

**BEFORE THE INDEPENDANT HEARING PANEL
AT SELWYN DISTRICT COUNCIL**

Under The Resource Management Act 1991 ('**RMA**')

In the matter of an application by KeaX Limited to construct and operate a 111ha
solar array at 115 & 187 Buckleys Road, Leeston.

STATEMENT OF EVIDENCE OF CLARK JAMES CASEY

04 March 2024

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INTRODUCTION

- 1 My full name is Clark James Casey. I live at 198 Branch Drain Road, Brookside, Leeston.
- 2 I provide this evidence on behalf of myself, Elizabeth Casey, Dave and Donna Kewish, Michael and Anneka Dalley, Corey Krygsman, Anne and Donald Green, Simon Robinson and Donna Irons (the **Brookside Submitters Group**), who were all part of the limited notified group and lodged submissions in oppositions to the KeaX Limited proposal RC235464 to construct and operate a 111ha solar array at 115 & 187 Buckleys Road, Leeston (the **Application**).

BACKGROUND

1. I will give you a background into my farming enterprise, and then I will outline the impacts.
2. I am the owner and Managing Director of Clairmont Farm, trading as Casey & Sons. I am the third generation of our family to farm here at Brookside.
3. I currently reside at 198 Branch Drain Road with my wife Elizabeth and our 4 young children, James, Matthew, Jack, and Hannah.
4. I started off by purchasing 25 acres in July 1995 at the age of 21, followed by 50 acres in June 1998 aged 24. Two years later in June 2000 I purchased the Homestead along with a further 70 acres at the age of 26. My final purchase of land at Clairmont was 54 acres in July 2004 at the age of 30. This was all achieved whilst still driving full time for local transport companies and Fonterra, up until 2005 when I decided to retire from Fonterra and instead work full time farming my 199 acres along with a further 133 acres that I lease. With every purchase of land, I had to borrow money and farm each block of land on my own right while driving full time, this certainly made me appreciate what I have. I have lived at Clairmont/Brookside my whole life and have now been farming for 28 years. My work involves growing very top end crops and a lamb fattening operation, this is all done on an intensive farming scheme. All the while having always followed council laws and regulations, along with following my Farm Environment Plan with the upmost respect and care with Environment Canterbury.
5. I would like to give a brief overview of Brookside as an area and as a small rural community. Speaking on behalf of the group here, Brookside is known as a green belt, it is a very picturesque area with lots of trees, greenery, rivers and creeks, the old town still has the original library which has been restored as a community project and the old Brookside school, Church, and Cemetery. You'll find historic buildings and homes here. We have amazing views of the Southern Alps to the west and the Port Hills to the east. It's very peaceful here. Brookside is

made up of a mixture of Cropping, Sheep Finishing and Dairy Farms most of these farms, including my own have been worked by several generations of the same families. Brookside also has many lifestyle blocks in the area, so it is not an area of large expansive farms that you would find in other rural areas, this is what draws people to the area. It is a built-up Rural community. You'll find the kids out Eeling in the water races and creeks. When the season comes, you'll have people out duck shooting from their ponds. Families riding their bikes or walking their dogs around the roads. Often you will see people enjoying a leisurely horseback ride. When friends from town come to visit, they always comment on what a beautiful spot it is here and the number one comment we get is how peaceful and quiet it is, especially when looking out on the beautifully green open pastures. All of what I've explained here is why we love living in Brookside.

CONSULTATION WITH THE COMMUNITY

- 3 It is with the upmost of importance and concern, that I will say in this statement that the first knowledge of the proposed solar site was through Angela Ward after she contacted me. She outlined in little detail what was happening and asked me to meet with Campbell McMath. We did not want to know more at that stage, nor did we ask to meet Mr McMath as stated in Mr McMath's statement 8.1.
- 4 After Angela Ward contacted me, we met with her and Mr McMath in July 2021 at their request. In the beginning I was being asked to approve their proposed development of a solar site without receiving all the critical information to ensure they will:
 - 4.1 Comply with all regulations under a resource consent which had not even been applied for, nor was an application in draft so that I could understand the full extent of the proposal.
 - 4.2 Most importantly they provided me with no assurance that they will not create an effect on myself and my business which could cause a loss in amenity value for my property and the wider Brookside area, and a loss in usable land (therefore significantly reducing my land value and more importantly affect my income stream).
- 5 There was only one more meeting with Mr McMath (not more over the months or years as stated by Mr McMath) where he came with baked goods on his own to visit with myself and my wife Elizabeth on February 10th, 2022. During this meeting Mr McMath wanted me to provide him with a written approval of his proposed solar site. Thus, helping him to secure the necessary resource consent. A written approval in which I have never given. During this meeting Mr McMath told us to keep it all quiet, that we weren't to discuss this with anyone. Up until this point, I was still the only neighbour who had been engaged with in this way. He told

me the reason for this is because we had a 2-storey house in which we could see the proposed Solar Farm from our upstairs windows, that no one else was affected. We found this very hard to believe that no other neighbours needed to be engaged with and from his perspective (even notified), it raised red flags for us when we were told this, considering several of our neighbours homes were right on the boundary fence of Stage 1. Brookside is substantially built up for a rural location with many residents neighbouring this site. That was one significant reason why we did not sign the agreement, because we felt it was unfair to make this decision solely on the behalf of a community that had no idea what was going on in their own backyard. The other reasoning was the impact on our property and business. When Mr. McMath was questioned about what would happen if we didn't sign the agreement, he told us that the project would still go ahead, it just meant there would be more hoops to jump through.

- 6 Mr. McMath also asked to have first option to buy our farm if we ever sold. I told him we weren't at that stage yet. There was a brief discussion on whether I would ever be interested in putting in solar panels on my farm if any of the neighbouring farms pulled out. At the time I did not venture into detail with Mr. McMath about that.
- 7 At that stage with no real knowledge of solar energy or how the solar panels worked, I did consider the prospect of grazing sheep under the panels. At that time, we only had limited information being given to us which was from Mr. McMath who was only trying to sell the benefits. This was all well before we had any information or had done our own research into the negative effects of large-scale solar energy/panels on the site, but also on the surrounding land uses and wider community. This was also before we consulted with our solicitor and trustees.
- 8 There was also a conversation with Mr. McMath about what would happen to the panels at the end of the 35-year lease, his answer to that was that the owner of the land would have a lot of solar panels and scrap metal to do with what they wanted. It was our understanding that this was not something he was responsible for, this was very concerning.
- 9 Finally, coming to the decision after meetings and phone calls with our solicitor, I called Mr McMath to tell him that I wouldn't be signing off on the agreement, because I felt it wasn't morally right as the sole authority on behalf of the Brookside community. Mr. McMath's response was that it was fine, the project would go ahead regardless. I felt immense pressure from Mr. McMath and his associates to sign, I have never in my working career felt as pressured into something as I did at this time. I was starting to feel anxious and annoyed. I was very pleased with the final decision we made, and glad it was over, or so I thought. Attached (appendix 1-2) letters from my solicitor and trustee confirming the above details.
- 10 It is with concern that in Mr McMath's statement (see 8.7) he writes:

'A number of neighbourhood meetings have been held to discuss the Solar Farm in Brookside. Kea was not invited nor was it given the opportunity to talk to any of them, however feedback was passed onto the Council, which they passed onto Kea'.

Firstly, they were not neighbourhood meetings, nor were they public. They were meetings amongst the submitters and or the Brookside Submitters Group (formed by the Submitters) and concerned community members. I am still pondering how the council received feedback from these meetings. Furthermore and more importantly, I don't understand why the council forwarded Mr McMath of Kea, information from our private meetings, when he himself was not concerned at all with engaging with the group or community. If Mr McMath (or his consultants) were at all interested in meaningfully engaging with us on the proposal – other than by trying to force my hand into signing effected party approval, but show no interest to engage further on the application once I had declined to sign, then I expect that the appropriate meetings and discussions would have been had with myself and the wider community/impacted parties. We feel let down by the Council for passing this private information and discussion on without any notice that this would be passed on. These meetings were private and a way for the community to put the pieces together and understand what was going to be proposed across our boundary lines and our community.

11 In response to Mr McMath's statement (see 8.8):

'Kea reached out to affected parties via email and/or mail on December 5th 2023, please see the email in Attachment 7 stating that we are interested in hearing their concerns, questions and opinions. No submitters responded, or wanted consultation.'

Yes, we did receive the email, we chose not to respond nor did we want consultation from Mr. McMath because we consider that this was merely a box ticking exercise and has nothing to do with a want to meaningfully engage. The application had already been made (as well as the notification decision). If KeaX was serious about hearing our concerns and consulting with us they would have done so in the pre-application phase. We learned everything we needed to know through the last hearing in early 2023 when we opposed the last Resource Consent Application for the proposed solar site. It only cemented for us that we DO NOT want to live next to your proposed solar site. Lastly, my wife and myself feel uncomfortable with the integrity of the applicant, and have lost faith and trust in him – I understand many members of the community (including the notified parties) share this concern.

11 In response to Mr McMath's statement (see 8.9) that further consultation was offered after submissions were received. Myself and my wife did not receive anything from Kea on the 24th of January or around that time. The last and only correspondence we have had regarding this consent application from Mr McMath was the email he sent on December 5th, 2023.

IMPACTS ACROSS THE PROPOSAL

- 12 Where do I start? Well firstly, I want to say all the evidence and information given here today by our specialists I truly stand by.
- 13 I need to however give you my honest opinions on such matters that affect Clairmont Farm and the day to day running of this farming business. This is not undermining the information of our specialists, but a true heart felt picture. This can only really be given by me, who farms the property with many years of experience. Thus creating effects on Business, Family and Wellbeing.

Visual effects

- 14 Effecting me, from a personal note, I would say that I am extremely concerned with how long trees take to grow in this area of Selwyn due to the unforgiving structure of our Waterton Soils. Basically, very good fertile soil on top to grow good crops etc. but below this is very hard clay pan, which is hard to establish trees due to root penetration etc. this is especially hard in dry conditions. The screening for Mr McMath will take a long time.

I have planted many trees along road frontages around our farm boundary hesitantly because keeping in mind the impact birds would have on my crop situation. But unfortunately, there is a council drain that runs around the entire boundary of my road frontage which over the years with council cleaning of the drains, undermines the bank which holds our boundary fence up. We have already replaced the boundary fences 3 times along the road frontage in 62 years because of the undermining of the bank. The only way to stop this is to plant trees between the drain and the fence to hold the bank and to stop erosion causing the fence to fall in again. I keep all these trees cut reasonably low to mitigate and reduce bird pollution. I have no other option due to the bank erosion. My point here is that the trees I planted 6 years ago, along with fertiliser, irrigation, maintenance of replacing dead trees, gorse and weed spraying they have only managed to grow up to 2.3 meters, many are even smaller.



- 15 My concern is that the tree screening they promote is going to take a very long time to grow and to screen from the proposed solar site.
- 16 The height of panels is 3.02m above ground level, so that at many vantage points a 2m high hedge is not going to screen off solar panels or the glint and glare. Ideally hedges and amenity plantings should be given 5 plus years to establish as a visual barrier before solar panels are put in place. I am not only going to be affected by glint and glare from the unsightly glass panels but also the unsightly view of steel piles and frames that hold these panels up. I will explain more on this under Glint and Glare.
- 17 Please refer to Mr. McMath's statement (see 8.9c) which he states that there is substantial screening around the site. The problem that lies here is that for the trees to grow that last meter (from 2m up to 3m), will take a long time. In Mr. McMath's report a vast number of trees that will be planted are PB3 size which is meaning these will take years to grow to three meters.
- 18 Lastly, there is a huge problem in Mr. McMath's statement (see 8.9c) where it is said there is substantial screening around the site as shown by Ms. Anthony. This is not the case.
- 19 Here are 3 photos along Branch Drain Road of the proposed solar site, taken at various intervals. This is not substantial screening as you can see. If you look at the first photo here, I tried to take it at the substantial part of screening and, well, you can still see right through as cattle can be seen grazing on the other side. I guess if Ms. Anthony was travelling at 100km/hr. it might be a blur to her but to the people of Brookside walking, running, cycling, horse riding, kids eeling/fishing, and neighbouring farmers doing their work etc. it is not a blur. It is inappropriate screening causing all these people enjoying the district in retirement, leisure, work etc. to be confronted with industrial looking activities and structures, causing distress and

anxiety. For a good part along this stretch of road, say two-thirds, they are planting Cupressus (PB3 size) which is around 40cm in height. Now go back to tough tree growing ground in Brookside, these will take years to hide the gaps in what the applicant refers to as 'substantial screening'. This is unacceptable.



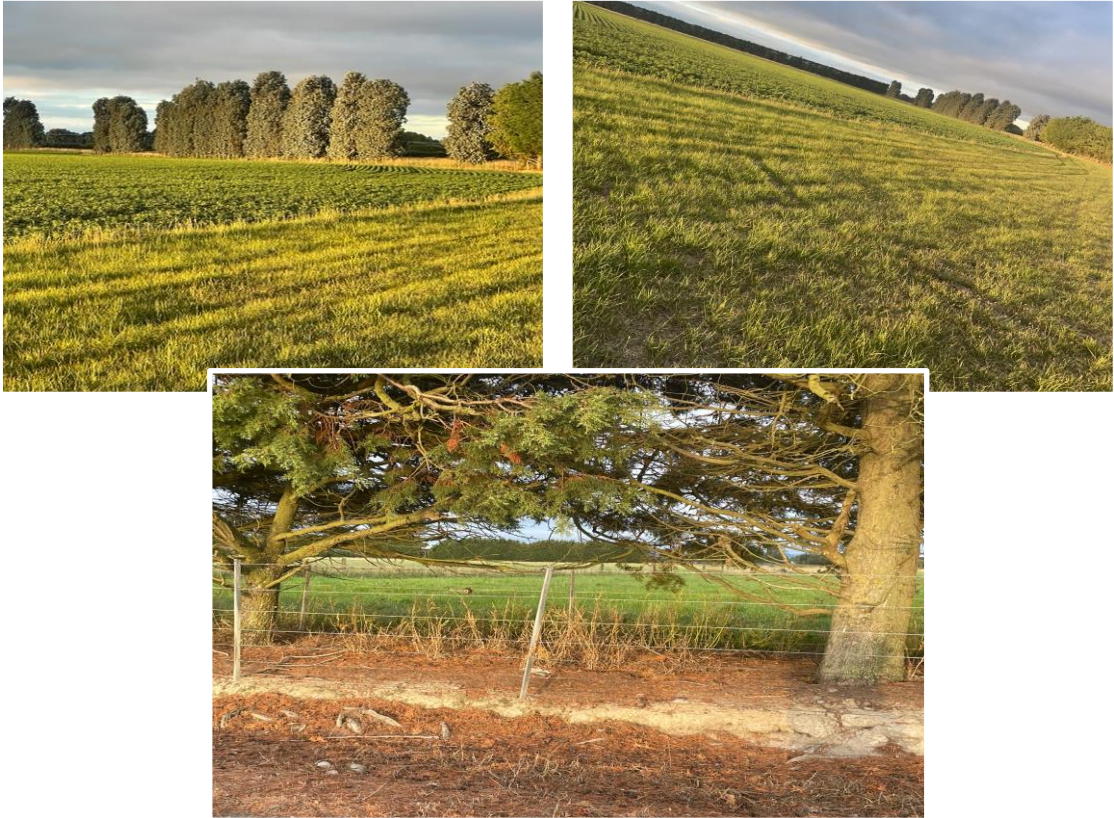
20 Here are 4 more photos down Buckleys road, along the proposed solar site. Once again, this time, three quarters of the area are being planted in only 40cm high trees. I have shown you half of the perimeter of the proposed solar site not substantially screened off at all. This is

actually all the road frontage, where all Brookside people will see.



- 21 The other half of the proposed solar site sits on the boundary of three Farms. Here are three photos of the screening that is between my boundary fence (one of the three farms) and the proposed solar site. The first photo shows inadequate screening which starts at the most southern point of the site heading up to the first corner of the site. The second photo shows the inadequate screening for about half the distance of this piece of boundary fence for the proposed solar site. The third photo shows the other half with inadequate (see-through)

screening also.



- 22 This is not only affecting myself, my family and my business, but also the Brookside community and more. The developer and the Selwyn District Council are in my view turning the Brookside community into an industrial area when 94% of the community opposes it. This is simply unfair.
- 23 Notwithstanding the inadequate screening that I have addressed above, if and when the plating is to take shape around the perimeter of the site as the Applicant alleges, this will create a huge eyesore within the landscape. I appreciate that thick perimeter planting is similar to shelter belting in a way (which is normal to see in a rural environment), but when you look at it to enclose the perimeter of an entire 111ha block, this becomes an entirely different ball game and would stand within the landscape which boasts open green pastures and long prevailing views that we love and appreciate (not only from within our property, but also the surrounding roads that we and many use to commute, walk, run and enjoy).

Glint and Glare

- 24 Along with inadequate screening the proposed solar panels pose a real hazard due to glint and glare. I have been told by experts, this will be particularly bad in the mornings when I'm on the west side of my farm (workplace). I have some big machinery which I use to operate

my business which are up to 4-4.5 metres in height this is again a real concern for workplace health and safety. I'm also concerned with contractors, workers and the like coming onto my workplace and having to endure these risks while carrying out their daily work. Many contractors come onto my workplace such as plant protection applicators, area specialists, truck drivers, Wattie's harvesters, silage, hay, agricultural contractors, this list goes on.

- 25 Visually for a good part of the day in my workspace glint and glare in unfair and unsafe. I have added a photo of the glare from a simple car window screen that I took from the inside of my harvester cab below:



- 26 A photo showing the height of my harvester in comparison to the height of a 7-wire boundary fence below: (top of fence and post is indicated by the yellow line as it is difficult to see the fence on this small photo or if you are looking at a black and white image):



- 27 Lastly, a photo of the height of many of the machinery that I use every day compared to an everyday ute below:



Acoustics

- 28 Of great concern is the sound effects.
- 29 From a personal note, with myself working 7 days a week on my farm, this is my workplace as well as my home which is now alongside the proposed solar farm. I will therefore hear a commercialised sound that will be with me for not only the rest of my working and recreational life but also in retired life as we have plans to retire here also. This will be an audible hum, which would not be great for my mental health. The report states that the operational noise will be 45dB at our property which would be comparable to a “typical office space or outdoor in a city at night”. We live in the countryside, where it is so quiet at night, we can hear even the most quiet of sounds. We do not want it to sound like we are living in the city. We love the peacefulness of the area we live in, our city dwelling friends always comment on just how quiet it is at our house, even during the day. This is so unfair, not only on myself, but my family, friends, contractors and all the neighbouring properties. I honestly don’t know how I could cope with this in my life. They say the sounds is below safety guidelines but as I’ve mentioned, my workplace is immediately next door to this and runs for a fair distance along

the boundary fence. I am concerned I will not cope with this. I want to outline the psychological impacts this will have on me and my family. We enjoy the peace and tranquillity of a country life. I have read about “rural anxiety” – it will impact even my children’s cognitive development. It has been mooted that the solar farm will operated at night. The noise will exceed the WHO guidelines for sleep of 40dB max, especially for the Kewish household.

- 30 Generally, most noises in the country setting are normal and expected, i.e. a dog barking or a tractor working, these are expected in the country, and all are usually sort lived. This proposed solar operation is a different sound, somewhat abnormal from country life and this will be constant, it is not something that can be switched off. Not good for our cognitive health.

Bees

- 31 I have read the report prepared for KeaX Ltd on electromagnetic radiation. However, what they overlook is the fact that they are generating 160MW of electricity that adds to the magnetic fields at the substation, we estimate they will be 35-60 microteslas of magnetic field which will affect Bee activity and rates of crop pollination. This is a substantial electromagnetic field. Bees are sensitive to as little as 0.025 microteslas and beyond this feeding activity and rates of pollination are reduced. Moseatelli et al 2022. This will cause adverse effects on my farming operation and its profitability.

Bird damage/ weed and seed contamination

- 32 This is also of major concern. With the added tree screening of the proposed solar site this would without a doubt cause a bird problem causing significant damage to my crops. Basically, the birds will roost and nest in the trees planted by KeaX next to a good feed source (being my intensive cropping program).
- 33 I have had grain agents speaking to me about bird damage in my farming career, and how to manage this problem. Many times, I have been told they have seen certain crops wiped out and lost because of bird damage. I have added a photo that I took when I was harvesting a Barley crop. The photo shows bird damage to the Barley on the right hand side of the photo

below:



- 34 Most cropping farms suffer a certain amount of bird damage. With the proposed solar site going in next door to me along one whole side of my farming business will undoubtedly 100% suffer further bird damage. This will cause consequential loss of working farmland on my property, because I will not be able to continue farming these areas just to receive bird damaged crops each year around. I also want to reiterate that my soils are classified as highly productive, so not only will the solar site have a huge impact on the highly productive soils on which it sits, but it will also have a huge impact on the usable areas of mine.
- 35 I have received 2 letters, the first (appendix 3) from the Foundation for Arable Research (FAR) on the effects of bird, weed and seed contamination and the second letter (appendix 4) from South Pacific Seeds (NZ) Ltd, regarding bird damage and cross pollination with seed crops.
- 36 Also stated in these letters are weed and seed contamination that could arise from the proposed solar site if not managed correctly (appendix 3-4). I have had enough sleepless nights worrying about this. I could lose my business; I hope this is carefully investigated with a positive outcome.

Effects on the wider community

- 37 As I stated earlier in my statement under “Background” paragraph 5. Everything in this paragraph is Brookside as we know it. I will not go over it again but because of its importance I have referenced here again as a reminder of what Brookside is...

‘I would like to give a brief overview of Brookside as an area and as a small rural community. Speaking on behalf of the group here, Brookside is known as a green belt, it is a very picturesque area with lots of trees, greenery, rivers and creeks, the old

town still has the original library which has been restored as a community project and the old Brookside school, Church, and Cemetery. You'll find historic buildings and homes here. We have amazing views of the Southern Alps to the west and the Port Hills to the east. It's very peaceful here. Brookside is made up of a mixture of Cropping, Sheep Finishing and Dairy Farms most of these farms, including my own have been worked by several generations of the same families. Brookside also has a large number of lifestyle blocks in the area, so it is not an area of large expansive farms that you would find in other areas, this is what draws people to the area. It is a built-up Rural community. You'll find the kids out Eeling in the water races and creeks. When the season comes, you'll have people out duck shooting from their ponds. People/families riding their bikes or walking their dogs around the roads. Often you will see people enjoying a leisurely horseback ride. When friends from town come to visit, they always comment on what a beautiful spot it is here and the number one comment we get is how peaceful and quiet it is here. All of what I've explained here is why we love living in Brookside.



- 38 If this proposed solar array goes ahead, our quiet, peaceful service area will disappear. This is all fact with 111ha of industrial steel and panels, inverters, batteries, shipping containers, tall chain link fences with barbed wire etc. which will be seen particularly all along the road frontage due to the inadequate trees that are there now and the poor planning of tree planting. These panels are 3.02 meters tall, let me demonstrate this for you. I think people forget just how high three meters is. It is sad that putting in these panels is going to be noisy let alone

the mind-numbing hum of the solar array itself. It is not fair for our Brookside residents and visitors to see, hear and sense the solar array.

39 I am so concerned for the people in our Brookside community not being notified that I gave them a choice to put their name and signature on paper to show they opposed this site and that it should have been publicly notified. I appreciate that given the notification decision, you are unable to hear the concerns of those not notified of the proposal, but I just want to show that the concerns that I (and the other submitters here today raise) are not isolated.

40 In such a heavily populated rural setting, with dozens of properties owned by families within a short distance from the site, I got in excess of 100 signatures. They were only given the choice to sign or not. I would say over 94% of the Brookside people that I visited, all signed with the same two big problems that were voiced by nearly all of them. Which was that it should have been publicly notified due to the irreversible impacts it will have on our amenity and of the wider Brookside community, and the harm it is doing to our highly productive land. I have attached these signatures of unhappy people (see appendix 5). I hope the council and all parties involved listen to the rate paying people of Brookside.

Effects on Business, Family and Wellbeing

41 I address implications of this proposed solar site and the effects that it will have on my business, throughout my submission here.

42 It is already proving to be a financial strain with the last years hearing and now this one. I am very concerned with the possible effects the proposed solar site will have on my cropping business, and the effects that it will have on our land value and profitability margins.

43 This is not a situation where any person living in Brookside will be better off for having the solar array on our doorstep, there is nothing that a solar array can do to improve the way we do our business or our income stream, and it would affect any future possibility of expanding our farming business. We also believe it could affect the viability of the land we farm on. Farms are run on very strict basis, and within an inch of tipping the ledge between being profitable and not. The loss of usable and highly productive farmland due to bird damage, and an inability to harvest or spray near the boundary due to reverse sensitivity effects on the panels will impose huge restrictions on our farming business. Not only will this eat into our profit margins and potentially tip the balance meaning we will have to make substantial sacrifices and changed to be able to profitably farm the land, but it will also cause consequential loss of highly productive land in the district.

44 Of huge concern to us is also the possibility of a fire on the proposed solar farm. It is noted from the Planners (Ms Kelly) evidence that if the fire spreads it would be up to the applicant to

remediate the land, does that include our properties? We have noted that there is no fire plan in place. It doesn't take an expert to know that fires don't discriminate or take any consideration for the boundaries of properties. If a fire breaks out on the proposal site, this will almost certainly spread to the surrounding properties, given the highly flammable nature of panels, we would expect some additional information (including a fire plan) would have been included with the applicant's material. Surely a consent cannot be granted without the certainty of a proper fire plan. We have some serious concerns for our safety and livelihood if a fire were to break out, and we consider that the Applicant has not provided adequate information to mitigate this concern or risk – one of their experts (Mr Ford) even considers the planting of berries under the panels, which as per Mr Hainsworth's evidence, are in fact highly flammable. This is not only our home, where we live and are raising our children but it is our livelihood, our place of work. If we can't farm here, how will we provide for our families.

- 45 As I've stated so far, the land in this community has been farmed by many generations of the same families. The current farming generation is no different, we all have children that have a love for the land and are very keen to one day take on the responsibility of farming the land here. We are afraid that the opportunities for them, will be forever changed if this consent is granted – also reminding you that the application is made for an indefinite term. It is our children who will have to deal with any negative effects from a very large solar array bordering our properties. The effects of this we only have somewhat of an idea of. This is all new territory for everyone involved.
- 46 Almost definitely the area of usable farmland reducing, and Potentially the value of the land reducing if this is approved. This will significantly impact our retirement program and make succession planning more challenging. I guess that the applicant will fund all property value losses.
- 47 You can't appreciate the stress and worry of all this – we are third generation on this farm and as a result I cannot see a future if this goes ahead.

FARMING

Farm management implications of the proposal

- 48 I am pleased that Mr McMath and the Selwyn District Council acknowledge the proposed solar infrastructure will be sitting on Highly Productive Land. Unfortunately however, they both seem ignorant to this fact, in my view. Let us remember the soil below them is only being used as an anchor point for the proposed solar array to stand up. The soil itself is not being used to create the power, it shall sit dormant for 35+ years. Mr McMath has said himself, that the soil will potentially be used for a lamb fattening operation, running approx. 10 sheep per

hectare. He has also mentioned that cropping might take place in the future. Please now let me break this all down for you.

- 49 Firstly, the meeting on the 10th February 2022, Mr McMath was asked by my wife Elizabeth, if they will be irrigating the site. Mr McMath said that it was highly unlikely due to the pivots there now, that were unsuitable for a solar array set up and that any irrigation could cause an issue with water droplets on the panels. Irrigation mentioned in the latest report states that Irrigation may still take place on the land. I would have at least thought that with the complexity of this issue and the importance of this hearing he would have by now substantiated these facts and provided everyone with more information regarding this matter. This is not to be.
- 50 It is important to note that during the 1st hearing for a resource consent which was held 12 months ago, that Mr McMath stated that 99.92% of the land is still available to be farmed. I do not believe this is true or in any way possible. This was questioned by the commissioner at the time and has left the area now available for farming (in what capacity “farming” will be undertaken, we don’t know as only vague suggestions have been given) at only 60%. Later in my breakdown analysis under the economics of farming, I will use 99.92% of land for sheep grazing as they can graze under panels and 60% in a cropping situation. To give Mr McMath the benefit of doubt, I will do this exercise as if it was irrigated.
- 51 At this stage Mr McMath still believes that over 99.8% of the land is still available to be farmed. This is not possible or especially practical with cropping.
- 52 I will carefully explain the Farm Management/Land Productivity implications of lamb fattening and cropping on this proposed solar site. This will show you the impracticalities of how Mr McMath thinks he will farm under his panels.
- 53 Mr McMath has stated and shown pictures of tractors mowing grass under and/or around solar panels. The first photo of a tractor and mower (see Mr McMath’s evidence attachment 9) are actually a digital image and not actually real. It doesn’t take a digital expert to see that this is an artificial image. This is of no real evidence for Mr McMath’s statement of evidence, in fact this is misleading to us all. All evidence given by anyone in a hearing, especially with the magnitude of this hearing, must have the evidence backed up by authenticated, reputable proof, this photo is none of that.
- 54 When referring to Mr McMath’s statement attachment 9 on page 34, there is a photo of a combine harvester, harvesting a crop in between rows of panels. These panels are fixed vertical panels, and are therefore not the same as the panels that Mr McMath is proposing to use. You simply cannot compare this image with Mr McMath’s proposed solar array. This is

not comparing apples with apples. Also, when looking for the source for this image online we found the company that sells these fixed vertical panels, and found a paragraph relating to the practicalities of farming between the solar panels. (See appendix 6) Even another solar company that is in the same business as you Mr McMath, is saying that “there is no likelihood of any meaningful agriculture use” with the types of panels that you are proposing to use. You cannot rebut Mr McMath by saying these photos are just an example or that it is an error on your part. Rather it is a conscious effort to instead mislead all of us here today, to get your solar array over the line.

- 55 I believe between Mr McMath’s panels there is a 4m gap (laneway between panels) typ, length of each row 37m typ with a bar in the middle of each row, going across each lane way one side to another. We would assume a bar across each laneway and these measurements are correct. The information given by Mr McMath is very vague, however this will not change the result of a poor outcome with regards to NPS-HPL on this site whether a bar is there or not.
- 56 This would be a headache for most contractors/drivers of all agricultural gear. This would mean every agricultural implement would have to work down each laneway until they reached the bar then back out of the lane and somehow get to other side of each laneway and work down to the bar. With just one rotation of crop the ground is ploughed with a tractor towing a plough then cultivated maybe 3 times or more with a tractor towing implements, then sown with seed, sprayed for weed and pest (usually more than once), fertiliser is spread, a harvester will harvest the crop, trucks will cart the grain away, a tractor with hay rake will rake the straw, a tractor with a baler will bale the straw and then more tractors and trailers to cart away the straw. I can see this is dangerous to be on site, damage to panels or machinery would 100% happen, and given the dust that harvesting creates, I don’t see this even being a palatable option for the Applicant.
- 57 The soil compaction would be a major concern when cultivating. It is very important when cultivating the soil that you cross cultivate, this avoids compaction of the soil. If the agricultural implements are tracking down a singular lane there is no availability to cross cultivate and therefore wheel compaction would be a major issue to the soil structure and the ability to produce any products from this soil. Basically, I treat my cropping farm just like a vegetable garden, the soil must be turned, a little fertiliser and even compost, a little water and you have to work with the soil. I just cannot see how cropping in between panels could be a viable option.
- 58 The other issue I could see would be if the panels would be required to be fixed, maintained, or replaced the service vehicles required to undertake this job will have to inadvertently drive over the crops. This is something we as Farmers would absolutely avoid at all costs.

- 59 The above problems would be the same without the drive bars in the middle of the laneways as turning, backing etc. at either end of the rows would be just as difficult and dangerous.
- 60 All the machinery will have to be specialised as pointed out by Mr McMath. To buy, lease or hire contractors with specialised gear would be so expensive that the margins between Mr McMath's cropping plan and a professional crop farmer on the Canterbury plains with no panels would be staggering. Mr McMath would be making very little or nothing at all on this Highly Productive Land. – which brings me back to the fact that this feels like a 'box ticking exercise' to address the highly productive land impediments to his proposal without putting any real thought into its viability.
- 61 Health and Safety is a big problem farming around these panels. After consultations with various contractors they have been concerned with the implications of health and safety, the impracticalities of the site when considering also farming among panels. They have all said there would be a need for special equipment, and or the cost from contractors would be through the roof. I have attached a letter from just two of the many contractors that I use on my farm, this letter shows all of their concerns regarding working around the panels. (SEE APPENDIX 7-8) They could easily do the work on the 111 hectares of my cropping farm at a fraction of the time and cost, simply because no objects like panels to go around etc. this is pretty self-explanatory. In Mr McMath's statement 6.13(d)(ix) explaining there is a greater risk to the public, i.e. more cables in the ground allow for more risk of being dug up. Well the solar sight will have cables, what about when this ground is ploughed or subsoiled – another risk.
- 62 It is with concern that we've had no fire report submitted with Mr McMath's application. Below is a photo of a fire which started on my property only 3 weeks ago. (You will see the area in black where the fire took off, the wind conditions were in our favour so it didn't spread and was easily put out with equipment on hand).



This was caused by a contractor's mower that was mowing Barley stubble. It was being cut to make straw hay which is part of my harvest program. It was ignited by a single spark by the contractors mower. The Selwyn District is currently under a total fire ban. Mr McMath has stated that he will also be using the means of mowers to keep tall grass in order. With my example of our stubble fire, chances are quite high for a fire on your solar array, if so with the fire evidence on solar panels explained by Mr Ray Henderson. God help us.

63 Implications for Lamb Fattening – Re-grassing for lamb finishing is essential on all farms. Myself personally, the longest I would use the same pasture in a paddock would not be more than 18 months. Usually, it is only months. On some finishing farms with no cropping rotation, the pastures might last three years and would then have to be regrassed. I drill (sow) only the best grasses for the best results. Winter feeds are essential to be sown every late summer to feed the stock whether breeding or finishing in the winter. In Brookside very little growth takes place in the winter months due to wet conditions, frosts, lack of sun and therefore bringing the soil temperatures down to a level where grass growth is limited. Under these solar panels re-grassing cannot take place, maybe in the laneways yes, that also poses its own troubles. As explained in the cropping scenario section. The pasture will be run out in a few years leaving only wild grasses and weeds to try and grow under the panels.

64 The only correct thing about the above from Mr McMath was about the growth being green under the panels, however this cannot be classed as pasture, all that is left is unpalatable matter for the sheep to eat, causing a whole list of problems for the stock, such as:

64.1 Diarrhoea (causing fly strike in summer months).

64.2 Very slow growth rates (stunted carcass weights).

64.3 Higher than burden of parasites and worms in the gut of the sheep.

64.4 Poor wool growth.

64.5 In breeding stock, sleepy sickness prior to lambing.

64.6 Low milk supply to feed lambs.

65 Eventually this operation will not be able to finish (fatten) lambs. Meaning selling as store lambs to a proper finisher, meaning less income. The only thing that may help, but is no answer, is to cut his stock numbers. This then causes major troubles for his solar farm as the grass under the panels will shoot away to seed, which then is unable to be eaten by sheep, they can't eat this and it is unpalatable. Remember topping of this matter under the structures cannot take place. The paddock pictured below, has been grazed by sheep (as you will see in the background). These sheep have eaten the bottom out of the pasture. The grass should have been topped by now, however it has gone to seed, making it unpalatable for the sheep. This is what I believe it will be like under the solar panels, where topping will not be possible,

therefore creating problems, poor pasture that would create a risk for fire (see photo below):



66 Then Mr McMath's sheep operation creates the following risks, which I believe are true and real. Without a doubt I can see this happening:

66.1 A huge fire risk as this matter eventually dries off and goes to seed.

66.2 Poor stock.

66.3 Low income.

67 Mr McMath has stated in his evidence in the last hearing that the Brookside project does not have the need for nitrogen – and I have not seen any comment relating to this in the current proposal. May I point out to Mr. McMath that nitrogen may be successfully used in his proposed solar project, if he stays within the limits and boundaries of the Farm Environment Plan (FEP). Almost every farmer in Canterbury must stick to these limitations by law. These guidelines were set by E-Can to ensure the safety of the environment whilst still achieving a green and clean farming future in New Zealand.

68 This proposed solar array is making another mistake by not looking after the soil with fertilisers, hence leaving soils to become nutrient deficient and useless, growing very low-quality feed for its sheep leading to poor animal health causing unhappy stock and finally leading to the proposed solar project anything but maintaining Primary Production.

69 Unfortunately, I have been down the same road as Mr McMath's proposed solar farming project. In the early 90's the government encouraged people to plant pine trees, especially to use as a retirement investment. So, in 1995, on my first purchase of land of 10 hectares, I planted 3.5 hectares into a pine tree plantation. Four years ago, I finally logged the area and made a pittance. After the logging I shut the gate to let the stumps and slashings break down. The only positive thing however small is that at least I had something growing in the soil,

unlike solar panels. My point here is that this land or soil has not been utilised or worked for the past 28 years. In this period of 28 years, it has never been re-grassed, the soil never cultivated, no irrigation, no fertiliser, it, like the Brookside solar farm proposes, only had sheep grazing on this 3.5ha block. The photo below shows what it looks like now under this type of farming. This was a mistake. I believe these photos shown below depict the quality of the feed that will exist under the solar panels:





- 70 The photo below is representative of quality pasture which will not be found under the solar panels.



- 71 Wool Quality – Mr McMath states wool growth may be a great thing under the solar panels. I again have many years of experience with wool, from growing it, to working many hours in the woolsheds of NZ and Australia and working alongside international wool classes. After talking to my former wool agent, who is now the South Island Manager for Wools of NZ, we both agreed on a few negative points of farming sheep under the solar panels:

- 71.1 Sheep will rub on the steel structures, causing discoloration or in this case a silvery appearance that the buyer would likely discount the wool, and may have double scour due to its appearance. Similar to wool with heavy contamination.
- 71.2 Wool would be more likely to have more seed, discoloration and cotty wool from sitting in longer grass (if not managed correctly). Too much shading from under the panels could cause dampness to the wool, again causing the above effects.

Industry advice

- 72 To conclude the above points, I have also been in contact with Luisetti and Federated Farmers in relation to the proposal, to understand whether they have a stance on these activities. Both Mr Edward Luisetti (Managing director of Luisetti) and Hon. Andrew Hoggard (former president of Federated Farmers and now Minister for Biosecurity and Food Safety and the Associate Minister of Agriculture) both addressed concern for solar farms being located on highly productive land (see Appendices 9-10 where these letters are provided), with Mr Luisetti going further to confirm that they should be established on poor and unproductive soils.

ECONOMICS OF FARMING

Land Productivity implications of the proposal

- 73 After consulting with a good dairy farmer in Brookside, he gave me his book figures from last year. His gross income was \$12,000.00 per hectare, and his net income was \$4,500.00/ha. Remember the proposed site of the solar array in Brookside is 111 hectares and is all currently used for dairy farming. The 111ha area equates to \$1,332,000.00 per annum for the country, in exports, and is healthy for our local community. Over the life of the solar farm its \$46,620,000.00 in total taken from Primary Production from Brookside's Highly Productive Land – not to mention that this is actually being proposed for an indefinite term, so we have no idea actually when this will end.
- 74 Now I will turn to Mr McMath's proposed farming venture in Brookside under his solar array, and see how the sums add up based on the information given by Mr Ford. I will give Mr McMath the benefit of the doubt based on one scenario. An irrigated version of 14 stock units per hectare which is generous. Keeping in mind the information provided by Mr McMath on irrigation is very vague. As outlined in Farm management implications of this proposal, in the statement.
- 75 Irrigated land with 14 stock units per hectare based on fat lamb finishing. Average purchase price from Canterbury Park store sale last week was an average of \$92.00/lamb including

GST (all figures listed include GST). The average weight after finishing a 22.5kg (carcass weight) and the meat schedule from last week was \$6.90 = \$155.25 per head. So, Mr McMath has made a margin of \$63.25 per stock unit. What does that mean for Mr McMath? Based on 14 stock units per hectare, presuming he has fattened to above weights and after deaths, the gross margin of \$241,258.50 per annum. After the initial costs of store lamb and working expenses (this would include having to pay for a worker on minimum wage to manage this), the net income would be \$52,786.50 per annum (Farm working expenses taken from my last years books). This is a figure of \$475.55/ha. This leaves a negative margin of \$4,024.45/ha. The \$475.55/ha of net income does not even consider the cost of buying in winter supplements such as silage if needed in a hard winter – this is highly likely. This is totally an unviable exercise Mr McMath is attempting to manage on Highly Productive Land.

- 76 You would think Mr Ford would offer these figures with his experience, but he hasn't, because these figures are fact from last week's store/fat lamb sales in Canterbury. Both Mr McMath and Mr Ford know these figures do not stand up anywhere, not even remotely close to the NPS-HPL. This makes me so disappointed and sad.
- 77 In Mr Ford's statement of evidence he puts a focus on growing grass. All farms can grow grass, some more than others as Mr Ford explained. The grass has to be utilised in order to give it any future viability, and to meet the NPS-HPL - I believe that the Applicant and their consultants have failed to show this.
- 78 I have not put the running costs of irrigation in my figures, because the applicant once again, has not provided sufficient data. He would be no better off. I think I have proven this is something not to be done. There would also be capital, operational and infrastructure costs for establishing the irrigation. I would class this as a failure in the use of Highly Productive Land, and as shown in the evidence of Ms Thompson-Morrison, the state of unirrigated soils is dire. Figures on sheep breeding farms are similar with the disadvantage of having to produce high quality feed to in lamb ewes, as explored, this cannot be easily achieved.
- 79 Cropping – It was stated by Mr McMath's team that cropping could potentially be an option. I have cropped all my life, and I cannot fathom how this could be done around his chosen solar panels.
- 80 Firstly – after our evidence under the farm management implications provided above showing the photos supplied by Mr McMath (misleading). I believe there is not enough evidence now that a cropping program would be viable because the photos are of a different solar operation from what Mr McMath has stated. However I will now show you the are the economic sum of Mr McMath's actual solar farm that he intends on putting in.

- 81 Remember the previous commissioner in the first hearing pointed out to Mr McMath that only 60% of the area was available for farming other than sheep. So my honest breakdown with the economics of a cropping situation, with the panels on the proposed solar site of 111 hectares it leaves only 66.6 hectares. I am using the example of feed wheat for my evidence which has been grown in Canterbury since the early settler days. It is regarded as a medium to high end crop (not low end such as silage or barley etc.).
- 82 Once again I have taken the scenario of it being irrigated, by what means we don't know. This season on my farm I achieved 10 tonnes per hectare (the Canterbury average for this season is 13.6 tonnes/ha). All prices are including GST. 13.6 tonne at \$575.00 (my contract price this year) x 66.6 hectares = \$520,812.00 gross. The royalty for the wheat straw is \$450.00/ha = \$29,970.00 = \$550,782.00 gross, this is \$8,270 gross/ha. After a phone call to FAR Arable Research, the cost for growing feed wheat on an irrigated farm in Canterbury is \$4,407.00/ha (you can find this information on the FAR website). So the total cost over 66.6ha would be \$293,506.20. With these sums the net profit based on 66.6 hectares is \$257,275.80 which equates to \$3,863.00/ha (this is being very generous). However we must remember that the site is a total of 111 hectares, so you really need to calculate the entire 111 hectares when considering the cost of growing per hectare, because you can't crop directly under the panels. Therefore the total final net income for the proposed 111 hectare site would be \$61,605.00, which equates to \$555/ha. If this seems too unbelievable to be true, please check these figures given with FAR. This ground is currently producing \$4,500/ha net profit (approx. based on a neighbouring Dairy Farms most recent books) as a fully functioning Dairy Farm.
- 83 Lastly, I have been very fair and honest with my figures and details. Let us not forget that Canterbury can throw disasters our way. The 13.6 tonne of feed wheat I used to get the figures will not be the case each year. When this happens, Mr McMath will probably make losses. Again, I have proven this highly productive land is being abused by a person with interests elsewhere. I believe he does not care about this land and is only using these primary production options as a 'tick box' exercise due to the highly productive land implications – throwing an array of options at the wall to see which might stick.
- 84 In summary, Mr McMath's proposed solar array is taking \$3,945.00/ha away from what is NPS – Highly Productive Land. They would replace this with approx. \$555/ha if they were to crop this highly productive land. It is with concern and I must stress, it is the panels that are the main problem here, taking up 40% of this area, as the previous commissioner pointed out. So now this 111ha farm because of the panels wasting 40% of the area can only produce \$555/ha over the entire 111ha.
- 85 I appreciate that profits are not part specifically of the consideration when addressing the NPS-HPL, however I consider that they are intrinsically linked. Versatility or use, long term

impediments to primary productive uses, and a reduction in productive capacity of the site, and cumulative loss of surrounding sites are all part of the consideration. Extrapolated profitability simply identifies these shortfalls in a more tangible way.

CONCLUSION

- 86 I felt pressure from the very beginning from Mr McMath, also had a feeling he was not telling me everything. Looking back now, no truth was there.
- 87 The impacts for my business and family are high let alone the impacts for the wider community. I've had my 14 year old son in tears, worried about this. I asked him why he was crying, was something wrong at boarding school? But no, in his own little words he said "farming won't be the same here". Then I realised that he was worried about the proposed solar array that could be built over the fence.
- 88 With farm management on this site, it's just dangerous if someone isn't hurt or killed, I would be surprised (remembering that farming has one of the highest figures of injury and death in New Zealand. Other than that, a fire would be a disaster. Trying to farm around these panels all the above could potentially happen and especially with machinery trying to crop. Sheep farming also creates problems with stock cruelly being left unhealthy due to the unhealthy state of the pasture growth, contaminants, and even the wool will be stained.
- 89 Then the economics of farming. My figures outline the simple truth of it, the proposal will establish a farming venture that will be nothing short of a disaster on highly production land. Let the soil be tilled the way it has been done for century's. Let the sun shine on the plants for photosynthesis - not to be shaded by panels. Let this all be done by farms that people can respect and care for on the highly productive land. Again, the figures you will achieve, is not using this beautiful soil productively.
- 90 So to rap this up, the facts that I have given you on the sheep and cropping exercise you are suggesting to use is nothing short of an embarrassing failure. It is obvious you have chosen the wrong site.
- 91 This country will not fall over without this solar site in Brookside. It will fall over with the loss of highly productive land that is needed for primary production if it is covered in steel and panels, and so will it undermine my farming business, my ability to retain access to farm my highly productive land, and those on the surrounding land.

- 92 Between the council, Mr McMath and the Ward family, the people of Brookside are upset and annoyed that this is all going on behind their backs. The damage is done by your actions and you will not change the hearts and minds of these good people.
- 93 It is with concern that the unprofessional approach by Mr McMath to obtain consent, followed up by the poor decision making by the Selwyn District Council (such as to the notification decision) to allow such an action to take place and especially without adequate consultation and notification.
- 94 It is with honest input that I have proven that Mr McMath's claims of being able to farm on this highly productive land is just a front to say he is producing good production on good land, and he is not, as I have proven. I believe this is only a front to get the solar array over the line on highly productive land.
- 95 I can honestly look you in the eyes Mr McMath and the Selwyn District Council and say all in this statement is honest, true and correct. After your false pictures and representation of your solar array being harvested with upright panels and the Selwyn District Council ignoring the Brookside Rate Payers and the poor tactics shown by them to throw us off course, I will say between the both of you it is all a litany of lies. I can say the submitters and the Brookside community have played with a straight bat.

Clark James Casey

04 March 2024