Name: James Campbell Osborne Greenland
Address: 'Brooklyn' 1450 Marsden Park Road, Loomberah 2340
Name of Project: Middlebrook Solar Farm
Application No: SSD-10455

To: Director – Energy Assessments
Development Assessment
Department of Planning and Environment
Locked Bag 5022
Parramatta NSW 2124

I acknowledge and accept the Department's disclaimer and declaration.

I declare I have made no reportable political donations in the last two years.

STATEMENT OF OBJECTION

I object to the Total Eren Solar Farm proposal in Loomberah adjacent to Middlebrook Road. My wife and I own "Brooklyn" approximately 2km north of the proposed site and my family occupy houses designated as receiver 15 and 24. Both houses are close to gravel-surfaced Marsden Park Road and rely on tank water collected from roof tops for domestic water, as no Tamworth Regional Council supplied water is available. Dust from this project will contaminate our drinking water, and that of our stock.

This large proposal will be highly visible from our houses and destroy the rural amenity of the district.

This project is not compatible with the rural nature of the area and will be a visual blight on the landscape, the footprint being roughly three times the area of each adjoining property.

The proposal will reduce production of food and fibre on site and on nearby properties, and if it proceeds it will reduce land values, rural investment and productivity on not just nearby land, but all properties adjacent to high voltage power lines everywhere in New South Wales. The proposal suggests energy is more important than food and fibre production. That attitude reflects the disconnect between rural and urban populations, who should recognise that they could survive without power, but could not do so without food and clothing.

Australia's population is expected to increase by 2 million people in the next few years. Primary production is currently subsidising urban lifestyles through supply of cheap food and fibre & the earning of export income from surplus production.

This proposal and others like it, if on productive land, will cause long term macro and micro economic damage, in return for only a short term energy gain. The profits in this case will go overseas, and there will be little local benefit to offset local and other adverse effects.

The size and prosperity of Tamworth as a major regional inland centre is due almost entirely to the good quality and type of soil in the surrounding districts, and in particular the wider Goonoo Goonoo area, including the proposed site on Middlebrook Road. The assertion by the proponent that the soil type is of low and moderate value is not based on fact. The number of old hay sheds dating back almost 150 years, and the existence of grain silos on many properties in the Loomberah area is testament to its productive capacity.

The proponent concedes (page 132) that "important agricultural land…would typically **not** be considered appropriate for solar farm development without strong justification". The proponent further concedes that soil tests carried out by NGH classify the soil to have "good capability for agricultural use" (page 260).

The properties on Middlebrook Road, and others in the Loomberah area, were part of the iconic Goonoo Goonoo Station, the centre of which is within 4km of the proposed solar farm. This is highly productive country, and always has been. If the predictions of the warming effects of climate change prove correct, the areas currently farmed west of the Newell Highway will once again become marginal or worse (pages 270-271). This will drastically reduce the ability of New South Wales to produce food and fibre. Loomberah soils will be needed for intensive agriculture to feed and clothe the population.

This solar farm will take out of production more than the area of its own footprint. It will also adversely affect production on all properties within the reach of its dust generation. Dust interferes with photosynthesis of crops and pastures, and reduces water quality. Dust from Marsden Park Road, and Middlebrook Road, travels many kilometres before settling, and these roads generate dust on all but very wet days. The 48km of project roadings will greatly add to the dust problem (page 270).

Runoff sediment from 48km of internal roadings (EIS 1.3.2 page 4) and other unnatural surfaces will pollute Spring Creek and its tributaries, particularly in heavy rainfall events. A solar farm at Uralla has already experienced this problem. Conditions designed to prevent erosion will generally be ineffective in extreme weather events, even if stringently designed, maintained, and monitored.

Solar panels and roadings covering 540ha will create a heat island effect and adversely affect the local microclimate and weather in an already relatively hot district.

All affected “receivers” will need to be indemnified against damage to water supplies and any increases to farmers’ insurance premiums. The proponent raises insurance issues on page 146, but has made no concessions or offers. Most standard farm insurance policies have a limit of only $10-20 million of public risk cover. The proponent should be required to indemnify all nearby landholders in excess of their insurance cover should a fire, for example, escape an adjoining or other nearby property, and damage the project infrastructure.

The proponent has not genuinely engaged with adjoining landholders or otherwise. It also seeks to cost-shift the burden of increased traffic flows and water usage to the rate payers of Tamworth Regional Council.

This project should be moved to a non-arable or industrial site.

Adopting the awkward pagination and paragraphing of the EIS, I make the following objections and comments:

1. Declaration pages i and ii - not accurate - points 2, 3, and 9 - not all information is included - see matters raised in my later detailed comments, such as failure to provide accurate, meaningful and detailed photo montages.
2. Table of definitions page xvi – Applicant - the proponent is associated with Total Eren, a foreign owned petrochemical company. What assets and guarantees, such as bonds, will there be to ensure all the proponent’s obligations as a legal entity are met, including full site remediation, costs to Tamworth Regional Council rate payers, and all affected landholders?
3. Proposed location and values page xvii - projects outside REZs should NOT be on valuable and “good” productive land (page xix site values) or in highly visible and closely settled areas. Already degraded areas in the Hunter Valley on old mine sites would be more suitable due to proximity to Newcastle and Sydney, and already have the necessary power, road & water infrastructure.

4. Project summary:
   (a) Page xxv - Table ES3 – Location - street address 760 Middlebrook Road - this is not consistent with the stated intent to have the site office approximately 3.5km from the New England Highway. This would be 7.6km, which places it on the southern part of Middlebrook Road, which is elsewhere stated not to be accessed off site.
   (b) Page xxvi - onsite substation and switchyard - this 6ha site was originally proposed to be placed in a secluded area beneath the exisiting Eastern high voltage powerlines. The proponent now says Transgrid requires it to be adjacent to Middlebrook Road, which makes it very visible from most directions, and will be highly reflective, tall, and lit at night. This substation, site office and 100 inverter/battery structures are NOT disclosed in photo montages. The proponent is not proposing to upgrade and maintain, or suppress, the dust on roads leading to the substation, which is about 2km further east of the project site entry. The proponent has NOT disclosed any traffic detail or information concerning the Transgrid site, or any restrictions on traffic to the site, which will be ongoing for the life of the project. The proponent is unlikely to be able to stop Transgrid staff using Marsden Park Road, for example.

   (c) Page xxvi - Battery Energy Storage System- these approximately 100 shipping container sized units, and associated inverters, are NOT disclosed in the photo montages, or in any commentary made to reduce their visual impact, or pollution risk from battery leakage.

   (d) Page xxvi - Traffic and access - via New England Highway, and not via alternative Marsden Park Road - how will this restriction be enforced? How can Tamworth Regional Council enforce maintenance and dust suppression on Middlebrook Road, which is not designed for the amount and type of extra traffic? Why isn't the road to be upgraded to the Transgrid substation, which will require heavy vehicles to construct, and constant vehicle movements for staff?

      Middlebrook Road (north/south alignment) between east and west project portions - why does Figure 3.7 (page 36 of EIS) depict turning provision if no access if permitted? How often will this crossing be watered and maintained, and how will this be enforced?

      Table 6.8 (page 106) 86 two-way (43 one-way) car/4WD vehicle movements for those 400 workers per day, each way, not travelling in shuttle buses, trucks etc, is understated as follows:

Workers				400
Less drivers of	-	bus	4	
	-	MRV/HRV	8	
	-	Truck and dog	10	
	-	AV	8	
	-	B-double	10	
				360
Less bus passengers 4x40				160
				200

      Assuming 200 workers travel in pairs in cars/4WD, this would total at least 100 vehicle movements each way, and not 43 as claimed.

      In addition, most of the 160 bus passengers will need vehicles or machines on site, and these will need to move on and off site for servicing etc.

Pre-construction traffic levels on Middlebrook Road are disclosed as 57 per day (page 112). No peak hour data is disclosed, and nor is the turning movement in council survey data carried out on 5 April 2023 (page 111). This road is not designed or maintained for even the current usage level, let alone a more than 5-fold increase at peak times which would coincide with the local school bus and local on & off farm worker traffic.

The Goonoo Goonoo Creek bridge capability is yet to be assessed (T6 page 130) and I note it is already unsuitable for some local agricultural machinery contractors.

Middlebrook Road's accreditation for B-doubles has lapsed at least once during the last 20 years.

a. Internal Tracks - 48km gravel - these will require constant dust suppression and maintenance, and will interfere with rain absorption and water flows, and will adversely affect Spring Creek's water quality.

This contaminated gravel will need to be removed on decommissioning and drains & culverts removed. A bond will be required to ensure compliance, as costs will be significant.

Assuming only 50mm of gravel x 4m wide x 48km = 9600 cubic meters or say 400 semi trailer loads, one way. Where would gravel contaminated with plastic wiring, metal shards, top soil and grass, be stored or used, and at who's expense?

Page 40, 3.6.3 estimates only 7600 cubic meters of gravel for the whole project. How much extra gravel is required to upgrade Middlebrook Road from the highway, and how much is required to maintain all gravel roads during the life of the project?

b. Security Fencing:
- 2.4m high chain mesh fence is NOT compatible with the rural character of Loomberah and will redirect wildlife movements, particularly kangaroos, wombats, foxes, deer, and feral pigs, onto neighbouring properties and roads.

- Chain mesh fencing has an industrial appearance, and is highly reflective when new, as are associated galvanised posts and wire, and will remain so for many years. This type of fencing is not compatible with native wildlife movements and will be a danger to koalas, birds, feather-tailed gliders and bats.

c. Page xxvii – "construction…workforce"- 400 - see my comments (4(d) above) regarding traffic and access (regarding page xxvi above).

d. Page xxxi - land compatibility - points 1 and 2, and 6.4 (page 134) - implies this project is acceptable based on the Land Soil Capability Assessment Scheme categorising the land as having moderate to low agricultural capacity. This Scheme is known to be flawed, and is currently under review by the Department of Primary Industries.

NGH soil survey figure 6-31 (pages 134, 260, 264) and Figure 7-8 indicate MOST of the land is of moderate agricultural capacity, and similarly for soils on our property

"Brooklyn" near receivers R15 & R24 and is therefore not low as asserted. NGH's own soil testing (page 260) confirms the soil has "good capability for agricultural use".

On "Brooklyn" we have found the soil to be highly productive, and we understand it has been for over 180 years. Areas of "Brooklyn" (claimed to be moderate to low Class 5 land) are used for dry land hay production, grain and forage crops, and are capable of high yields, comparable to or better than black soil country at Willow Tree, for example. We recently cut and baled fifty 4x3x8 foot bales of hay off 10ha of dryland lucerne, and had 3 similar cuts in the preceding months. Stock bred on "Brooklyn" have been assessed in the Meat and Livestock Authority's top 100 Australia-wide for quality.

From my observations the soils on the subject property largely have a high capacity, similar to "Brooklyn."

Local property values are a better reflection of agricultural capacity and suggest the subject land is amongst the most valuable in the Tamworth District, and possibly in the whole of New South Wales. Recent sales suggest a value of $25,000 per hectare. I understand the proponents' solar farm in the Victorian Mallee is on land worth less than $1,250 per hectare.

Point 3 claims grazing under panels and reversibility:

i. 48km of internal roadings x 4m wide will remove 19.2ha of grassland, plus 6ha of substation, plus the area of site building, car parks etc.
ii. Off cuts of wire, metal shavings, and dropped screws and bolts will permanently contaminate the site, leading to ongoing stock losses and contamination of soil & gravel roadings.
iii. What bond or other guarantee can be put in place to ensure appropriate de-commissioning given that the proponent presumably has, or will have, no effective saleable asset, at the end of the project, and as the cost of decommissioning probably exceeds the value of the infrastructure? The proponent may well be a shelf company with no other assets.

(e) Key environmental matters - Table ES-4 - page xxx - Key Results and project outcomes:

Visual:

Points 4-7 - low visual impact asserted, presumably using the magnitude of change method of assessment, referred to on page 76, 6.1. This method is flawed and said not to be used anywhere else in the world. The disclosed photo montages do not reflect reality, and understate the visual impact by distorting the horizon, which includes Mount Crawney, and omits the Transgrid substation, inverter and battery containers, and site administration buildings. Mount Crawney, and its associated National Park, is iconic and periodically snow capped, being one of the highest points in the Tamworth District.

Glare from panel frames, galvanised posts and poles, insulators, and vehicle windscreens, is not addressed. Four hundred staff, presumably implies at least 200 work vehicles, with associated reflections.

Noise:

Point 1 - Modelling (6.2 page 101) - modelling rarely reflects real world experience, is based on assumptions, and does not reflect reality.

Points 2 and 3 - Excessive noise would not be expected to be detected at non-associated receivers BEFORE the project commences. Noise such as traffic and gun shots travel long distances in the project area (at least 7km) on both still days, and in down wind situations. Construction noise levels for this project will be far more intensive, continuous, and intrusive than mere intermittent or singular car/vehicle noise, and will be far in excess of current normal rural amenity.

Installation of 9,900 solar tracker related post combinations (page 107) particularly if pile driven, will be very intrusive over extended periods.

Point 4 - No mitigation is available or effective for this situation. No complaints process would be effective and will not be responsive in practice.

Traffic:

Page xxxi - point 1 - Modelling rarely reflects reality and is often based on incorrect assumptions. 6.3 page 114 assumes 4 x 40 seat shuttle buses (ie. 160 workers) out of an expected 400. I assume the remaining 240 travel in at least 120 work vehicles. See my comments above in 4(d) in relation to traffic and access (page xxvi).

Point 2 - Middlebrook Road is not able to tolerate the proposed traffic type and volumes. The bridge is not engineered for the work load. The road will need to be sealed and maintained for the project life.

The proponent will not be able to prevent traffic using other approaches, such as Marsden Park Road, which should also be upgraded and sealed.

Point 3 sub point 1 - proposed Basic Left Turn treatment off New England Highway will involve an embankment over land housing Telstra infrastructure. It is approached by a long straight 100km/h section of highway which should require a lengthy deceleration lane if it is not to endanger southbound traffic.

Existing Channelized right turn is too short, is at the bottom of a gradient and is dangerously complicated by the Goonoo Goonoo Station entry, the Ussher property entry, and Bartons Lane entry, particularly when slow to decelerate large vehicles are likely to obscure visibility.

Point 3 sub point 2 - Middlebrook Road will need to be widened and sealed and extended to at least the Transgrid site, and preferably to Duri-Dungowan Road via Marsden Park Road.

Egress from Middlebrook Road onto the New England Highway has no acceleration lanes for either right or left turning traffic (page 120). This will constitute a hazard for 100km/h highway traffic whose vision will be compromised by large, slow moving vehicles, turning onto Middlebrook Road, particularly at peak times.

(f) Biodiversity page xxxii points 2-6 - removal of 194 mature trees, many containing hollows (for bird, bat and glider etc nesting), is serious and irreversible. The wildlife using those

trees will die, and on rehabilitation of the site, it will take over 100 years for replacement trees to mature to hollows stage.

Practical offsets are unlikely to be successful or locally relevant.

(g) Historic Heritage page xxxiii - the subject properties and all surrounding properties were part of the iconic Goonoo Goonoo Station, less than 4km distant. This industrial scale proposal is completely incompatible with historic land use.

(h) Social and Economic page xxxiii - point 3 - Key Concerns - this proposal raises actual matters (not "potential") due to its inappropriateness for the district.

Point 5 – reduction in scale - the scale has not substantially been reduced and could represent a first stage only, if larger economies of scale are required in the future. This has not been denied by the proponent.

Point 6 - (1) "significant benefits" asserted only become relevant if local resources are readily available and the proponent has noted there is already over full employment in the Tamworth construction industry and a lack of residential accommodation. The bulk of the workforce will probably be sourced from outside the Tamworth area, and increase carbon emissions for transport etc.

Point 6 - (2) climate change contribution locally is likely to be negative due to the heat island effect on the microclimate and local reduction in carbon sequestration on the effected properties due to reduction in grass and tree cover, and more widely, dust distribution supressing photosynthesis over a wide area. Our property is already adversely affected by dust from both Middlebrook Road and Marsden Park Road.

Point 6 - (3) the impact management proposed is token in practice and would be ineffectual.

(i) Hazards page xxxiv - point 3 – bushfire - there is a substantial fire risk from electrical faults, lightning strikes, construction activities such as cutting metals, welding and mechanical failure, and cigarettes. The proposal involves substantial grass cover under the panels, and once started a fire would be very hard to control.

(j) Hydrology and water use - point 1 - localised flooding risk from thunderstorm activity is high and concentrated runoff from solar panels and 48km of roadings will cause major erosion and silting of Spring Creek and Goonoo Goonoo Creek. Table 7-7 page 261 confirms this area has high erodability. Such events can be very localised, one occurring locally a few years ago.

Point 2 - Ground cover management is very weather dependent and normal extended dry periods will prevent desirable ground cover being achieved and maintained in most years.

Water resources - site bores and ephemeral water courses are related to the wider Spring Creek catchment and the EIS fails to mention the "springs" on the subject property which all feed underground into the catchment, which supports permanent water in Spring Creek, and therefore the upper Murray Darling River basin system. No Water NSW departmental monitoring of flows and bores has ever been undertaken to my knowledge, and therefore the probable impacts of this proposal will be unknown. It must be a condition of any approval of this proposal that no bore or surface water can be taken, or used, from the site.

The expected claimed water use is:
(1) 10 million litres of potable water per year for panel washing (page 41); and
(2) 100 million litres of non-potable water over 30 years for dust suppression (3.6.3 page 40) – namely 3.3 million litres per year.

Therefore the proposal requires approximately 1,000 water tanker loads (12,000 litres per load) per year.

These quantities are likely to have been seriously underestimated as the proponent does not understand the degree of dust problem on and around the site in this relatively infrequent rainfall event area. Correspondingly the number of water tanker movements is seriously underestimated in relation to traffic movements.

Tamworth Regional Council in dry periods frequently suspends gravel roadworks due to lack of water.

This project's water requirements are therefore contrary to the Federal Government's intention to increase the amount of water available in the Murray-Darling Basin system.

The projected water use of the project is exclusively to come from the Tamworth Water Supply, which almost failed during the recent drought, and no extra capacity is available in the short term, and this proposal should be rejected due to its intensive water use for this reason alone.

(k) Air Quality and Climate - point 1 - dust will NOT be manageable as the proponent has no mitigation measures in place post construction for local roads.

Point 2 - heat island effect - will be significant on the affected land, and may attract and/or alter storm and rainfall patterns.

(l) Resources and Waste - re-use and recycling of waste is merely a potential ambition. Tamworth has no sophisticated waste and recycling facility, and offers only a collection centre. Construction waste such as packaging for 750,000 solar panels will contain metal staples, tape and other plastics, which can not readily be separated from cardboard, and will need to be transported to distant sophisticated recycling facilities, increasing the project's carbon footprint, and not benefiting locals. Similar comments apply for solar panel recycling and metal recycling.

(m) Cumulative impacts - point 1 - "negligible adverse" - this assertion is unsupported. This is an industrial scale project in a small rural valley, and is TOTALLY ADVERSE on all levels. Further inappropriate projects are proposed for nearby areas around Loomberah, and if approved, will have a massive negative cumulative impact.

Point 2 - the project will strain existing local resources including accommodation, the construction industry, including workers and materials, and health care. The proponent concedes these points in the EIS, however ignores them.

Point 3 - greenhouse gas emission reduction - removal and reduction of food and fibre production on site and nearby properties will require intensifying production on other less suitable land to compensate for less production and carbon sequestration.

(n) Justification - page xxxv - this project is NOT justifiable and acceptable as asserted. The site is inappropriate and the project has a high adverse local and national impact. Claimed wider benefits are not supported by data or facts, and adverse impacts are dismissed.

Claimed mitigation strategies are not practical and no confidence in them can genuinely be asserted.

(o) ES Table 5 - Priority Assessment Criteria Response - page xxxvi - strategic alignment - point 3 - greater synergies would be obtained in the Hunter River area where rainfall is higher, water & degraded land is available on coal mine sites, and appropriate labour will exist with soon to be redundant mining skills.

Points 1 and 2 - these proposed funds are token only, and fail to compensate local residents for the loss of production, increased costs due to dust and road deterioration, and loss of amenity and land value.

(p) Environmental Impact Statement - I believe I have covered most of my objections in the above comments relating to pages i-xxxvi of the Summary.

I further assert that this project will not be viable due to the general dustiness of the proposed site. An immediate long term pilot study should be undertaken involving siting photovoltaic panels near the type of gravel roadings proposed on site, to establish whether or not the project is uneconomic and/or impractical due to the dust levels in the district.

For these reasons the proposal should not be approved and the Department should undertake the further investigations I have outlined above before further considering the proponent's application.