



09 April 2026

Environmental Protection Authority
Te Mana Rauhi Taiao
Private Bag 63002
Wellington 6140
Email:

Re: FTAA-2508-1097 - Response to Request for Further Information dated 12 March 2026

Lodestone Energy Limited (LEL) provides this response to the Request for Further Information dated 12 March 2026 relating to the Haldon Solar application.

This response is supported by the following technical documents:

- RMA Ecology - Haldon Solar Avifauna Effects Assessment (April 2026)
- Boffa Miskell - Landscape Mitigation Response Memorandum (April 2026)

These reports should be read together with this response.

Landscape (Question 1)

In response to Question 1(a), Lodestone confirms that the current Option to Lease with the landowner provides for the planting opportunity area within Conservation Zone 1, as illustrated in the material submitted.

The compensatory landscape planting area along the lakefront is not currently fully included within the Option to Lease, as this land sits within the proposed 200 m lake setback area. However, the landowner has confirmed their agreement in principle to include this additional compensatory planting area within the Option to Lease. This will be formalised through a minor amendment to the relevant schedule of the agreement.

A Memorandum prepared by Boffa Miskell is attached in response to Questions 1(b) and 1(c), which:

- Reassesses the effectiveness of the proposed planting in relation to screening and landscape character; and
- Provides an updated planting option, including additional shrubland planting to enhance visual separation from Haldon Arm Road.

Lodestone considers that the refined mitigation approach appropriately addresses the Panel's queries; and achieves a balanced outcome between ecological restoration, landscape character, and visual mitigation. Lodestone is therefore pleased to provide this refined option for the Panel's consideration.

Avifauna (Question 2)



RMA Ecology has prepared a revised avifauna effects assessment consistent with the EIANZ Ecological Impact Assessment Guidelines, incorporating:

- A species-specific assessment of collision risk for all Threatened and At Risk species recorded within the vicinity of the site;
- Consideration of flight behaviour, habitat use, and known movement patterns, including available GPS tracking data;
- A detailed review of solar panel technology, including the “lake effect hypothesis” and the relevance of modern PV systems (anti-reflective coatings and tracking panels);
- Assessment of collision and electrocution risks from ancillary infrastructure;
- Evaluation of habitat loss and ecological effects; and
- Description of the monitoring and adaptive management framework, including thresholds and response mechanisms.

The assessment concludes that:

- Potential effects on avifauna are generally low to moderate prior to mitigation, and
- Reduced to range from low to moderate to very low following mitigation, with any residual uncertainty addressed through adaptive management.

The assessment adopts a precautionary, effects-based methodology, reflecting the current limitations in available empirical data.

Approach to Information Gaps and Uncertainty

The Panel’s request seeks, in part, quantitative modelling and detailed empirical analysis of avifauna effects. As set out in the RMA Ecology assessment, there are material constraints on the availability of such data, including:

- Limited site-specific avifauna survey data;
- Limited high-resolution tracking data for most species; and
- A lack of New Zealand (and limited international) datasets for modern photovoltaic solar developments.

The following table summarises the key areas where the Panel has sought further quantitative detail, the information provided, and the reasons why certain analyses are not able to be fully undertaken.



Topic	Information Requested by Panel	Information Provided	Limitation / Omission	Reason
Species-specific collision risk	Quantitative collision probability modelling (incl. flight frequency, height, seasonal variation)	Species-specific qualitative and semi-quantitative risk assessment based on habitat, behaviour, and exposure pathways	No quantitative collision probability modelling	Lack of site-specific flight data and absence of comparable datasets for PV collision risk
Panel technology and design	Technical quantification of reflectance, polarisation effects, and collision reduction	Detailed literature review and assessment of modern PV technology (ARC, tracking, spacing)	Limited empirical quantification specific to proposed design	Limited international research on modern PV systems; legacy datasets not directly applicable
Infrastructure effects	Quantified collision and electrocution risk from infrastructure	Qualitative risk assessment with embedded mitigation (bird-safe design, visibility measures)	No quantified collision/electrocution rates	Lack of empirical datasets for comparable infrastructure in solar farm context
Population-level effects	Population viability analysis and mortality thresholds	Qualitative population context and precautionary trigger thresholds	No formal population modelling (PVA)	Insufficient demographic and mortality data for affected species
Adaptive management thresholds	Quantified performance standards linked to population outcomes	Defined trigger thresholds (including for Threatened species) and response framework	Limited ability to pre-define quantitative population thresholds	Uncertainty in baseline conditions and absence of established benchmarks
Avifauna Management Plan	Fully quantified and finalised plan	Detailed framework with monitoring, triggers, and mitigation measures	Final plan to be submitted 14 April 2026 alongside other management plans	To be finalised through Ecological Management Plan and informed by monitoring



Summary

Overall, the refined landscape mitigation measures respond directly to the Panel's queries and demonstrate that potential landscape and visual effects can be appropriately managed. The proposed approach achieves a balanced outcome that maintains the character of the Mackenzie Basin while providing effective mitigation and ecological enhancement.

The revised avifauna assessment demonstrates that, while some uncertainty remains due to inherent data limitations, potential effects are generally low and can be effectively managed through embedded mitigation and a robust adaptive management framework. This approach provides confidence that effects on Threatened and At Risk species will remain appropriately controlled and consistent with a no net loss outcome.

LEL remains available to provide further clarification if required.

Nāku noa, nā

Daniel Cunningham, GM Development
Lodestone Energy Limited