are rendered unusable. Over**

the life of a turbine, this equates to pollution of half a trillion litres of water per turbine. This dust from eroding blades has covered large areas of our planet and bisphenol A is leaching into soils and waterways. This is a toxic time bomb. (Professor Ian Plimer's "Green Murder" 2001

There is enormous risk to neighbours of Renewable Energy installations from impacts of these chemicals from turbines, and through leaching and breakage of solar panels in the event of catastrophic weather conditions (hailstorms, floodwaters, or gale-force winds). The impacts to neighbours and others in closer proximity are potentially severe, with release of chemicals from broken PV cells and significant risks from broken glass and/or panel frames and backing plates.

And yet the Australian government is allowing these developments all throughout our most productive food producing regions of Australia, subsidising them, using taxpayer's money for the construction of massive transmission networks and supplying renewable energy certificates of currently $65 per megawatt hour to these companies as further incentives.

The Australian government is not being transparent with the public about the origin of the 'green energy' infrastructure, or of the hazardous chemicals contained in it. In addition to the use of slave labour to assemble renewable energy infrastructure, child slaves are used to work in the highly toxic lithium mines in Africa to extract the lithium for the Lithium Ion battery storage facilities needed for renewable EG works.



Another matter of concern around Solar plants, is the **Photovoltaic Heat Island Affect** that increases the surrounding temperatures of agricultural land.

- ***The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures*** (Greg A Barron-Gafford, Rebecca L. Minor, Nathan A. Allen, Alex D.Cronin, Adria E. Brooks and Mitchell A Pavao-Zuckerman)

- ***Researchers discover solar heat island effect caused by large-scale solar power plants.*** (Graham Binder, University of Maryland)

- ***The Potential Micro Climate Impacts of Large-Scale Solar Farms – Implications for Planning and Approvals.*** (Bronte Nixon, Principal Environmental Scientist and Planner)

These articles clearly outline scientific evidence of increased temperatures in solar farm areas, and the inability of the soil under them to cool down at night. This causes a warming effect similar to that of an urban built up area on its surrounding environment. Studies found that temperatures around large solar power plants, were 3-4 degrees (Celsius) warmer than wildlands nearby.

An article by Luke Magon (Managing Director of ScanPro, Drone Operations, Infrared Thermal Imaging and Electroluminescent inspection Published Feb 12, 2020) outlines some of the inherent fire risks associated with electrical equipment in solar plants:

The average sized 100MW solar farm hosting around 300,000 to +400,000 solar panels (modules) will generally have over 1,000,000 physical made electrical terminations. Each one of these terminations operates at around 1500 Volts and each termination could fail. Electrical equipment failure is well known to be linked to situations where we can observe abnormally high temperatures. Fire, sparking, arching or melting, exposes electrical equipment to further damage and degradation, exacerbated as moisture ingress occurs. Electrical failure can occur due to various factors and although the commonly seen issue will generally arise due to high resistive joints, it is not uncommon to observe how the environment impacts equipment overtime. Electrical termination temperatures can reach over 120° Celsius, under these conditions, equipment will begin to deteriorate, over time plastics will have already begun to deform or melt and visible signs or smells will be present. Mismanagement, poor quality equipment and installation practices or lack of scheduled maintenance is generally what leads to these situations.

In a letter from Dr Alastair Gould to the Hon Alok Sharma MP, Secretary of State for Business Energy and Industrial Society, London) outlines the potential hazard of lithium Ion Batteries (such as those used for power storage on Renewable EG plants);

It is well established that Li-ion batteries are prone to runaway fires which can lead to explosions. Indeed, such fires at much smaller installations in the USA has led regulators to question the use of such batteries and pause further developments, especially close to habitation. The larger the BESS, the greater is the risk of a runaway fire. In the event of a fire Li-ion batteries emit a cloud of highly toxic Hydrogen Fluoride which can spread at dangerously high levels over distances of 1-2 miles…..Hydrogen fluoride goes easily and quickly through the skin and into the tissues in the body. There it damages the cells and causes them to not work properly. The gas, even at low levels, can irritate the eyes, nose, and respiratory tract. Breathing in hydrogen fluoride at high levels can cause death from an irregular heartbeat or from fluid build-up in the lungs.

Additionally, the environmental impact risks associated with the chemicals used for firefighting are significant and must be taken into account as well as the risks from the fire itself. The Qld Government acknowledges these risks: https://www.qld.gov.au/environment/pollution/management/disasters/**pfas**/firefighting-foam

In addition, PV arrays, turbines, inverters and the associated electrical infrastructure emit **electric magnetic fields (EMF)**, when generating and transmitting electricity. Magnetic fields are not easily shielded and will pass through most objects. This phenomenon has been linked to electromagnetic hypersensitivity (EHS). The World Health Organization's (WHO) fact sheet on EHS states that; *"while some individuals report mild symptoms and react by avoiding the fields as best they can, others are so severely affected that they cease work and change their entire lifestyle"*.

Clearly, the concept of 'Australia's Transition to a Green Energy Superpower' is fundamentally flawed, unethical, unsafe and a threat to the future of our health, food security, economy, national security, and environment. I strongly oppose this direction for our beautiful and privileged nation.