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SUBMISSION ON NOTIFIED APPLICATION CONCERNING RESOURCE CONSENT

(Form 13)

Section 95A Resource Management Act 1991

To: The Chief Executive
Central Otago District Council
PO Box 122
Alexandra 9340
resource.consent@codc.govt.nz



DETAILS OF SUBMITTER

Full name: Tracy Marie Crossan

Contact person (if applicable): Tracy

Electronic address for service of submitter: g.crossan@xtra.co.nz

Telephone: 0273106858

Postal address (or alternative method of service under section 352 of the Act):

366 Ranfurly Back Rd
Rd. Ranfurly.

This is a submission on the following resource consent application: RC No: **240065**

Applicant: **Helios OTA Op LP** Valuation No: **2828012800**

Location of Site: **48 Ranfurly-Naseby Road**

Brief Description of Application: **Land Use Consent to Construct, Operate and Maintain a Solar Farm (Maniatoto Plain Solar Farm) being a Renewable Electricity Generation Activity in a Rural Resource Area.**

The specific parts of the application that my submission relates to are:
(give details, attach on separate page if necessary)

Please see attached

This submission is: (attach on separate page if necessary)

Include:

- whether you support or oppose the specific parts of the application or wish to have them amended; and
- the reasons for your views.

Please see attached

I/We seek the following decision from the consent authority:
(give precise details, including the general nature of any conditions sought)

I seek the denial of Resource Consent of the Helios application by the Central Otago District Council.

support/oppose the application OR neither support or oppose (select one)

I wish / ~~do not~~ wish to be heard in support of this submission (select one)

I am / ~~am not~~ a trade competitor for the purposes of section 308B of the Resource Management Act 1991 (select one)

*I/We am/am not (select one) directly affected by an effect of the subject matter of the submission that:

- (a) adversely affects the environment; and
- (b) does not relate to trade competition or the effects of trade competition.

*Delete this paragraph if you are not a trade competitor.

***I/We will consider presenting a joint case if others make a similar submission**

**Delete this paragraph if not applicable.*

I ~~request~~ **do not request** (select one), pursuant to section 100A of the Act, that you delegate your functions, powers, and duties to hear and decide the application to 1 or more hearings commissioners who are not members of the local authority. "See note 4 below as you may incur costs relating to this request."

Fragne Lee
Signature

18th December 2024
Date

(to be signed by submitter or person authorised to sign on behalf of submitter)

In lodging this submission, I understand that my submission, including contact details, are considered public information, and will be made available and published as part of this process.

Notes to submitter

1. If you are making a submission to the Environmental Protection Authority, you should use form 16B.

The closing date for serving submissions on the consent authority is the 20th working day after the date on which public or limited notification is given. If the application is subject to limited notification, the consent authority may adopt an earlier closing date for submissions once the consent authority receives responses from all affected persons.

2. You must serve a copy of your submission on the applicant as soon as is reasonably practicable after you have served your submission on the consent authority.
3. If you are a trade competitor, your right to make a submission may be limited by the trade competition provisions in Part 11A of the Resource Management Act 1991.
4. If you make a request under section 100A of the Resource Management Act 1991, you must do so in writing no later than 5 working days after the close of submissions and you will be liable to meet the additional costs of the hearings commissioner or commissioners, compared to our hearing panel. Typically these costs range from \$3,000 - \$10,000.
5. Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):
 - it is frivolous or vexatious:
 - it discloses no reasonable or relevant case:
 - it would be an abuse of the hearing process to allow the submission (or the part) to be taken further:
 - it contains offensive language:

it is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

1st December 2024

Submission on notified application concerning Resource Consent
Section 95A Resource Management Act 1991

To: The Chief Executive
Central Otago District Council
PO Box 122
Alexandra 9340

Submitter: Tracy Marie Crossan

g.crossan@xtra.co.nz

0273106858

366 Ranfurly Back Rd, RD2, Ranfurly 9396

This is a submission on the following resource consent application: RC No: 240065

Applicant: Helios

Valuation No: 2828012800

Location: 48 Ranfurly-Naseby Rd

I am co proprietor of the farmland and dwelling adjacent to the proposed industrial installation and referred to in the application as Dwelling 4.

Our property is used for residential and agricultural purposes, primarily for animal husbandry.

Please note I have attached a separate map (Appendix 1) showing our property in relation to the proposed solar industrial complex. I have marked on the map our house, the road ways, the waterways and the capped bore holes drilled and intended for future Ranfurly supply.

The specific parts of the application that my submission relates to are:

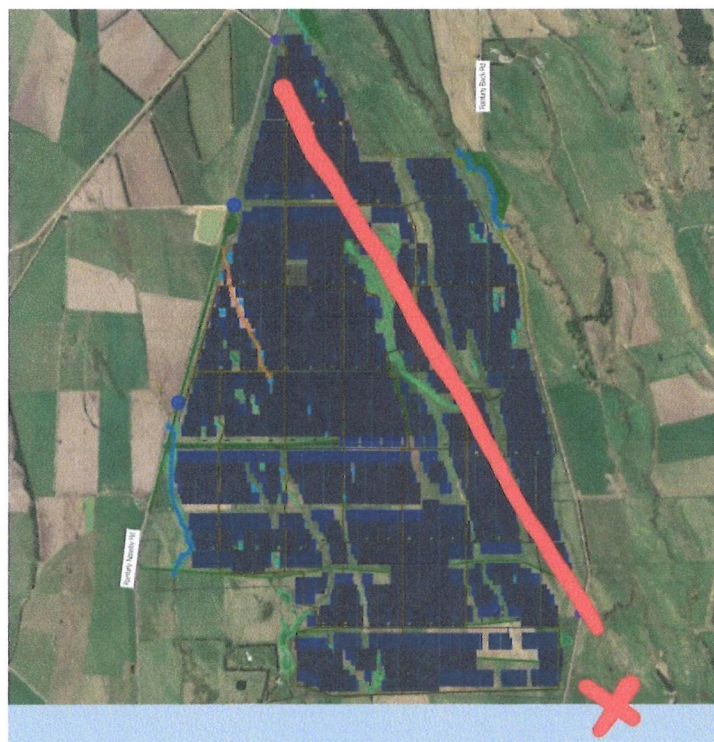
That the development has unacceptable impacts beyond the Site boundaries, which have not been effectively mitigated.

There is nothing in the Helios proposal that comes close to mitigating the visual impacts this solar industrial complex will have for the Crossan family and this has not been adequately assessed.

No member of the Helios team has ever visited our property, they have shown blatant disregard for the effect this proposal would have on our lives.

The Helios proposal's mitigation plan for our dwelling (4) is that we erect screening plants 1.8-2.4m along our front garden fence. Yes, once grown (after approx. 10 years) it may obscure some of the glare (but not the glint) but also, in doing so would also totally obscure any view of our farmland. Farmland that we have had the pleasure of enjoying from our dwelling for 4 generations of the Crossan family. We love the view from our house, we can see our sheep, I can watch my mares and foals play and I spend much time out the front of our house photographing the view because it is truly spectacular. We can see from our house when the mailman is coming down Ranfurly Back Rd, all of these little things add to our quality of life.

The application also states that the mitigation planting on the perimeter of the Site would need to reach 8m-12m before screening from our front garden can be achieved, what if we don't want to look at trees, do we get a choice?



The above map shows our house (the red cross) and our viewing plane of the solar farm, looking across approx. 5km of glass panels.

Below is a photo from our front garden that looks across the area of the proposed solar industrial installation. The pieces of ply (2.4m high) leaning against our front fence, the fence that Helios would like us to put up screening to help mitigate the effects to our family.



The proposal has nothing in it to suggest how long this mitigation planting will take to grow. In our experience, for shelter trees (*Pinus radiata*) in our harsh Maniototo environment take approx. 20 years to reach even the 8m minimum height they propose is required to have any screening effect and that would be much longer for native species. By the time any of their mitigation planting reaches any sort of decent height, their solar panels would be nearing the end of their lifespan!

Many of the species outlined in the Boffa Miskell planting schedule I have tried to grow on our own property (Dwelling 4) and frost and drought have made it impossible for many of those species proposed to survive.

We applied to the Central Otago District Council for consent to build a zinc-coloured corrugated iron garage on our property (that matched our other sheds) and this was declined because of the risk of glare and visual impact and yet the Central Otago District Council are considering granting 660ha of glare and solar industrial complex only a few hundred meters away from our new garage that we ended up constructing in denim blue to be compliant.

The Social impacts of the Development within the locality have not been assessed. There is no social licence for the Development in its proposed location. Central Otago generates much of the Country's electricity and yet we pay some of the highest electricity rates in the Country. Our prices locally will continue to rise with the increase in infrastructure that will be required for this Application and all so that we can send electricity to the North Island to power electric cars and spa pools in Auckland. Resultant higher electricity prices from the Helios Solar Industrial Complex are not canvassed in this proposal at all.

Who is paying for the upgrade to the Naseby substation?

The risk of fires associated with fire emanating from the Site and migrating to the Site as a result of cropping activities on neighbouring properties has not been canvassed at all in the proposal.

The increased risk of fire gives rise to significant insurance burden on adjoining owners, for which the Applicant proposes no recompense.

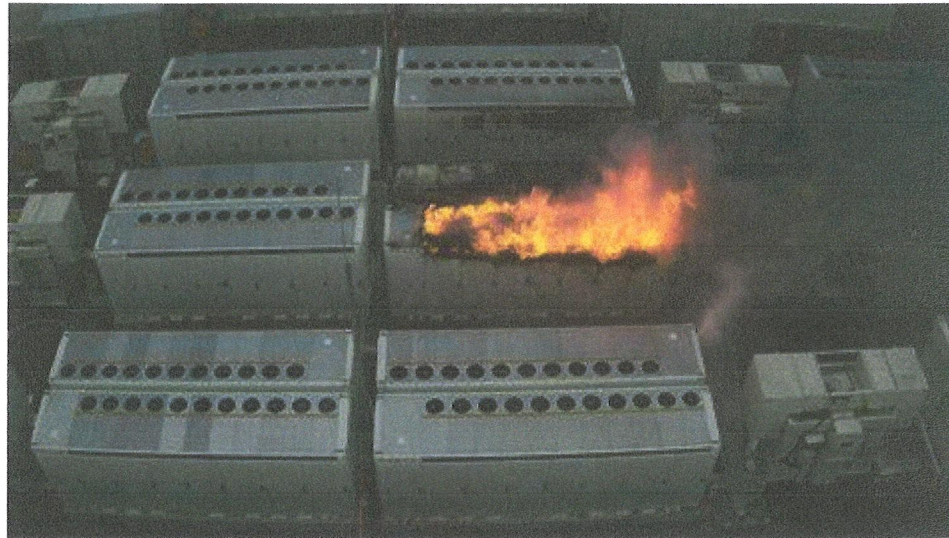
With over 1 million electrical connections the risk of fire is extremely high and there is plenty of evidence to suggest that fires from solar panels and battery energy storage (BESS) is a real thing. There WILL BE fires at this complex, all of the international data supports this.

What plans are there to deal with the run off of water/chemicals used for firefighting or is the Central Otago District Council happy for this to be discharged and leached into the water table that runs under the property and subsequently runs down through our property? Tesla Megapacks do go on fire! (See photo below, and the many others that can be found with a simple google search) Firefighters just have to walk away and anyone in a 10km radius is advised to evacuate due to the toxic plume that results from Tesla Megapack fires.

Where is the research in the proposal regarding the toxic plume from a BESS fire? Have they measured the wind speed, directions likely to go, who will be affected and where is their emergency evacuation plan?

Who will let the Crossan family know that a fire has erupted and we need to take shelter and evacuate ourselves and animals?

Why are there no requirements to bund these BESS like there is transformers that in comparison have very benign composition?

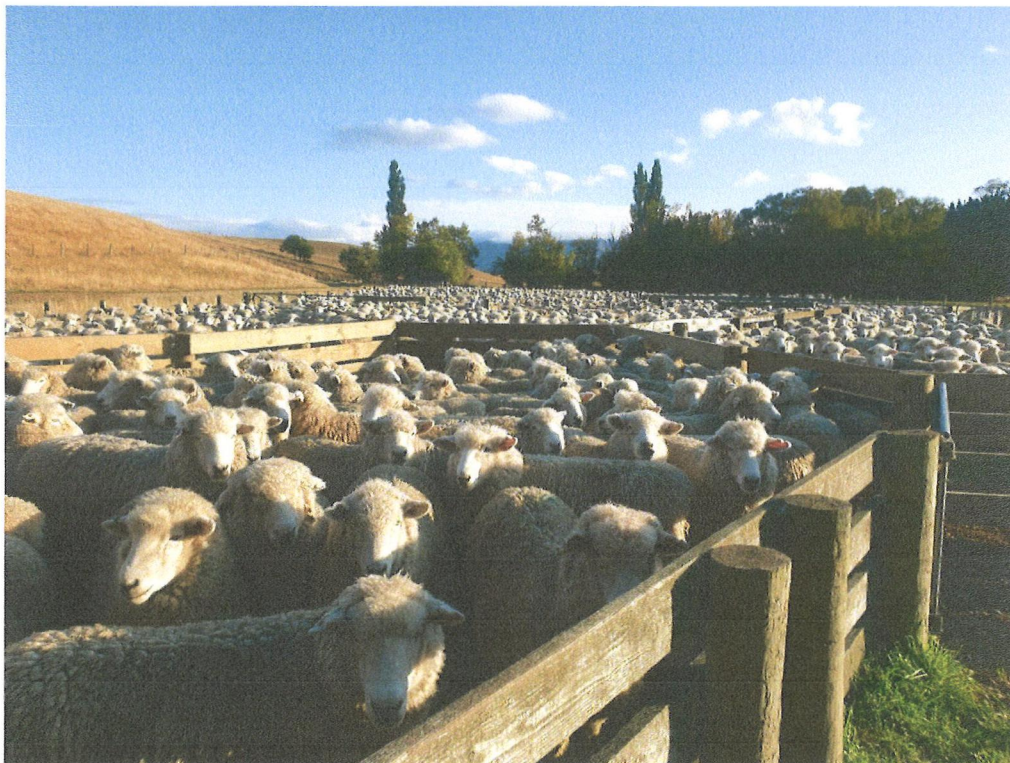


Over the past 25 years I have built up a small breeding herd of Irish Draught horses. The Food and Agriculture Organisation (FAO) of the United Nations classifies the Irish Draught horse as an endangered breed (xx), and here on our farm, we have one of the biggest breeding herds outside of the UK and the only purebred Irish Draughts in New Zealand. I have two imported stallions and 5 imported mares that I have bought into New Zealand from both England and Ireland. I currently have 6 foals on the ground and my herd of Irish Draught horses are of National importance. If a toxic plume was to erupt from a fire on the Helios Industrial Solar Complex, my herd of horses would be lost as they cannot shelter in place and the Irish Draught breed would be wiped out in New Zealand. I have recently been awarded a centenary medal from the Royal Agricultural Society of New Zealand for my services to the Irish Draught breed. The Crossan family featured on an episode of Country Calender recently and our horses, successful farming operation, family values and iconic scenery were celebrated.

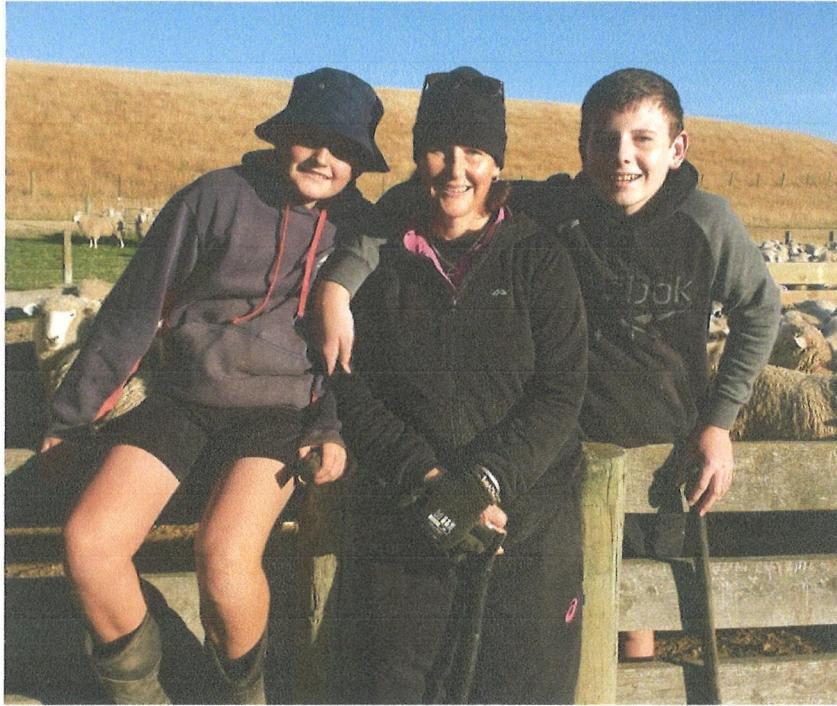




Our 4500 sheep, and our very much-loved farm dogs would be lost.



Our livelihood would be gone and everything that we have built up and worked so hard for will be destroyed and because of the toxins released, our waterways and farmland will be rendered useless, so we could never recover from a disaster occurring at that Solar Industrial site. I absolutely live in fear of the day one of the BESS goes on fire and the evidence very clearly suggests that one will.



The proposed shelter belt on the perimeter of the site, are the plantings in that area going to be sprayed to keep the weeds down? What chemicals will be they using to control the weeds and pests, none of this is mentioned in the proposal?

This will need to be maintained or else they will pose a HUGE fire risk and a haven for pests like rabbits to live and breed.

Four generations of the Crossan family have worked very hard to reduce and eliminate weeds and pests from our farm.

We have a very big concern for the noise that ourselves, our neighbours and both the Ranfurly and Naseby townships will experience both throughout the construction and the subsequent day to day running of this Solar Industrial complex.

Our Ranfurly Back Rd is quiet and peaceful and given that it's a rural farming area, we want it to stay that way.

We do not believe that this complex will be able to comply with noise regulations.

Banging in steel posts in hard, Central Otago ground for two years will be very hard on our mental health.

The continual humming that will be omitted by the massive transformers needs to be researched. Large transformers like the ones in this proposal can be heard from kilometres away from the source. How will this be mitigated because there is nothing in the proposal regarding this.

Helios do not mention anything about the noise omitted from these transformers, how far that noise travels and what the effects will be to those dwellings situated near the boundary of the site.



Impacts on water resources are unacceptable. The Application fails to appropriately preserve or manage existing water resources.

On site water detention and reuse has not been addressed at all.

Significant stands of water will be required for screening mitigation and Site maintenance and firefighting, there is nothing in the proposal to say where this water is coming from? Central Otago water is already in high demand and our farm very often goes into a 'stock water only' situation. That quickly puts an end to any watering of my garden that I love to spend time in and I have to watch many of my beloved plants die from being too dry.

The Helios proposal site mitigation plan hinges solely on their screening planting, so how are these plantings going to be watered when there is no water to do so.

There is nothing in the planting plan that deals with the amounts of water required to start and maintain the mitigation planting and the rate of water required for each species to reach the mature heights they propose they will.

There is nothing in the proposal that states how long each species will take to reach a height suitable to provide mitigation of the site.

Ethical values – We just cannot support a proposal knowing that the solar panels will more than likely be manufactured in the People’s Republic of China and mostly by Uyghur slave labour (xxxiii).

The energy expended to manufacture a solar industrial complex is greater than the energy that will be produced during its working life and the carbon dioxide emissions produced from the manufacture of a solar industrial complex is greater than the carbon dioxide emissions savings (xxx).

The manufacturing of ultra-pure silicon for solar panels requires the use of highly toxic chemicals such as hydrochloric acid, sulphuric acid, nitric acid, hydrofluoric acid, nitrogen trifluoride, sulphur hexafluoride, 1,1,1 – trichloroethane and acetone.

Residues of these chemicals are dumped in the country of solar panel manufacture and have created long term health problems (xxxi).

By Approval of a solar industrial complex, the Central Otago District Council must be fully cognisant that the proposed Helios Industrial complex at 48 Ranfurly-Naseby Rd, Ranfurly (RC 240065) will probably have most solar panels manufactured by Uyghur slave labour. Even panels purchased from US, UK, Asian, Indian and European distributors derive originally from PRC.



Solar panels have proven to leach highly toxic cadmium, selenium, tellurium, indium, gallium and lead by rainfall from silicon panels into soils and water.

Runoff from sloping lands and soakage could contaminate a far larger area than the solar panels occupy. Carcinogenic cadmium is locked into soils, is highly toxic to humans and enters agricultural products.

It has been long known that tellurium and selenium are highly toxic for man (xxxvii) and animals and they have a narrow margin of safety between being an essential metalloid and toxicity (xxxviii).

This could sterilize farming land after the working life of a solar industrial complex and pollution on a large scale in and around the former industrial site. Solar panel damage from hail and removing dust and pollen from panels releases toxic cadmium, selenium, tellurium, indium, gallium and lead into soils and waterways.

The water table that runs under the proposed Solar Industrial Site then runs into our property at many points around boundary of the site (two such waterways are pictured below, water ways on our property that have come from the proposed Solar Industrial site) and then carries on through our property to Ranfurly township.

I am so very worried about the risk of contaminated water running through our property and then into town.

The toxins released by this Solar Industrial complex will be in our water and soils forever, there will be no going back once they are leached.

The Ranfurly township will need to be evacuated forever, another Chernobyl. Are the Central Otago District Council willing to take this risk?



Cleaning and polishing solar panels to reduce degradation and increase efficiency directly releases these toxins into air, soil and water.

Both Central Otago District Council and Otago Regional Council have recently put down bores and capped them at the end of Ranfurly Back Rd to be used in the future for Ranfurly township supply. Are these two entities prepared to poison all the residents of the town? Us rate payers have already heavily invested in these tests bore holes that could benefit a whole community but you'd throw that away to approve a solar facility that only benefits two of your rate payers!



No matter where these solar panels are manufactured, by approval of a solar industrial complex the Central Otago District Council must be fully cognisant that the proposed Helios solar industrial complex at 48 Ranfurly-Naseby Rd, Ranfurly (RC 240065) will release cadmium, selenium, tellurium, indium, gallium and lead into soils, runoff waters, the water table and waterways during operation and from dumping panels at the end of their working life.

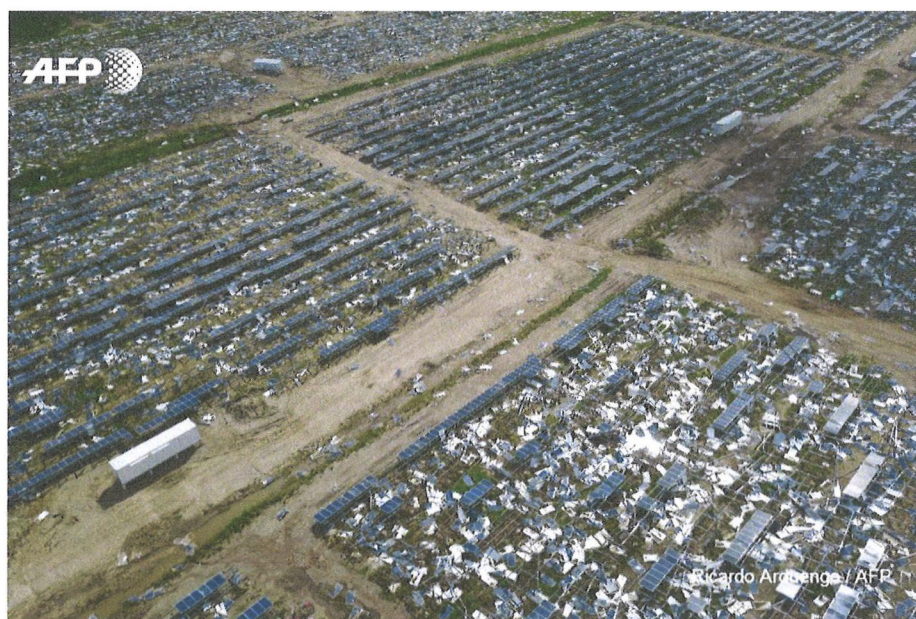
Such contamination by toxins would not take place during construction and hence is not covered by the Contaminated Soils Management Plan.

It has been known for decades from public access scientific literature that cadmium, selenium, tellurium, indium, gallium and lead are highly toxic for humans and animals, have a long residence time in soils, plants and water and are cumulative toxins.

Then potential effects on human health from toxic metals and metalloids from solar panels is well documented in the scientific literature.

There are now tried-and-proven geochemical techniques used to prove the origin of toxic heavy metal contamination and these have been tested in Courts in numerous jurisdictions.

Decommissioning – It has been well documented overseas that once these solar industrial complexes reach the end of their life span which is proving shorter than first thought, an average of about 25 years is thought to be the norm, the companies that currently own them, just declare themselves bankrupt and simply walk away. The companies that start these projects are very rarely there at the end. So many promises are made in the Helios proposal to restore the farm land back to its original state. I would suggest that this will NEVER happen and if any form of leaching of chemicals has occurred, then this now productive farmland will be left useless. New Zealand cannot afford to lose any more land that is productive for growing food. Is there a kitty put aside for decommissioning? How much is that kitty and who will look after it? We have had expert advice on this and in the current market, this Helios solar industrial proposal would cost around \$210 million to decommission. So, do we think this will happen??? Perhaps the Central Otago District Council should hold this amount in an account from the Day construction starts. If Helios are hell bent on sticking to their promises, then they would have no issue with putting that money aside with the Council. It would be a show of good faith on their behalf and a commitment to the land owners, community and neighbours. I am deeply concerned that my family in the future, my sons and their children will have to live beside a toxic, industrial wasteland.



The International Renewable Energy Agency estimated that 80 million tonnes of solar panel waste will be dumped by 2050 and that this waste is not recycled.

It says in the proposal that at end of life the solar panels will be removed and recycled (xxxix).

There is currently no effective recycling or waste disposal mechanism for solar panels and they are normally dumped as landfill which is regarded as industry best practise. Solar panels were previously shipped to Third World countries for partial recycling and dumping and many countries are now showing increasing resistance to being the repository for Western World toxic waste (xi).

The Decommissioning Plan does not include toxins released from dumped solar panels into soils and water and toxins released during operation to produce resitate toxins left in soils and vegetation at the solar industrial complex and toxins in water and land off-site affected by runoff and soakage hence it is unlikely whether the land could be rehabilitated into that which is safe and suitable for subsequent land use.

Dumped solar panels release carcinogenic cadmium compounds and lead into the soils and waterways after only a few months, for example, by rainwater.



Property values – It is well documented that properties beside these solar industrial complexes decrease in value. Farming is already a struggle and if our insurance premiums are to rise due to the increase in public liability insurance we would need, then we are no longer a financially viable unit and nobody will want to buy our property either. Everything we have worked hard for over the four generations to secure futures for our Crossan family, will be lost. The Crossan family have made so many memories at this property, so many sacrifices have been made to improve our land. The Crossan family have worked so hard to build up the farm we have today. This land means so much to the Crossan family and this Solar Industrial Complex would more than likely take that all away. Three of the four generations of Crossan's to farm this property are pictured below.



Solar heat Island – There is nothing in the proposal that has investigated or explored the effect of Heat Island or long exposure to light created by solar panels on the life cycle or reproductive cycle of stock and bird life. We have concerns also that this heat island effect will dry up water resources and the water that runs into our property will be diminished.

We are concerned that this solar industrial complex will have adverse effects on our breeding animals and therefore our livelihood is at risk. There is nothing in the proposal that looks at how large-scale solar installations affect the life and breeding cycles of animals.

Electromagnetic radiation produced by solar panels have cancer causing health effects and authorities advise relocating at least 2kms away, not something the Crossan family has the ability to do. Where is Helios research into this in their proposal?

Flaws in the plan. 32 Tesla Megapacks OR maybe something else. If the Central Otago District Council grant consent for this solar industrial complex at 48 Ranfurly-Naseby Rd, Ranfurly (RC 240065), you will be granting Helios to build whatever they want as their plan is not detailed enough to be able to ever contest what they finally erect.

There is no actual plan for the layout of solar panels.

There is no actual plan for the substation (the picture on the proposal is just a generic substation similar in size to the proposed one).

There is no detailed plan of the unground 220KV cabling system that they propose to take power form the site of the Naseby substation. The Central Otago District Council needs to look into the viability of using 220KV cable they have in their proposal. Have a look at how many applications have used this type of cable and who in New Zealand has the expertise to instal and maintain it. If the cost of using this cable is unviable, will the Central Otago District Council hold Helios to their promise to use this cable underground or will they just be rolled into allowing Helios to carry on with their project and instal huge towers and cabling overhead as a cheaper alternative?

Has anyone at the Central Otago District Council looked into the viability of Helios Glint and Glare report, what is it modelled on??? There is no actual plan of the solar panels on the site so how can they come up with this report? The report says that there will be times of glare to road users along quite a few roads and Highways in the area but my main concern is our road, Ranfurly Back Rd, but the report says that because it's not a commonly used road, that's OK. Our two teenage sons have just started driving and my biggest fear is them coming around a corner and getting glare (as stated in Glint and Glare study - equivalent to looking directly at the sun) and my boys being blinded and having accidents.

Summary

There is absolutely no benefit to me from having this solar industrial complex on my doorstep, there are only negatives and so many that can never be mitigated.

There is absolutely no benefit from having this solar industrial complex in our community.

I have massive fears for the health of my family, my horses, our animals and our neighbours.

I have so many fears for our community. The Maniototo is well known for its majestic scenery and this is what attracts visitors to our area. These visitors contribute so much to the economy of the area and I absolutely believe that having a large-scale industrial complex in the middle of our Valley will decrease the visitor numbers.

I cannot support a proposal from a company that have told us so many lies. They have absolutely no regards for our family and the effects this Solar Industrial Complex will have on us. They have never visited our property and they don't have to live anywhere near it. They contacted us (the most affected neighbour to their proposal) just a few days before they had their poorly advertised drop-in session at the Maniototo Golf Club to let us know about the proposal.

Sarah Brooks of Helios told us at the drop-in session (held at Maniototo Golf Club on 5th October 2023) that she would email us the Glint and Glare report once she was back at the office.

I had to send a follow up email on 11th November 2023, and still no Glint and Glare report was provided.

On the 12th November 2023 Sarah Brooks of Helios replied to say that when the reports were available, she would visit and share them with us.

On the 12th November 2023 I emailed her back and said just send us what she had said she would at the drop-in session.

On the 15th November 2023 Sarah Brooks of Helios replied to me and sent through some extracts from a report that was just generic Glint and Glare terminology and she clearly states in her email that "the actual Glint and Glare study was not yet complete."

On the 15th of March 2024 Sarah Brooks emailed through the Mitigation Planting Plan but no Glint and Glare study.

On 26th of March 2024 I again requested the Glint and Glare report.

On 27th March 2024 – The day the Resource Application was lodged, Sarah Brooks of Helios finally emailed me through the Landscape Assessment and the Finalised Glint and Glare Study for 'Naseby Solar Farm' completed by N.Logan of ITP Renewables (Australia) which was dated 26/9/23!!!

Just more proof of the deceiving and lies that this company Helios has employed to try and push this project through without restriction and in an effort to limit the time we had to research and digest any of the information provided.

This was again proven by the timing they gave us to get submissions in, one week before Christmas, more proof of how little they care about anything other than pushing their project through with as little kick back from the Community as possible.

Helios' initial application stated "There is no special circumstances that warrant public notification under section 95A because none of the circumstances of the application are exceptional or unusual".

So Helios didn't even want the Community to have any involvement or choice in this matter. I think building one of the largest solar industrial complexes in the Southern Hemisphere might be a little unusual, don't you?

Helios at their drop-in session told us that there would be no overhead lines, everything would be underground which I would suggest is highly unlikely to happen and instead the sky will be littered with massive tower lines.

Sarah Brooks of Helios told us at the drop-in session that the price of our power would go down, just another lie.

Helios told us at their drop-in session that there was likely to be 2 container sized BESS and their original draft proposal just mentions that there will be BESS, it doesn't mention how many. It was only until the finalised consent application did, they mention the 32 megapacks of BESS. Maybe they thought that nobody would notice the increase from 2 to 32?

This company or companies (they have so many) including one of their investors 'Black Rock' cannot be trusted to deliver on their promises and therefore their resource consent application should never be approved.

The Central Otago District Council have a duty to protect their rate payers and uphold the regional identity and values that you have outlined in your website. "Central Otago landscapes, seasons, people, product and experience, together we must celebrate and look after it. Its up to each of us to protect this World of difference – a life of involvement or generations of regret".

Don't be a member of this Council who has to live with the regret of allowing this project to go ahead.

References

xx – www.irishdraught.org/rare-status-conservation

xxx – Plimer, Ian 2019: The climate change delusion and the great energy ripoff. Brisbane: Connor Court

xxxi – Solar energy firms leave waste behind in China. Washington Post, 9th March 2008.

xxxiii – China uses Uyghur forced labour to make solar panels, says report. BBC News, 14th May 2021.

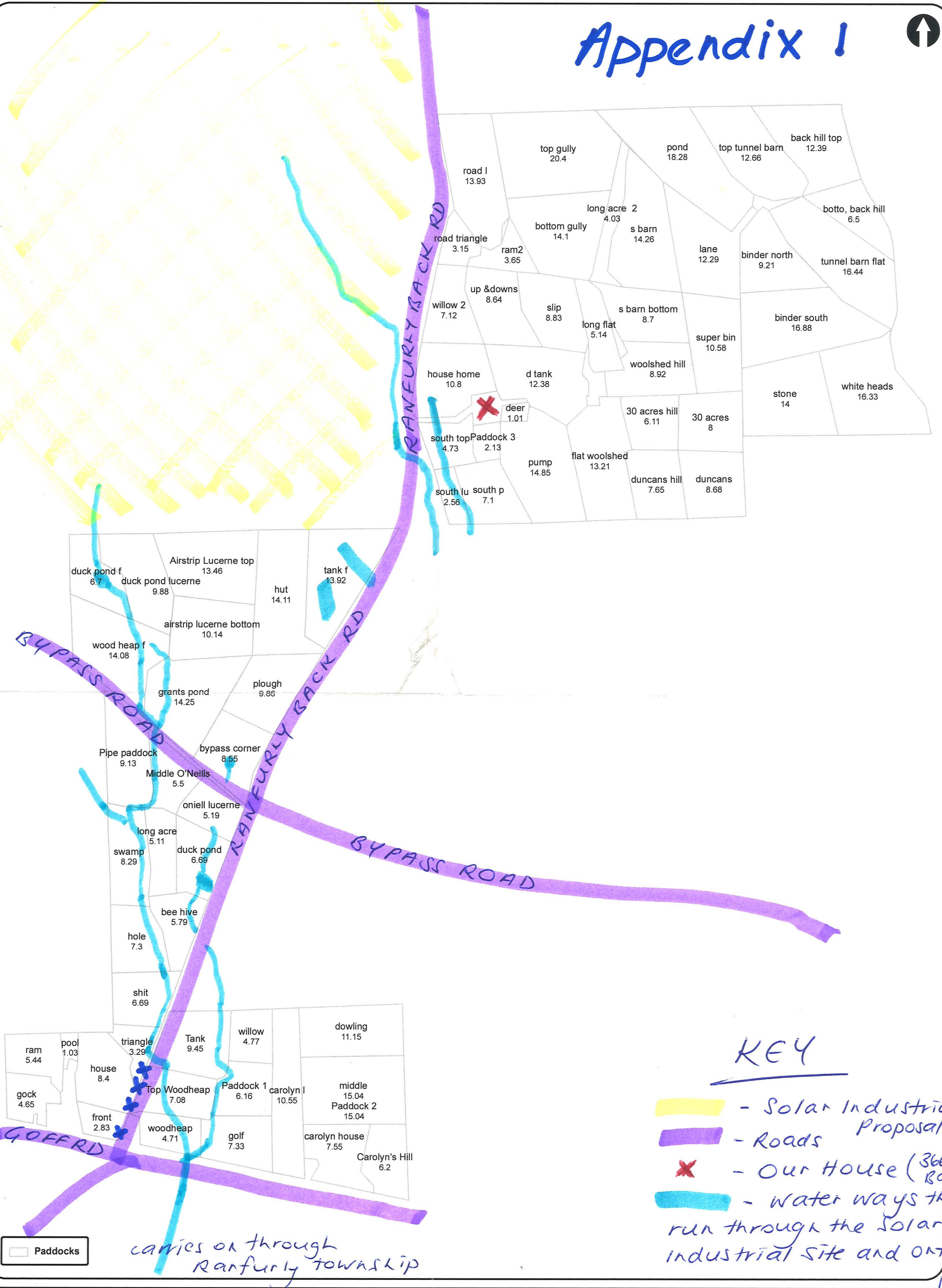
xxxvii – Carwenka, E.A. & Cooper, W.C. 1961: Toxicology of selenium and tellurium and their compounds. Archiv. Envir. Health 3, 189-200.

xxxviii – Doj, R. et al. 2010. Selenium: Its role in livestock, health and productivity. J. Agric. Envir. 11, 101-106.

xxxix – End-of-life management: Solar Photovoltaic Panels; <https://www.irena.org>

xl – The dark side of solar power. Harvard Business review, 18th June 2021.

Appendix 1



KEY

- Solar Industrial Proposal Site
- Roads
- Our House (366 Ranfurly Back Rd)
- water ways that run through the Solar industrial site and onto our property
- Test bores for Ranfurly water supply

carries on through Ranfurly township

