

Tallawang Solar Farm

SSD-23700028

Puggoon Road, 8 km north-west of Gulgong

RES Australia Pty Ltd

Mid-Western Regional

NO POLITICAL DONATIONS

21/11/22

As a food producer who has researched the negative environmental and economic effects of Renewable Energy Developments in Europe and the US, as well as the failure of these installations to deliver viable results, I strongly object to the proposed Tallawang Solar Farm.

The cumulative effect of the current and proposed construction of wind, solar & BESS projects in this region in terms of land occupation and contamination, imported materials used, temporary workers, local water supplies, increased heavy vehicle traffic; wildlife destruction, packaging waste generated, end of life waste as all these short term constructions simultaneously expire and extra impetus to slavery in ROC and China.

The existence of panels poses enormous contamination risks through both leaching as they age, fire damage and catastrophic weather conditions. All unacceptable threats to the well being and health of an entire region. (See separately attached, letter from Fire Commissioner), and evidence below;

“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)

Additionally, The Australian government is not being transparent with the public about the origin of the ‘green energy’ infrastructure such as lithium ion BESS (battery energy storage systems), or of the hazardous chemicals contained in it. In addition to the use of slave labour to assemble panels, child slaves are used to work in the highly toxic lithium mines in Africa to extract the lithium for the Lithium Ion batteries;

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. We now have several instances of permanent contamination and sterilisation of the water table in Australia by the fire retardant PFAS. (Biloela and Newcastle)

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, arcing 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.'*

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

- ***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.

Tallerwang Solar Plant will not reduce the impact of climate change. Even if the whole of Australia's 1.2% of current emissions went to zero it would make "virtually no difference" to global temperatures (Chief Scientist Dr Alan Finkle 2017).

The 7 permanent jobs at the proposed Tallerwang plant cannot bring 'economic and employment benefits' to the area as a whole. This claim is ridiculous.

Mitigation of the negative impacts of these developments is impossible, as has been repeatedly proven overseas and more recently in Australia. This claim is also ridiculous. It is clear that the local health, safety, productivity and environment have all been sacrificed to the 'green energy cause.' To claim otherwise is simply untrue.

The reliance on virtually one source for all our wind, solar and battery electricity generation puts our whole economy, and therefore national security, in an obviously perilous position. This is an unacceptably stupid, blind and reckless move by a government that is supposed to be protecting the future of this country.

Thank you.