



## Economic assessment of the proposed development at Port Tarohe DRAFT RESULTS

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Market Economics have been engaged to assess the cost and benefits of the proposed development of Port Tarohe in Tasman District. This high-level summary presents the draft results. There are some refinements, small additions and internal reviews that need to be completed before the results can be finalised.

Port Tarohe is an important piece of economic infrastructure, located near the top of the South Island. It is our understanding that the infrastructure needs recapitalisation to ensure safe operation. Further, improving the quality of the infrastructure will also support and unlock additional on-water activity (i.e. aquaculture). In turn, this will deliver other benefits. Importantly, these wider benefits are not free, there are also other costs associated with them. This assessment looks at the costs and benefits as well as the economic impacts of the proposed development. CBAs and EIAs are two very different tools, offering different perspectives on development initiatives – benefits are not impacts, and impacts are not benefits since an impact can be negative.

Two separate scenarios were assessed with the main difference being the capital expenditure associated with the port investment. In this summary, the focus is on the more expensive option (\$33.2m) because it reflects a more conservative position<sup>1</sup>. In addition to the direct spending associated with the port, other costs are considered, these include:

- Capital expenditure like developing the mussel farms and investing in capital equipment (vessels, and so forth).
- Operating expenditure like the costs of operating the port,
  - Costs associated with the mussel farms,
  - Costs associated with the processing the mussels,
  - These costs include the lift in labour costs.

The analysis uses several information sources, including initial estimates from Trigpoint Capital Limited as well as official information and data sets. The Trigpoint Capital Limited information forms the starting point for the work, outlining the growth rates, capital and operational costs. Where the volumes or costs (excluding inflation) stay constant, they are omitted from the analysis. This is because the economic analysis focuses on the net change. We note that in a small number of instances, the different datasets do not align perfectly. In these cases, the conservative positions were used.

The main assumptions and parameters were used in the CBA:

- Capital expenditure
  - Port infrastructure \$33.2m
  - Developing the mussel lines - \$32.2m (1,607 lines at \$20,000 per line)
  - Investing in capital equipment,
    - Vessels 11 @ \$5m.
- Operating expenditure (includes confidential information):
  - Costs associated with the marine farms,

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<sup>1</sup> This is particularly important when reviewing the costs and benefits.



- Includes, seeding costs, maintenance, harvest, compliance, labour and Aquaculture NZ fees/levies),
- Costs associated with the processing facilities,
  - Raw material, transport, overheads, factory costs, labour.

The analysis timeframe covers 25 years, in line with Trigpoint Capital Limited's model and assumptions. A discounting process is used to translate future costs and benefits into a single value (i.e. how much is the future costs/benefits worth today). Three discount rates were used, 4%, 6% and 8%.

**Table 1** summarises the results.

*Table 1: Draft results (CBA)*

Discount Rate	\$'m (Present Value, 25 years)			Cost-benefit ratio
	Benefits	Costs	Net	
4%	1,202	1,059	143	1.14
6%	960	864	97	1.11
8%	781	718	63	1.09

The results have been adjusted to reflect displacement and substitution effects for labour and the capital costs have been adjusted for deadweight losses.

The analysis suggests that the project will deliver a CBR of between 1.09 and 1.14 with net benefits of ranging between \$63m and \$143m. Importantly, these are discounted values, meaning that it shows how much all the future benefits are 'worth today'. Once operating at capacity, the net benefit (benefits less costs) will be \$19.2m (each year and undiscounted).

It is important to note that accessing PGF assistance will be critical. The return on the PGF assistance is estimated at between This return is based on the initial government assistance (PGF funding) of \$32m (\$36.7m if adjusted for deadweight loss) and means a return on government funding of between \$1.90 and \$4.31 (\$2.91 as the mid-point). In other words, for every \$1 received from the PGF, the economy would see a net benefit between the stated values.

Overall, the cost-benefit shows that the proposed investment will return a net benefit to NZ. When adjusting to reflect optimism bias, the results stay positive. The following thresholds have been identified (at these points, the CBR is 1):

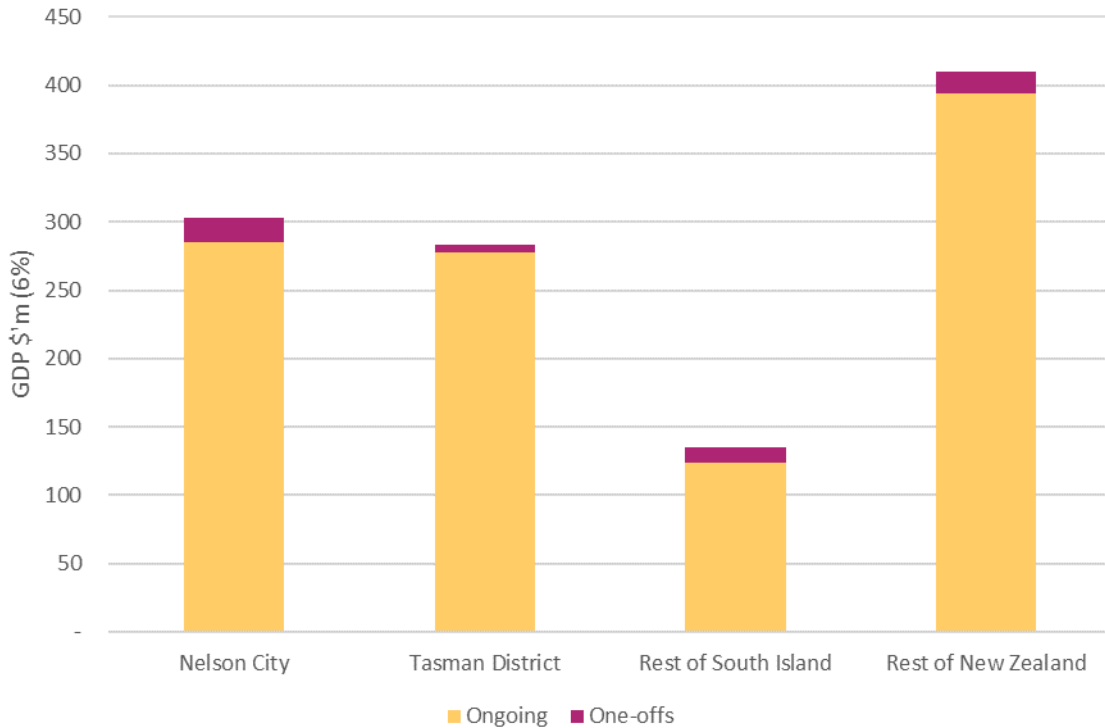
- Lower production – the production needs to lift by at least 47% for the CBR to remain positive (or at least 1),
- Lower prices (exports) by 42%,
- Increase the capital expenditure (port infrastructure) by 348%, and
- Increase operational costs by 8%.

The second part of the analysis considered the economic impacts that the lift in activity would unlock. Using a Multi-Regional Input Output model (MRIO) with four regions (Tasman District, Nelson City, Rest of the South Island and Rest of New Zealand) and 106-sectors. Again, the future values are expressed in today's terms using discounting (4%, 6% and 8%).



The impact analysis suggests that the total GDP is between \$983m and \$1,466m over 25-years. Unsurprisingly, the ongoing activities (farming and processing) make up the largest share of the total impacts, generating around 90% of the total impacts. Figure 1 illustrates the spatial distribution of the impacts<sup>2</sup>.

Figure 1: Spatial distribution of GDP impacts



Nelson City and Tasman District share half of the overall GDP impacts, with \$303m and \$284m respectively. A large share (36%) of the GDP impacts are felt in the rest of New Zealand. This reflects the wider, out of region supply chain linkages. Once fully operational, the GDP impact in Nelson City is estimated at \$26.7m and in Tasman District, the additional GDP is estimated at \$25.9m.

Another way to look at the economic impact is to consider the employment that is supported by the lift in activity. The analysis suggests that, once fully operational, the economic activity would support 1,030 employees (across the entire economy). Fifty-nine per cent of the employment will be in Nelson City (31%) and Tasman District (28%).

<sup>2</sup> The figures use the present values when calculated using 6%.