1 March 2019

To whom it may concern


Energy Forms is a specialist company providing planning, environment and consultation services to the renewable energy and new technology sector. We have worked on the planning and development of numerous large and small scale solar and wind farms across Australia. We work with companies across full lifecycle of their projects from site identification through to the completion of the construction.

Energy Forms commend the State in the preparation of draft guidelines for the design and development of solar energy facilities to enable a better process and outcomes for all stakeholders. This letter contains our comments in relation to the draft guidelines. Overall, we believe the guidelines are well designed and our comments below only relate to sections where we believe some changes or additions could be considered.

**Strategic considerations** – The primary consideration for the selection of locations for solar energy facilities is the proximity to and capacity of the grid. Once that is established, even if only on a preliminary basis, then the considerations of solar resource, land opportunities and constraints and policy settings follow. We assist our clients in identifying suitable sites through our GIS and data mapping system in combination with inputs from network specialists. We direct our clients to areas and specific sites which are proximate to the grid and less encumbered by native vegetation, significant species, cultural heritage, flood issues and the like. Proximity to sensitive receivers (neighbouring dwellings) is also a key consideration.

**Prime agricultural land**

Whilst Australia is an expansive country, there are only certain areas that have proximity to the grid, and the grid is increasingly becoming highly constrained. This is creating a situation where areas considered prime agricultural land are highly suitable for scale solar farms. Whilst this is not ideal, it is the result of limited grid capacity and location. Currently, the number of solar farms that are located in prime agricultural areas is a very small percentage of the total of that agricultural land type. We also note that Solar facilities can coexist in agricultural and farming environments, with potential for ongoing grazing (sheep) albeit in a significantly reduced form.
We support the suggestion in the guidelines that a report should be submitted that outlines the agricultural properties of the land. We do note however, that to pursue the objectives to encourage renewable energy, the use of strategic and prime agricultural land may be necessary. We also note the critical need to accelerate the deployment of renewable energy generation (and other many many other actions) to contribute to avoiding further devastating climate change which has direct and perilous implications for agricultural production. In addition, we note that nature of solar farm construction (largely driven piles and shallow trenching) means that at the end of the project life the project can be readily decommissioned and returned to a productive use.

Until major grid and infrastructure upgrades are undertaken, this tension will continue to play out. In a planning policy sense this means striking the balance between protecting agricultural land whilst promoting the necessary clean energy future.

**Electricity grid connection and transmission and distribution infrastructure**

We agree that the connection route and infrastructure is an important consideration in the process. Our experience has been that as a planning permit is not required for some connection infrastructure (power linen route etc), it often is not shown in the planning documentation. This can then cause some angst in the pre-construction phase when the power authority is trying to determine a route.

As suggested in the Guidelines, all parties would benefit from early consultation about on this matter. We also suggest that the likely power line and other infrastructure items and routes should be included in the planning application material, irrespective of whether a planning permit is triggered for these works or not. This would significantly benefit from network companies providing indicative feedback in the early stages of the project. Our experience is that the network companies typically only review likely routes in detail once the planning permit is issued and a connection agreement in place. If detailing any early connection routes is to become a requirement, then the network companies will obviously need to be consulted and on board to make some comment on possible connection routes.

**Application requirements**

We support the process for pre application meetings and always do this for our projects.

As noted, we have worked on a number of solar projects around Australia, several of which included significantly involvement in the construction process. From this experience, we know that there are a range of temporary buildings and the need for storage areas on the site to facilitate the construction. These are often referred to as ‘lay down areas’ and ‘construction compound’. Whilst these are temporary, they can take up a significant area (eg up to 20 portable buildings and also large temporary storage sheds). Once the project is completed these buildings are removed.

We suggest that plans should be required that show both the temporary and permanent infrastructure associated with the project. The plans for the temporary do not need to be detailed, but their indicative location shown on the layout map with some photos or flyers showing what they will look like. It should
also be a requirement to outline how the areas of the temporary facilities will be treated once the buildings are removed, for example will they be landscaped or planted with a ground cover.

**Requirement for an EMP/CEMP**

The Guidelines suggest that an EMP/CEMP should be submitted as part of the planning application. In our experience, the initial developer may sell on the project in a more mature state, and even if they intend to remain as the owner of the project, will not be directly involved in the construction of the project. Projects proceeding to construction typically involve the owner contracting an EPC who are experienced in delivering large scale infrastructure projects. Many EPC’s also have their own CEMP’s and internal processes which need to be adapted for the specifics of the project and its approvals. For the majority of projects that we have worked on the CEMP’s are required as a condition of permit. We have also had feedback from Council’s that the work associated with the resubmission of revised documents, plans and secondary consents is onerous. In order to minimize duplication of processes and ensure all relevant matters are captured in the CEMP we suggest that there should be requirement for the planning application to document what matters should be addressed in any CEMP, and that a detailed CEMP be required as a condition of the permit.

**Landscaping for screening**

The Guidelines suggest that the screening landscaping should be planted in the early stages of construction. Whilst we appreciate the intent of this requirement, there are a number of factors that should be considered. Firstly, the success of species taking and growing at optimum rates is influenced by the conditions of the site, the time of year, amount of rain and the species to be planted. Ideally species are planted at the optimum time of year giving them the highest chance of success to take and also to grow at a rate that will facilitate screening at the earliest time. Also, if the landscaping is put in at the early stages of construction, we suggest that it should also be protected by some temporary fencing and classified as a ‘no-go zone’ in the CEMP except for access needed for maintenance.

**Community and Neighbour Benefit Sharing programs**

We note that we also fully support the use of Community and Neighbour Benefit sharing schemes and have been involved in working with local communities to deliver and implement these successfully. We have been asked by local groups and committees how they can be assisted in making decisions on how to select and allocate funds. We have been developing tools to help local communities do this effectively and critically determine the best governance structures to ensure these programs remain sustainable over their term.

**Additional matters which could be addressed in the guidelines**

**Soils and water**

From our involvement in many solar farm projects we are aware that the consideration of salinity, erosion and stormwater management are all matters that need to be carefully considered and
managed. Often these are addressed in more detail following the issue of a planning permit and through detailed engineering and design and management plans. We believe that projects would benefit from having some preliminary analysis of these issues undertaken in the early planning stage and findings noted in the application documents.

The guidelines do address dust management and erosion. A common way to manage this and also the spread of noxious weeds is to have a suitable ground cover installed under the solar array. The ground cover needs to be suitable to the area and be able to be managed to ensure that it does not present a fire risk. Similar to the considerations for the installation of screen planting, the ground cover needs to be planted at a suitable time of year so that it can successfully establish. The cover cannot be planted until after the solar array installation is complete. In our view, it would be beneficial if this was considered as part of the preparation of a landscaping plan for the project (either as part of the planning application or as a condition of the permit).

**Waste management**

Large scale solar farms generate a considerable amount of waste, particularly in packaging and pallets. As many large scale solar farms are located in remote areas, the costs associated with the waste removal are often not considered or dramatically underestimated. The disposal of waste is the responsibility of the constructor (EPC) and has been frequently overlooked in terms of the costs and logistics of disposal. Some early thinking of this issue by the project applicant would assist in the planning and construction stages for the project.

We suggest that a section could be included in the guidelines that requires some high-level estimations of the amount of waste that may be generated from the construction stages of the project and the proposed methods for waste disposal which also maximise resource recovery.

**Accommodation**

The construction phase for solar farms is dependent on the size of the project and the location, however generally the time can be from 6 – 18 months. The peak workforce required to support that, is in the order of 100 – 350 people depending on the project size and stage of development. Whilst many companies promote and provide opportunities for local employment and use of local contractors for transport, earthmoving etc, in most cases a significant proportion of the workforce will come from elsewhere and will require semi-permanent accommodation. This influx of workforce and construction activity brings significant economic benefits to communities for the period of construction. In our experience it can also create some issues for housing availability and equity. In some instances, the influx of large construction crews has meant that rental houses and prices have been affected and therefore displaced locals, whilst in other cases it has resulted in the revitalization of disused facilities, such as the former agricultural college near the Haughton solar farm in Queensland. Where the workers live, and also how they travel to site also has an impact on the traffic numbers during construction. Some EPC’s provide buses to and from work for the team to assist in the management of traffic movements but also to reduce driver fatigue. Whilst this issue is not directly related to the planning of
the solar facility it does potentially affect the communities that are nearby. We suggest that there could be a section in the guidelines that notes that this could be addressed in the planning application and therefore considered as part of the overall approval process.

**Standard Conditions**

As for wind energy facilities we believe that Council’s, applicants, referral authorities and the broader community would all benefit from the preparation of standard conditions for permits for solar energy facilities. We have many examples of approvals across Australia and an in-depth understanding of how these can be drafted and applied successfully.

**Summary**

Energy Forms applauds DELWP for the preparation of these well developed draft guidelines. We would be pleased to discuss our comments in person if this is of any assistance to DELWP.

If you have any queries please contact either myself on [redacted] or [redacted]

Regards

Energy Forms