Velden Aviation Consulting Ltd : Rudi Van der Velden, Summary of Boffa Miskell Glint and Glare Assessment Peer Review

Essentially, the following is a brief summary of my peer review findings relating to the Boffa Miskell Glint and Glare assessment carried out for KeaX Ltd.

The review included assessment of potential glare impacts to both dwellings and road users around the Buckleys Road Solar Farm location.

KeaX Energy use of a Tracking Solar Array system has significantly reduced glare impacts compared to a Fixed Tilt Solar Array system and much larger area proposed for the Brookside Solar Farm development that had been submitted for consent previously.

The review agrees with the Boffa Miskell assessment for the predicted solar glare impact and that existing vegetation as well as proposed landscape should sufficiently mitigate any hazardous glare impacts to the neighbouring residents occupying single as well as two storey dwellings.

Initially Boffa Mickell had only assessed heights for road users based on driver eye levels of 1.5m and not considered drive eye level heights of larger vehicles found typically along rural roads such as tractors, haulage trucks , school buses etc. at which driver eye level heights of 2.5m should have been considered.

This was subsequently addressed by Boffa Miskell and Keax Ltd with reconsideration of ;

- tracking type arrangements such as single axis tracking instead of single axis with backtracking for areas where drivers of larger vehicles could potentially experience stronger levels of glare.
- Additional landscape mitigation planting at higher levels of at least 3.5m along points where it was determined that significant potential glare may be experienced.

Based on further assessment of these proposed amendments that Boffa Miskell and Keax Ltd would look to incorporate, it was concluded that the glare is reduced to less than minor levels. I have considered the evidence of the submitters and there is nothing that would change my original report's conclusions.

Overall, as per my Glint and Glare Evidence Summary, the peer review largely agreed with the results of the Boffa Miskell final assessment which concluded that impact from glint and glare from the solar farm would be less than minor once all mitigation considerations are taken into account.

One additional comment I would make is that the implementation of any new landscape planting to mitigate glare should not itself become a potential problem by obstructing views particularly for oncoming road traffic near intersections.

Thank you.

The Buckleys Road Solar Farm PV array system being utilised is known as a Single Axis Tracking system. The data used by BML during their analysis was based on the following Tracking System parameters.

1. *Backtracking System*

Backtracking is used to provide various strategies that rotate the modules away from the sun to reduce shading. These strategies typically take effect when the sun's position lies outside the range of rotation defined by the **maximum tracking angle** of the PV panels, or when substantial shading occurs, depending on the strategy selected.

2. *Shade Backtracking*. Used when the PV panels are on flat ground
3. *Resting Angle*. The angle of rotation when the sun is outside of the tracking range. In the PV system considered this is 0 degrees.
4. *PV panel material*. Smooth glass without anti-reflective coating.

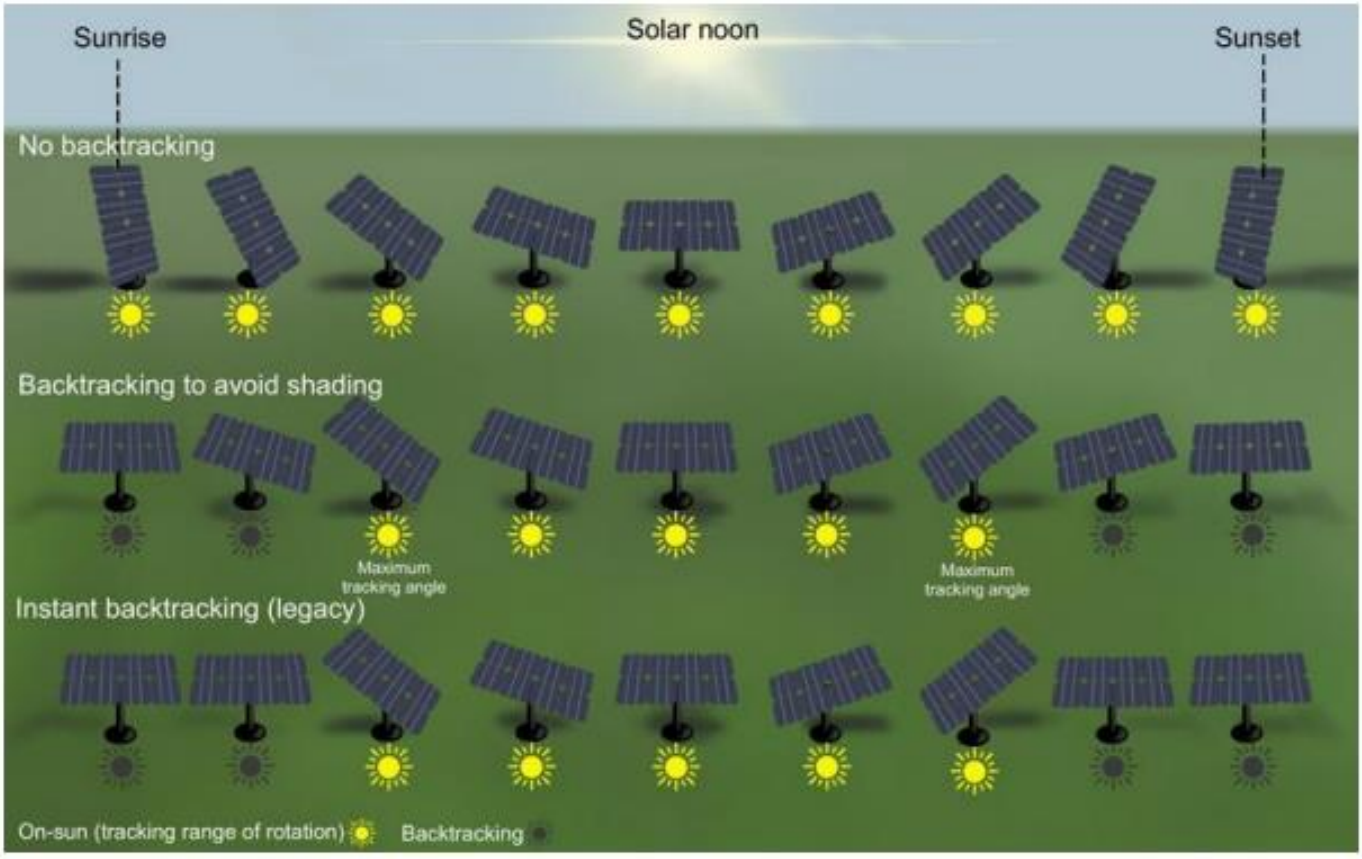

Figure 1 Backtracking strategies. (Reference ForgeSolar)