

The background image shows a port facility with large concrete structures, a red crane, and seagulls perched on the structures. The sky is clear and blue. The text 'NAPIER PORT' is in large white letters, with 'Te Herenga Waka o Ahuriri' in smaller white letters below it. A semi-transparent circular graphic with a grid pattern is overlaid on the image.

NAPIER^o
PORT
Te Herenga Waka o Ahuriri

**CLIMATE
CHANGE RELATED
DISCLOSURE REPORT**

NOVEMBER 2023

THIS REPORT IS PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD).

THE NEW ZEALAND EXTERNAL REPORTING BOARD (XRB) IN DECEMBER 2022 ISSUED THE AOTEAROA NEW ZEALAND CLIMATE STANDARDS (NZ CS), WHICH ARE EFFECTIVE FOR REPORTING PERIODS COMMENCING ON OR AFTER 1 JANUARY 2023. THESE NEW MANDATORY CLIMATE STANDARDS ARE BASED ON THE TCFD FRAMEWORK SO NAPIER PORT EXPECTS TO ISSUE A NZ CS COMPLIANT REPORT IN 2024.

INTRODUCTION

This is the third report produced by Napier Port Holdings Limited (Napier Port) which seeks to provide stakeholders an understanding of the potential financial implications of climate change on its business.

The main focus of the third report is to highlight updates to Napier Port's climate change 'physical risks' and 'transition impacts' after a refresh of its Climate Change Risk Assessment (CCRA) report. A key driver for the update is adopting newly available climate change data which builds on the scenario modelling used in the previous two reports. The other key focus area is reporting and analysing our certified emissions output for the 2023 financial year (FY23) against our benchmark 2022 financial year (FY22).

Napier Port's sustainability journey is one of continuous improvement and the people of Napier Port are committed to improving its environmental, social and economic performance by identifying and managing risks and finding opportunities to use our resources more efficiently.

Napier Port expects to further develop and improve its climate change related disclosures as we gather more information and knowledge and continue to deliver against our publicly disclosed sustainability strategy.

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DISCLAIMER: *Quantifications in this report of financial impacts of climate change are estimates only and are not intended to constitute earnings guidance. No representation is made as to their accuracy, completeness or reliability. These risks and opportunities may not eventuate and if they do the actual impact may differ materially from these estimates. Other material risks and opportunities may exist or eventuate that are not included within this report.*

1. GOVERNANCE

TCFD REQUIREMENTS:

- **DESCRIBE THE BOARD'S OVERSIGHT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES**
 - **DESCRIBE MANAGEMENT'S ROLE IN ASSESSING AND MANAGING CLIMATE-RELATED RISKS AND OPPORTUNITIES**
-

The Napier Port Board of Directors are ultimately responsible for identifying the principal risks faced by Napier Port and taking reasonable steps to ensure that appropriate internal controls and monitoring systems are in place to manage and, to the extent reasonably possible, reduce the impact of these risks, including material climate-related risks. The Board reviews Napier Port's Risk Management Policy annually.

The Audit and Risk Management Committee supports the Board in this function by ensuring that management is implementing Napier Port's overall risk management framework and policy and monitoring corporate risk assessments and internal controls implemented. The Audit and Risk Management Committee reviews Napier Port's overall risk management framework on a six-monthly basis and the Committee proceedings are reported back to the Board.

The Sustainability Committee reviews a separate climate-related risk register specifically for the management of climate-related risks. This is part of the Sustainability Committee's wider role to identify and consider relevant environmental, social and governance (ESG) matters to provide strategic guidance and feedback to the Board and management on Napier Port's ESG related strategies, policies, frameworks, initiatives, performance and reporting. The Sustainability Committee meets at least two times per year to review progress on the implementation of Napier Port's sustainability strategy, including the assessment of climate-related risks and actions, and the Committee proceedings are reported back to the Board.

The Chief Executive and senior management team are responsible for ensuring that risks to the business, including climate-related risks, are identified and evaluated, effective responses and control activities developed, and appropriate monitoring and timely re-evaluation conducted, in accordance with Napier Port's Risk Management Policy. The General Manager – Assets and Infrastructure has overall responsibility for the development and implementation of the sustainability strategy, including assessment of climate-related risks, and reports on progress to the Sustainability Committee.

The different levels of responsibilities and the supporting Risk Management Policy that governs the management of climate-related risks at Napier Port are illustrated in figure 1.

FIGURE 1. GOVERNANCE OF CLIMATE-RELATED RISKS AT NAPIER PORT**RISK MANAGEMENT POLICY**

- Provides the overarching framework for identifying, assessing, managing and monitoring risk at Napier Port, including climate-related risks.
- Objectives of the policy include ensuring that Napier Port operates in a sustainable manner and protects the Port environment in accordance with its sustainability strategy.

BOARD OF DIRECTORS

- The Board is ultimately responsible for identifying the principal risks faced by Napier Port and taking reasonable steps designed to ensure that appropriate internal controls and monitoring systems are in place to manage and, to the extent possible, reduce the impact of these risks, including material climate-related risks.
- The Board receives reports and recommendations from, and has access to management reports provided to, the Audit and Risk Management Committee, in relation to Napier Port's overall risk management framework, and reviews the Risk Management Policy annually.
- The Board is also responsible for setting the strategic direction of Napier Port. This includes ensuring that the environmental, social and governance (ESG) risks and opportunities in Napier Port's sustainability strategy, including climate-related risks and opportunities, are integrated into the Group's long-term strategy and investment decision making.
- The Board receives reports and recommendations from, and has access to management reports provided to the Sustainability Committee, and reviews the Sustainability Committee Charter annually.

AUDIT AND RISK MANAGEMENT COMMITTEE

- Ensures that management is implementing Napier Port's overall risk management framework and policy.
- Monitors corporate risk assessments and internal controls implemented.
- Reports to the Board whether Napier Port's overall risk management framework and processes are sufficient.

SUSTAINABILITY COMMITTEE

- Makes recommendations and reports to the Board on material ESG matters requiring governance decisions.
- Ensures the integration of ESG considerations into business planning and strategy, risk management, key policies, processes and culture.
- Oversees the development of Napier Port's ESG sustainability strategy and workplan.
- Monitors progress against the goals and actions included in Napier Port's sustainability strategy, including climate-related goals and actions.
- Ensures an appropriate framework is maintained for the management of ESG risks, including climate-related risks and opportunities. Reviews and monitors ESG related risk assessments and the effectiveness of the related risk management processes.
- Oversees and reviews ESG reporting processes, including relevant internal controls and external review and audit processes.

CHIEF EXECUTIVE AND SENIOR MANAGEMENT TEAM

- The Chief Executive and senior management team are responsible for ensuring that risks to the business, including climate-related risks, are identified and evaluated, effective responses and control activities developed, and appropriate monitoring and timely re-evaluation conducted, in accordance with Napier Port's Risk Management Policy.
- The Chief Financial Officer, working with senior management, updates Napier Port's overall risk management framework and reports to the Audit and Risk Management Committee on a six-monthly basis.
- The General Manager – Assets and Infrastructure has overall responsibility for the development and implementation of the sustainability strategy, including assessment of climate-related risks, and reports on progress to the Sustainability Committee.

KEY STAFF TASKED WITH RISK MANAGEMENT ACTIVITIES (from infrastructure, finance and operations teams)

- Provide support with identifying, monitoring and assessing climate change risks and ensuring appropriate management actions are taken in relation to them.
- Responsible for maintaining the safety, performance and capability of Napier Port's infrastructure assets and plant and equipment over their projected economic lives.
- Maintain a 50-year property asset management plan.

2. RISK MANAGEMENT

TCFD REQUIREMENTS:

- **DESCRIBE THE ORGANISATION'S PROCESSES FOR IDENTIFYING AND ASSESSING CLIMATE-RELATED RISKS**
- **DESCRIBE THE ORGANISATION'S PROCESSES FOR MANAGING CLIMATE-RELATED RISKS**
- **DESCRIBE HOW PROCESSES FOR IDENTIFYING, ASSESSING AND MANAGING CLIMATE-RELATED RISKS ARE INTEGRATED INTO THE ORGANISATION'S OVERALL RISK MANAGEMENT**

Napier Port's Risk Management Policy provides the overarching framework for identifying, assessing, managing and monitoring risk at Napier Port, including climate-related risks. Each Napier Port business unit is responsible for establishing and maintaining risk documentation to monitor and report risks that threaten achievement of business objectives. The Chief Executive and senior management team are responsible for ensuring that risks to the business are identified and evaluated, that effective responses and control activities are developed, and appropriate monitoring and timely re-evaluation is conducted. The Chief Financial Officer, working with senior management, updates the Napier Port enterprise risk register, drawing on business units' documentation, and reports this register to the Audit and Risk Management Committee at least on a six monthly basis.

In addition to this process, for climate-related risks Napier Port has benchmarked against recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD) for identifying and assessing climate-related risks. The Napier Port Assets & Infrastructure team which includes environmental & sustainability subject matter experts, supported by others as required, are tasked with staying up-to-date with the latest climate-related research, facilitating regular risk assessments and performing detailed climate change analysis. The Board and Management of Napier Port are also continually monitoring developments to existing and emerging regulatory requirements related to climate change as part of their risk assessment processes.

In November 2020, Envirolink, Gisborne District Council, and Hawke's Bay Regional Council collaborated to commission a review of climate change projections and their impacts on the Tairāwhiti (Gisborne) and Hawke's Bay regions. This was conducted by the National Institute of Water and Atmospheric Research (NIWA)¹ and used as the basis for the scenario analysis contained within our FY21 and FY22 reports. For the 2023 report, Napier Port has drawn upon the findings of our previous reports and data sources and has incorporated recently released data from various sources, including the Intergovernmental Panel on Climate Change (IPCC), to determine potential

shifts in sea levels, wind patterns, temperatures, and extreme weather events. These data inputs enable us to analyse a range of potential future scenarios and assess how they may affect Napier Port's assets, operations, financial plans, and business model.

Future climate projections strongly depend on estimates for future global mean temperature rise resulting from greenhouse gas concentrations. In turn, those concentrations depend on global greenhouse gas emissions that are driven by factors such as economic activity, population changes, technological advances and policies for mitigation and sustainable resource use. This range of uncertainty has been considered by the IPCC. The IPCC Fifth Assessment Report considered 'scenarios' that describe concentrations of greenhouse gases in the atmosphere. These scenarios were called Representative Concentrations Pathways (RCPs)². The IPCC's more recent Sixth Assessment Report provides updated future climate change findings and projections. The IPCC Sixth report refers to Shared Socioeconomic Pathways (SSPs)³ for future projected socioeconomic global changes used to derive greenhouse gas emissions scenarios based on different climate policies. Differences between RCP findings and projections from SSPs stem from using improved models as well as a more precise estimate of historical warming⁴. While the scenarios represent the same amount of radiative forcing (i.e. RCP4.5 and SSP2-4.5 both represent 4.5Wm⁻² radiative forcing), the emissions pathway and socio-economic drivers to achieve this are slightly different, and predictions generally show higher levels of warming associated with SSP's than RCP's.

Timelines for warming have also changed; SSPs are focused around "pre-industrial" times which refers to 1850-1900, which is in line with the Paris Agreement. These pre-industrial levels are now what temperature increases are based off rather than the period between 1986-2005 as used in RCPs.

Therefore, a move to SSPs from RCPs is considered an evolutionary step given SSPs provide the most up to date climate change information and data for future climate scenarios.

For the IPCC global scale modelling to be useful for Napier Port's climate change risk assessment process the results need to be downscaled to a localised level. While some work has been done to downscale the IPCC's Sixth Assessment Report findings to a NZ and Napier Port regional level, regional downscaling is not yet fully available. However, for risks and hazards associated with sea level rise and tropical cyclone intensity, relevant information from the IPCC Sixth Assessment Report has been downscaled to local levels and made available.

Interim guidance from the Ministry for the Environment (MfE) recommends using existing data that has been based on modelling from the IPCC's Fifth Assessment Report with reasonable confidence, until newer data becomes available for areas where IPCC's Sixth Assessment Report findings have not yet been downscaled⁵.

The use of the 2020 NIWA report and the RCPs scenarios was central to modelling future climate change projections and impacts in our prior two Climate Change Related Disclosure Reports and are still relevant in this year's report where regional downscaling of the IPCC's Sixth Assessment Report findings has not yet been completed. In this year's report we adopt the IPCC's recently released Sixth Assessment Report where regional downscaling has been completed. This sees the introduction of three SSP scenarios for the climatic effects of sea level rise, temperature increase, and tropical cyclone.

Our climate-related risk assessment process continues to consider the following RCPs:

- RCP4.5 is a 'stabilisation' pathway that stabilises radiative forcing at 4.5W m⁻² in the year 2100 without ever exceeding that value.
- RCP8.5 represents continuing high global emissions without effective mitigation, which will lead to high greenhouse gas emissions (a high-end pathway).

The reason for choosing these two scenarios was to present a 'high-end' scenario if atmospheric greenhouse gas concentrations continue to rise at high rates (RCP8.5) and a scenario which could be realistic if moderate global action is taken towards mitigating greenhouse gas emissions (RCP4.5).

Where regional downscaling has been completed, our climate-related risk assessment process now considers three SSP scenarios identified as plausible outcomes.

- SSP1-1.9 is the 'sustainable' pathway (where global warming is limited to 1.5 degrees by 2100),
- SSP2-4.5 is the 'middle of the road' pathway (where socio-economic factors follow their trends, with no significant change in reducing current temperature rise projections)
- SSP5-8.5 represents 'the highway' pathway (effectively the worst case scenario where the world economy grows rapidly, but this growth is driven by fossil fuel exploitation and very energy intensive lifestyles).

These three scenarios were chosen to align with NZ CS, which requires three scenarios to be analysed:

- one where global temperature increase is limited to 1.5 degrees Celsius (with an emissions pathway aligned to SSP1-1.9),
- another where the temperature is 3 degrees Celsius or greater (aligned to SSP5-8.5)
- a third scenario of the reporting company's choice. Napier Port has chosen a scenario which looks to limit global temperature increases to a range between 2.1 and 3.5 degrees Celsius (aligned to SSP2-4.5). The reason for choosing this pathway is that SSP2-4.5 has been recognised by members of the climate science community as a most likely pathway to eventuate out of the five SSPs⁶.

Our climate-related risk management spans 50 years, aligning with asset management and scenario-based likelihood of risk occurring.

For climate-related risk management, we believe a medium to long-term horizon is appropriate. This time frame is aligned with the economic lives of our infrastructure assets and Napier Port's asset management plan. As a result, we have used the following timeframes to assess the likelihood of climate-related risks occurring under each scenario: Short-term 0-20 years (using RCP & SSP scenarios up until 2040); Medium-term 20-70 years (using RCP scenarios up until 2090 and SSP scenarios up until 2070); and Long-term 70 plus years (using SSP scenarios up until 2100). We regularly monitor whether climate science requires us to reassess this approach.

In accordance with Napier Port's Risk Management Policy, we assess the significance of each identified climate-related risk using a likelihood and consequence matrix. The climate-related risk register assesses the likelihood of risks occurring during the short-term, medium-term and long-term timeframes outlined above, to recognise the longer-term nature of climate-related risks. This varies from the overall risk management framework which assesses the likelihood of a risk occurring based on whether it is probable to occur within the next 12 months. For both, the consequence of the identified risk is assessed based on the potential level of impact on our people, assets/ infrastructure, operations and systems, environment, reputation and financial planning. Based on the likelihood and consequence, levels of risk are categorised as either very high, high, moderate or low. This allows us to determine the appropriate response for each issue identified. Climate-related risks are reviewed at least annually to ensure they reflect material changes in our knowledge, business strategy, and operating environment.

During the 2023 financial year, using the process described above, we completed an update to our 'Whole of Port' Climate Change Risk Assessment – looking at infrastructure resilience, trade forecasting, land levels, weather conditions, emergency preparedness and habitat modification. We identified 71 climate-related physical and transition risks and 24 opportunities. An overview of the top physical and transition impacts is contained in our strategy disclosures section.

3. STRATEGY

TCFD REQUIREMENTS:

- **DESCRIBE THE CLIMATE-RELATED RISKS AND OPPORTUNITIES THE ORGANISATION HAS IDENTIFIED OVER THE SHORT, MEDIUM AND LONG-TERM**
- **DESCRIBE THE IMPACT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON THE ORGANISATION'S BUSINESSES, STRATEGY, AND FINANCIAL PLANNING**
- **DESCRIBE THE RESILIENCE OF THE ORGANISATION'S STRATEGY, TAKING INTO CONSIDERATION DIFFERENT CLIMATE-RELATED SCENARIOS, INCLUDING A 2 DEGREE OR LOWER SCENARIO**

Napier Port's purpose is very clear: together we build a thriving region by connecting our customers, people and community to the world. This drives everything we do and sets the scene for our business strategy, which provides a robust and comprehensive direction for the future. Our strategic goals are Customer Connection, Harnessing Data and Technology, Networked Infrastructure and Collaborative Partnerships, all underpinned by our Culture of Care and Sustainability foundations.

Our business is exposed to climate-related risks outside our port gate, including transport links and the impact of climate change on our community and customers. We intend to work collaboratively with relevant territorial authorities and community groups, sharing information and developing solutions, to deliver a more resilient business and region. For example, during FY23 Napier Port has been actively sharing climate related information with Hawke's Bay Regional Council's Climate Action Hub.

Napier Port recognises that climate change is currently impacting the way we operate in the following ways:

CURRENT IMPACTS OF CLIMATE CHANGE

CURRENT PHYSICAL CLIMATE IMPACTS

Tropical Cyclone Gabrielle in February 2023 caused widespread flooding and property damage to the Hawke's Bay region. Although the physical impact on Napier Port's infrastructure was not significant it was a timely reminder of the devastating impact severe weather events can have and the potential consequential effects arising from such events, as flooding and infrastructure damage outside the port gate resulted in decreases in cargo being exported from the region via our port. Such losses represent millions of dollars of lost earnings in 2023 for Napier Port*.

Along with cyclone events, more extreme weather conditions during 2023 have also directly and indirectly affected Napier Port as higher than average rainfall across the region and longer periods of swell events have impacted crop yields and marine berthing availability, respectively, with a financial flow on affect for Napier Port.

CURRENT TRANSITION CLIMATE IMPACTS

As part of its asset management programme, Napier Port is considering how it can utilise technological advancements and alternative equipment choices to shift its fuel intensive heavy equipment and marine fleet assets towards lower emission and more energy efficient options. However, much of this technology is still at an early development stage and therefore carries additional cost premiums when compared with the traditional fuel consuming equivalent. For example, this year Napier Port acquired two new Eco Reachstackers (container handling mobile plant), which carried a cost premium of approximately 15% over the price of the base model reachstacker. Napier Port will continue to consider a broad range of objectives including the financial implications and its obligations as a lifeline asset and significant regional infrastructure as it considers pathways and the timeframes it adopts to transition its mobile plant equipment and marine assets.

The impacts of severe weather events such as extreme rainfall and tropical cyclones (like Cyclone Gabrielle) are having an adverse impact on our insurance renewal programme for our material damage and business interruption policies. As a result of Cyclone Gabrielle trading losses incurred by Napier Port, policy premiums and insurance capacity have been negatively affected, however the direct financial impact is not determinable.

* The amount of insurance proceeds to compensate for Napier Port's lost earnings as a result of Cyclone Gabrielle are disclosed in the 2023 annual financial statements of Napier Port Holdings Limited.

FUTURE IMPACTS OF CLIMATE CHANGE

For Napier Port, a warmer world in 2100 consistent with the RCP8.5 and the SSP5-8.5 scenario would result in potential physical impacts on our infrastructure, create uncertainties as to how our region would be affected and be required to adapt, and affect what our business may look like as a result. The transition impacts of climate change caused by strong climate action policy will also create a mix of risks and opportunities for our business. We have identified and assessed these risks and opportunities, undertaking analysis of the potential impacts for our business.

The physical and transition risks included below are from Napier Port's 'Whole of Port' Climate Change Risk Assessment (dated June 2023) and are rated very high, in accordance with the risk management policy and specific climate-related timeframes noted above. This assessment is based on the likelihood of the risk occurring (likely or almost certain) and consequence (greater than \$5 million), in at least the RCP8.5 or SSP5-8.5 scenario in the medium to long-term. Under the RCP4.5 (2 degrees or lower scenario) or SSP2-4.5 (3 degrees or lower scenario), these risks are also present, although they would manifest themselves at a later date.

From the analysis undertaken, at this stage, we do not consider that the effects of climate change materially change our overall strategy. Sustainability will be embedded into our ways of working as we continue to collaborate to look after people, planet and place, including completing the actions contained in our sustainability strategy. The more financially material infrastructure improvement actions are required over the medium to long-term to ensure that we continue to have a resilient and agile infrastructure network. Planning to address this is being embedded within our asset management plans and infrastructure masterplan. In the short-term, we will continue to complete more detailed investigations of climate-related effects and ensure these are considered in Napier Port's master planning process. We have included climate-change considerations within Napier Port's procurement processes and policies. Work in these two respective areas is ongoing.

PHYSICAL RISKS

Climate change related effects result in several risks to Napier Port infrastructure, due to its coastal location and susceptibility to sea level rise. Our assets are susceptible to physical risks today, including from acute weather

and natural disaster events. Climate change modelling indicates that higher temperatures will increase the likelihood of extreme weather events that may affect operations and damage infrastructure and there will be the ongoing impacts of sea-level rise, extreme rainfall, and intensifying tropical cyclones which may cause coastal inundation, erosion and flooding.

The physical impacts of climate change considered most material to Napier Port are described below:

1) INCREASE IN RELATIVE SEA LEVEL

One of the major and most certain consequences of increasing concentrations of atmospheric greenhouse gases and associated warming is the rising sea level. SSP scenario modelling has confirmed the pace of sea level rising is also accelerating.

Interim guidance on the use of sea level rise projections from the Ministry for the Environment⁷ recommends using data from the NZSeaRise research programme, which uses SSP sea level data on a localised scale across New Zealand. This is a shift away from the RCP sea level rise based data used in the 2020 NIWA report. These projections include not only sea level rise (SLR) (relative to 2005), but also vertical land movement (VLM), from satellite data, at 2km spacing across all of NZ's coastlines. By combining both SLR and VLM, we can understand relative sea level rise (RSLR). Adopting RSLR is a pivotal departure from last year's Climate Change Risk Disclosure report, the results of which now show a heightened level of risk to Napier Port's infrastructure.

There are three sites in NZSeaRise within the Napier Port footprint and these sites are reportedly subsiding at an average rate of 3.01mm/year (2.93-3.14mm/year). When this rate of VLM is combined with the various rates of SLR, dependent upon the emissions scenario, overall RSLR is higher.

With sea levels continuing to rise, even under low emission scenarios, there is high confidence in the increased frequency and severity of coastal flooding⁸.

In respect of extreme coastal flooding, in the short term (2040), there is no difference seen between different SSP pathways and inundation risk remains manageable. However, projected inundation in a one in one-hundred-year event shows the previously identified northern log yard areas experiencing more prolific inundation in line with escalating temperature over time. This trend expands under all SSPs in 2070, and eventually, in 2100 under all SSPs, coastal flooding projections show a large portion of the Napier Port site could be potentially impacted during a one in one-hundred-year event.

Furthermore, as sea levels rise, high-energy waves that strip sediment can reach higher up the shoreline and cause erosion⁹. Due to the nature of Napier Port, being built directly on the coast, coastal erosion could cause loss of usable land area and damage to existing infrastructure if not prepared for carefully. Among the three beach areas within the port boundaries, risk exposure is materially present within the two easternmost stretches. Whilst these areas undergo continuous natural movements due to wave action, these areas serve as inherent natural sea defences, safeguarding critical structures and operational zones from potential inundation.

Erosion has been managed using ad-hoc shore protection where key infrastructure is situated, such as the Plant Services workshop, near the East Beach area of Napier Port. Climate-related risks such as an anticipated rise in RSLR, coupled with heightened cyclone/rainfall intensity are expected to increase erosion in this area. In the long-term a hard structure may be required to provide long-term protection in this area with a preliminary estimated cost of \$10 - \$15 million.

Note in this year’s report erosion is treated as one of the possible outcomes of the RSLR risk rather than a separate direct weather event.

RISK DRIVER: INCREASE IN SEA LEVEL (RSLR)	
SCALE	High to Very High
LIKELIHOOD	Almost certain
TIMEFRAME	Medium to Long-term
FINANCIAL IMPLICATIONS	Inundation: \$10-\$15 million Erosion: \$10-15million
METHODOLOGY	Potential financial impact is estimated capital expenditure required, based on current civil construction costs in today's money
RISK MITIGATION	<ul style="list-style-type: none"> Northern log yards will need to be re-developed to raise the level of pavement Ensure the western reclamation area is developed to levels to meet future extreme sea levels due to climate change Detailed investigation and potential design of sea defences to provide long-term protection in the East Beach area

II) EXTREME RAINFALL EVENTS

Climate change is expected to result in an increase in the frequency and intensity of extreme rainfall events. The NIWA report notes that short duration rainfall events have the largest relative increases compared with longer duration rainfall events. Rainfall depths for 1-in-50 year and 1-in-100 year events are projected to increase across the greenhouse gas concentration scenarios and future time periods.

Napier Port has seen minor issues with storm water management in recent years due to extreme rainfall events that the systems were not designed for. The storm water system will be further compromised by sea level rise with more outlets likely to be below sea level which impacts the system's ability to discharge effectively resulting in backing up of storm water. This is likely to result in inundation if the extreme rainfall coincides with extreme sea levels. Detailed modelling is to be completed to better understand the system capacity both currently and under future scenarios so appropriate plans can be put in place. Likely options include additional drainage networks or pumping stations.

RISK DRIVER: EXTREME RAINFALL EVENTS	
SCALE	High to Very High
LIKELIHOOD	Almost certain
TIMEFRAME	Long-term
FINANCIAL IMPLICATIONS	Still being determined
RISK MITIGATION	<ul style="list-style-type: none"> Modelling of the stormwater system capacity under future scenarios Assess capacity of the outer breakwater drain under future scenarios and frequency of drain cleaning

III) TROPICAL CYCLONES

Tropical cyclones are predicted to be more severe under all temperature scenarios, yet there is still a huge amount of uncertainty on the changes in frequency of tropical cyclones¹⁰. Potential damage caused by tropical cyclones can be quantified using the power dissipation index (PDI), which considers maximum sustained wind speeds, and the distance/time the cyclone has travelled. Projections for future severity of cyclones aligned with SSP findings show increases across all scenarios, with the greatest increase in PDI seen in SSP5-8.5 (24%).

The implications of Cyclone Gabrielle provided insight into the susceptibility of Napier Port's breakwaters and sea defences to damage. Anticipated synergies between relative sea level rise and the amplification of cyclone PDI appear to forecast an uptick in the magnitude of damage sustained per event. Such powerful weather events have the potential to dislodge or displace the armour units (akmons) that help protect the breakwater structure.

With a projected increase in cyclone PDI for storms arriving at Napier, proactive maintenance is required, not only for dissipating wave energy and upholding the structural integrity of the breakwater itself, but also for the preservation of the infrastructure sheltered behind its protection.

RISK DRIVER: TROPICAL CYCLONES

SCALE High to Very High

LIKELIHOOD Almost certain

TIMEFRAME Medium to Long-term

FINANCIAL IMPLICATIONS \$5-\$10 million

METHODOLOGY

- Potential financial impact is estimated capital expenditure required, based on current civil construction costs for shore protection in today's money

RISK MITIGATION

- The akmon unit "top-up" program, already embedded within the Asset Management Plan

TRANSITION IMPACTS

The transition impacts of climate change caused by strong climate action policy are also a mix of risks and opportunities for our business.

Government regulation to encourage a shift to a low carbon economy (like the Aotearoa New Zealand Emission Reduction Plan) may result in:

- increased fuel costs particularly for Napier Port's mobile plant;
- requirements to invest in new technologies, equipment and supporting infrastructure to move away from diesel powered plant; and
- policies to increase the use of rail which may require additional infrastructure investment and changes to Napier Port's operating model.

The transition impacts considered most material to Napier Port are:

I) GOVERNMENT REGULATION TO ENCOURAGE A SHIFT TO A LOW CARBON ECONOMY RESULTING IN HIGHER FUEL COSTS

Government policy may increase emissions taxes on fuel by greater amounts to encourage the significant reduction in emissions required to achieve net zero emissions by 2050. This will likely significantly increase diesel fuel costs and operating costs for Napier Port which is currently reliant on diesel fuel to power tugs, mobile harbour cranes, and container handling equipment.

The higher fuel costs may encourage the shift to alternative fuels throughout the region which may ultimately reduce the fuel imported through Napier Port and the revenue that this generates.

RISK DRIVER: GOVERNMENT REGULATION TO ENCOURAGE A SHIFT TO A LOW CARBON ECONOMY RESULTING IN HIGHER FUEL COSTS

SCALE High to Very High

LIKELIHOOD Moderate risk in short term. Almost certain in medium to long term

TIMEFRAME Short to Medium term

FINANCIAL IMPLICATIONS To be determined

RISK MITIGATION

- Ensure fuel price escalation risk is considered in forecasting

II) GOVERNMENT REGULATION TO ENCOURAGE SHIFT TO ALTERNATIVE FUELS

Combined with the above it is highly likely there will be government regulation to ban or limit the procurement of, and reduce the use of, diesel powered machines and encourage the shift to machines powered by alternative fuels (e.g. electricity, hydrogen). It is expected that import bans will precede the outright ban of diesel equipment, which will provide some time to adapt.

Napier Port is expected to transition in a planned orderly way with emission reduction pathways under development as part of the wider sustainability strategy. The transition triggers are likely to be a mix of fuel and other price pressures, investment cycles, and equipment and alternative energy availability and reliability.

The development of the required infrastructure is expected to occur over a longer period and require additional capital investment.

Napier Port currently has an Electrical Master Plan under development which shows that electrical capacity at Napier Port will likely need to more than double to meet all the future anticipated electrical demands. The Electrical Master Plan will provide an effective pathway to meet future electrical demand. There are, however, numerous policy risks which may affect the electrification programme:

- A ban on the importation of diesel equipment within a short timeframe may result in the need to accelerate infrastructure investment, uneconomically extending the lifetime of existing plant or affecting expansion aspirations;
- An early ban in the importation of diesel equipment may result in effective and reliable alternative low emission options not being readily available;
- Policy that results in dramatic increase in fuel price may result in earlier than expected move to an electric fleet. If electrical infrastructure is not ready this may result in higher than desired operating costs.

The decision making process for investing in low emission versus diesel technology poses a risk when considering the lifespan of equipment, in particular key plant with relatively longer lifespans such as tugs and mobile harbour cranes. Decisions today are relatively simple due to costs and available technology and will likely be in 20 years' time when low emissions technology will be more established and cost effective. In the intervening period the decision making process is more complex and where policy risk could have a significant effect. Higher fuel costs may result in an earlier than expected move to alternative technologies that could result in existing equipment becoming redundant before the end of its expected useful life.

This is not an issue where equipment can be retro-fitted such as mobile harbour cranes or for equipment that has a relatively low remaining lifespan (< 10 years) but may pose an issue for the tugs with a long remaining useful life and limited ability to retro-fit.

Actions Napier Port are taking to mitigate these risks are considering future fuel cost risk in equipment purchasing and investment decisions, considering whether equipment can be retro-fitted in investment decisions and regularly assessing the remaining life and residual value of key equipment as a result of climate change pressures.

RISK DRIVER: GOVERNMENT REGULATION TO ENCOURAGE SHIFT TO ALTERNATIVE FUELS

SCALE	High to Very High
LIKELIHOOD	Almost certain
TIMEFRAME	Medium to Long-term
FINANCIAL IMPLICATIONS	Still being determined as options continue to be assessed <ul style="list-style-type: none"> ▪ Consider flexibility in electrical infrastructure development as part of the Electrical Master Plan ▪ Consider future fuel cost risk in equipment purchasing and investment business cases
RISK MITIGATION	<ul style="list-style-type: none"> ▪ Consider equipment that can be retro-fitted in investment decision making process ▪ Regularly assess the remaining life and residual value of key equipment because of climate change pressures

III) RAIL

Notwithstanding New Zealand's topography and lack of rail infrastructure compared to other countries, currently rail has significantly lower emissions per tonne compared to road freight, and provides other benefits, in particular reducing the number of trucks on New Zealand's roads. In the short-term, a lack of national and regional rail infrastructure is and will remain a major hindrance to a significant step change in the use of rail. In the medium term, it is likely that road transport will continue or accelerate the adoption of green energy technology to reduce their emissions

Under the long-term (50+ years), it is expected that New Zealand's rail network will be effectively emission free, running on alternative fuels such as hydrogen for long haul routes or potentially a fully electrified network, which may result in a significant uptake of rail. A significant increase in cargo transported by rail would require changes in Napier Port's operational layout and associated infrastructure investment.

**RISK DRIVER:
GOVERNMENT REGULATION TO ENCOURAGE
INCREASED USE OF RAIL**

SCALE	High to Very High
LIKELIHOOD	Almost certain
TIMEFRAME	Long-term
FINANCIAL IMPLICATIONS	Greater than \$10 million
METHODOLOGY	Potential financial impact is high-level estimate of capital expenditure required, in today's money
RISK MITIGATION	<ul style="list-style-type: none"> Changes to Napier Port's operational layout in line with existing provisions in the Master Plan to increase our on-Port rail infrastructure Further consideration of climate change related effects will be included in Napier Port's Master Planning process

IV) COMMERCIAL IMPACTS

While the full extent of climate change's direct impacts remains uncertain, available data suggests potential negative effects on Hawke's Bay's primary industry with potential for crop production disruption, heightened pest and disease spread, and destabilised growing conditions. Forestry, agriculture and horticulture are all significant primary industries within the Hawke's Bay region, and Napier Port plays an important role within these industries, by connecting suppliers with international customers. These sectors are vulnerable to the impacts of climate change (i.e. potential increases in rainfall intensity, mean temperatures and drought severity) while changes in production may not directly affect Napier Port, there is a significant indirect risk to revenue should these industries suffer from the effects of a changing climate.

Drought, in particular, has been highlighted as one of the key risks for Hawke's Bay, with some of the largest increases to the annual number of days of soil moisture deficit compared to other parts of the country. The largest impact is expected to be in the meat industry with increased drought frequency resulting in changes to pasture composition. Increased droughts coupled with occasional heavy rainfall could have major adverse effects on soil stability.

The meat industry is a significant exporter through Napier Port and drought therefore poses a risk to revenue in the medium term and almost certainly in the long term. Other industries such as horticulture and forestry are in a better position to manage the risk of drought through various practices, although horticulture will have an increased reliance on water security.

**RISK DRIVER:
DROUGHT**

SCALE	High to Very High
LIKELIHOOD	Almost certain
TIMEFRAME	Medium to Long-term
FINANCIAL IMPLICATIONS	\$5 million
METHODOLOGY	Potential financial impact is an estimate of the annualised impact on trade volume in today's dollars.
RISK MITIGATION	<ul style="list-style-type: none"> Napier Port has limited direct control in managing this risk. Napier Port will keep an active interest on potential impacts and how that might change export volumes, shipping patterns and changes in exports through the regular master planning process

TRANSITION OPPORTUNITIES

Addressing climate change potentially offers various chances for growth and improvement. These include the opportunity for Napier Port to become more resource-efficient, using cleaner energy sources, creating innovative service offerings, and enhancing supply chain resilience.

Opportunities may include a reduction in recurring expenses over the long term or additional revenue streams from requirements for ships to use shore power while in Port and opportunities to partner in the supply chain to provide low carbon or zero emission solutions for customers.

Additionally, climate change might create new opportunities as crop dynamically shift, allowing the horticulture sector to cultivate new thermally resistant species and varieties. Napier Port assumes that if climate change alters the primary sector, crop substitution will be considered until more relevant data prompts a shift in perspective.

4. METRICS AND TARGETS

TCFD REQUIREMENTS:

- **DISCLOSE THE METRICS USED BY THE ORGANISATION TO ASSESS CLIMATE-RELATED RISKS AND OPPORTUNITIES IN LINE WITH ITS STRATEGY AND RISK MANAGEMENT PROCESS**
- **DISCLOSE SCOPE 1, SCOPE 2, AND, IF APPROPRIATE, SCOPE 3 GREENHOUSE GAS (GHG) EMISSIONS, AND THE RELATED RISKS**
- **DESCRIBE THE TARGETS USED BY THE ORGANISATION TO MANAGE CLIMATE-RELATED RISKS AND OPPORTUNITIES AND PERFORMANCE AGAINST TARGETS**

GREENHOUSE GAS (GHG) EMISSIONS

Napier Port has been measuring their Scope 1, 2 and limited Scope 3 emissions for several years which have been reported in the Annual Report and on the Napier Port website. During FY21, we reviewed and redefined our GHG inventory to enable a better understanding of our emissions profile. During FY22, we took this expanded GHG inventory and collected the associated data to create a new base year for emissions reporting. Reported emissions for FY22 included a wider range of scope 3 emissions and was externally certified by Toitū Envirocare. The additional scope 3 emissions now include freight and employee commuting. Reported emissions for FY23 have been collected and certified on the same basis as FY22. The FY23 audit certification can be found on our website at: napierport.co.nz/environment/environmental-monitoring

The certification means we've measured and managed the operational emissions of our organisation in accordance with ISO 14064-1:2018 and the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004).

DEFINING OUR (GHG) EMISSIONS INVENTORY

We worked with an external consultant, BraveGen, to define our GHG inventory scope to reflect best practice including identifying a wider range of Scope 3 emissions. This expanded definition of our GHG inventory is being used to determine and report Napier Port's emissions from FY22. This provides a better understanding of Napier Port's emissions profile, identifies where opportunities for reductions are, enables setting of GHG targets and measures, and reporting overall progress. The GHG emissions sources included in this inventory were identified with reference to the methodology in the GHG Protocol and ISO 14064-1:2018 standards. We are also now using BraveGen's GHG emissions inventory software to record and report these emissions. With a robust emissions inventory in place the same GHG emission sources were able to be reported on in FY23 and compared to our FY22 base year.

Under the GHG Protocol, these emissions are classified under the following categories:

Scope 1 – Direct GHG emissions occurring from sources that are owned or controlled by the company.

Scope 2 – Indirect GHG emissions occurring from the generation of purchased electricity, heat and steam consumed by the company.

- Reported by both location and market-based emission factors

- Total emissions are reported using the market-based approach

Scope 3 – emissions that occur because of the company's activities, but from sources not owned or controlled by the company. These have been further categorised using the Scope 3 standard categories:

- Purchased goods and services (category 1);

- Business travel (category 3);

- Employee commuting (category 3);

- Capital goods (category 4);

- Fuel and energy-related activities not included in Scope 1 or 2 (category 4);

- Waste generated in operations (category 4);

- Upstream transportation and distribution - Electricity (category 4);

Additional Scope 3 categories are not reported where they are not relevant to our business. The *excluded* scope 3 categories include:

- Upstream leased assets (category 4);

- Downstream transportation and distribution (category 3);

- Processing of sold goods (category 5);

- Use of sold products (category 5);

- End-of-life treatment of sold products (category 5) and

- Franchises (category 5)

GHG EMISSIONS REPORTING

In FY23, our total carbon emissions were 8,772 tonnes which was down from 9,744 tonnes in FY22.

This is shown in figure 1 below.

The decrease in total emissions correlates with a decrease in annual cargo volumes during FY23 compared to FY22. This is largely due to the impacts of Cyclone Gabrielle which struck the Hawke's Bay in February 2023.

FY23 has seen a decrease in scope 1 emissions to 6,278 tonnes from 7,155 tonnes in FY22. The lower volumes resulted in a decrease in fuel usage for forklifts, cranes, and diesel generators. Offsetting these reductions was the marine fleet (tugs and pilot boat) whose fuel usage increased due to the return of cruise ships during FY23, as the FY22 cruise season was effectively cancelled due to the impact of COVID-19 and which had an impact on the FY22 fuel emissions result.

The acquisition during FY23 of two Eco Reachstackers, which are classified as forklifts in our emissions analysis, has demonstrated the benefits of improving technologies on our emissions and have contributed to the decrease in fuel usage for the forklift fleet during FY23. Fuel usage data collected so far has shown the Eco Reachstackers fuel usage averaging 17 litres of diesel fuel per hour compared with the legacy reachstackers which average 25 litres per hour - this represents a 32% reduction. Offsetting these

reductions was the marine fleet (tugs and pilot boat) whose fuel usage increased due to the return of cruise ships during FY23.

Our purchased electricity (scope 2) emissions decreased to 1,487 tonnes from 1,759 tonnes in FY22. Contributing to this was a 16% reduction in the number of refrigerated ('reefer') containers on power during the year, again largely due to cyclone affected lower cargo volumes.

Partially offsetting this scope 1 and scope 2 decrease is an increase in scope 3 emissions.

Scope 3 emissions increased to 1,007 tonnes from 830 tonnes in FY22. The main contributor to this increase was employee commuting as our FY23 data collection has evolved increasing the scope of measurement. Other smaller increases related to air travel due to increased air travel undertaken after the easing of COVID-19 restrictions, and container freight movements. The latter increase was due to temporarily needing to use truck road transport post cyclone Gabrielle while a key rail bridge was being repaired.

Our 'per cargo tonne' intensity metric increased from 0.00181 t/CO₂e in FY22 to 0.00190 t/CO₂e in FY23 as shown in the below chart. This is primarily attributable to the increase in vessel visits from 514 in FY22 to 587 during FY23, in particular the return of cruise vessels, and the resulting additional marine fleet movements required for pilotage and safe berthage of these vessels.

FIGURE 1: TOTAL CARBON EMISSIONS tCO₂e

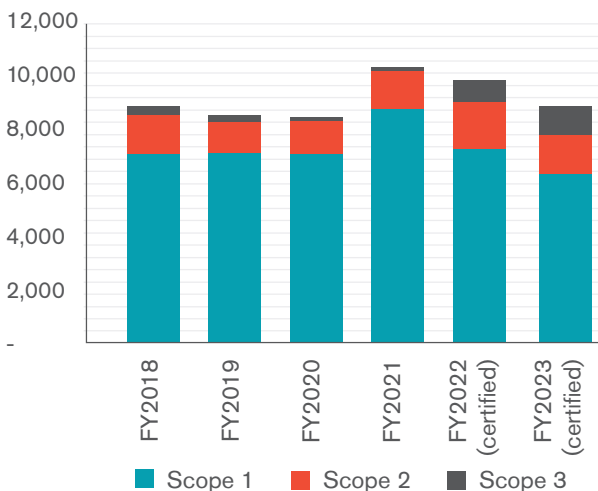
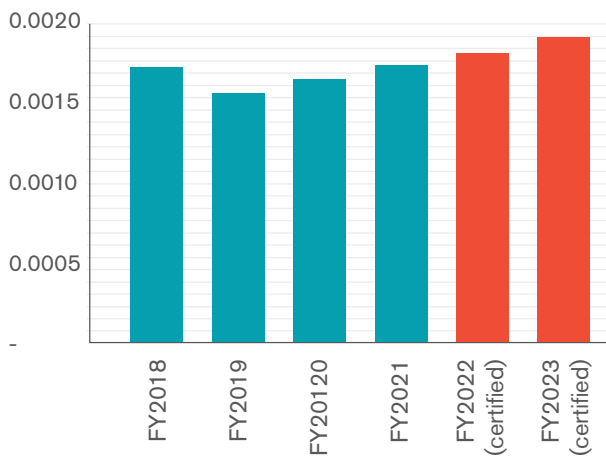
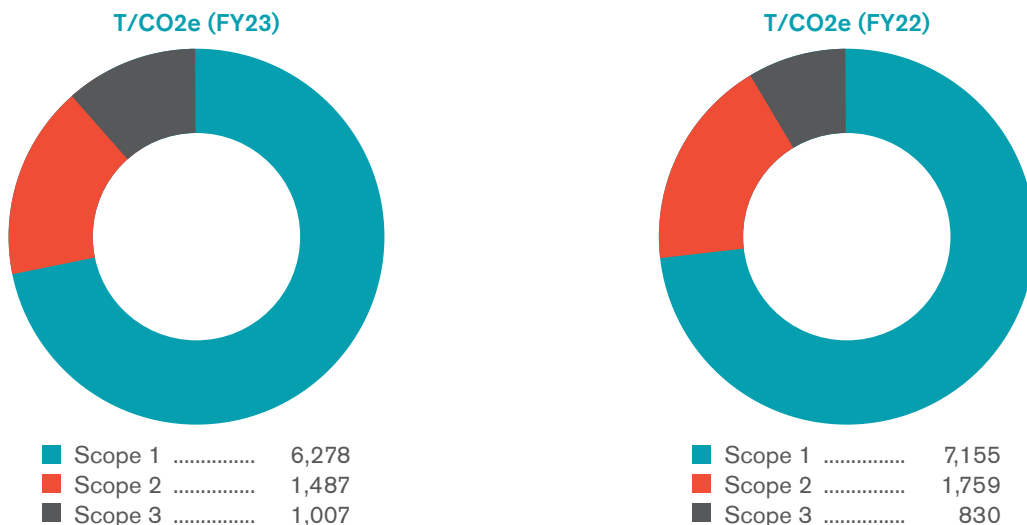


FIGURE 2: CARBON EMISSIONS tCO₂e PER TONNE



Key insights into our carbon footprint and our FY23 emissions are represented by the charts below:

1) TOTAL EMISSIONS BROKEN DOWN BY SCOPE



2) SCOPE 1 EMISSIONS BROKEN DOWN BY TOP EMISSION SOURCES

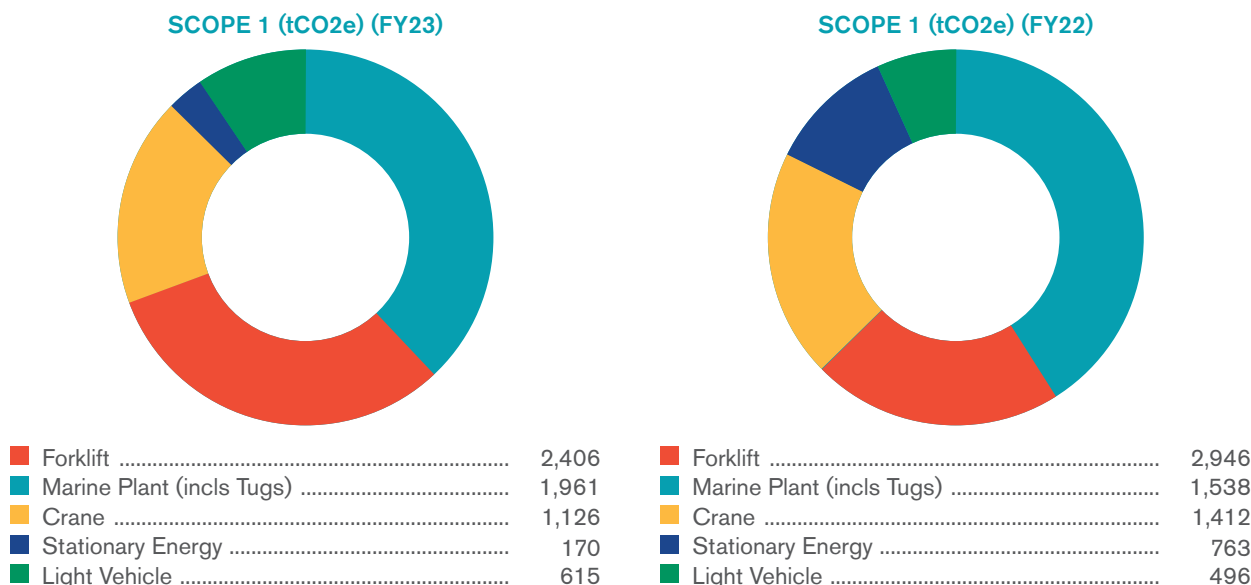
72% of Napier Port's total FY23 emissions related to scope 1 emissions which is consistent with FY22 (73%). This is due to its large fleet of mobile plant and marine assets. These machines are all diesel consumers and are utilised across day and night shifts throughout the financial year.

To help improve annual diesel usage a move to more eco-efficient machinery is underway with two new Eco Reachstackers purchased and operational during FY23 and another is on order and due to arrive in FY24.

Other fuel reduction initiatives arise from our engagement of our people with ways to identify and reduce our emissions in practical ways. During FY23 this has been supported by the inclusion of a emissions reduction component to our annual staff recognition programme which incentivises and rewards our people for achieving objectives aligned with

Napier Port's strategic objectives. As a result of this, during FY23 our people have identified a number of practical initiatives to help reduce our emissions. A sample of these initiatives that are being progressed involves the investigation of the possible use of flow meters on our tugs so that the Tug Masters can see in real time the amount of fuel they are using during marine manoeuvres and, secondly, investigating the possibility of switching to synthetic shorelines to reduce the amount of pushing required by tugs during berthing manoeuvres. Additionally, various workstreams are underway to reduce the fuel usage of our vehicle fleet e.g. reducing mobile plant idling times, increasing the availability of existing electric/hybrid vehicles to name a few.

The make-up of Scope 1 emissions is represented in the charts below:



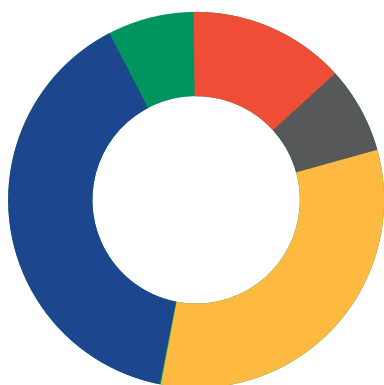
3) SCOPE 2 EMISSIONS BROKEN DOWN BY TOP EMISSION SOURCES

17% of Napier Port's total FY23 emissions related to scope 2 emissions (FY22: 18%) which arise from purchased electricity off the national electricity grid. Consistent with FY22, the top emission sources within this category are powering reefer containers, operational wharf and street lighting towers, and tug shore power and related infrastructure.

4) SCOPE 3 EMISSIONS BROKEN DOWN BY TOP EMISSION SOURCES

11% of Napier Port's total FY23 emissions related to scope 3 emissions (up from 9% in FY22). Breaking down the scope 3 emissions data further 39% of total scope 3 emissions are attributable to employee commuting and 32% is attributable to freight (trains and trucks) operating between Napier Port and Manawatū Inland Port.

SCOPE 3 (tCO₂e) (FY23)



■ Waste – landfill with gas recovery	76
■ Container Freight – diesel tkm*	325
■ Electricity T&D* losses kWh	137
■ Employee commuting	396
■ Other, including air travel/water supply m ³	73

*tkm = tonnes per kilometre

*T&D = transmission and distribution

SCOPE 3 (tCO₂e) (FY22)



■ Waste – landfill with gas recovery	123
■ Container Freight – diesel tkm*	278
■ Electricity T&D* losses kWh	161
■ Employee commuting	217
■ Other, including air travel/water supply m ³	51

*tkm = tonnes per kilometre

*T&D = transmission and distribution

SETTING TARGETS – DE-CARBONISING NAPIER PORT

Napier Port is committed to decarbonisation and reaching net zero greenhouse gas emissions by 2050 and intends to achieve this incrementally over time whilst considering all the potential impacts.

Our sustainability strategy includes the development and adoption of an emissions reduction strategy to support Napier Port's goal of net zero emissions by 2050. During FY22, a draft emissions reduction strategy was developed to provide the framework for those charged with governance to outline the most effective emissions reduction pathway for Napier Port. At a high level the strategy aims to:

- Focus on the reduction of diesel consumption given it is the primary source of our current emissions
- Align investment in low emissions technology with
 - Our asset renewal program
 - Any future transformation of Napier Port container terminal operating modes
 - The availability of emerging technology
- Grow our electrical infrastructure through potential electrical capacity upgrades.
- Establish a decision-making framework that considers low emission technologies and incorporates emission considerations in investment or business development decisions

This strategy framework will continue to be further developed and involves further investigations into the viability of alternative fuel sources and the array of new low emissions technology.

Current emission reduction initiatives integrated within our business:

- The operation of two Eco Reachstackers with a further one on order with delivery due during FY24
- A continual program of light retrofitting with low energy consumption LED alternatives to our light towers and storage sheds
- Replacement of clear lite cladding systems to reduce the need for interior lighting during daylight hours

- Deliberate prioritisation of lower fuel consuming tugs
- Reduction in unproductive usage (idle) hours across our container handling mobile plant through the leveraging of IOT data and technology systems
- Procurement policy commitments to consider and evaluate renewable energy technologies and outcomes as a step within the procurement of higher value assets.

Underpinning our existing Emissions Reduction Strategy and supporting our wider Sustainability Strategy, Napier Port currently has the following initiatives underway, each with the potential to support the decarbonisation of our operation:

- Undertaking a decarbonisation and alternate energies assessment to evaluate in further detail, potential future pathways of reaching net zero emissions
- On site solar generation installation scoping study
- Tendering of battery electric forklifts to partially replace equipment within our Warehouse Operations container packing division
- Identification of potential alternative future operating modes and the ongoing refinement of existing operating modes to extract improved working efficiency
- Tendering of potential replacement mobile harbour cranes with integrated renewable energy sources embedded within the design
- Partnering with equipment suppliers to evaluate proof of concept renewable energy alternative equipment.

The decarbonisation and alternate energies assessment will evaluate currently available renewable energy alternatives, their wider adoption for use, and the whole-of-life cost and impact to integrate. Aligned with broader industry momentum and appreciating economic factors, a key output is expected to be the delivery of a multifaceted plan for progressing decarbonisation within our operations.

Napier Port's Sustainability Strategy and Action Plan is available on our website at:

[napierport.co.nz/wp-content/uploads/2021/08/Napier-Port-Sustainability-Strategy-and-Action-Plan.pdf](https://www.napierport.co.nz/wp-content/uploads/2021/08/Napier-Port-Sustainability-Strategy-and-Action-Plan.pdf)

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