

**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE
KAIKOURA DISTRICT COUNCIL**

IN THE MATTER OF

The Resource Management Act 1991 (**RMA** or
the Act)

AND

IN THE MATTER OF

Proposed Plan Change 4 (**PC4**) to the Kaikoura
District Plan (**KDP** or **the Plan**) brought by
Kaikoura Business Park Limited (**KBP**)

AND

IN THE MATTER OF

The Hearing of Submissions and Further
Submissions on PC4

**EVIDENCE OF KYRA XAVIA FOR THE APPLICANT
KAIKOURA BUSINESS PARK LIMITED**

DATE: 5 March 2024

Presented for filing by:
Margo Perpick
Saunders & Co
PO Box 18, Christchurch
027 227 2026
margo.perpick@saunders.co.nz

INTRODUCTION

- 1 My name is Kyra Electra Xavia.
- 2 I am a Responsible Lighting Consultant and New Zealand Delegate for DarkSky International.
- 3 I am the Dark Skies Ambassador for the International Astronomical Union and General Secretary at EcoTech Center Gdańsk University of Technology (GUT) ILLUME.
- 4 I am a New Zealand representative for the global initiative Women in Lighting (WIL)
- 5 I am a Trustee of Kaikōura Dark Sky Trust and Co-Leader of Dunedin Dark Skies.
- 6 I have been a responsible lighting advocate since 2015. This has involved lobbying Dunedin City Council, Christchurch City Council and Waimakariri District Council, and involvement in numerous submissions and demonstrations of lighting. I have also co-authored scientific papers which have been published in recognised journals.¹ I have had numerous articles on light pollution, responsible lighting, and lighting technology published over the years. I provide feedback and guidance to lighting professionals for dark sky projects and assist communities in New Zealand aiming to become recognised dark sky places. I was a feature speaker at the 2019 Starlight Conference at Tekapo and I have received awards for my advocacy.
- 7 I successfully lobbied Dunedin City Council (DCC) and garnered support from numerous community boards, for PC amber 2200 K LED streetlights for areas of Dunedin with ecological significance (a first in New Zealand). Continuous advocacy from 2015-2019 for responsible lighting also resulted in the DCC making a special business case to Waka Kotahi for 3000 K LEDs instead of the planned 4000 K for the city. I initiated community support for PC amber 2200 K LED streetlights for the small township of Birdling's Flat in 2019, along with confirming agreement with the Senior Transport Asset Manager of Christchurch City Council that this type of lighting was ideally suited for the community.

¹ <https://www.researchgate.net/profile/Kyra-Xavia>

Further community lobbying instigated a 6-month trial in 2022, resulting in the removal of existing streetlights and the retrofit of four PC amber 2200 K LEDs which are dimmed and turned off at midnight.

- 8 I have read the Environment Court's Code of Conduct and agree to comply with it. My experience as an expert is set out above. The matters addressed in my evidence are within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose evidence I have relied upon. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

SCOPE OF EVIDENCE

- 9 In my evidence I address the following issues:
- (a) The need for responsible lighting to help reduce the impact of light pollution on the endangered Hutton's shearwater and other vulnerable wildlife of the area.
 - (b) I also wish to add my support to Larry Field's submission supporting the lighting approach for the park.

CONTEXT

- 10 I understand that under s73(2) of the Resource Management Act 1991 (RMA), Kaikōura Business Park Ltd ("the Applicant") requests a change to the Kaikōura District Plan (KDP), to re-zone approximately 21.6 ha of rural land located at 69 Inland Kaikōura Road, Peketā, to a new proposed 'Light Industrial Zone'. This plan change will allow the rural pastoral land to be developed into a business park.
- 11 This evidence relates to land legally described as Lot 2 DP 501321 & approved Lot 20 SU-2021-1765-00 and commonly known as 69 Inland Kaikōura Road Peketā, Kaikōura.
- 12 I affirm the contents of the following attached reports:
- a *Updated Guidance for Exterior Lighting in Kaikoura* dated 5 April 2021 (**Appendix A**). That document was updated in December 2023 to include information about a new New Zealand supplier of amber 2200 K LED

bollards with an improved design and spectrum of light, this replaces one of the examples of bollards (which were first listed as a compromise due to a lack of availability in the market of products). The document has also been amended to contain information about the importance of reducing the adverse impact and harm of light at night on the endangered Hutton's shearwater and other vulnerable wildlife. This additional information was extracted from the *Responsible Lighting Guidance for Kaikoura* dated May 2022 and a recently updated infographic for improved lighting.

- b *Responsible Lighting Guidance for Kaikoura* dated May 2022.² The document contains many photographic examples and information about the benefits of responsible lighting on wildlife.³ Attached as **Appendix B**.

- 13 More guidance can be found in the following document *Cumbria - Good Lighting Technical Advice* dated November 2023.⁴

HUTTON'S SHEARWATER REPORT

- 14 I do not have the ecological expertise to discuss the effect of the proposed Light Industrial Zone on the Hutton's Shearwater, however I have attached an expert report on the Hutton's Shearwater by Sabrina Luecht, as **Appendix C** to my evidence.
- 15 I refer to the contents of the Hutton's Shearwater report and rely on the contents of this report to inform my opinions.

LIGHTING ASSESSMENT

- 16 I refer to the contents of Glen Wrights Lighting Assessment for Kaikoura Business Park and rely on the contents of this to inform my opinions.
- 17 I support the changes in the language used and the lighting approach proposed in Glen Wright's document, especially for improved clarity involving shielding and intensity of lighting (32 7biii), as well as the use of the term "motion

² <https://kaikouradarksky.nz/be-informed/>

³ At pages 2,10,11,13

⁴ <https://lightwiseguild.com/resources>

sensors" (34 7a.vi). I strongly support his suggestion of no garden lighting (32 7ai), due to the proliferation and increasing popularity of decorative LED string lighting; bright, colourful, dynamic fibre optic novelty LED lighting; and/or poorly designed high-intensity LED solar garden lighting which often remains on all night. These unnecessary light sources (vanity lighting) should be completely avoided. The referral to the guidelines outlined in the Australian Government, Department of the Environment and Energy publication National Light Pollution Guidelines for Wildlife, January 2020 Version 1.0. in his document is also very relevant and helpful.

CONCLUSION

- 18 In my view the proposed plan change request by Kaikōura Business Park can be supported from an exterior lighting perspective. I consider that the lighting approach proposed for the Business Park will be effective in reducing effects on the Hutton's Shearwater and other vulnerable wildlife, as well as ensuring the quality of night sky viewing will not be affected by artificial lighting.
- 19 Thank you for the opportunity to present my evidence.

Kyra Electra Xavia

Dated: 5 March 2024