

Addendum 2: Regional and National Benefits

1. Purpose of this addendum

This addendum responds to comments from Forest & Bird, Environmental Defence Society, and others regarding the assessment, weighting, and characterisation of the national and regional economic benefits of the Haldon Solar Project. It clarifies the role and findings of the Economic Impact Assessment, explains how those findings inform the statutory test under s 85(3) of the Fast-track Approvals Act 2024 (FTAA), and provides additional context to assist the Panel in undertaking the required proportionality exercise.

2. Role of the Economic Impact Assessment

The Economic Impact Assessment (EIA) prepared by Market Economics (ME) Limited was undertaken as an economic impact analysis, not as a full cost-benefit analysis. Its purpose is to quantify and describe the scale, duration and distribution of economic activity generated by the Project, including direct, indirect and induced effects, across local, regional and national economies.

Economic impact analysis is a widely used and accepted tool for assessing the economic implications of large infrastructure and energy projects, particularly in relation to:

- employment generation;
- value added to regional and national economies; and
- the spatial distribution of expenditure and activity.

The EIA does not purport to determine whether the Project's benefits are "significant" in a statutory or planning sense. That judgement appropriately rests with the Panel, informed by the evidence before it, including the EIA and the broader policy context of the FTAA.

3. Regional and national benefits identified by the assessment

The EIA demonstrates that the Project would generate **material and sustained economic activity** over both its construction and operational phases, including:

- real present value economic value added of approximately **\$134-135 million (direct and indirect)**, rising to approximately **\$189 million** when induced effects are included, over the life of the Project;
- support for approximately **235-242 direct jobs** during construction, with additional indirect and induced employment across Canterbury, the South Island and nationally; and
- ongoing operational expenditure sustaining **long-term employment and economic activity** over an assumed 35-year operational life.

While Forest & Bird note that these values are small relative to the gross size of the Canterbury regional economy, the FTAA does not require that a project materially alter regional GDP in order to deliver regional or national benefits.

Furthermore, the comparison of the project's benefits to Canterbury regional GDP is a somewhat arbitrary comparison. It could be argued that a more reasonable comparison would be to the GDP of the Mackenzie District, rather than to all of Canterbury. The Mackenzie region's GDP in the year ending 2025 was \$533M¹ and this project's direct economic value represents a substantial portion of this (25%).

¹ [Infometrics Quarterly Economic Indicator Mackenzie District June 2025](#)

4. Gross versus net assessment

Forest & Bird criticise the use of a gross economic impact approach and contend that a net cost-benefit analysis is required to establish regional or national significance.

Lodestone acknowledges the distinction between economic impact analysis and cost-benefit analysis. However:

- the FTAA does not prescribe a particular economic methodology, nor does it require a cost-benefit analysis in every case;
- the EIA transparently identifies its scope and limitations and does not claim to represent a net welfare assessment; and
- the Project's economic benefits are not presented as cost-free or without trade-offs; rather, they are presented as **quantified contributions to economic activity** that inform the Panel's broader balancing exercise.

In this case, potential opportunity costs are limited. The Project site is currently of low productive economic use, and there is no evidence that the labour, capital or expenditure associated with the Project would materially displace alternative development of comparable scale within the region. In this context, the gross economic impacts identified by the EIA provide a reasonable and proportionate evidential basis for assessing economic benefits under the FTAA framework.

5. Renewable electricity generation and national benefits

In addition to conventional economic metrics, the Project delivers **national-level benefits** through its contribution to New Zealand's renewable electricity system.

The Project would generate approximately **370 GWh of renewable electricity annually**, contributing meaningfully to national supply at a time when new generation capacity is required to meet increasing demand and support electrification as described most recently in Transpower's Te Kanapu publication². Further, the project generation is uncorrelated with existing renewable energy generation contributing to the capacity for overall renewable energy generation for the country. Finally, locating the project in the Mackenzie creates a natural hedge against dry years as periods with low rainfall in the Mackenzie are also periods of high sunlight hours.

The principal national benefits include:

- increased renewable generation capacity aligned with national emissions reduction objectives;
- diversification of generation sources in a system currently dominated by hydroelectricity in the South Island; and
- enhanced energy security and resilience, particularly in dry-year conditions where solar generation complements hydro output. As described by rooftop solar advocacy group Rewiring Aotearoa, solar output in a dry year during the April-June period can be as much as 11% higher than a non-dry year according to NIWA data³

While Forest & Bird focus on emissions comparisons between solar and wind generation, the Applicant's case does not rely on solar outperforming wind in isolation. Rather, the benefit lies in **portfolio diversity and system complementarity**, which is recognised as an important national benefit in energy system planning.

² [Transpower NZ Ltd - Te Kanapu A Future Grid Blueprint for NZ](#)

³ <https://www.rewiring.nz/watt-now/why-solar-makes-sense>

6. Climate change mitigation benefits

It is international consensus that the climate is warming due to emissions of carbon dioxide and CO₂ equivalent gases from the burning of fossil fuels⁴. Worldwide, the electricity system represents the largest single source of global emissions with estimates of between 29-40% of total emissions attributable to it⁵. Although NZ's electricity system is already highly renewable, the expected growth in electricity usage from transport and process heat electrification means that New Zealand will need to find new sources of low carbon electricity. As pointed out by Forest & Bird, this is likely to come primarily from wind and solar in New Zealand, although geothermal, and selective new hydro builds, or upgrades of existing schemes are also likely to play a role.

As the ME report states, solar has comparable lifecycle emissions intensity to wind and nuclear. Nuclear is very unlikely to be built in New Zealand due to NZ's nuclear free policy and its high relative cost. Wind already plays an important role and is likely to be expanded further. However, it is much more location limited than solar and projects typically take much longer to consent and construct. Further, its generation profile is different to solar and requires other sources to balance its intermittent production. Solar, as a diverse and complementary technology to wind, with comparable low emissions, is therefore a critical component of the New Zealand electricity generation system going forward.

7. Location, infrastructure efficiency, and transmission considerations

The Project's location adjacent to existing high-voltage transmission infrastructure is a further factor relevant to the assessment of national benefit.

By utilising existing grid assets:

- the Project avoids the need for extensive new transmission investment;
- transmission losses are minimised relative to more remote generation options; and
- the Project can be integrated efficiently into the national electricity system.

These characteristics contribute to the **efficiency and effectiveness of the national energy system**, which is a relevant consideration when assessing national benefits under the FTAA.

8. Relationship to other proposed projects

Forest & Bird raise the possibility that benefits from solar development in the Mackenzie Basin may be effectively capped by market or transmission constraints. By contrast, Transpower's comment on the application specifically indicates that wider transmission asset capacity is not constrained by Transpower as part of the connection process, but allocated in real time by market systems. Aware of this, Lodestone has presented the view to Ngāi Tahu and others, that although the wider transmission system capacity in the region is relatively unconstrained, electricity market constraints will place a practical and economic limit to how many projects are built.

Further:

- the FTAA does not require panels to rank or optimise across multiple projects beyond the application before them; and
- the Project's benefits should be assessed on their own merits, having regard to their scale, certainty, and contribution to national and regional objectives.

The Project makes efficient use of existing infrastructure and delivers a defined and quantifiable set of benefits. These characteristics are relevant to, and support, the proportionality assessment required under s 85(3).

⁴ [Climate Change 2023 Synthesis Report Summary for Policymakers](#)

⁵ <https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors>

9. Conclusion on weighting of benefits

In summary:

- the EIA provides a robust and transparent quantification of economic activity generated by the Project; and
- the Project delivers enduring regional and national benefits through employment, value added, renewable electricity generation, carbon emissions abatement, and energy system resilience;

When weighed against the Project's adverse effects, these benefits are properly considered as part of the structured balancing exercise required under s 85(3) of the FTAA.