

SUMMARY OF EVIDENCE OF STUART FORD

NATIONAL POLICY STATEMENT ON HIGHLY PRODUCTIVE LAND

DATED: 4 March 2024

My name is Stuart Ford. I am a Director of The AgriBusiness Group and work as an agricultural and resource economist based in Christchurch. I prepared the evaluation of the impact of the HPS-HPL for the resource consent application to establish a solar farm (the Proposal) at 115 and 187 Buckleys Road, Brookside (the Site). I have visited the site and am familiar with the surrounding area.

The following is a brief summary of the key matters addressed in my evidence dated 16 February 2024 and responds to matters raised in Mr Hainsworth's evidence dated 23 January 2024.

The site contains approximately 92% of LUC 2 and 8% of LUC 3 land. All land is automatically defined as HPL under the NPS-HPL if it is Class 1,2 or 3 and rurally zoned.

The site meets the requirement of Clause 3.9 (2) (j) (i) therefore my role was to assess whether it met the requirements under Clause 3.9 (3)

"Territorial authorities must take measures to ensure that any use or development on highly productive land:

- (a) minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and
- (b) avoids if possible, or otherwise mitigates, any actual or potential reverse sensitivity effects on land-based primary production activities from the use or development."

My task was guided by the "National Policy Statement for Highly Productive Land – Guide to Implementation March 2023" which states that in considering if a use *or development* "minimises" or "mitigates" a loss of productive capacity, territorial authorities should consider:

- (a) the location of the activity,
- (b) the footprint of the activity
- (c) clustering of activities

(d) co-existing with land based primary production.

In my evidence I conclude that this Proposal both minimises and mitigates any actual loss of HPL under consideration of the relevant factors of:

- (a) The location of the activity. For the solar part of the Agrivoltaic enterprise to be economically viable and enable the efficient use of existing sub-transmission infrastructure, it must be located close to a substation. The Brookside substation is directly adjacent to the Site.
- (b) The footprint of the activity. The Solar part of the operation covers around 30% of the land area. However primary production will still take place on the 30% that will be covered by the panels. This means a large proportion of the land will be available for primary production.
- (c) The issue of clustering of activities is not relevant to this Proposal.
- (d) It is possible for the Proposal to co-exist with land-based primary production as it is possible to carry out land based production within the Site.

The proposal allows for the land to support land based production in the long term both as enhanced pastoral production and in the potential for horticultural production.

When assessed against the physical characteristics criteria we find that the soil type and properties are not diminished at all under the Agrivoltaic proposal.

The range of primary production activities that can be undertaken on the land will be reduced as it may not be possible, for example, to graze large animals amongst the panels or grow particular crops. However, it is possible to use it for some pastoral activities and high value horticultural activities (including utilising the shade provided by the panels) which are at the upper end of land uses in terms of the potential returns, employment, wellbeing and flow on economic impacts.

The other two criteria of legal constraints and the size and shape of existing and proposed land parcels are not relevant to this site.

Overall, from my area of expertise, I consider the Proposal satisfies the requirements of Section 3.9(3) of the NPS-HPL.

I also address the following matters raised by Mr Hainsworth in his evidence:

- With due respect to Mr Hainsworth the information which he provides in his Qualifications and Experience all relates to Pedology, Soil Mapping and Soil Conservation. Nowhere does he provide us with his qualifications and experience in commenting on the Productive Capacity of the Site or Impacts of the proposal on the productive capacity of the site.
- He is partially correct that *"the introduction of the solar farm on the property decreases the possible land uses to the extent that the farm is rendered less versatile (less arable, grazing would be limited to sheep, no ability to grow tree crops or use for production forestry)"* but that is not the matter that the NPS-HPL tasks us with determining. It is that *"minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land."* It is my contention that the proposal does mean that the land is less versatile but still offers a wide range of potential land uses and therefore minimises the actual loss of HPL.
- At his paragraph 30 Mr Hainsworth contends that *"Grazing options are decreased from dairy cows to small-framed drystock options such as sheep."* This contention is incorrect and I would refer you to the evidence of Mr McMath where he discusses the exciting research being carried out currently on the use of harnesses and virtual fencing on cattle within solar arrays.
- In his paragraph 31 he contends that the results of the thesis paper presented by Tanmayi Pagadala of Lincoln University is relevant to this site. My reading of that thesis is that its purpose was, amongst other things, to *"Identify low flammability crops to be used in green firebreaks on NZ farms."* The results show that of the 47 varieties tested for their flammability one (pear tree) was classified as very highly flammable two (both apple trees) were classified as highly flammable, three were classified as moderate to high and the remainder were classified as low flammability or (28) were so low that they failed to sustain a flame. It would be my interpretation of the results of this study that if the degree of flammability were a selection factor for land uses on the site that only the three options of fruit trees, which I would point out were not options identified by me, would be dismissed not the *"some of the options identified by Mr Ford (such as berry fruits) would be inappropriate to grow among panels given the highly flammable nature of the plants"* as contended by Mr Hainsworth.

- At Paragraph 32 Mr Hainsworth states '*I have to conclude that the proposed solar farm installation will prevent the land on the site from retaining its pre solar array productive capacity, as assessed in terms of the definition in the NPS-HPL.*' This is a fallacious statement. The purpose of Clause 3.9 is that if an activity meets one of the conditions which mean that it is not inappropriate, which the proposal does, that the "*territorial authorities must take measures to ensure that any use or development on highly productive land: minimises or mitigates any actual loss*" not that it should retain its pre development productive capacity.