Dear DPE,

Thankyou for the opportunity to make a submission regarding the proposed Orange Grove Sun Farm by the proponent Overland Sun Farming Pty Ltd.

My family's cattle grazing property is located on Orange Grove Rd. The Overland proposal is on our property's north-eastern boundary, and the Photon proposal is in proximity to our north-western boundary. We are considered a 'sensitive receiver' by both proponents.

I object to both proposals and have previously submitted my objection to the Photon proposal during the public exhibition of their EIS.

This submission is my objection to the Overland proposal, to which I object for the following reasons:

1. Cumulative impact if both solar farms proceed
2. Uncertainty regarding the efficacy of solar farms
3. Loss of food-producing land
4. Impact upon the soil
5. Impact on climate change
6. Increased flood risk
7. Increased fire risk
8. Impact on residences
9. Conflict with existing agricultural operations
10. Impact on rural character and amenity
11. Devaluation of properties
12. Adverse socio-economic impacts
13. Negligible benefits to the local economy
14. Conflict between land use planning policies
15. Taxpayer's money supporting foreign business

Each of these points is discussed in this submission.

Introduction

Australia is committed to both national and international green energy targets, and we all support renewable energy.

However, existing planning laws permit any person to build a large-scale solar farm on any land. Accordingly, energy companies can identify sites where renewable energy can be generated at least cost and maximum profit, irrespective of what the land is used for, or what is located around it.

In order to keep their costs down, energy companies prefer large areas of flat, cleared land close to high voltage electricity infrastructure with spare capacity.

In this case, 2 energy companies have identified business opportunities on the Orange Grove Rd in Gunnedah because of proximity to the high voltage electricity infrastructure. But these opportunities are proposed on productive agricultural land, in a flood zone and in a relatively densely populated rural setting amongst many existing residences and agricultural operations.

Due to the relative infancy of solar farming in this country, we have not yet been through the 25 to 50-year life-cycle of a solar farm and seen the results and impacts. Accordingly, the impacts of these solar farms are uncertain.

However, scientific understanding about the impacts of little or no UV light together with a practical approach to considering the consequences of locating large-scale power generating facilities within an agricultural vicinity means that there will be serious impacts and conflicts between these very different land uses. These impacts and conflicts are discussed within this submission.

Fundamentally, is this the best use of food producing land at a time when we face population booms and threat to global food security?

No one knows either way what the long-term impacts will actually be. It will be DPE who decides whether such uncertainty is best located on productive agricultural land surrounded by agricultural operations and residences.

1. Cumulative impact if both solar farms proceed

Individually, each of the proposed developments is large, with a solar panel footprint that generates 10% and 50% more power respectively than the current largest operating solar farm in Australia. The solar panel footprint within each development is 253ha for one of the proposals, and 304ha for the other. These 2 proposals are located just 2.5km apart.

Cumulatively, there will be a total of close to 800,000 solar panels. This scale is unprecedented and the impact of both on this small and relatively densely populated agricultural area is difficult to comprehend.

There are 3 small farming enterprises and residences located within the 2.5km separation in between the 2 proposed developments. There are many enterprises and residences immediately adjacent to the developments. The extreme proximity of each of the solar farms to each other and to existing residences and agricultural operations raises grave concerns:

1. Creation of a microclimate with wind and temperature increases affecting livestock and crops;

2. Flood impact for those located in between and adjacent to the 2 developments;

3. Electro-Magnetic Radiation and other health issues from living so close to 2 large-scale electricity-generating facilities;

4. Impact of operating noise, night lighting, security fencing, security cameras, signs warning of danger, etc;

5. Conflict with the existing surrounding agricultural operations and the waste of natural resources (ground water, productive soil).

Individually, each large-scale solar development conflicts with the fundamental objectives of local and regional planning policies to protect productive land and develop small-scale green energy projects.

Each proposal also conflicts with the NSW Government's Large-Scale Solar Energy Guideline in selecting suitable sites. Taken cumulatively, the sheer extent of misalignment with the fundamental objectives of these planning instruments surely cannot be dis-regarded by the DPE.

2. Uncertainty regarding the efficacy of solar farms

Debate exists around the efficacy of renewable energy sources, as it is widely understood that solar energy is only capable of providing supplementary power to coal-fired power, contributing just 6% to the base load.

Should vast areas of productive land be alienated for the long term in order to provide a negligibly effective power supply?

3. Loss of food-producing land

The soils in this area are amongst the most productive in NSW.

For over 100 years, this area has been a significant and high-quality producer of beef, lamb, pork, cereal and oilseed grains which has contributed to sustaining the Australian people and contributed to our country's global agricultural export income.

The panels of the proposed Orange Grove Sun Farm will use 253 hectares of this soil, whilst the panels for the proposed Gunnedah Sun Farm will use 304 hectares. This removes huge areas of land currently being used for cropping and grazing for generating electricity instead.

Can we afford to lose this land for 25 – 50+ years? As we head towards population booms and threats to global food security, shouldn't we be protecting this land rather than sacrificing it in favour of a negligible power supply?

Fortunately, solar power developments could be placed on poor-quality, non-productive land. Solar farms in many other countries are restricted to non-productive, brown-field land, in order that agricultural land be preserved for food production.

We appeal to the DPE to protect our limited productive land and require proponents to identify solar business opportunities on non-productive land.

4. Impact upon the soil

As mentioned above, the soils in this area are amongst the most productive in NSW.

It is well understood that sunlight is vital to life. Vast areas of land covered with solar panels will limit or prevent sunlight reaching the soil and agronomists advise that pastures used for solar farming will become agricultural dead zones.

Without sunlight, soil biodiversity is destroyed, and soil become compacted, growing nutritionally poor plants which is susceptible to infestation of insects and disease. These plants are unable to compete with weeds which dominate in these conditions and can quickly spread to neighbouring farms.

Weeds are a serious threat and can be toxic or harmful to livestock and constitute a significant cost to Australian agriculture each year both in terms of control and lost productivity.

Because of the solar panel arrays, farming machinery such as tractors and boom sprays cannot access the ground. Accordingly, it will be difficult and labour-intensive to control the weeds, insects and disease which can take over in these conditions and impact neighbouring agricultural operations.

The proponents suggest that it is possible to graze stock beneath the solar panels. However, at this stage, little is actually known of the implications of grazing stock beneath solar panels. In any case, the prevalence of weeds amongst nutritionally poor plants will mean that the land would only be able to sustain very limited numbers of stock.

Following decommission of solar farms, soil rehabilitation is predicted to be a long and slow process. Agronomists predict that it will take many years to rehabilitate the soil to become once again capable of sustaining plant growth, if ever.

Concern also exists around the composition of the solar panels and potential for harmful substances to leach into soils and groundwater ingested by livestock if panels are damaged by the severe storms that are known in this area.

5. Impact on climate change

As well as having green energy targets, Australia is also committed to reducing CO2 nationally and globally.

The physical presence of vast areas of ground covered with solar panels will limit the amount of UV light that reaches the ground, which in turn greatly affects the production of carbon.

The sequestration of carbon (the building up of carbon levels) in the soils is the most effective way of reducing C02, thereby contributing to addressing climate change.

> *"Enhancing carbon levels in soils offers huge potential to improve the uptake of carbon emissions across the globe. Australia is a world leader in this area and will be sharing its expertise with other countries."*
>
> *Australia's 2025 Emission Reduction Target*

There is scientific opinion that asserts that the sequestration of carbon by agricultural activity can make a bigger contribution to the reduction of carbon in the atmosphere than by the replacement of coal fired generators with solar generators.

As mentioned above, following decommission of the solar farm, soil rehabilitation is predicted to be a long and slow process. Agronomists predict that it will take many years until the soil can once again properly sustain plant growth (if ever) and therefore be able to once again contribute towards reducing CO2.

Proponents should be required to identify business opportunities on land that does not adversely impact our nation's global commitment to reducing CO2.

6. Increased flood risk to adjoining properties

The Clean Energy Council is the peak body in Australia for the clean energy industry. It works with leading businesses and solar installers to develop solar energy projects.

The Clean Energy Council advises that solar power generating facilities should not be placed on flood-prone land.

Both developments are placed on flood-prone land.

The proposals are located on the floodplain close to the Namoi River, a major perennial river that is part of the Barwon catchment of the Murray-Darling basin. Major floods occur from time-to-time, and it is understood that the sites selected for both power plants have been inundated with water.

Each of the proposals will have many kilometres of cyclone security fencing. In times of flood, this fencing will become a trap for debris (logs, silt, leaves, twigs, etc) and will create a barrier to the flood waters moving down the Namoi Valley. This will push flood water back on to adjacent properties, resulting in potentially serious impacts upon those farming activities, farming infrastructure and residences.

It is a well-known fact that despite sophisticated flood modelling, every flood is different. Best attempts at predicting floods can be unsuccessful and even super-conservative predictions regarding water quantity, velocity, direction and impacts can be vastly different to what actually transpires.

Apart from the difficulty in predicting flood waters even when the data used to create the flood models is accurate, it is concerning that apparently the data used by both proponents in developing their flood models is flawed.

The proponents appear to have disregarded many features of the landscape which is critical in assessing the likely movement and velocity of flood waters. Further, it is understood that ground levels were taken via a drone rather than by a proper survey. This means that the proponent's understanding regarding the likely impacts of flood waters upon their proposed developments as well as on the neighbouring properties, is flawed.

Although the proponents of both developments have been dismissive of adjacent landholder concerns regarding floods, both proponents have been quick to point out that they will not guarantee that we won't be affected.

Given that obtaining insurance on a floodplain is either not possible or very expensive, the additional flood risk presented by the proposed developments (individually as well as cumulatively) upon our adjacent farming enterprises and residences is of grave concern.

We appeal to the DPE not to expose our surrounding properties and agricultural operations to this largely unknown flood risk, or at the very least obtain an independent flood study of the individual and cumulative flood impacts of both developments from a suitably qualified, experienced and impartial flood expert.

Considering the lives and businesses at risk from approving potentially 2 large-scale power plants located so close together in a flood zone, this should not be considered an unreasonable request.

Alternatively, is the DPE willing to indemnify landholders located in between and adjacent to the developments against the losses from floods impacted by the developments?

7. Increased fire risk

Electrical infrastructure is a major cause of fire in rural and bushland settings.

Grass fire can have a devastating effect on crops and fodder for livestock. There is concern that the solar farm (s) may not only be a source of fuel due to untended weed growth under the solar panels, but also be a source of ignition.

8. Impact on residences (visual, glint, glare, night-lighting, proximity)

Because the size of the landholdings in this vicinity are relatively small for an agricultural area, there are a relatively high number of residences and families living in the area.

The proposed development is in a highly conspicuous location, and existing adjacent residences (and a proposed future residence) will be significantly impacted by visual, glint, glare, night-lighting and simply being in such close proximity to a large-scale power plant.

One farm residence is within approximately 100m of the proposal. Being on the western side of the development, this house will have 330,000 solar panels tilted towards it every afternoon. This will make this house unliveable without even considering the noise, night-lighting and other impacts of the proposed development being located so closely.

The proponent has not offered any solution as to how these impacts could possibly be managed.

9. Conflict with existing agricultural operations

Proximity to a dirt road and surrounding agricultural activities (ploughing, aerial spraying) will constantly coat the solar panels and therefore impact upon their efficiency. Accordingly, the 253 hectares of solar panels will require constant cleaning, utilising huge amounts of valuable water resources.

Weeds propagating beneath the 253 hectares of panels will impact the surrounding agricultural operations.

10. Impact on rural character and amenity

Being so conspicuously located, and within a relatively congested rural setting where many residences and agricultural operations exists, the physical presence of something this large will have a profound impact upon the rural character and amenity of the area.

11. Devaluation of properties

Licensed valuers predict that properties located adjacent to the proposal will devalue due to the risks and impacts of being adjacent to a large-scale power plant.

The risks and impacts are discussed in this submission and include impacts upon agricultural activities, glint, glare, additional flood risk, additional fire risk, operating noise, night lighting, colossal visual impact for certain adjacent properties, potential for living in a micro-climate with higher temperatures, perceptions and understandings regarding EMR, the impact of simply living so close to a large-scale electricity generating facility with security fencing, security cameras, signs warning of danger.

Because of the relatively small landholdings in this area, many prospective buyers are those wanting a hobby farm, tree-change, to raise a family, etc. The risks and impacts of living adjacent to a power plant will repel these prospective buyers, and prices will need to be heavily reduced in order to sell.

12. Adverse socio-economic impacts

The NSW Government's Large-Scale Solar Energy Guideline and the SEARs requires the proponent to consider the positive and the negative impacts of the proposed development on affected people within the local community, and how the positive and negative impacts are distributed between affected people.

> *"Consideration should also be given to how impacts (both positive and negative) are distributed between affected people and groups."*
>
> (Page 18 of Guideline)

The positive impacts are the compelling financial rewards received by the landholder for permitting access to the land, whilst the negative impacts are borne by that landholder's neighbours.

The negative impacts include conflict with existing agricultural activities, additional flood risk, additional fire risk, glint, glare, operating noise, night lighting, colossal visual impact for certain adjacent properties, potentially living in a micro-climate with higher temperatures, the impact of simply living and working so close to a large-scale electricity generating facility with security fencing, security cameras, potential health risks, signs warning of danger, and the devaluation of property due to these impacts.

There is no distribution of the positive nor the negative impacts.

I am advised that the capital value of my property will be significantly impacted by its proximity to the development. I have attempted to negotiate with the proponent to offset these impacts, to no avail.

This grossly unjust situation has created untenable tensions, and fractured the community living along the Orange Grove Rd.

> *"Decision makers are required to consider the public interest when weighing the overall benefits and impacts to the community and individuals before determining development applications in NSW".*
>
> (Page 5 of Guideline)

It is noble that the DPE protects threatened species, heritage, biodiversity, and other things impacted by the development, however, are the lives and businesses which contribute to the nation's food bowl which are impacted by the development not also worth protecting?

13. Negligible benefits to the local economy

Whist the local council and community supports the development in anticipation of a boost to the local economy, there appears to be a significant over-estimation as to the actual economic benefits, which will in fact be negligible.

The operation of a solar farm is not labour-intensive. The proposed Orange Grove Sun Farm will create just 3 full-time jobs.

The construction phase can employ 80 – 100 people, however this is for a period of only 9-12 months. Whilst energy companies propose to use local labour, local labour is not always available or deemed appropriate, and so is often ultimately imported temporarily for the period of construction. Naturally, a large portion of earnings from this employment is often returned to where employees and their families permanently reside, rather than being spent local to the solar farm. Similarly, much of the plant and equipment used is specialised and is also imported to the site rather than being purchased locally.

The actual benefit to the local economy will be minor.

14. Conflict between land use planning policies

There appear to be conflicting aims and objectives between different state planning policies regarding solar energy development, with conflict between policies that seek to preserve agricultural land, and policies that encourage the production of renewable energy.

A. Conflict with the Local Environment Plan

According to the Gunnedah Local Environment Plan 2012, the proposed development is located on land zoned as RU1 Primary Production. The proposed development conflicts with the objectives of this zoning, as follows:

Objective 1 - to encourage sustainable primary industry production by maintaining and enhancing the natural resource base.

> The proposed development is for the production of electricity, being an industrial activity rather than a primary industry.

Rather than maintaining and enhancing this natural resource base of productive food-producing land, the proposed development will degrade / destroy the productive capability of that land.

Objective 2 - to encourage diversity in primary industry enterprises and systems appropriate for that area.

Solar farming is not a primary industry enterprise, and solar farming is not appropriate for an agricultural area.

Notwithstanding that, the benefits of diversification into solar farming (albeit into a non-primary industry enterprise) is received only by the landholder providing access to the land whilst the substantial negative impacts are borne by neighbouring landholders.

Objective 3 - to minimize the fragmentation and alienation of resource lands.

The developments propose to use resource lands (in this case food-producing land) for the generation of electricity. Rather than minimizing the fragmentation and alienation of resource lands, this proposal *encourages* the fragmentation and alienation of resource lands…and for the long-term.

The land will become an agricultural dead zone after 25 – 50+ years with limited or no sunlight.

Objective 4 - to minimize conflict between land uses within this zone and land uses within adjoining zones.

The entire area is zoned RU1 – Primary Production.

However, solar farms are an electricity-generating activity with an industrial zoning classification.

Both proposed solar farms are positioned where they are surrounded by existing RU1 primary production activities. Locating large-scale power plants within an agricultural area will create conflict and fragmentation due to the very different land uses:

Conflict with existing agricultural activities

Existing agricultural activities will have a negative impact on the proposed solar farms, for example, dust raised by ploughing and drift from aerial spraying will coat the solar panels and decrease their efficiency. Constant cleaning of panels will be required as a result which may lead to the solar farm operators seeking restraints / restrictions on the traditional and legitimate rural activities of neighbouring agricultural operations.

Use of ground water

Apart from dust from ploughing and drift from aerial spraying, the development's proximity to the unsealed Orange Grove Road will coat the panels with dust.

Considering the vast area of panels which will require constant cleaning, it is understood that large amounts of water resources will be utilized. This will potentially impact on farmers who rely on bore water to sustain livestock and crops.

If both solar farms proceed, the cumulative use of water for the constant cleaning of almost 600 hectares of solar panels could have an enormous impact on availability of water for existing agricultural operations.

Weed control

Apart from conflicts regarding the water resource, there is potential conflict over the prevalence of weeds, which can have a serious impact upon adjoining agricultural activities.

As mentioned earlier, lack of sunlight will result in soil biodiversity being destroyed and soils becoming compacted, which leads to the growth of nutritionally poor plants unable to compete with weeds. Weeds become prevalent in these conditions and will be difficult and labour intensive to control due to the solar arrays preventing boom spraying.

Creation of a micro-climate

The sheer scale and proximity of both developments to each other means that a micro-climate will be created. There will be temperature and wind increases in the area which may have devastating consequences for the farming operations located in between and adjacent to the 2 developments.

> *"The effect the PV panels have on the local climate and what impact this has on the plants and soil is very important".*

Flood impact

It is widely anticipated by famers along Orange Grove Road who have lived through generations of flood history in the area that the security fencing required for the developments will have a potentially devastating impact upon the movement of flood waters as the fencing will push flood water back onto adjacent properties.

This could be potentially devastating to existing agricultural operations.

Objective 5 - to provide a range of ecologically sustainable agricultural and rural land uses and development on broad acre rural lands.

Although the proposed solar farms are ecologically sustainable in themselves, they are not sustaining the agricultural land upon which they are located. Rather, they destroy that agricultural land.

Because solar farms require such large areas of land in order to generate power, solar farms located on non-agricultural land will provide sustainability and very good use of the large amounts of unproductive land that this country has in abundance.

Objective 6 - to protect significant agricultural resources (soil, water and vegetation) in recognition of their value to Gunnedah's longer term economic sustainability.

The soil in this area is some of the most productive in NSW and can be considered a significant agricultural resource. This soil produces world-class produce which contributes to Australia's export income.

According to the New England North West Regional Plan under which Gunnedah sits:

Fertile and productive agricultural land needs to be protected for long-term food and fibre security ***and to capitalise on increasing demand for agricultural products****.*

The proposed development renders this soil non-productive and accordingly Gunnedah is unable to capitalize on increasing demand for the agricultural products that would be produced by this land for the next 25 to 50+ years, and potentially never again if the soil cannot be rehabilitated.

Accordingly, solar farms should be restricted to unproductive brown-field land, such as Gunnedah's Ironbark Sun Farm.

Do we need to sacrifice productive land because the location presents an opportunity for a private developer to make profit? It should be remembered that the sun shines all over Australia, not just in Gunnedah.

The proponent argues that although the development is removing productive land from the economy, the development itself will create jobs. However, beyond the initial construction phase where local labour may (or may not) be used, the solar farm will create only 3 full-time jobs.

A lot is to be sacrificed and a lot of negative impacts to be borne for the creation of just 3 jobs.

Objective 7 - to conserve and enhance the quality of valuable environmental assets including waterways, riparian land, wetlands and other surface and groundwater resources, remnant native vegetation and fauna movement corridors as part of all new development and land use.

This new development and land-use will impact valuable surface and groundwater resources, and fauna movement corridors:

Surface resource - soil
The proposal could not be considered to conserve (let alone enhance) the surface resource of productive soil, which will be alienated and degraded due to lack of sunlight for 25 – 50+ years.

Groundwater
The proposal could not be considered to conserve (let alone enhance) the groundwater resource which will be significantly impacted due to the constant cleaning of hundreds of hectares of solar panels.

Fauna Movement Corridors
The proposal could not be considered to conserve (let alone enhance) the movement of fauna corridors, which will be restricted due to the security fencing of the development.

B. Conflict with the New England North West Region Plan

The New England North West Region Plan was released in August 2017 and aims to preserve the land which makes the New England North West one of Australia's most productive agricultural areas.

Gunnedah is one of the areas covered by this Regional Plan.

Proposals to build large-scale solar energy facilities is inconsistent with the strategic direction of the New England North West Regional Plan - to protect and enhance agricultural lands.

> *The New England North West is home to some of Australia's largest, most efficient and productive farmers and graziers. This expertise is a competitive advantage that must be harnessed for the region to remain one of the State's food and fibre heartlands.*
>
> *(Direction 2 - New England North West Regional Plan)*

The proposed development conflicts with this Direction.

> ***Fertile and productive agricultural land needs to be protected*** *for long-term food and fibre security and to capitalise on increasing demand for agricultural products.*
>
> *(Direction 3 - New England North West Regional Plan)*

The proposed development conflicts with this Direction.

> *Facilitate appropriate* ***smaller-scale*** *renewable energy projects using biowaste, solar, wind, hydro, geothermal or other innovative storage technologies.*
>
> *(Direction 5 - New England North West Regional Plan)*

The proposed large-scale Orange Grove Sun Farm conflicts with this Direction.

C. Conflict with the NSW Government guidelines for building large-scale solar developments

In November 2017, the NSW Government released its draft Large-Scale Solar Energy Guideline. This was gazetted and came off public exhibition on 16 February 2018.

The Guideline aims to assist developers to select suitable sites for proposed large-scale solar farms. It also provides an overview as to how the proposals will be assessed for approval.

Whilst it is acknowledged that the Guideline is still in draft form, it is clearly in alignment with the strategic direction of the above New England North West Region Plan (to preserve the land which makes the New England North West one of Australia's most productive agricultural areas) by providing guidance on how to select the most suitable sites for large-scale solar energy developments.

There are 3 key objectives of the Guideline:

1. Suitable site selection
2. Site constraints to be avoided, mitigated or offset
3. Community and stakeholder engagement

All 3 objectives have been largely disregarded by the proponent.

1. Suitable site selection

In order to reduce the likelihood and extent of land-use conflict, the Large-Scale Solar Energy Guideline identifies preferable site conditions for a large-scale solar development.

The site selected by the proponent conflicts with many of these conditions:

1. Sites on land utilised for industrial-type purposes (brown-field sites)

   The proposed site is not brown-field - it is agricultural land used for grazing and cropping.

2. Sites that are unobtrusive

   The proposed site is extremely obtrusive to neighbouring properties and from the road.

3. Sites with potential to be screened in order to reduce visual impacts

   The visual impact of this proposal is significant for neighbouring residences as well as road traffic.

   The proponent has assessed visual impact from existing residences only. The visual impact upon planned new residences has not been considered by the proponent.

   The proposed site has potential to be screened however the proponent has offered only partial screening of the very worst viewpoints.

   It should be noted that it will take many years for the trees to grow to a height where they do provide effective screening of the development. Until then, there will be no screening of the development.

4. Land that can be readily decommissioned and rehabilitated back to pre-existing or better condition

   Agronomists advise that it will be a long and slow process to rehabilitate what used to be productive soil back to its pre-existing condition, and that the land will most likely become an agricultural dead zone / wasteland.

5. Localities where the community broadly supports the development

   The community does not broadly support the development. The community vehemently opposes the development.

6. Localities identified by Government as optimal for renewable energy development

   The Gunnedah Shire Council advised me that it does not consider the sites selected for the solar development to be optimal for renewable energy - that the sites were “not ideal”.

2. Site constraints to be avoided, mitigated or offset

The NSW Government's Large-Scale Solar Energy Guideline notes that where a site has been identified but is not ideal due to land-use conflicts or unacceptable environmental outcomes, there are particular 'areas of constraint' which the proponent must either avoid, mitigate or offset.

Several of these areas of constraint exist on the proposed site, however the proponent has made no attempt to avoid, mitigate or offset them:

1. Land with soil capability Class 1, 2 and 3

The proposed site is on soil capability Class 2 and accordingly this land should not be used for solar farming.

The proponent has done nothing to avoid, mitigate or offset this constraint.

2. Significant fragmentation or displacement of existing agricultural industries

The sheer scale of these electricity-generating developments, each to be located in the middle of a productive agricultural area, will significantly fragment the existing agricultural industries, as well as displace the cropping and grazing that the land is currently used for.

The proponent has done nothing to avoid, mitigate or offset the fragmentation and displacement of these existing agricultural activities that their proposal will cause.

Should either or both of the solar developments be approved, this will set a precedent for further solar farms to be developed in the future, leading to the erosion and fragmentation of limited food-producing land in favour of electricity generation.

3. Location of adjacent residences and potentially affected properties

Because the size of the landholdings in the vicinity are relatively small for an agricultural area, there are accordingly a relatively high number of residences and families in the area.

One farm residence is within just 100m of the solar panels, and being on the western side, will have 330,000 panels titled towards it every afternoon. This will be untenable for that family.

Properties and residences (and a proposed future residence) surrounding the development will be significantly impacted by glint, glare, additional flood risk, additional fire risk, operating noise, night lighting, colossal visual impact for certain adjacent properties, potential for living in a micro-climate with higher temperatures, potential EMR health risks, the impact of simply living so close to a large-scale electricity generating facility with security fencing, security cameras, signs warning of danger, etc.

The value and future for my family's property is predicted to be impacted by its proximity to the development but despite my attempt to negotiate with the proponent to offset these impacts, the proponent has done nothing to avoid, mitigate or offset them.

4. Sites with high visibility

The development is in a highly conspicuous location, with several residences looking directly onto it, and well as being highly visible from the road.

The proponent has proposed only a bare minimum screening from the aspect of 2 residences only.

3. Community and stakeholder engagement

The NSW Government's Large-Scale Solar Energy Guideline states that for sites with the above listed areas of constraint, proponents should ensure community consultation with affected individuals / stakeholders is carried out early in the site selection process, and before the site is pursued in further detail.

This did not happen.

Neighbouring landholders were not made aware of the proposal until just 4 weeks before the proponent intended to submit its EIS and Development Application. Much of the development process progressed without neighbouring landholders even knowing about the proposal.

The Aboriginal community was similarly not advised, and much of the Gunnedah community was (and still may be) unaware of either of the solar farm proposals. Gunnedah Shire Council acknowledged that these developments are "still probably under the radar".

This is a well-known tactic deployed by developers to ensure that people have insufficient time to properly understand the ramifications of the development and be able to mount a rational and supported objection.

When the proponent finally held its community consultation session, there was minimal advertising of the session, and only a small group attended.

At the session, there was no introduction to the development proposal, nor any overview of the impacts (positive or negative). The proponent simply waited to hear the concerns of the affected landholders. When those were raised (initially regarding flood impact, visual impact, and the potential significant devaluation of properties), the landholders were patronized and mislead by the proponent's spokespersons.

Many of our questions could not or would not be answered, and although we were assured answers would be forthcoming, answers were never provided.

One of the key objectives of the Large-Scale Solar Energy Guideline is to *"promote meaningful, respectful and effective community and stakeholder engagement throughout the development process*". Quite the opposite happened.

Both spokespersons advised us they had never received concerns such as ours, and to quote the senior spokesperson “this development will proceed - with or without your support”.

Summary of conflict between land use planning policies

As can be seen, the proposed solar farm conflicts with many of the key objectives of the planning instruments which govern and protect Gunnedah’s productive soils.

Individually, each of the proposed large-scale solar farms conflicts with the fundamental objectives of the LEP and of the Regional Plan to protect productive land and develop small-scale green energy projects.

Each proposal also ignores the Large-Scale Solar Energy Guideline which guides proponents in selecting a site appropriate for large-scale solar development.

Taken cumulatively, the extent of misalignment with the fundamental objectives of these planning instruments surely cannot be dis-regarded by the DPE.

15. Taxpayer’s money supporting foreign business

Australia has the highest average solar irradiation per square meter of any continent in the world.

Australia’s global and national commitment to renewable energy means our government is encouraging foreign investment in our emerging renewable energy industry.

Significant government funding and subsidies is available and makes development of solar energy projects in this country a very attractive proposition for international investors.

Accordingly, most renewable energy developments in Australia are either fully or partly foreign owned, often being sold to the highest international bidder once the developer obtains DA. Once sold, colossal amounts of our taxpayer dollars then go off-shore in subsidising these foreign businesses and their shareholders.

This was done by the proponent of the Orange Grove Sun Farm, who sold the Limondale Solar Farm and the Hillston Solar Farm to German energy giant Innogy once the DPE granted DA.

In response to these purchases, the Innogy CEO said:

> *“This is a perfect fit with our strategy to deliver sustainable bottom line growth in accordance with Innogy’s financial targets to maximise value for the company and our shareholders.”*

It is anticipated that the proponent will also sell this proposal to a foreign entity once DA is granted.

Australia taxpayers will pay $250m in subsidies (via higher electricity bills until 2025) to Moree Solar Farm owner Saudi Arabian billionaire Mohammed Abdul Latif Jameel, to keep the operation viable. Notwithstanding this huge amount of taxpayers' money, the Moree Solar Farm generates only enough power for 15,000 average homes – 50 times less than coal-fired power.

The extent of taxpayers' money being spent on supporting foreign enterprises in return for a negligible power supply is simply wrong.

Perhaps our government could consider re-directing these substantial subsidies into constructing power infrastructure to enable solar farms to be located on less productive land, in turn putting less productive land to good use and simultaneously progressing towards our renewable energy targets without sacrificing our relatively small areas of productive agricultural land in a time when we face population booms and threat to global food security.

Conclusion

In a time when we face population booms and threats to global food security, our government needs to be protecting our limited food-producing land.

Approving this development will mean our government chooses to alienate this vast area of food-producing land for the long term, as well as sacrificing the lives and businesses of neighbouring farmers to the currently uncertain impacts of large-scale solar development.

Until the impacts are better understood, and it can be found that there is greater benefit in using productive agricultural land for power generation rather than food production, we appeal to DPE to protect this land and not to commit such a small and relatively densely populated agricultural area to what is essentially an experiment.

Elise Palzer