

LANDSCAPE AND VISUAL EFFECTS ASSESSMENT - PEER REVIEW

HALDON SOLAR PROJECT – LODESTONE ENERGY LIMITED

APPLICATION UNDER THE FAST-TRACK APPROVALS ACT [FTAA-2508-1097]

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2nd Februray 2026

INTRODUCTION

- 1 Lodestone Energy Limited proposes to construct and operate a solar farm for energy generation. The solar farm is to cover approximately 320ha adjacent to the northern arm of Lake Benmore between Haldon Road and Haldon Arm Road. The site is within the large farming property of Haldon Station. Consents are sought under the Fast-Track Approvals Act (**FTAA**).
- 2 The application includes a Landscape Effects Assessment Report prepared by Boffa Miskell Ltd dated 22 August 2025 (**the BM report**). I have been engaged by the Mackenzie District Council to peer review the BM report. In doing so, I have corresponded with the author of the BM report (Sue McManaway) to clarify queries. I have also taken note of comments and questions in the minutes of the Expert Panel, most relevantly Minute 1 of 5 December 2025, and have considered the Applicant's response comments to Minute 1 (response dated 12 December 2025).
- 3 The site and the proposal are described in Section 2 of the BM report and in the substantive application itself, including its various appendices¹.
- 4 The BM report sets out its approach and process in its Sections 1.2 and 1.3. The approach is comprehensive and appropriately has been guided by Te Tangi A Te Manu, Aotearoa New Zealand Landscape Assessment Guidelines (**TTatM**)². The BM report follows a clear and suitable structure.

¹ Lodestone Energy Limited, Haldon Solar Project, Application for Approvals under the Fast-Track Approvals Act, Mitchell Daysh, 29 August 2025.

² 'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines'. Tuia Pita Ora New Zealand Institute of Landscape Architects, July 2022 (**TTatM**).

- 5 This peer review has similarly been guided by TTatM. This report appraises the BM report and is not a parallel assessment³. I give review comments on the methodology, completeness, plausibility, findings and conclusions of the BM report. Rather than repeat any content of the BM report, I focus on areas of uncertainty or where I consider that I can make useful additional comments. I generally use the headings of the BM report as a structure to my review comments.
- 6 As part of my peer review, I visited the vicinity of the site on 20 January 2026. I visited the various public locations that are discussed in the BM report. I did not visit private land but considered the private viewpoints discussed in the BM report from nearby public locations.
- 7 For completeness, I note that I am no relation to Dr Peter Espie of Ag Science Limited.

RELEVANT PLANNING FRAMEWORK

- 8 Section 3 of the BM report discusses the relevant parts of the RMA, Canterbury Regional Policy Statement and the Mackenzie District Plan (EPlan version) and notes that the District Plan provisions (particularly those of the Natural Features and Landscape chapter) “*provide guidance as to the outcomes expected regarding rural character and amenity, outstanding natural landscapes and the natural processes and elements which contribute to the district’s overall character and amenity*”⁴.
- 9 I agree with the above but also note that the Renewable Electricity Generation (**REG**) chapter of the District Plan is designed to be a stand-alone suite of provisions that deal with renewable electricity generation without the need to refer to other chapters of the District Plan (except where specified)⁵. The REG chapter is a result of Stage 3 of the District Plan Review and I understand that it is no longer subject to any appeals and is operative. Taking direction from the REG chapter, it is my interpretation that renewable electricity generation is now more anticipated in the Mackenzie Basin that it would be if we did not consider the REG chapter and instead, placed emphasis on the Natural Features and Landscape Chapter.
- 10 The above is relevant to the assessment of landscape and visual effects because:

³ TTatM, paragraphs 6.57 to 6.63.

⁴ The BM report, Section 3.3.

⁵ The introduction to the REG chapter notes that it has been formulated to give effect to the National Policy Statement for Renewable Energy Generation.

Effects on landscape values are assessed against the existing environment and the relevant statutory provisions. Provisions often anticipate change and certain outcomes for landscape values.

Landscape effects are assessed against:

- *The landscape values (embodied in certain attributes); and*
- *The relevant provisions (what the objectives and policies say with respect to landscape values, what type and magnitude of development or change in the landscape is anticipated)⁶.*

- 11 Given that The REG Chapter sits as a stand-alone suite of provisions, I consider that under the District Plan there is some anticipation of the increased presence of renewable energy generation facilities within the district's landscapes, including within the Mackenzie Basin ONL, albeit that adverse effects on the ONL are still to be considered⁷.

LANDSCAPE CONTEXT

- 12 I agree with the BM report's description of the broad landscape context and the southern Mackenzie Basin vicinity⁸. Mention is made of the District Plan's mapped High, Medium and Low Visual Vulnerability Areas and these are shown on Figure 2 of the report's Graphic Supplement. While most of the site is mapped as High Visual Vulnerability, two areas of Medium Vulnerability extend onto the site. An area of Low Visual Vulnerability, with Haldon Road running through it, sits to the southeast of the site and touches Lake Benmore. Looking at these areas in the field, I see no logic in the demarcation of these different mapped areas and I consider that they do not assist assessment.
- 13 I also agree with the BM report's description of the site and its immediate setting⁹. Following further clarification, I understand that the areas of lakeside willows that are mentioned are on the public land that surrounds Lake Benmore, rather than on the site or Haldon Station. A pine shelterbelt is

⁶ TTatM, paragraphs 6.06 and 6.12.

⁷ Mackenzie District Plan (EPLan), REG chapter, Objectives REG O1 to O3 and Policies REG P1 to P6.

⁸ Sections 4.1 and 4.2 of the BM report.

⁹ Sections 4.3 of the BM report.

also discussed and can be seen in Photograph C of the Graphic Supplement. Approximately half of this belt is within Haldon Station's land, with the remainder being on public lakeside land.

EFFECTS ON LANDSCAPE CHARACTER AND VALUES

Landscape values are the reasons a landscape is valued – the aspects that are important or special or meaningful.

Landscape effects are consequences for landscape values which arise from changes to a landscape's physical attributes.

Visual effects are a subset of landscape effects they are effects on landscape values as experienced in views¹⁰.

- 14 The BM report covers effects on landscape values in its Section 5.1. and then deals with visual effects in Section 5.2.
- 15 Regarding effects on landscape values, the BM report appropriately refers back to its description of existing landscape values, particularly to its discussion of the modification that has occurred in this part of the Mackenzie Basin over past decades in relation to hydroelectric generation; most notably the creation of Lake Benmore and the Ohau Canal. Despite these modifications, the vicinity is part of the Mackenzie Basin ONL, characterised by its vast, open, flat geomorphology and its arid, relatively empty, intermontane character.
- 16 The BM report identifies a high degree of change within the site and that:

"The proposed scale and density of built form has the potential to appear as a high level of contrast with the broad basin-wide values of openness and lack of structures, including, more specifically, an increase in development to the lakeside"¹¹.
- 17 Regarding effects on landscape values, the BM report ultimately finds:

¹⁰ TTatM, pages 105 and 167.

¹¹ The BM report, Section 5.1, page 25.

- i. a low-moderate degree of adverse effects on landscape values at the scale of the site and its immediate setting¹²,
 - ii. a low degree of adverse effects on landscape values at the scale of the sub-basin vicinity (i.e. the southern Mackenzie Basin being the area shown on Figure 1 of the BM report's Graphic Supplement)¹³.
 - iii. A neutral effect on landscape values (i.e. neither adverse nor positive) at the scale of the overall Mackenzie Basin ONL.
- 18 Factors that the BM report mentions in coming to these conclusions include the existing hydroelectric modifications in this southern vicinity of the Mackenzie Basin, other modifications such as exotic (and weed-dominated) vegetation cover, ongoing farming and pivot irrigation, the avoidance of widespread terrain smoothing on the site, the location of the project in a remote part of the basin, keeping modifications off the sloping ground of the foot of Mount Maggie, proximity to well established existing exotic vegetation, and potential ecological improvements through rabbit fencing.
- 19 Some of the above factors are more relevant than others. Obviously, the nature of the activity itself is important. In addition to the factors discussed above, I consider that the following aspects of the activity are also relevant:
- i. The generally low, horizontal nature of a solar farm of this sort. Excepting the substation, structures are 2.6m high or lower. This assists in maintaining landscape openness. The substation structures, although sometimes high, are visually permeable and relatively insubstantial. The same is true of the perimeter fence.
 - ii. The minimal staff and activity when the facility is operational¹⁴. This assists in maintaining the generally empty and unoccupied character of the Mackenzie Basin. The facility will be relatively inert, largely devoid of busyness and movement.

¹² The BM report uses the seven-point scale of describing the degree of an effect that is referenced in TTatM at paragraphs 6.21 and 6.36 to 6.40. This is set out in Appendix 1 to the BM report.

¹³ The BM report, Section 4.2, page 11.

¹⁴ The BM report, Section 2.3.

- iii. The reversibility of the effects of the project. In the long term, if or when the facility becomes obsolete, I understand that practically every part of it can be removed without significant permanent changes to the landscape (unlike the hydroelectric-related modifications to the Mackenzie Basin)¹⁵.
 - iv. The fact that under the District Plan there is some anticipation of the increased presence of renewable energy generation facilities within the district's landscapes in order to give effect to the National Policy Statement for Renewable Energy Generation.
- 20 I sought clarification regarding the reinstatement of ground that is disturbed during the construction stage of the project, i.e. the earthworks activities listed in Section 2.2 of the BM report. I note that the Ecological Impact Assessment sets out that:
- “The disturbance by cable trenching will result in temporary disturbance, but removed soil will be backfilled and the introduced resident vegetation will recover, as Hieracium spatially expands by stoloniferous growth and the introduced grasses quickly recolonise following disturbance, as has been observed at Haldon after previous building and tracking disturbance in this environment. The rabbit fencing and control within the solar site will provide positive benefits for grazing sensitive species, as shown by the exclosure vegetation.”*
- 21 The proposed conditions of consent (both regional and district) include the requirement for an Erosion and Sediment Control Plan. These conditions focus on controlling sediment runoff, but they do require that all disturbed ground must be stabilised and/or revegetated once earthworks are complete¹⁶. They also require a Plant Monitoring Plan to be formulated in order to monitor changes in plant communities within the project site¹⁷. I consider that these various measures will mean that disturbed ground is returned to a state that is at least similar to existing vegetation cover. Additionally, it appears that rabbit fencing and plant monitoring will lead to some degree of

¹⁵ I understand that the solar panels are mounted on structures that are driven into the ground, with no concrete pads or footings.

¹⁶ Proposed Ecan Discharge Permit conditions 8(l) and 18; Proposed Ecan earthworks land use consent conditions 9, 13 and 27 and definitions.

¹⁷ Proposed District Council condition 30.

improvement of vegetation cover in terms of native species¹⁸, although it is beyond my expertise to comment on the degree of improvement that will eventuate.

- 22 Ultimately, I consider that the BM report's findings and commentary regarding effects on landscape values (as summarised in my paragraph 15 above) are generally logical, plausible and appropriate; although I consider that the adverse effects identified at the immediate and sub-basin scales will mean that there is also an adverse effect at the scale of the overall Mackenzie Basin, albeit that this may be of a very low degree. Subject to my comments regarding visual effects in the next section of this report, I find that the BM report's conclusion on effects on landscape values is logical:

*"Overall, the Haldon Solar Project is in a part of Te Manahuna / Mackenzie Basin ONL that has some capacity to absorb this type of change and adverse effects that are at the low end of the assessment scale. The proposal is therefore considered not inappropriate in terms of protecting the values of the ONL"*¹⁹.

- 23 However, while the adverse effects on landscape values have been identified as being "at the low end of the assessment scale", they will still be relevant to the consideration of cumulative effects in the future if or when other solar farm proposals are assessed.

VISUAL EFFECTS

- 24 Section 5.2 of the BM report covers visual effects. The various vantagepoints that allow some visibility to the site are each examined. For each vantagepoint, the existing views are described, the change to the view that the proposal will bring is discussed, and a comment and rating of visual effects is given. The findings regarding visual effects are then summarised in a table in Section 5.2.4 of the BM report.
- 25 The BM report's Graphic Supplement is useful in understanding the commentary on visual effects, however, visual effects can only be fully assessed and understood by visiting the relevant locations and viewing the site in the field.

¹⁸ Haldon Solar Project, Ecological Impact Assessment, Ag Science Ltd, 31 July 2025, pages 44 and 45.

¹⁹ The BM report, Section 5.1, page 26.

- 26 I agree with the general point made by the BM report that the site sits in a remote part of the Mackenzie Basin, well away from populated areas, high-use roads or well-used public locations²⁰. Without traversing the various viewing locations individually, I set out below comments that I consider to be of further assistance in examining the visual effects of the proposal.
- i. Views of the solar farm from the westernmost part of Haldon Arm Road are at close distances and are represented by Visual Simulation 1. The panels would be able to be plainly seen as a horizontal line, with the substation also visible. The exotic trees that sit south and southwest of the site form a partial backdrop. I agree with the BM report that these views are had by a transitory and low-volume audience²¹, but I disagree that the proposal will not be prominent and will largely fit within the existing scene²². While the facility will not be visually dominant, I consider that adverse visual effects are better described as being of a moderate degree, rather than low-moderate.
 - ii. I accept that potential observers on the areas of public land that are immediately adjacent to the northwest and southwest boundaries of the site can only realistically access those locations if they have permission to cross Haldon Station land.
 - iii. I agree that visual effects as experienced from the surface of Lake Benmore are limited and of a very low to low degree. However, this is dependent (at least in part) on lakeside vegetation (including part of the evergreen shelterbelt) that is not within Haldon Station and therefore is out of the control of the applicant. This vegetation is also a factor in views from the McAughtries Road / Falston Road area. I have not examined this vegetated area closely in the field, but from aerial photographs, it appears that there are areas within Haldon station, immediately adjacent to its southwestern boundaries (and south/southwest of the project area) where new vegetation could be established to future-proof and bolster the effect of this existing lakeside vegetation.

²⁰ The BM report, Section 5.2.1.

²¹ I understand that during summer holiday periods, the campground is generally busy and is accessed via Haldon Arm Road.

²² The BM report Section 5.2.1, pages 28 and 29.

- iv. In views from the vicinity of the Ohau C power station and campground (Visual Simulations 2 and 3), I consider that the solar farm will be recognisable as a new element of modification, with the substation providing an additional visual cue to this change. This is particularly the case from the more elevated level of Falston Road, rather than the campground itself. I consider that this further modification will detract from landscape values as they are appreciated visually. In my opinion, this effect is better described as being of a low-moderate degree, rather than low²³.

NATURAL CHARACTER EFFECTS

- 27 Section 5.3 of the BM report discusses effects on natural character and refers to Section 6(a) of the Act. The potential relevance of Section 6(a) in this instance is in relation to wetlands, lakes, rivers and their margins. The BM report comments that assessment of natural character effects is included because the proposed activities are in the proximity of the margins Lake Benmore and adjacent rivers, but the activities do not stray into the margins themselves²⁴. This is reflected in the substantive application document.
- 28 The District Plan's Lakeside Protection Area takes in much of the site. The Lakeside Protection Areas have been identified to recognise the landscape significance of lakes, their margins, and their settings, reflective of the visual sensitivity of the landscapes around the major lakes²⁵. The "settings" of the lakes are obviously broader areas than the margins. Therefore, I agree with the BM report (and the substantive application document), that while the proposal will involve changes within the Lakeside Protection Area, they do not involve any changes to the lake or river margins.
- 29 Notwithstanding the above, the BM report finds that the proposal will have adverse effects of a low-moderate degree on the natural character of the site and the immediate landscape. The BM report comments on the modified character of the site, its degraded vegetation cover, and defers to the Ecological Impact Assessment. I consider this to be logical and plausible.

²³ The BM report Section 5.2.1, page 35.

²⁴ The BM report, executive summary, Section 2.1 page 4, and Section 5.3, page 41.

²⁵ Mackenzie District Plan Policy NFL-P5 (EPlan). The "Explanations and Reasons" in relation to Policy 3B6(a) of the pre-Eplan version of the District Plan is of assistance in understanding the origin of the Lakeside Protection Areas.

CUMULATIVE EFFECTS

- 30 The existing environment that is relevant to the proposal includes no existing or consented solar farms. On that basis, the Applicant's response to the Expert Panel's Minute 1 sets out that there is no cumulative effect to be considered. However, the Applicant's response notes that the nearby Point Solar Farm is also proposed (via the FTAA) and gives some comments on cumulative effects, "*as if The Point Solar Farm (as described in the substantive application for that proposal) formed part of the existing environment*" and states that "*We have also commissioned Boffa Miskell to undertake an assessment of the cumulative effects on the surrounding landscape (accounting for Haldon Solar and The Point). We expect to be able to provide that assessment by the end of January 2026*"²⁶ At the time of writing, I have not seen that assessment. However, the Applicant's response to Minute 1 does include preliminary comments regarding cumulative landscape effects and these comments set out that there are locations from which the Haldon and Point solar farms may be seen together by an observer, most relevantly from the vicinity of McAughtries / Falston Roads and Ohau C power station, and that potential adverse cumulative effects will be of a degree within the range of moderate.
- 31 While the above is credible, the Applicant's preliminary comments regarding cumulative effects only relate to visual effects and situations where an observer may see more than one solar farm in a single view. Looking ahead to the future and considering a situation where a solar farm is proposed in an environment that already contains existing or consented solar farms, my preliminary thought is that (rather than effects as perceived from particular viewpoints) a more relevant issue is likely to be the cumulative effects of numerous solar farms on the overall values of the Mackenzie Basin ONL, i.e. effects on the way the community perceive, characterise and value this landscape.
- 32 A relevant factor to consider in relation to these issues will be the trajectory that the Mackenzie Basin landscape is on (with or without solar farms). No landscape is frozen in time and ongoing ecological and soil degradation, spread of wilding conifers, other pest infestation, irrigation requirements for practical farming, and tourism development are all factors that are relevant to the

²⁶ Lodestone Energy, Applicant's response to Panel Minute 1, 12 December 2025, page 7.

future evolution of landscape character in the Mackenzie. Taking account of this evolution when considering potential cumulative effects of solar farms will be important.

- 33 Regarding the issue of cumulative effects that may arise in the future when one or more solar farms do form part of the existing environment, the Applicant's response to Minute 1 sets out that *"cumulative effects are therefore likely to be a very relevant consideration for subsequent applications in the Mackenzie Basin"*²⁷.

CONCLUSIONS

- 34 The BM report covers all relevant issues and follows an appropriate methodology and structure. As can be seen from the commentary of this report, I generally consider that the BM report and the associated assessment work have been done appropriately and come to credible conclusions. As a result of my peer review work, the following are the main points that I consider may be of further assistance to the Expert Panel:

- i. My interpretation of the REG Chapter of the EPlan is that there is some anticipation of the increased presence of renewable energy generation facilities within the district's landscapes, including within the Mackenzie Basin ONL. This is relevant to the context against which landscape effects are to be considered.
- ii. I consider that the BM report's findings regarding effects on landscape values are generally logical, plausible and appropriate. I have taken account of some factors that are not explicitly emphasised in the BM report. These are, the generally low, horizontal nature of the solar farm; its relatively inert and unoccupied nature once operational; the reversibility of the effects of the project (i.e. the facility's potential long-term removal); and the EPlan's anticipation of some degree of increased renewable energy generation facilities.
- iii. While I consider that the BM report's commentary regarding visual effects is generally plausible and appropriate, I consider that adverse visual effects as experienced from Haldon Arm Road (west) and the vicinity of the Ohau C power station and campground

²⁷ Ibid.

are somewhat understated. I also consider that the effects as described in relation to Lake Benmore users (and to a lesser degree users of the McAughtries Road / Falston Road area) are dependent upon vegetation that is on public land. It appears that new vegetation within Haldon Station could replicate/bolster the mitigating function of this existing vegetation.

- iv. While I agree that there will be some effects on the natural character of the site and its immediate context, I note that the natural character of the lake and river margins will not be affected.
- v. The current solar farm application will not combine with any existing or consented facility to create a cumulative effect. When the time comes to consider a number of solar farms in the Mackenzie, cumulative effects are likely to be important, including cumulative effects on the way the community perceive and value the Mackenzie basin landscape at a broad scale.

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