

17 November 2021

Kapuni Green Hydrogen Expert Consenting Panel
C/O – June Cahill
Project Lead – Kapuni Green Hydrogen Project
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Dear June,

COVID-19 Recovery (Fast-track Consenting) Act 2020 Kapuni Green Hydrogen by Hiringa Energy Limited and Ballance Agri-Nutrients – Director-General Comments on Draft Conditions

Thank you for the opportunity to provide comment (under Schedule 6, clause 36(1)(b)) on the draft conditions for the Kapuni Hydrogen, Hiringa Energy Limited and Balance Agri-Nutrients application.

The Director-General previously raised concerns with potential adverse effects on lizards and avifauna. The applicant responded to these concerns and sought to include new conditions relating to managing the effects on lizards, but did not consider that effects on avifauna required conditions relating to bird collision monitoring to be included.

Department staff have reviewed the proposed conditions and propose some amendments to the conditions managing lizard effects. It is also the view of Department staff that bird monitoring should occur at this site. The proposed amendments and new conditions are discussed below. Additions are underlined and deletions with ~~strikethrough~~.

Lizard Monitoring

I seek that conditions (73) and (74) are amended as follows:

Condition (73)

Upon finalisation of infrastructure plans and associated extents and locations of ~~hedgerow and riparian planting~~ vegetation clearance (including associated grassland), a lizard survey must be conducted in these clearance areas including the earthworks footprint by a suitably qualified and experienced ~~ecologist~~ herpetologist prior to works commencing. The lizard survey report shall be provided to the Department of Conservation and the Group Manager – Environmental Services, South Taranaki District Council.

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Condition (74)

If indigenous lizards are detected during the lizard survey outlined in Condition 73, then a Lizard Management Plan (LMP) must be prepared by a suitably qualified and experienced herpetologist to minimise effects of the project, including the project footprint, on indigenous lizards and lizard habitat. The LMP shall identify actions to avoid, remedy or mitigate and/ or compensate the actual and potential effects on lizards and lizard habitat and outline any contingency plans and monitoring and reporting requirements. The LMP shall demonstrate consistency with the requirements of any Wildlife Act Authorisation issued for the project. The LMP must be submitted to the Department of Conservation and Group Manager – Environmental Services, South Taranaki District Council at least 20 working days prior to the commencement of works. The LMP must include (but is not restricted to) the following:

- (a) An assessment of indigenous lizards present within the site;*
- (b) Methods and timing for lizard salvage and relocation, or a description of alternative mitigation measures if the project herpetologist considers salvage to be unsuitable. This ~~should~~ must be determined in consultation with the Department of Conservation;*
- (c) Identification of an appropriate relocation site/s (if lizard salvage and relocation is being conducted) and measures to enhance the habitat quality of the relocation site (or sites) for lizards prior to relocation, such as habitat enhancement or pest control; and*
- (d) Any ongoing management requirements, such as post-release monitoring or pest control.*

Advice note: To survey, capture, relocate, or otherwise disturb lizards, a Wildlife Act Authority (“permit”) must be obtained from the Department of Conservation.

Avifauna

The applicant’s response to comments included a Statement of Evidence from Mr Fuller, and independent peer review from Dr John Craig. These both concluded ‘*that based on the collision risk to migrant birds, post-construction monitoring is not justified*’. These conclusions appear to be largely based on field work undertaken by the applicant.

I have asked Department technical staff to review Mr Fuller and Dr Craig’s response to my original comments. Overall, there was a unanimous view that bird monitoring should occur at this site to detect any adverse effects on birds (particularly migratory birds) at this site. It was the view of technical experts, that not undertaking bird collision monitoring would mean that if more than minor adverse effects were to occur on birds, appropriate mitigation could not be carried out.

In Mr Fuller’s statement, he does not consider that my request for the post-construction bird collision monitoring is a reasonable position, it appears that his view stems from my comment around ‘*not all pathways being known*’.

There is new research using GPS tags on South Island Pied Oystercatcher (SIPO) which is led by DOC and Landcare Research. This research shows the area around this proposed windfarm has SIPO regularly passing through, and shows that this area is a migratory pathway, despite the conclusions of the applicant and the peer reviewer. Data has only been processed for northward migration so far, not the southward migration (I note that the applicant has only considered adverse effects could happen in a northward migration).

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These SIPO GPS studies indicate that the majority of SIPO pass over this area at night on their northward migration. Given the applicant undertook field surveys in the morning, they would only ever have been able to detect a minority of any migrating birds passing over this site. While the applicant did have recorders out overnight, SIPO flying overhead would only have been detected for a few minutes as they flew past the recorders, and if they had called during these few minutes. If the SIPO didn't call during this time, then they wouldn't be detectable, meaning that the applicant would not know they were there. We don't know the frequency of SIPO calling during migration, but if they have periods of at least several minutes where they don't call, then they could pass through the site at night undetected.

Noting the above information, we can't say with certainty the extent to which SIPO pass through this area during their southward migration – however it is my view that there is sufficient information to determine that some do.

The applicant surveyed birds for 10 mornings at the site during the northward migration period only, for a total of 200 minutes per morning. The SIPO GPS studies have shown the northern migration occurred over 50 days (29 Dec to 16 February), meaning that the applicant surveyed 20% of the total northward migration period. This total observational survey period of approximately 33 hours represents approximately 3% of the total time during which this northward migration could have taken place (and approx. 1.5% of the total annual migration period). It is acknowledged that the applicant did choose a good time to do the 10-day survey, as it is near the middle of the known northward migration period. However, it is still uncertain if this 10-day period represents the peak migratory time (i.e. the percentage of migrating SIPO this 10-day period represents), or if the time of day also coincides with a peak of flying activity over this site. Even though only one SIPO was observed to fly directly over the site, 3 flocks (of up to 20 birds) were observed 400m to 2.2km away from the site, and all within the rotor-swept area of the proposed turbines. Migratory species do not follow exactly the same pathway every year, so any birds migrating over this flat landscape has the potential to fly directly through the proposed windfarm site in any annual migratory flight.

In addition, there are other species (e.g. wrybill, banded dotterel) the applicant has acknowledged may also migrate through this area. There have been no GPS studies on these populations, so there is little to no data regarding the precise movements of these birds. Therefore, the collision risk to these birds is largely unknown and is only speculated upon by the applicant. It is quite possible they are incorrect regarding migratory species – as the recent GPS data indicates they have been for SIPO. Even a relatively low number of collisions are regarded as having an adverse effect on the population of these species, including cumulative impacts via inter-generational productivity losses (see proposed table below).

Given the above, it is my view that a robust monitoring programme tied to thresholds and mitigation measures will ensure any adverse effects that are more than minor can be determined and sufficiently mitigated.

I propose that new conditions are included covering the following:

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Bird Collision Monitoring Plan (BCMP)

- A. A Bird Collision Monitoring Plan (BCMP) will be developed by a suitably experienced and qualified avian expert and a suitably qualified bio-statistician, and shall provide for the following objective:
- i. Measure the rates of bird mortality from collisions at the Kapuni Green Hydrogen site
- B. In order to achieve the objective established in Condition A above, the BCMP shall describe the methods for recording the frequency of collisions resulting in mortality for all bird species. These methods shall be statistically robust and include, but not be limited to, the following:
- i. Calculating the probability and rate of bird carcass loss to scavengers, decomposition and other causes, taking into account temporal, environmental and other sources of variation;
 - ii. Calculating the probability of carcass detection by searchers, which may include searching assisted by suitably-trained dogs, taking into account temporal, environmental, searcher identity and other sources of variation;
 - iii. A data collection and analysis regime specifying the timing, location and duration of monitoring at a statistically derived number of turbines. The purpose of the data collection and analysis regime is to ensure that a reliable estimate of bird strike mortality at all turbines;
 - iv. Methods to account for carcass loss and detection probability when estimating rates of mortality across the Kapuni Green Hydrogen site;
 - v. Methods to accurately record the condition (partial, full or feather spot) and cause of death; and
 - vi. Methods to record, and electronically store, audit and backup data.
- C. In addition to the requirements specified in Condition B, the BCMP shall:
- i. Specify that all carcasses found within the project site boundaries shall be labelled with a unique number, bagged and frozen for future reference and possible necropsy of native species by a trained veterinarian, to determine cause of death, when this is not apparent. A copy of the associated data sheet for each carcass will be replicated, bagged and frozen with the carcass at all times. All carcass shall be photographed as found and mapped using GPS location on a detailed map of the search area showing the location of the wind turbines and associated facilities;
 - ii. Identify additional measures that may be implemented by the consent holder in order to avoid, remedy, mitigate and / or compensate for the potential adverse effects of the Kapuni Green Hydrogen site on bird species in the event that the bird mortality for any individual species listed in Condition G equals or exceeds the Mitigation Review Threshold for the individual species; and
 - iii. Specify the methodology that will be utilised to identify applicable turbines for the purpose of Condition 93(b) below.
- D. As part of the certification of the BCMP in accordance with Condition A above, the Group Manager – Environmental Services, South Taranaki District Council may seek advice and comment from the Department of Conservation on the appropriateness of the methods proposed by the consent holder to achieve the objective of the BCMP.

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Bird Collision Monitoring

- E. Bird collision monitoring shall commence immediately following the date any wind turbine first generates electricity and continue for a period of ten years (or until an alternative date as determined by the Group Manager – Environmental Services, South Taranaki District Council) and at the frequencies specified in the BCMP.
- F. A biostatistician shall determine the required level of monitoring to be able to determine the number of birds of each migratory species that are killed by the proposed windfarm for each migratory flights (i.e. both northward and southward migrations), taking into account annual variability.
- G. Mitigation Review thresholds and Immediate Review Thresholds for each species shall be as follows:

<u>Species</u>	<u>Conservation Status</u>	<u>Mitigation Review Threshold (based on a 3-year rolling annual mean of bird mortality)</u>	<u>Immediate Review Threshold (based on actual bird mortality recorded over a 12-month period between 1 June and 31 May)</u>
<u>Nationally Critical or Nationally Endangered Species</u>			
<u>Australasian bittern</u>	<u>Critical</u>	<u>n/a</u>	<u>1</u>
<u>Any other Nationally Critical or Nationally Endangered species</u>	<u>-</u>	<u>0.5</u>	<u>2</u>
<u>Nationally Vulnerable Species</u>			
<u>Lesser Knot</u>	<u>Vulnerable</u>	<u>2</u>	<u>5</u>
<u>Banded dotterel</u>	<u>Vulnerable</u>	<u>2</u>	<u>5</u>
<u>Wrybill</u>	<u>Vulnerable</u>	<u>2</u>	<u>5</u>
<u>Any other Nationally Vulnerable species</u>	<u>-</u>	<u>2</u>	<u>5</u>
<u>At Risk or other species</u>			
<u>Red-billed gull</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>New Zealand pipit</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Spotless crane</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Marsh crane</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Fernbird</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Banded rail</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Eastern bar-tailed godwit</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>Pied oystercatcher</u>	<u>Declining</u>	<u>5</u>	<u>10</u>
<u>New Zealand dabchick</u>	<u>Recovering</u>	<u>5</u>	<u>10</u>
<u>Pied shag</u>	<u>Recovering</u>	<u>5</u>	<u>10</u>
<u>Black shag</u>	<u>Naturally Uncommon</u>	<u>5</u>	<u>10</u>
<u>Australian coot</u>	<u>Naturally Uncommon</u>	<u>5</u>	<u>10</u>
<u>Little black shag</u>	<u>Naturally</u>	<u>5</u>	<u>10</u>

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	<u>Uncommon</u>		
<u>Any other At Risk or other Threatened species not listed</u>	-	<u>5</u>	<u>10</u>
<u>Any international migratory bird species that do not breed in New Zealand</u>	<u>Migrant</u>	<u>5</u>	<u>10</u>
<u>Note: the conservation status specified in Condition G is that stated in the most recent publications of "Conservation status of New Zealand Birds", New Zealand Threat Classification Series, Department of Conservation, Wellington.</u>			

- H. In the event that the conservation status of any of the individual bird species listed in Condition G changes as a result of an amendment to the New Zealand Threat Classification as published by the Department of Conservation, then the Mitigation Review Threshold and Immediate Review Threshold for the new, relevant threat classification shall apply.
- I. An annual monitoring report shall be jointly prepared by a suitable experienced and qualified avian expert and an independent suitably experienced and qualified bio-statistician and be provided to Group Manager – Environmental Services, South Taranaki District Council 20 working days of the anniversary of the commencement of bird collision monitoring. A copy of the annual monitoring report shall also be provided to the Department of Conservation. The annual monitoring report shall present, summarise and analyse the data collected in the preceding year and report on the operation of the Kapuni Green Hydrogen against the objective of the BCMP and the mortality thresholds for the individual species set out in condition G.
- J. If any species reaches the above threshold of dead birds conditions L and M shall apply.
- K. If these thresholds are reached in the first 3 years of monitoring, an additional 3 years of monitoring shall be undertaken in order to reduce the uncertainty of annual mortality rates for all species.
- L. Where thresholds are reached for New Zealand-based migratory birds (condition G), an annual compensation payment of \$25,000 (CPI adjusted from the date of grant of this resource consent) is to be provided to Ashburton River/ Hakatere Shorebird Management Programme from the commencement of the operation of Kapuni Green Hydrogen, and until such a time as the Kapuni Green Hydrogen site is decommissioned. The purpose of the contribution is to compensate for the mortality predictions of the individual species identified in Condition G, while also recognising the benefits of the contribution to other bird species. The consent holder shall provide written verification of the contribution to the Group Manager – Environmental Services, South Taranaki District Council within 10 working days of the payment being made to the programme annually.
- M. Where thresholds are reached for international migrants (condition G), then an annual payment of \$25,000 (CPI adjusted from the date of grant of this resource consent) is to be provided to Pūkorokoro Miranda Naturalists' Trust from the commencement of the operation of Kapuni Green Hydrogen, and until such a time as the Kapuni Green Hydrogen site is decommissioned. The purpose of the contribution is to compensate for the mortality predictions of the individual species identified in

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Condition G, while also recognising the benefits of the contribution to other bird species. The consent holder shall provide written verification of the contribution to the Group Manager – Environmental Services, South Taranaki District Council within 10 working days of the payment being made to the programme annually.

In terms of appropriate mitigation measures (if more than minor effects are detected for New Zealand-based migratory birds, as outlined in the above table – condition G), I consider that an annual compensation payment is provided to a suitable inland South Island braided river project that undertakes protection of breeding habitat for migratory birds. This payment is to ensure more migratory birds survive and successfully breed each breeding season, thereby reducing some cumulative impacts of any birds that are killed by this windfarm development.

If international migrants are killed at or above the above mentioned thresholds, then an annual compensation payment should be made to New Zealand-based groups that are contributing to the mitigation of adverse effects on the East Asian-Australasian flyway that affect these species (e.g. Pūkorokoro Miranda Naturalists' Trust).

If any New Zealand-based non-migratory birds are killed at or above the thresholds in the table, then annual payment should be made to an appropriate local or regional conservation group whereby this additional payment is sufficient to result in more of these species being produced annually than would otherwise have been produced by the group.

If you have any further questions, please feel to get in touch with Nardia Yozin (RMA Planner) on 027 205 3129 or via nyozin@doc.govt.nz.

Yours sincerely



Linda Kirk
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Acting pursuant to delegated authority