

DATE: 9TH OCT 2023

FROM: Carolyn Emms,

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I OBJECT TO HUMELINK

HumeLink – I object to the following proposal that will affect:

Wagga Wagga City, Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley, Upper Lachlan Shire

I strongly oppose the proposed major state infrastructure that is proposed for many reasons, far too many to mention.

THIS PROPOSAL IS AN INFRASTRUCTURE TSUMAMI

Australians would be appalled if they knew that vast landscapes will be severely impacted if this major expensive infrastructure goes ahead when there are other alternatives such as nuclear that can and should be considered. This costly large-scale infrastructure would not then be required.

Not only do the suite of proposals directly impact on high-value old-growth and threatened moist eucalypt forest types, but they will also substantially contribute to the extinction crisis facing many of the animal species that are restricted to that narrow, vulnerable, nationally important geographic feature. I fully expect the burgeoning transmission lines, solar and wind farm industry to be listed as an EPBC Threatening Process for a number of threatened wildlife species within the next 5 years, as science catches up with this juggernaut.

I am very concerned about the environmental impacts to Australia's fragile ecosystems, prime agriculture and the social license.

The following impacts as stated in the EIS will have major cumulative affects that can never be reversed.

: • five threatened ecological communities listed under the Biodiversity Conservation Act 2016 (BC Act), two of which are also listed under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

- 58 threatened flora species comprising: – 38 species listed under the BC Act and EPBC Act – 18 species listed under the BC Act – Two species listed under the EPBC Act – 11 critically endangered species under the BC Act and/or EPBC Act

- 33 threatened fauna species (12 bird, 11 mammal (including three bats), three reptile, five amphibian and two insect) comprising: – 18 species listed under the BC Act and the EPBC Act – 15 species listed under the BC Act – 13 critically endangered or endangered species under the BC Act and/or EPBC Act

- two endangered fauna populations listed under the BC Act. Not all threatened flora and fauna species identified as impacted have been recorded within the project footprint. Fifty-

five threatened flora species and 17 threatened fauna species have been assumed present due to the presence of suitable habitat within the project footprint and survey limitations. The project also has the potential for indirect impacts including:

- impacts on adjacent habitat or vegetation from sedimentation and erosion and inadvertent clearing or movements
 - reduced viability of adjacent habitat due to noise, dust, or light
 - transport of weeds and pathogens from the site to adjacent vegetation
 - reduced access to food and loss of shade or shelter from the modified vegetation, which may impact resident fauna species
 - loss of breeding habitat such as large old growth trees, hollows, stick nests, drays and fallen timber
 - trampling of threatened flora species
 - removal and disturbance of rocks, including bush rock, which could impact habitat for small terrestrial fauna
 - increase in pest animal populations and predation of native fauna.
- Transgrid | HumeLink
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- Based on conservative assumptions and assumed presence for some species, the project could impact threatened ecological communities and species at risk of serious and irreversible impacts (SRI) as defined by the Biodiversity Conservation Regulation 2017. Four ecological communities, five flora species and three fauna species at risk of SRI were considered to have a moderate or higher likelihood of impact. Eighteen flora species and five fauna species at risk of SRI were considered to have limited potential to be impacted. Based on the potential extent of biodiversity impacts and likelihood of presence, 34 EPBC Act listed communities and species were identified as likely to be significantly impacted or have potential for significant impacts. This comprised:
- one ecological community, four flora species, 14 fauna species and five migratory species with potential or likely significant impacts based on sufficient information being available to enable an informed decision
 - one ecological community, six flora species, two fauna species and one migratory species with potential significant impacts based on a precautionary approach (eg where there is limited survey coverage). Aquatic species and habitats may be impacted during construction as a result of:
 - installation of waterway crossings for access tracks, which has potential to impact key fish habitat or threatened aquatic species
 - construction activities directly impacting riparian vegetation or waterway banks
 - construction activities impacting water quality from excess runoff, sedimentation, or accidental spills if inappropriately managed
 - construction plant and machinery introducing aquatic pests and disease if inappropriately managed. Construction of the project is unlikely to pose a significant risk to groundwater dependent ecosystems as:
 - there are no groundwater dependent ecosystems close to substation locations
- transmission line structure construction would only require a relatively small area to be impacted at each location, which is unlikely to restrict groundwater or alter water quality. With the implementation of mitigation measures, impacts on aquatic species and habitats are anticipated to be short-term and limited in extent. Significant impacts on threatened aquatic species and communities listed under the Fisheries Management Act 1994 and EPBC Act are unlikely. During detailed design and construction planning, potential biodiversity impacts would be avoided and/or minimised where practicable and in accordance with mitigation measures included in the EIS. This would include minimising the indicative

disturbance area and reducing vegetation clearance where practicable. A Biodiversity Management Plan would be prepared as part of the Construction Environmental Management Plan (CEMP), which would include a process for implementing, evaluating and reporting on mitigation measures for biodiversity impacts during construction. The Biodiversity Management Plan would be complemented by a Connectivity Strategy, Soil and Water Management Plan and Erosion and Sediment Control Plan to further manage potential impacts. In addition, biodiversity surveys will be undertaken in areas that were not previously accessible and where impacts have been conservatively assessed. Residual biodiversity impacts would be offset in accordance with Biodiversity Assessment Method (BAM) calculations for both ecosystem and species credits and through implementation of the Biodiversity Offset Strategy for the project. The strategy proposes a combination of offset options, including establishing Biodiversity Stewardship Site(s), the purchase and retirement of existing biodiversity credits and/or making a payment into the Biodiversity Conservation Fund. Operational impacts and management Potential direct impacts to native vegetation and threatened species habitat during operation could occur through ongoing vegetation management to maintain vegetation clearances and asset protection zones (for safety reasons and to reduce risk of bushfire). These direct impacts have been included in the clearing estimates for construction (refer to Table 1). Some indirect impacts may also occur during operation associated with:

- reduced viability of remaining habitat due to new forest edges and fragmented vegetation
- changed bushfire risk to surrounding vegetation and EMF exposure to native fauna, however these risks would largely be avoided through design and management practices
- fauna collision, entanglement or electrocution with transmission lines. Potential impacts during operation to BC Act and/or EPBC Act listed ecological communities and species including those at risk of SAIL are related to the increased fragmentation and/or loss of habitat connectivity. The project may alter connectivity or increase fragmentation of the remaining areas of White Box-Yellow Box-Blakely's Red Gum Grassy Box Woodland and Derived Native Grassland and Tableland Basalt Forest threatened ecological communities. This potential impact would be managed through preparing and implementing a Connectivity Strategy, which would identify the connectivity corridors required for fauna movement. Potential impacts to aquatic species and habitats during operation would generally be limited to changes to waterways from waterway crossings and water quality impacts from sedimentation or accidental spills. However, given habitat for threatened aquatic species within the project footprint is generally in poor condition and mitigation measures would be implemented, impacts to aquatic species and habitats would be limited. Operation of the project is unlikely to pose a significant risk to groundwater dependent ecosystems.

The rapid rollout of renewables is looking to make climate change worse:

A rapid rollout of renewables in these regions will have no demonstrable effect in helping protect these communities from climate change. These regions contribute a meagre proportion of emissions globally and is most likely has overall net carbon uptake despite land clearing & urbanisation, most likely related to low population density compared to the rest of the world, and low industrial carbon emissions. Despite trillions \$ being spent worldwide on renewables, CO2 concentrations are still increasing dramatically and whatever happens in Australia will rationally have no significant effect on that.

In fact, solar energy when used in large scale solar farms has a pronounced heat island effect, increasing night-time temperatures 3-4 degrees in surrounding wildlands, research has shown. This heat island effect will affect these communities and ecological communities and agriculture far more than any supposed emissions reductions from solar. In addition, emissions reductions are spurious and the emissions of production are consistently underestimated, especially if the panels are made in China. Chinese grids' high reliance on coal means that the emissions are around three to five times what is reported. It has been calculated that solar's emissions are as high as 170-250g CO₂/kWh if made in China, including attribution for albedo effects. And if emissions include other necessary infrastructure such as batteries and substations & HV connectors, the real emissions are likely to be much higher again. And it is also convention to calculate the emissions of renewables by assuming the renewables are at end of life, having already delivered their lifetime output. Obviously such emissions calculations only become true at end of life, but during the preceding years, emissions are always higher, initially much higher - multiples of that - in the first half of their lifespan.

Because of wind & solar's low energy density and high land area requirements there is no way that such a rollout cannot have profound effects on ecosystems and biodiversity, as well as productive agricultural land, regardless of what you happen to believe. This is not about faith but indisputable reality. The ecosystems effects (destruction & fragmentation) negate any supposed emissions reductions that wind & solar might have.

And don't forget, solar & wind farms prevent any carbon uptake which might have otherwise occurred if the land had been left as it was. If the land had been rewilded, the carbon uptake would have been even more considerable. I'm at a loss as to why the protectors of nature, QCC are not advocating for that, but instead more mining, charcoal production, coal mining, industry, and loss of carbon uptake. (Both coal mining & felling trees for charcoal are necessary for solar panel production).

Regardless of what you choose to believe about the effects of solar panels on CO₂ emissions, they have absolutely no effect on CH₄ and N₂O emissions, and may make SF₆ emissions worse. These are all potent greenhouse gasses and have a significant upwards trajectories too.

There is some doubt as to what the management is of grasses and other plants that grow amongst the solar panels once installed? If they are left to grow, they may grow tall enough to obstruct sunlight, and pose a fire hazard in the dry season. If they are poisoned, that certainly may cause considerable ecological harm and the herbicides may enter watercourses which they poison, and will cause harm to the Waterways. In addition, killing vegetation will cause worsening erosion & sedimentation, and also affect watercourses and our rivers. So which is it? The adverse ecological effects of industrialisation of ecosystems and farmland are inescapable and inevitable.

"I object strongly to this project on the unassailable solid engineering based ground that solar and wind generation cannot under any circumstances provide steady reliable power to

a power grid. The inherent capacity factor averages around 30% and there is no known or potential generation technology anywhere in the world that can provide adequate fill-in generation for solar and wind systems, except coal, gas or nuclear based systems. Accordingly these system should not be built at huge expense to the public purse followed by vast ecological [SEP]destruction during building and subsequently when these systems fail and hardware has to be disposed of.[SEP][SEP]Secondly I object strongly to these systems based upon the fact that they rely on mining by child slave labour in under-developed countries.[SEP]Australia should NOT support such reprehensible actions.

"This whole Renewable Con can be exposed with a couple of basic technical questions:

1. How do you propose to provide reliable fill-in power generation when the average capacity factor of wind and solar systems CANNOT exceed approximately 30%?
2. If your answer is storage (any and all forms) how do you propose to re-charge spent storage facilities on a cloudy windless morning? (which could last for days or weeks)
3. What is the REAL cost of solar and wind systems - which MUST include ALL peripheral establishment and operational costs, that is : " manufacturing, transport, ALL subsidies, fill-in generation by whatever means, construction, land reclamation, disposal and treatment of toxic fail units, recycling of battery materials, grid batteries (that are useless for storage), Transmission Lines ...the list goes on BUT MUST include ALL costs for a realistic estimate."

Evidence shows that the sedimentation and waste of large-scale solar developments such as this proposal is unethical. The next generation of farmers, conservationists or housing developers may well be faced with the greatest challenge of having to manage the potential contamination of the soil, industrial waste, broken down toxic particles including above and below ground pollution.

<https://www.theguardian.com/us-news/2023/may/21/solar-farms-energy-power-california-mojave-desert>

The public are perhaps uninformed that these renewable projects are ruining the lives of those who grow our food, ruining prime agriculture land and decimating pristine habitat. Our energy grid needs firm and reliable power."

CHANGE OF LAND USE:

It is disturbing that decision-makers ignore the most serious concern that most community members would share

A rural farming landscape is attractive to visitors to regional areas around Australia. Rural farms to heavy industrial use is a completely different change of land use, which consolidates our concerns that this destructive proposal must not go ahead.

A more realistic and genuinely sustainable approach would be to design a national power grid that best serves the long-term needs of this developing nation and that identifies nodes and methods of power generation that genuinely address the short-term priorities for a rapid move away from coal and gas-fired power generation and a reduction in greenhouse gas emissions with minimal impact on the natural environment and maximum benefit to regional communities. The evolving fast track renewable energy falls very short of that vision, at this time.

Yours sincerely,

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