

**Before the Independent Hearings Panel
For Mackenzie District Council**

Under the Resource Management Act 1991

In the matter of the Mackenzie District Plan Review

And

In the matter of Plan Change 20 - Strategic Chapters

**Statement of Evidence of Christopher Edward Pye on behalf of Nova Energy
Limited**

Date: 15 November 2022



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INTRODUCTION

- 1 My full name is Christopher Edward Pye. I am the Projects and Developments Manager at Nova Energy Limited (**Nova**).
- 2 I am authorised to provide evidence on behalf of Nova.

QUALIFICATIONS AND EXPERIENCE

- 3 I hold a Bachelor of Electrical Engineering from the University of Canterbury, a Bachelor of Business (Finance) from Massey University and a Postgraduate Certificate in Energy Innovation and Emerging Technologies from Stanford University. I have been a certified member of the Project Management Institute since 2011.
- 4 I have worked in the electricity industry for 19 years, primarily in New Zealand, undertaking engineering, development and operational roles. These roles span the industry and, prior to Nova, include time with Transpower, consulting engineers and field contractors.
- 5 I presently hold the position of Projects and Development Manager at Nova, a developer and owner of power generation facilities, where I have worked for approximately 10 years.

INVOLVEMENT WITH THE PROPOSED PLAN

- 6 My evidence is in respect of submissions on the Proposed Mackenzie District Plan (**Proposed Plan**) by Nova in relation to Plan Change 20 – Strategic Chapters (**PC20**).
- 7 I assisted in drafting Nova's submission and further submission on the Proposed Plan.

SCOPE OF EVIDENCE

- 8 My statement of evidence covers the following matters:
 - 8.1 Overview of Nova and Todd Corporation (Todd);

- 8.2 Summary of Nova's interests in the Mackenzie District;
 - 8.3 Information on industry benefits to the District, Regional and National economies;
 - 8.4 Section 42A report; and
 - 8.5 Conclusions and recommendations.
- 9 In preparing my evidence I have considered the following:
- 9.1 All submissions on the Proposed Plan;
 - 9.2 All further submissions on the Proposed Plan;
 - 9.3 The Mackenzie proposed District Plan Change 20 – notified, 15 July 2022;
 - 9.4 Section 42A (s42A) Report Strategic Chapters, 19 October 2022; and
 - 9.5 Section 32 Report – Strategic Directions, July 2022.

TODD CORPORATION AND NOVA ENERGY LIMITED

- 10 Nova is a 100 percent New Zealand owned and operated company focussed on the supply of energy. As a retailer, wholesaler and generator, Nova serves approximately 100,000 customers nationally.
- 11 Nova Energy is a subsidiary of the Todd Corporation, which has been one of New Zealand’s leading companies for over 130 years. The Todd Corporation is 100% owned by the Todd Family, employs approximately 800 people across more than 20 different locations throughout New Zealand and Australia, and has interests in energy, property development, telecommunications, minerals, healthcare, technology and philanthropy.

- 12 Nova is associated with numerous electricity generation assets across New Zealand, including a solar farm, peaking plants and cogeneration facilities. The Nova business also includes energy retail brands MegaTel and Wise Prepay, and a majority interest in solar developer Sunergise International and its subsidiaries Sunergise New Zealand and Clay Energy.
- 13 Todd Corporation has land ownership and development interests in the Mackenzie District.
- 14 Nova is committed to the environmental, social and economic wellbeing of New Zealand, the Mackenzie District and the Canterbury Region, now and into the future.

INTERESTS IN MACKENZIE DISTRICT

Background

- 15 Nova is investing in renewable solar power generation to contribute to New Zealand's future demand increases and to provide an affordable and reliable energy supply to all New Zealanders, as we transition to a low emissions economy.
- 16 Nova considers the Mackenzie District to be highly suitable for future grid scale solar renewable electricity generation development, based on the natural renewable energy resources available and the National Grid infrastructure for distribution of renewable electricity to New Zealanders.
- 17 As a landowner in the Mackenzie District, Nova is participating in the District Plan Change process to seek alignment of the District Plan with the National Planning frameworks to enable development of new renewable electricity generation within the District.

REGIONAL AND NATIONAL ECONOMIC BENEFITS FROM THE RENEWABLE ELECTRICITY GENERATION INDUSTRY

Transition to a low emissions economy

- 18 Development of renewable electricity generation resources is a public policy direction and supported by recent legislative changes to the Climate Change Response Act 2002 (CCRA) by the Climate Change Response (Zero Carbon) Amendment Act 2019.
- 19 New Zealand's emissions targets under the CCRA are:
- 19.1 Net zero emissions of all greenhouse gases other than biogenic methane by 2050;
 - 19.2 24 to 47 % reduction below 2017 biogenic methane emissions by 2050, including 10 % reduction below 2017 biogenic methane emissions by 2030.
- 20 To achieve these targets, New Zealand is using a system of emission budgets. The Government published the first three emission budgets (2022-25, 2026-30, 2031-35) in May 2022 as well as its first Emissions Reduction Plan (ERP) which sets out the policies and strategies for meeting the emission budgets.
- 21 The ERP focuses (in part) on the role that a highly renewable electricity system can play to further electrify industry and transport. Specifically:
- 21.1 Acceleration of development of new renewable generation across the economy;
 - 21.2 Decarbonisation of process heat, supported by switching to low-emission renewable energy sources, such as electricity; and
 - 21.3 Targets to guide New Zealand to 2050. The Government currently has an aspirational target of 100% renewable

electricity by 2030 and the ERP is proposing a renewable energy target of 50% of total final energy consumption coming from renewable sources by 2035.

22 In 2021, New Zealand’s renewable share of:¹

22.1 final energy consumption was 28.4%; and

22.2 electricity generation was 82%.

23 The present share of renewables is materially below the stated ERP targets.

24 Whilst solar presently makes up less than 0.5% of electricity generation, Transpower has estimated that solar will contribute 13% of electricity supply by 2050. In its work, Transpower (2022, p.41) concluded that “under all scenarios, New Zealand will need to build material new utility-scale wind and solar generation, and accessible battery storage in order to meet annual and peak demand growth in normal years.”²

25 The Climate Change Commission estimates for required renewable energy share are even higher, modelling utility solar increasing to 7% of electricity supply by 2035 with solar providing 20% of electricity supply in 2050.

The Mackenzie District

26 The Mackenzie District’s energy system is a significant contributor to the productivity and economic growth of the district, region and nation.

¹ MBIE, 2022. *Energy in New Zealand 2022*, Ministry of Business, Innovation and Employment, viewed 14 November 2022, <<https://www.mbie.govt.nz/dmsdocument/23550-energy-in-new-zealand-2022-pdf>>

² Transpower, 2022, *Whakamana i Te Mauri Hiko – Empowering our Energy Future*, Transpower New Zealand Limited, viewed 14 November 2022, <<https://tpow-corp-production.s3.ap-southeast-amazonaws.com/public/publications/resources/TP%20Whakamana%20i%20Te%20Mauri%20Hiko.pdf?VersionId=FljQmfxCk6MZ9mIvpNws63xFEBXwhX7f>>

- 27 The Mackenzie District contains high quality natural renewable energy resources, suitable for renewable electricity generation development.
- 28 The solar irradiation profile within parts of the District are highly suitable for grid scale solar electricity generation development:
- 28.1 The measure of solar irradiation is commonly expressed as GHI (global horizontal irradiation), relating to the annual average power available (in Watts) per square metre (W/m^2) on a flat plane;
- 28.2 The GHI profile of New Zealand is available as a map developed by the World Bank Group, to show areas of GHI in 13, ranges from 1 (highest) to 13 (lowest). This map is available from Solargis.³
- 28.3 Based on the GHI profile information for New Zealand, large areas of the Mackenzie District have solar irradiation in the two highest categories.
- 28.4 The Mackenzie District is noted as an area “where transmission connected utility-scale solar systems is most likely to locate first, due to a combination of high solar resource, higher location factors, suitable land at an acceptable price, and transmission grid”⁴ (Miller 2020, p.4)
- 29 The Mackenzie District contains established high capacity electricity transmission infrastructure, linking the district to both the North and

³ Solar Resource Map Global Horizontal Irradiation New Zealand, World Bank Group, 2019, Solargis, <<https://solargis.com/maps-and-gis-data/download/new-zealand>> , viewed, 7 November 2022.

⁴ Miller, A, 2020, *Economics of Utility-Scale Solar in Aotearoa New Zealand*, Ministry of Business, Innovation and Employment, viewed 14 November 2022, <<https://www.mbie.govt.nz/assets/Uploads/utility-scale-solar-forecast-in-aotearoa-new-zealand-v3.pdf>>.

South Islands and supporting future renewable electricity generation development.

- 30 To deliver New Zealand’s electricity generation decarbonisation objectives, Todd considers that the alignment of District Plans with the future requirements of National Planning frameworks is essential to enable development of new renewable electricity generation infrastructure within the Districts and Regions where suitable natural renewable energy resources occur.
- 31 Ensuring flexibility in the District Plan for these activities provides an environment where barriers to entry for innovative technologies are reduced, thereby increasing the likelihood of economic feasibility. This will flow on to lower energy costs for customers, in particular those who live near to the energy source (i.e. the Mackenzie District).
- 32 Failing to create an enabling environment for renewable energy generation development, via the strategic chapter of the District Plan, risks providing a platform for niche interests to complicate and frustrate consent applications. This is misaligned with national direction and could encourage development capital to be directed towards other Districts with more supportive and certain planning frameworks.
- 33 Renewable energy projects entail significant investment and create high value skilled jobs. The Council must carefully consider how it will align its plan provisions with the District’s aspirations and strategy, to create the stated ‘thriving community’.

List of submitters addressed in the s42A report

- 34 Nova notes that within the s42A report there are some inconsistent references to Nova submissions, in some cases as Nova (15) rather than Nova (17).

Scope of the Report

35 With respect to point 13. of the s42A report (p. 7), Nova considers its further submission on NE01: Natural Environment, in response to Forrest and Bird’s original submission, is not “limited to the matters raised in the original submission” of Nova. Nova's further submission should be considered in the context of the report, particularly with respect to:

35.1 The analysis in point 124. (p. 26) requiring clarification that “indigenous biodiversity that may not be significant can still be important”;

35.2 The recommendation in point 127. a. to amend the introduction to the NE – Natural Environment Chapter; and

35.3 The proposed amendment “importance ~~significance~~” within NE- Natural Environment Chapter, Introduction, paragraph 1 (Appendix 1, p. 4).

Introductory Chapters

36 With respect to analysis in point 38 (p. 11) regarding the ‘Description of the District’, stating that “...the paragraph in this short introductory section to the plan is focussed on specific natural resources of importance...”, Nova considers that its submission point to include “references to energy resources in the ‘Description of the District’ chapter” is relevant, particularly in relation to high solar irradiation within parts of the District, as a specific natural resource of importance:

36.1 To recognise the specific natural resource of renewable energy sources, Nova suggests the following amendment to paragraph four of the Chapter: Description of the District:

'The District contains many natural resources of significance, including mahika kai resources, night sky darkness, outstanding natural features and landscapes, significant indigenous biodiversity, renewable energy resources and a range of water bodies.'

Introduction Section to ATC Chapter

- 37 Nova supports the following:
- 37.1 Point 68. (p. 16) the submissions of Genesis (07) and Meridian (11) seeking “a minor amendment to the fourth paragraph to refer to both “existing and new” renewable electricity generation”;
 - 37.2 Point 70. (p. 16) the analysis supporting “the addition of reference to “*existing and new*” in the introduction”; and
 - 37.3 Amendment to include existing and new, within ATC – A Thriving Community Chapter, Introduction, (Appendix 1, p. 2).

Introduction Section to Natural Environment Chapter

- 38 For the reason’s stated in Nova’s further submission, Nova:
- 38.1 opposes the proposed amendment of “importance ~~significance~~” within NE – Natural Environment Chapter, Introduction, paragraph 1; and
 - 38.2 considers that the NE – Natural Environment Chapter, Introduction wording (second sentence) should specifically include (as an example of a natural resource of “significance”) either “renewable energy resources” or “sources of renewable energy”, especially given the solar irradiation profile in large areas of the District is highly suitable for grid scale solar electricity generation development.
- 39 Nova’s further submissions in this regard align with Ms White’s approach in the s42a report, in that the Strategic Direction chapters’ role is to focus on outcomes. Harnessing the District’s abundant natural

energy resources is, in Nova’s opinion, an appropriate outcome statement in this instance.

CONCLUSIONS AND RECOMMENDATIONS

40 Based on the evidence provided, Nova concludes that:

40.1 The Mackenzie District has significant renewable energy resources to support future renewable electricity generation development.

40.2 New Zealand requires substantial and rapid development of renewable electricity generation, to meet prescribed decarbonisation targets.

40.3 District Plans should support development of new renewable electricity generation capacity, located at the sources of renewable energy and transmission infrastructure, based on the assessment of effects.

41 Based on those conclusions, Nova recommends:

41.1 That the Mackenzie District Plan review process provides adequate provision within the Plan to consider and assess new renewable electricity generation developments, to utilise the natural renewable energy resources within the District for the benefit of New Zealand.

41.2 That the proposed s42A amendment of “importance ~~significance~~” is removed from NE – Natural Environment Chapter, Introduction, paragraph 1.

41.3 The following amendment to the second sentence of NE – Natural Environment Chapter, Introduction, paragraph 1, “*These include (but are not limited to): resources valued by mana whenua for mahika kai; the Aoraki Mackenzie International Dark Sky Reserve; those landscapes and*

features that are considered outstanding; indigenous biodiversity; renewable energy resources; and the District's wetlands, lakes rivers and their margins."

- 41.4 The following amendment to paragraph four of the Chapter:
Description of the District:

'The District contains many natural resources of significance, including mahika kai resources, night sky darkness, outstanding natural features and landscapes, significant indigenous biodiversity, renewable energy resources and a range of water bodies.'

- 41.5 The retention of the proposed amendment to include existing and new, within ATC – A Thriving Community Chapter, Introduction, (Appendix 1, p. 2).

15 November 2022



Christopher Edward Py