SUMMARY OF EVIDENCE OF JAMIE GORDON

RURAL PRODUCTION

5th March 2024

My name is Jamie Gordon. I am a Farm Management Consultant and Director of Macfarlane Rural Business. My qualifications and experience are noted in my evidence provided in January 2024

In my evidence I commented on factors that could impact the ability to maintain the use of Highly Productive Land (HPL) for land based primary production as described in policies 1,4, and 8 of the National Policy Statement for Highly Productive Land 2022.

The solar panels are single axis tracker (SAT) panels and the design and dimension parameters are documented in the AEE and in Stuart Fords evidence.

I consider that sheep farming is the most probable type of farming under the SAT panels, alongside conserving or making silage/baleage during periods of feed surpluses. I am not suggesting that sheep breeding or finishing is the most highly productive or profitable farm system, but it is the most likely farm system to be integrated within the solar farm.

The use of collars and virtual fencing is now widely used in dairy and beef farming, however I do not believe the technology is currently advanced enough to practically graze mobs of cattle between the solar arrays.

Information regarding the impact of solar panels on pasture growth is variable and is impacted by external factors such as the degree of shading and the climatic environment. However, it is likely SAT solar panels will reduce the impact of shading and could possibly provide a micro-climate to support pasture growth.

It should be noted that many international solar farms (for example in Australia) that graze sheep are situated in dry arid areas and are farmed extensively, as opposed to the higher pasture production and more intensive grazing practices undertaken on the Canterbury plains.

Despite any direct impact of the solar panels on pasture growth, of potentially greater importance is the ability to undertake good pastoral management practices under the solar panels. These include pasture renewal, weed control, feed conservation, fertilisation, subdivision for grazing management and irrigation management.

It is likely that specialised vehicles, plant and management techniques will be required to undertake these practices under the solar panels. Customised machinery design and GPS technology should enable this.

The absence of irrigation will significantly impact pastoral production and the number of sheep that can be farmed.

To maintain pasture production and grow any crops it is probable that larger farm vehicles and machinery will need to access and work within the solar farm. This will require sufficient areas at the end of each solar array to allow for the turning of vehicles and trailing implements. The drive shaft for the solar arrays, as shown in the photo below, runs across each laneway and will impede vehicle movements.

CONCLUSION

Construction of large scale solar on farms in New Zealand is in its infancy and therefore the impacts on pastoral and/or cropping production are not supported by a range of locally comparable case studies.

Based on the type of solar panels being installed on the site, the grazing of sheep or lambs is the most probable farm system. Some cropping could also take place in conjunction with this, although it is probable investment into specialised tailor-made machinery would be required.

Regardless of the farm system, it is important that productivity is maintained on as much of the land as possible, with the greatest risk of lost productivity being close to the piles. Minimising the loss of productivity will require good design and appropriate infrastructure and management practices to farm under the solar panels.