BEFORE THE WHANGAREI DISTRICT COUNCIL AND NORTHLAND REGIONAL COUNCIL

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of a resource consent application by Northport Limited under section 88 of the Resource Management 1991 for a port expansion project at Marsden Point
APPLICATION NO.	APP.005055.38.01 LU 2200107

STATEMENT OF EVIDENCE OF GREGORY MICHAEL AKEHURST

ECONOMICS

24 August 2023

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INTRODUCTION

Qualifications and experience

1. My name is Gregory Michael Akehurst. I am a founding Director of Market Economics Limited, an independent research consultancy.

2. I have 28 years' consulting and project experience working for commercial and public sector clients. During this time, I have worked on over 500+ projects, the majority addressing issues of growth, and the spatial distribution of activities and services to meet needs of specific markets and communities.

3. I have a Bachelor of Arts, majoring in Geography and a Bachelor of Commerce, majoring in Economics from the University of Auckland.

4. I specialise in the assessment of demand and markets, the structure and nature of economic sectors, the form and function of urban economies, preparation of forecasts, and evaluation of impacts, outcomes and effects of growth and change. I have applied these specialties in studies throughout New Zealand, across most sectors of the economy.

5. My work includes assessing sectoral structures and interactions, over time and locations, scenario assessment and growth modelling and then evaluating the implications of different growth pathways on market segments. I have presented evidence on these matters in Council Hearings, EPA Panel hearings, Environment Court hearings and in affidavits to the High Court.

6. I have led a number of studies quantifying the role that infrastructure plays in the economy, including airport studies, marina studies and roading. I have worked extensively on the role of the marine industry, aggregate extraction, cruise tourism and on major events such as the America's Cup 2000 - 2013 and the Rugby World Cup 2011, in terms of the impact they have on the regional and national economies.

7. I have also worked extensively in the area of Financial and Development Contributions for Councils and private sector clients. I am currently a sitting member of Waikato District Council's Development Agreements Committee.

8. I am familiar with the application site and the surrounding locality. I have read the relevant parts of the application; submissions; and the Section 42A Report.

Involvement in the application

9. Market Economics was retained in 2020 to assist Northport Ltd (Northport) by preparing an Economic Impact Assessment (EIA) of Northport's eastern expansion (Berth 5), in support of the resource consent application. This report was informed by the EIA previously completed for Northland Inc. in 2018 by Market Economics. The most recent version (July 2022) of the EIA report ("the EIA Report"), *Northport Expansion (Berth 5) - Economic Assessment (September 2021)* was included with Northport's consent application, and forms part of my evidence.

Code of Conduct

10. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note (2023) and I agree to comply with it. In that regard, I confirm that this evidence is written within my expertise, except where I state that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

11. My evidence, outlines the following key matters:

    (a) An executive summary;

    (b) Northport's history and current role in the local and wider economy;

    (c) The potential future trade task of Northport, including a business-as-usual scenario and three potential growth scenarios;

    (d) Northport's potential future role in the economy under a medium growth scenario;

    (e) Response to the s42A Report;

    (f) Responses to matters raised in submissions;

    (g) Comment on proposed conditions advanced by Northport; and

    (h) My key conclusions.

EXECUTIVE SUMMARY

12. The purpose of the EIA is to provide decision makers with an understanding of the potential change in Northport's economic role that could be enabled if the Port is able to expand beyond the current port area. More specifically, it assesses the economic impacts associated with Northport's proposed Berth 5 expansion.

13. The EIA establishes four potential 'future scenarios' to highlight realistic potential trade tasks that could be handled by Northport in the long term. These future scenarios included: Business-as-usual (BAU); North Auckland Imports (NAI); Upper North Island Ports Constrained (UNIPC); and North Auckland Growth (NAG). In broad terms, the UNIPC scenario represents a high trade task future, NAG represents a low trade task future and NAI a mid-scenario.

14. The range of scenarios is designed to cover the range of likely outcomes, so while no projection will predict the exact result, the range of projections ensures that decision makers can see the range of outcomes most likely.

15. The economic impact assessment reveals:

    (a) Northport has an important regional role as part of the national port network. In terms of its economic role, the Port currently facilitates approximately $438 million in value added and the equivalent of 6,300 jobs in the Northland economy.

    (b) Northport's role is likely to change significantly in the future, mainly as a result of changing trade patterns due to constraints in the Upper North Island port network. There is uncertainty about the future, but all four of the modelled future scenarios (including BAU) show Northport's role expanding over the coming three decades.

    (c) The change in operational activities (the Port as a business), as a result of the proposed expansion, and any subsequent change in supply chain effects, are relatively small compared to the facilitated effects due to changing trade patterns facilitated by the proposed expansion of the Port.

16. There are potential capacity issues associated with other key ports in the Upper North Island. In the coming three decades Northport's role is likely to further expand beyond its regional trade tasks, to support trade from outside the region.[1] More specifically, the NAI scenario assumes that a share of containerised trade arising from the area north of the

[1] I note that Northport's role has already expanded beyond regional trade tasks, for example in supporting Ports of Auckland with congestion following Covid 19. This has been recognised by shipping lines and is being considered as a long-term option.

Auckland isthmus, the population of which is expected to reach 1 million people in the coming three decades, shifts to Northport.

17. All of the future scenarios modelled indicate that Northport will need to invest in infrastructure upgrades, which include wharf extensions and port area reclamation.

18. The existing consented expansion (Berth 4) is currently in a final design phase, with construction likely in the near future. In two out of the four scenarios modelled (NAI and the UNIPC), Northport may outgrow even the expanded port (i.e. including Berth 4) as early as 2032. This is based on expected demand for container handling, driven mostly by demands from outside of the region. In three of the other forecast scenarios (NAI, UNIPC and the NAG) (and depending on actual and forecast trade demands), the proposed expansion could be required by 2036.

19. While our economic projections are based on the best available information, I accept that these assumptions made contain uncertainties, but that they do not alter the key findings of this research. Based on all of the information I have considered and the modelling I have carried out, it is unlikely that the full potential of Northport can be achieved, and the resulting full social and economic benefits to people and communities realised, unless the Port is given sufficient flexibility in its development to respond to changing scenarios. In other words, Northport might require additional berth capacity as early as 2032 to develop its container capacity to respond to changing economic needs.

NORTHPORT IN CONTEXT

History

20. Over the last decade there have been a large number of economic studies focusing on the future of the Upper North Island Supply Chain (UNISC) and implications for Ports of Auckland, the Port of Tauranga and Northport. Most recently two extensive and well-resourced studies[2] on the UNISC have been published by the NZ Government. While there is disagreement in these two reports, on how trade should be handled in the upper North Island, there is consensus that development of port infrastructure takes time (many decades) and requires significant investment. The implication being that port operators, governments and decision makers need to employ a long-term horizon when planning for new infrastructure.

[2] Economic Analysis of Upper North Island Supply Chain Scenarios. 9 August 2019. A report by Ernst and Young for the Ministry of Transport. Analysis of the Upper North Island Supply Chain Strategy Working Group Options for moving freight from the Ports of Auckland. 24 August 2020. A report by Sapere for the Ministry of Transport.

21. The Northland Harbour Board first proposed to move the port facility from Port Whangarei to Marsden Point in the late 1960's, with technical studies being completed more than a decade later, in 1976. In 2000 the planned move was eventually achieved. Subsequently, all cargo operations were progressively transferred from Port Whangarei to Northport. This illustrates that the development of port facilities takes many decades, both in terms of planning and implementation.

The Trade Task

22. The port has traditionally played a regional role in Northland, focused on handling high volume, low value trade, which was mostly raw primary outputs for export (such as logs and woodchip) or raw primary inputs that are imported to support production (in agriculture or cement). In recent times the port has increasingly handled high value goods such as engineered timber, horticulture products, marine products, and more recently containerised goods.

23. Since Northport operations commenced (2002) the trade tasks handled in Whangarei Harbour (excluding Marsden Oil Refinery) have grown by 3.2% per annum (2002-2022) and the value of trade has grown by 5.4% per annum over the same period. Northport trade tasks peaked at 3.6 million tonnes in the 2021 financial year and has since come down slightly to 2.8 million tonnes in 2022. While total volumes have dropped over the last five years (2017-2022), the value of trade handled has increased from around $650 million to approximately $1.1 billion. This is in part because of the growth of containerised trade, which typically contains higher value goods. Container volumes flowing through Northport have grown from just under 3,000 TEU in 2015/16, to over 12,000 TEU in the 2019/20 period, and over 19,000 TEU in 2021/22. This suggests growth of over 600% between 2015/16 and 2021/22.

24. The Port has been prudent in its forward planning, to provide sufficient capacity to match demand; and to provide a range of services that encourages businesses to use the facility to trade (noting above that this type of infrastructure development typically takes decades of planning and implementation). There have been three recent developments at Northport which open the Port up to handling higher value products:

    (a) Development of container handling facilities. Two mobile container cranes which allow it to handle container trade have been commissioned – the first in online in 2015 and a second in 2020.

(b) Hosting cruise ship calls. Prior to Covid 19, Northport had taken bookings for cruise vessel visits in the 2020/21 season, but this was impacted by Covid 19. Visits by six cruise ships are scheduled for the first quarter of 2024. However, with the increase in cruise ship calls, comes reduced capacity to handle cargo ships when cruise vessels are in port. One of the vessels that is booked, is over 200 metres long, which will require a third of the existing berth space.

(c) Continued development of vacant port area for new uses. Northport has recently sealed all the remaining vacant port area which opens up opportunities for different types of trade – including handling light vehicles and other one-off freight contracts that Northport deals with on a regular basis. The frequency of these contracts means the area is not available for containerised trade. If it were to be dedicated to containerised trade, Northport would lose the ability to service this important service and associated revenue stream.

NORTHPORT'S FUTURE

25. Northport is situated strategically with respect to the high growth areas of the upper North Island (Northland, Auckland, Waikato and Bay of Plenty). It is the nearest multi-purpose port to Auckland (just over 75 nautical miles north of Ports of Auckland), and the closest port to the majority of New Zealand's international markets. The Port has the ability to handle trade from across the region and across the upper North Island.

26. The other ports in the upper North Island, Ports of Auckland and Port of Tauranga, are likely to face capacity constraints over the long term. Most importantly, Ports of Auckland is physically constrained and is under significant pressure to limit its footprint both on land and into the Waitemata Harbour. These forces are likely to constrain its ability to handle future growth.

27. Northport has the ability, and potentially the capacity, to meet the existing and growth needs of at least a portion of the Auckland market. It makes logical sense, given the constraints at Ports of Auckland, for some demands from the northern part of the Auckland region to be met by Northport. In order for this change to occur, Northport would need to expand both the port area and number of berths. It is worth recording that, while changes to Ports of Auckland would likely have serious implications for Northport and other ports in the upper North Island, this proposal is not predicated on Ports of Auckland ceasing operations. Northport has no control over the future direction of Ports of Auckland. I simply note the potential for that to occur, and the likely resultant shift in demand.

28. In order to understand the implications of Northport's future in economic terms under a relatively high degree of uncertainty, I have adopted a scenario approach. I developed four different future scenarios to depict Northport's potential future trade task:

(a) Business-as-usual Scenario (BAU) – this presents a future that assumes Northport's role continues to be focused on regional trade.

(b) North Auckland Imports Scenario (NAI) – this presents a future with the Port expanding its role to include both regional and national trade.

(c) Upper North Island Ports Constrained (UNIPC) – this is a 'high' future which assumes that other ports in the Upper North Island become constrained, resulting in a larger proportion of trade in Auckland Region being handled at Northport.

(d) North Auckland Growth (NAG) – this is a 'low' future which assumes that Northport captures a share of the growth in container trade from the area north of the Auckland isthmus.

29. While each of these scenarios can stand alone as a vision of the future role, it is the combination of 4 future views that potentially cover the most likely actual outcome for Northport. This is designed to provide comfort to decision makers that regardless of changes or uncertainties, the resulting outcome lies within the range presented here.

Bulk Trade

30. The ability to expand capacity at Northport is unlikely to generate significant additional volumes of bulk trade from Northland region (i.e. wood exports, agricultural inputs, other inputs or other agricultural outputs). Therefore, it is unlikely that the level of bulk trade handled at Northport over the coming three decades will be sensitive to the ability to undertake the proposed expansion. Northport's handling of bulk goods is likely to continue as a regional role. For the economic modelling, bulk trade projections are applied in all four scenarios.

31. For completeness, I have appended details of the future bulk trade task growth to my evidence as Appendix 1.

Container Trade

32. Northport established a seasonal, fortnightly container service in 2018. At present, the majority of containers handled by Northport are exports of kiwifruit and cement, with some specialised imports and coastal shipping of containers. Since 2018 the amount of containerised trade has grown by almost a quarter each year, with just over 12,000 TEU handled in 2020 and over 23,000 TEU in 2022.

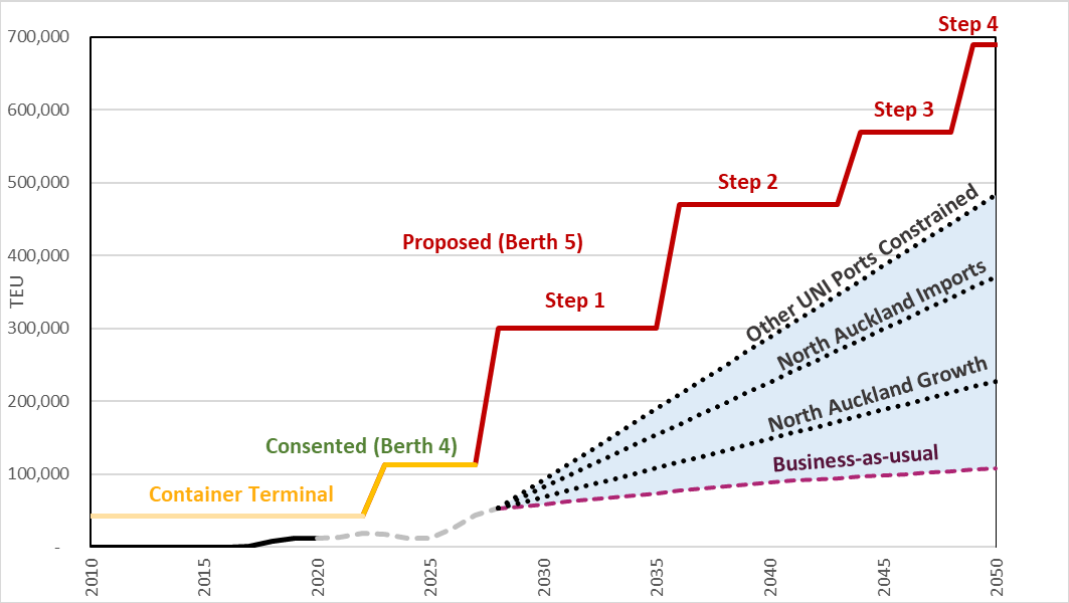
33. It is considered likely that the containerised trade in the near term will be roughly the same, as it would not be technically possible to complete the construction of the proposed container terminal expansion within this period. Northport's budget forecasts show that the containerised trade is expected to continue growing at around 7,000 TEU on average per annum, reaching 50,000 TEU by 2028. The first paragraph of Section 5.2 (page 23) of Appendix 2[3] of the resource consent application, points out that Northport currently has sufficient port area to handle up to 50,000 TEU per annum. However, it would mean ongoing additional investment in equipment such as forklifts, cranes, and other plant and machinery.

34. Constructing the already consented Berth 4, will lift capacity to approximately 113,000 TEU, using current container handling mode (the yellow line on Figure 1 below). Capacity estimates (red line) are based on information on page 53 of the TBA Group report[4] presented in Appendix 2 of the resource consent application.

35. Figure 1 shows that demand under the UNIPC scenario, is expected to exceed the capacity of the expanded terminal (yellow line) by 2032 and under three of the scenarios by 2036. Under a BAU scenario, demand is expected to exceed the yellow line, i.e. capacity including Berth 4, by 2051.[5]

[3] Issues and Options report.
[4] TBA Group report is Appendix A of the Issues and Options report presented as Appendix 2 of the consent application.
[5] Noting that the modelled assessment period only extended to 2050.

Figure 1: Northport Container Terminal Capacity and Demand Scenarios, 2010-2050



36. This analysis suggests that under the UNIPC scenario, Northport may need the Berth 5 expansion (red line) as early as 2032, under NAI, in order to accommodate container demand arising from outside of the region.

37. For any of the three higher growth scenarios (relative to BAU) to be achieved in the coming decades, Northport would be required to expand, both in terms of the berth length (i.e. number of berths) and port area. The driver of growth for scenarios above the BAU is a reorganisation of the trade task shared between the three key ports (at Marsden Point, Auckland and Tauranga). The reorganisation may be driven by necessity – outside of Northport's decision processes, but it cannot occur if there is no expansion. It would be prudent (from an economic perspective) to secure the ability to expand the container terminal. Expansion would protect the future potential of Northport and the role it could play for the upper North Island region and as part of an integrated port network in New Zealand.

38. Over time, it is likely that the container terminal will become more efficient, by using technology to improve storage and handling (assuming the same berth length and footprint),. Figure 1 shows four indicative steps of capacity which could be achieved using different container handling methods, ranging from 300,000 to over 690,000 TEU. The steps shown in the figure are indicative, with each one being applied in order that Northport can handle demand under all of the future scenarios. The likely timing and implementation of the technological upgrades necessary to achieve these efficiency gains is more broadly discussed in the evidence of Mr Khanna.

NORTHPORT'S ECONOMIC ROLE

39. The economic impacts associated with Northport's operation on Whangarei and the Northland Region arise as a result of the trade tasks that the Port handles (the port plays a facilitated role in generating those impacts). To a lesser extent, the Port as a business itself contributes to the economy (its direct role).

40. Northport's direct role in the economy is defined as the direct operation of the port as a business based on its and reliant on the capital investments at the Port. Northport's direct role, like most infrastructure, is relatively small compared to the wider economy or the importance of the wider role the Port plays in facilitating trade.

41. Northport's facilitated role in the economy is defined as the import and export activity that is handled by the Port. Northport's facilitated role, like most infrastructure, is relatively large compared to the wider economy or Northport's direct role. It reflects the reach of the infrastructure and is usually broad. The Port's facilitated role are tasks that benefit from the ports presence, they are advantaged by its presence, but so not solely rely on the port in order to occur.

42. The modelling results presented in Table 1, show that the total estimated value of trade facilitated by Northport may exceed $1 billion, in the near term.

43. By 2050, the value of trade handled by Northport under a BAU scenario could reach $2.0 billion, and under the NAI scenario, reach over $5.6 billion. This implies growth rates of 3.3% per annum and 6.9% per annum, under the BAU and NAI scenarios, respectively.

44. A bespoke Multi-Regional Input Output (IO) model[6] is utilised to estimate the direct and all flow-on effects (indirect and induced impacts) associated with the net additional direct and facilitated activity.

45. At the core of any IO analysis is a set of data that measures, for a given year, the flows of money or goods among various sectors or industrial groups within an economy. These net flows are recorded in a matrix or 'IO table'. The information contained within such a matrix, is used to calculate mathematical relationships for the

[6] A description of the MRIO, its operation and limitations, is appended to my statement (Appendix 3).

economy in question. These relationships describe the interactions between industries, specifically, the way in which each industry's production requirements depend on the supply of goods and services from other industries. With this information it is then possible to calculate, given a proposed alteration to a selected industry (a scenario), all of the necessary changes in production that are likely to occur throughout supporting industries within the wider economy.

46. The results from the economic modelling showing Northport's economic role within Northland, are presented in ***Table*** below. To recap, the direct role of the port is defined as the direct operation and capital investments of the Port; whereas its facilitated role in the economy is defined as the import and export activity that is handled by the Port.

Table 1: Northport's Economic role in Northland (Value Added and Employment, 2020-2050)

Northland	**Direct (Port as a business)**		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
	Value Added ($ m)	BAU	$ 13	$ 14	$ 11	$ 13	$ 14	$ 19	$ 22
		NAI			$ 13	$ 20	$ 23	$ 29	$ 34
		Difference			$ 1	$ 7	$ 9	$ 10	$ 12
	Employment (MEC)	BAU	180	200	150	170	190	270	320
		NAI			170	270	310	410	480
		Difference			20	100	120	140	160
	Direct role + Facilitated Role		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
	Value Added ($ m)	BAU	$ 438	$ 630	$ 650	$ 744	$ 885	$ 986	$ 1,097
		NAI			664	787	938	1,062	1,194
		Difference			$ 15	$ 42	$ 53	$ 75	$ 97
	Employment (MEC)	BAU	6,300	8,700	8,800	10,000	11,900	13,300	14,800
		NAI			9,000	10,600	12,700	14,300	16,100
		Difference			200	600	800	1,000	1,300

47. The IO assessment shows that the value of Northport's direct role (as a business) in the Northland economy, could range from $22 million Value Added (VA) under a BAU scenario to $34 million VA under a NAI scenario, by 2050. In terms of jobs[7], the VA at this level could sustain the equivalent of 320 to 480 jobs annually.

48. I note that under the BAU scenario, Northport will have sufficient capacity once Berth 4 is completed and operational, to cater for the trade task. However, that scenario provides no additional redundancy within the upper North Island ports network and no ability to deal with any unforeseen events or changes that may limit the capacity of either Ports of Auckland or Ports of Tauranga.

[7] The results report the number of jobs that could be sustained annually by the additional economic activity (VA), across the country.

49. The IO assessment shows that the value of the economic activity facilitated by the Port (which includes the trade tasks it handles) in the Northland economy could range from $1,097 million VA under a BAU scenario, to $1,194 million VA under the NAI scenario by 2050. In employment terms, this is the equivalent of sustaining between 14,800 and 16,100 jobs for a year, each year. This suggests that container traffic associated with goods that generate around $97 million VA (once they enter the economy, stimulate economic activity in Northland Region. This comes about through three processes.

(a) The Port as a business grows, requiring services from Northland suppliers as well as employing additional workers (see above),

(b) Auckland businesses that utilise containerised imports via Northport, increase their output which in turn, generates increased demand from Northland Region. Note that businesses in Northland who take advantage of containerised traffic through Northport are captured under the BAU scenario, as the BAU has ample capacity to cater for Northland activity growth.

(c) Finally, the wages and salaries paid to workers at the port and other businesses spend a portion of that money in Northland shops and services.

This total change generates VA equivalent to approximately 1.2% of Northland's current GDP.

50. Under the NAI scenario, the role of the Port expands beyond the region. In total, Northport could facilitate economic activity equivalent to $5.2 billion VA by 2050 in the New Zealand economy, which is equivalent to 56,900 jobs. In marginal terms, the NAI scenario would be $2.9 billion VA greater than the BAU in 2050. This marginal change in facilitated VA is associated with 30,600 job year equivalents across New Zealand. I have appended the results showing the Port's economic role across the country as a whole, in APPENDIX 2.

51. The majority of the additional trade handled by Northport will flow to Auckland Region under the NAI assumptions, which means that most of the new role of the port will relate to economic activity outside Northland region (i.e. will occur at the national level). Some businesses will choose to relocate to Northland to benefit from closer proximity to the port, however the effects of this change have not been modelled. In the longer term, this effect will grow, however it is likely that most trade and economic activity will flow more or less directly out of the region, at least for the period assessed.

52. A recently published report by Polis Consulting Group[8] estimated a dedicated container terminal, i.e. the consented area and proposed expansion combined, could bring an additional $160m annual GDP to Northland by 2060, supporting an additional ~1,500 full time equivalent jobs (FTEs) (medium scenario). This assumes container annual volumes reaching 400,000 TEU by 2060. Based on the graphics in the report, the estimated additional annual GDP by 2050, is around $117m, supporting ~1,100 FTEs. This assumes container volumes of around 300,000 in 2050.

53. The results presented in the Polis Report is broadly consistent with my assessment, but I acknowledge that there are minor differences in the estimated economic impact and container volumes, largely due to differences in assumptions and methodology. Nevertheless, the report concluded a positive economic impact would result if the expansion proceeded.

54. This independent substantiation of the most likely outcomes is important as the methodologies and data relied upon are completely independent from my work. Decision makers can be reassured by this form of triangulation.

RESPONSE TO THE SECTION 42A REPORT

55. Northland Region and Whangarei District appointed Mr Peter Clough of NZIER to provide a peer review of the Market Economics Report into the potential economic effects of Northport's expansion that I base my statement on. This is contained in Appendix C14 to the s42A report.

56. Whilst we differ on the scale of the impact and the preferred model to use for assessing the economic impact of the proposal, there is broad agreement between myself and Mr Clough that the proposal will likely generate positive economic effects. This is highlighted in Table 8 of the s42A report (page 82 and 83) where both Council and Applicant conclude that the application will have positive economic effects. and on p11 of Mr Clough's memorandum (Appendix C14 of the s42A report), where he states:

> *"I conclude that the proposed eastward expansion will likely generate positive effects if domestic transport constraints out of Northland are relieved over time, but that there's considerable uncertainty over the different growth scenarios, the scale of their effects and their timing….."*

[8] Socioeconomic Impacts of Northport Expansion on Te Tai Tokerau/Northland. June 2022. A report by Polis Consulting Group for Northland Inc.

> *"However, given the need to provide for a growing population in Northland and providing alternative outlets for economic activity in the region after recent adverse events, the proposal should be significant at a regional level. In the longer term it may become significant at a national level, but that depends on other investments in inland transport and developments at other ports.".*

57. In terms of the points where we differ, I make the following comments. First, Mr Clough points out (in the paragraph under Table 1 on page 6 of his memorandum) that the annual percentage growth in the IO result tables is higher for New Zealand in total than Northland itself. He states that this is unusual because an investment in one region is generally expected to generate higher returns locally than in the rest of New Zealand.

58. However, in this instance the majority of the effects arise by the changes at Northport catering to the import demands that arise from businesses north of the Auckland isthmus. The majority of these businesses reside within the Auckland region. Therefore, the effects described will occur within the Auckland Region (other than the spill-over of Northland businesses providing inputs into Auckland businesses).

59. Auckland regional growth rates are higher than the Northland growth rates, meaning the impacts at the national level (including Auckland) grow faster than the Northland only impacts. This is entirely consistent with the results in the table and does not necessarily point to the NAI scenario outcomes being "optimistic".

60. Mr Clough points out in paragraph 2 on page 6, that the investment in improving and strengthening transport networks were not explicitly considered in the economic assessment. This is correct, they were not considered. However, they are likely to be a net positive as any flow on effects of the improvement in transport linkages will benefit many businesses within Northland and those that trade with them – not just those that utilise the port infrastructure. This effect adds to the benefits rather than detracts from them.

61. He is correct in pointing out that the benefits or effects identified in the NAI scenario are reliant on improved transport linkages – or at least, making maximum use of the links that currently exist.

62. In paragraph 3 on page 6 of his review, Mr Clough points out that the EIA Report does not mention the closure of the Marsden Point oil refinery. This is correct, but it is a peripheral issue. Expansion of Northport does provide an opportunity to (at least)

partially offset the effects of Marsden Point's Oil Refinery closing, but it is not reliant on the presence or otherwise of the refinery.

63. In addition, the EIA Report was commissioned in 2019 and finalised in September 2021, with some minor updates of information and terminology incorporated in July 2022. Refining New Zealand (RNZ) confirmed in November 2021 that Marsden Point would transition out of refining to become an import terminal by April 2022. Consequently, Refining NZ was renamed Channel Infrastructure NZ (CINZ) and currently operates as a fuel import terminal. CINZ have indicated that they are actively exploring and taking up growth opportunities, as Marsden Point transitions. In addition to becoming a fuel storage facility, CINZ publicly indicated earlier this year that they are exploring the development of a green hydrogen manufacturing facility at Marsden Pont to produce synthetic Sustainable Aviation Fuel (eSAF). While I recognise that the closure of the oil refinery will lead to fewer ships coming through the shipping lane, in the short term, there is uncertainty about the nature of CINZ's operations in future. While I acknowledge that the Marsden Point closure could have been mentioned into the latest version of the economics report, I do not consider it particularly weakening (or strengthening) the case for expansion at Northport.

64. Mr Clough states in paragraph 1 on page 7:

> *While it is impractical and unreasonable to expect modelling reported on every potential outcome, a few more modelled outcomes reflecting variations in assumptions could be provided with assessment of relative likelihood of each, to give the public and decision makers a better sense of the potential range of outcomes, from the worst case to the best case.*

65. It is often a judgement call as to how many scenarios are required. I believe that the number and extent of coverage of the future scenarios included in the EIA Report is appropriate and is sufficient to provide a range within which the actual effects are captured. This means that decision makers can make an informed decision as to the merits of the application.

66. In the first paragraph on page 7, Mr Clough points out the EIA Report is not explicit about risks and uncertainties relating to the growth scenarios. While I recognise the EIA Report could be more explicit, it acknowledges early on (at section 1.2) that *"the future is subject to uncertainty, especially when assessing the long term. Accordingly, this assessment utilises four potential representative future scenarios."* By utilising scenarios, uncertainty is assumed. The EIA Report also states in several places that

the future scenarios show the *"range of **potential** trade tasks that **could** be handled by Northport in the long term"* (emphasis added).

67. In his conclusions, on page 10 in the two bullet points, Mr Clough correctly points out that the EIA Report did not account for adverse effects in the physical or economic environment. This was beyond the scope of the EIA Report. The assessment is very clear that it is not a cost-benefit analysis, but an economic impact assessment. I am satisfied that the chosen methodology, i.e. using a multi-regional input output model,[9] is appropriate to meet the objective of the assessment and fulfil the requirements of the Resource Management Act 1991 (RMA). Input-output modelling has been peer-reviewed and internationally recognised by organisations such as the World Bank, International Monetary Fund (IMF), and United Nations (UN) as a robust tool for economic analysis.

68. I am confident that – while we may differ in opinion on the modelling approach and details about how many scenarios to run and which effects to include or not, Mr Clough and I reach the same broad conclusion that the effects of granting consent are significant and net positive for Northland Region.

69. Thee scale of benefits are difficult to know with any certainty because the modelling relies on a range of inputs (such as container volumes) that are driven by decisions made outside of Northport's control. The modelling provides a basis for answering the 'what if" questions to assess the impact of some of the larger issues, such as the Ports of Auckland being fully, or partially constrained.

70. Mr Clough has expressed his views and they are valid, although those views do not detract from the purpose and outcomes of the M.E report and assessment, which is to provide an evidentiary base of the effects of demand growth. The M.E assessment highlights that, given the time frames involved in consenting and constructing major infrastructure such as ports, if Northport waits until the demand is manifest, then it will be too late to meet those growing needs.

RESPONSE TO SUBMISSIONS RAISED

71. I have read the relevant parts of the submissions that raise economic issues.

72. Appendix B of the s42A report presents a summary of the submissions received, including to identify submitters broadly raising economic issues. Most submissions

[9] Details of the MRIO are appended to my statement in Appendix 3.

recorded as raising matters of economics and/or supply chain support the Project. This is perhaps unsurprising, given the very significant economic benefits associated with an expansion of Northport which I identify.

73. Three submissions opposing the application are identified as raising issues relating to economics and two relating to supply chain. In addition, five submissions raised issues relating to economics and two submissions raised issues relating to supply chain, were willing to support the consent if certain conditions were attached.

74. Concerns raised in the submission points relating to economics and opposing the proposal, include:

(a) additional jobs not being filled by locals (submitter # 167);

(b) residential building costs increases due to additional noise and light pollution (submitter # 135); and

(c) that the "trickle-down effect of more business/work to the area is already a disproven concept" (submitter #196).

Additional jobs being filled by locals (submitter #167)

75. With regards to this concern, it is not clear whether the submitters are referring to the direct employment at the Port (the Port as a business), or employment supported by the Port's increased trade activity.

76. As the analysis shows, the economic activity generated by Northport's direct expenditure as a business is relatively small compared with the activity it facilitates (i.e. the trade task flowing through the Port). If the Port were to expand, there could potentially be additional employment opportunities. These opportunities would be generated through the increased trade, and to a lesser extent, the Port's direct expenditure. The new employment opportunities that would come from the Port as a business would be concentrated in the region. Conversely, the employment opportunities resulting from the increased trade activity facilitated by the Port would be mainly concentrated in the Rest of North Island (primarily Auckland). However, if the expansion does not occur, it is unlikely that the trade facilitated by Northport, would change much and therefore its expenditure as a business is unlikely to vary much from the present. It is reasonable to say that additional local employment won't be unlocked if the increased trade does not occur.

Potential for increases in residential building costs (submitter #135)

77. This appears to be an isolated point relating to a single submitter's updated requirements to spend more on house construction to mitigate the effects of increased noise and light pollution. While this may be a significant concern for the submitter, it is a small issue in the context of the potential port expansion. Beyond this, I am aware that there is evidence from Mr Fitzgerald regarding terrestrial noise (including a process for improving mechanical ventilation at affected properties); and that there are proposed conditions of consent relating to management of light pollution.

'Trickle-down' or Flow on effects of business (submitter #196)

78. This submission point is unclear and lacks context. It may be that this submitter provides further detail through evidence to expand on their position. However, in my assessment I do not discuss or mention a "trickle-down effect". What my analysis does show is that in order for businesses to increase output, they require additional outputs from their supplier businesses and potentially either greater investments of capital or additional labour in the form of overtime from existing workers, or from new employees.

79. These effects are not trickle-down effects, they are the actual effects that arise in an economy as output increases. "Trickle-down economics" actually relates to the effect put forward by supporters of "supply side economics, a theory that claims that economic growth can most effectively be generated by lowering income taxes and reducing regulation.

80. High income people pay more tax, therefore receive the highest reductions but the theory went that they have more money to spend which therefore trickles down through the economy. That is not what will happen here.

81. Overall, I have not read anything in the submissions that has caused me to alter my position that expansion to Northport in line with the application will result in significant positive benefits to Northland's economy.

COMMENT ON PROPOSED CONDITIONS ADVANCED BY NORTHPORT

82. I understand that Northport is proposing a suite of conditions and that these are attached to the evidence of Mr Hood. There are no relevant conditions on which I wish to comment.

CONCLUSION

83. The results of my assessment show that Northport has an important regional role as part of the national port network.

84. Based on the trade tasks outlined in the assessment, demand under the UNIPC (high growth) scenario is expected to exceed the capacity of the expanded terminal by 2032 and under three of the scenarios by 2036.

85. Given the long timeframes required to plan, obtain consents and funding, and construct new port facilities, it would be prudent (from an economic perspective) to provide for (enable) the expansion and secure the ability to expand the port area. This would protect the future potential footprint of Northport, and ensure that the upper North Island ports, collectively, could meet the needs of this fast-growing region and therefore New Zealand.

Greg Akehurst
Market Economics Ltd.
24 August 2023

APPENDIX 1 - BULK TRADE TASKS (2020-2050)

	2020	2025	2030	2035	2040	2045	2050
Logs (JAS m3)	*2,250,000*	2,400,000	1,439,000	1,885,000	2,171,000	3,671,000	4,637,000
Woodchip (Tonnes)	*196,280*	176,000	112,000	146,000	169,000	285,000	360,000
Other Wood (m3)	*134,960*	54,400	54,000	54,000	54,000	53,000	53,000
Agricultural Inputs (Tonnes)	*223,200*	160,000	160,000	161,000	162,000	163,000	164,000
Other Inputs (Tonnes)	*137,340*	86,000	124,000	131,000	137,000	144,000	152,000

APPENDIX 2 - NORTHPORT'S ECONOMIC ROLE IN NEW ZEALAND (VALUE ADDED AND EMPLOYMENT, 2020-2050)

New Zealand	**Direct (Port as a business)**		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
	Value Added ($ m)	BAU	$ 21	$ 23	$ 18	$ 21	$ 22	$ 29	$ 34
		NAI			$ 20	$ 33	$ 36	$ 46	$ 53
		Difference			$ 2	$ 12	$ 14	$ 17	$ 19
	Employment (MEC)	BAU	250	270	210	240	260	360	430
		NAI			240	380	430	560	650
		Difference			30	140	170	200	220
	Direct role + Facilitated Role		**2020**	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
	Value Added ($ m)	BAU	$ 906	$ 1,313	$ 1,343	$ 1,540	$ 1,833	$ 2,040	$ 2,268
		NAI			$ 1,598	$ 2,439	$ 3,368	$ 4,276	$ 5,194
		Difference			$ 255	$ 899	$ 1,535	$ 2,236	$ 2,926
	Employment (MEC)	BAU	10,700	15,300	15,600	17,900	21,200	23,700	26,300
		NAI			18,300	27,300	37,300	47,000	56,900
		Difference			2,700	9,400	16,100	23,300	30,600

APPENDIX 3 - METHODOLOGY

Approach

Several steps were required to estimate Northport's economic impact. Firstly, the spending associated with Northport, as a business, and trade that is facilitated by Northport, were mapped to specific economic sectors (106 industries) and geographies (Northland, Rest of North Island and the Rest of New Zealand).

The economic shock of the port expansion and resulting activity was then included into the Northland Multi-Regional Input-Output (MRIO) model to estimate the flow-on effects associated with the spending. In short, the MRIO model considers multiple geographic areas or regions and examines the flow of goods, services, and economic activities between them. At each step it estimates the amount of output, value added and employment generated, or required.

Using MRIO modelling, we estimated:

- The economic impact caused by the spending or shock, covering:
    - **Direct impacts**, which are generated by direct spending that occurs, sustaining a certain quantity of direct employment to meet these needs,
    - **Indirect impacts** occur when suppliers to the directly impacted businesses must increase their production to meet the increase in demand for goods and services. This requires the further purchase of other goods and services from their suppliers, along with additional labour.
    - **Induced impacts**, cover the additional wages, salaries and profits paid into the economy, thereby inducing additional expenditure, such as spend on retail or services. Businesses either directly or indirectly impacted, are assumed to be operating at maximum capacity and therefore additional demand causes them to either hire additional workers or pay overtime. This means more money is available to households in the economy. The induced effect covers how this money then flows through the system as households increase their spending.
- The size of the impacts, reported in terms of:
    - Value Added ($), and
    - Employment (Modified Employment Count).
- The distribution of impacts:
    - Spatial (regional) breakdown of impacts, i.e. the results show what share of impacts are felt in Northland, in the rest of the North Island, and what share is felt in the rest of NZ.

- Sectoral breakdown of impacts, i.e. the results show which sectors in the economy (e.g. professional services, health services, retailing, etc.) are impacted.

Multi regional input output model

A bespoke MRIO model was developed and utilised to estimate the direct and all flow-on effects (indirect and induced impacts) associated with:

- Northport's operation, i.e. expenditure by the Port as a business, and
- The trade tasks handled by Northport, i.e. the activity facilitated by the Port.

At the core of any IO analysis is a set of data that measures, for a given year, the flows of money or goods among various sectors or industrial groups within an economy. These flows are recorded in a matrix or 'IO table' by arrays that summarize the purchases made by each industry (its inputs) and the sales of each industry (its outputs) from and to all other industries. By using the information contained within such a matrix, IO practitioners are able to calculate mathematical relationships for the economy in question.

These relationships describe the interactions between industries, specifically, the way in which each industry's production requirements depend on the supply of goods and services from other industries. With this information it is then possible to calculate, given a proposed alteration to a selected industry (a scenario), all of the necessary changes in production that are likely to occur throughout supporting industries within the wider economy.

As with all modelling approaches, IO analysis relies on certain assumptions for its operation. Among the most important is the assumption that the input structures of industries (i.e. technical relationships) are fixed. In the real world, however, technical relationships will of course change over time as a result of new technologies, relative price shifts causing substitutions, and the introduction of new industries. For this reason, IO analysis is generally regarded as most suitable for short-run analysis, where economic systems are unlikely to change greatly from the initial snapshot of data used to generate the base IO tables.

In addition to the 'fixed structure' assumption, other important assumptions (and limitations) of IO models are:

- **Constant return to scale**: This means that the same quantity of inputs is needed per unit of output, regardless of the level of production. In other words, if output increases by 10 per cent, input requirements will also increase by 10 per cent.
- **No supply constraints**: IO assumes there are no restrictions to inputs requirements and assumes there is enough to produce an unlimited product. There may be some transfer of inputs from other industries, which means that some economic activity associated with

the impact may not be net additional. However, in regions that have high unemployment (such as Northland) the opportunity cost will be lower.

- **The model is static**: No price changes are built in, meaning that dynamic feedbacks between price and quantity (e.g. substitution between labour and capital) are not captured.

The following indicators are used to measure economic impact:

- **Value added** measures all payments to factors of production (land, labour and capital), and excludes all purchases of intermediate inputs. It broadly equates with gross domestic product (GDP) as a measure of economic activity on the national level, and gross regional product on the regional level. Components of value added include compensation of employees (salary and wages), operating surplus (company profits), consumption of fixed capital (depreciation), and subsidies.
- **Employment** is measured in Modified Employee Count years (MECs). This is the number of full-time and part-time employees as well as working proprietors on an annual basis. This provides a measure of the labour demand associated with the estimate level of economic activity. Note that additional employment do not necessarily require that additional persons be actually employed. It may mean existing employees or proprietors work longer hours to complete the additional work.