

Statement of Intent
2020 - 2024

and

Statement of
Performance Expectation
2020/21

REANNZ

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Presented to the House of Representatives under Sections 150–157 of the *Crown Entities Act 2004*.

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REANNZ provides the pathways and connections with global research leaders so that by 2027, New Zealand will be a global innovation hub, a world class generator of new ideas for a productive, sustainable and inclusive future.

FOREWORD FROM THE BOARD /

REANNZ is a Crown Owned Company that procures, operates and maintains the infrastructure and support services that allow New Zealand's researchers, scientists and educators to collaborate with their peers around the world, achieved through prompt and unrestrained access to any resource for knowledge creation, innovation and learning.

Today's research is becoming increasingly distributed and data-intensive. Researchers can collect, sort, mine and analyse data quickly and generate new inventions in areas like environment, climate, health, and education to empower New Zealand's future economy.

REANNZ provides the network platform that allows researchers, scientists and educators to innovate by removing the barriers to data mobility. With access to large data transfer capabilities and network tools that encourage multi-institutional collaboration, New Zealand researchers have access to the world's unique science facilities and more effective and efficient ways of working.

By providing this network platform, REANNZ aims to create a landscape without barriers to the exchange and development of ideas and knowledge, harnessing research, education and innovation to advance the wellbeing of New Zealanders into the future.

It should also be acknowledged that the current COVID-19 pandemic has had a significant impact on REANNZ and our members, and as the situation continues to change and develop, we continue to support our membership and their changing needs. We ensure that the 350,000 researchers, academics, educators, innovators, staff and students that have access to the REANNZ network are supported and can continue to contribute to research and education in New Zealand and internationally.

Some of those currently utilising the network are the epidemiologists working on the New Zealand COVID-19 response, biomedical researchers compiling their latest findings and scientists and lab technicians performing critical testing, as well as those academic faculty, researchers and students continuing their work and studies remotely.

We remain future focused to ensure that the research and science communities are supported and provided with a service that is valuable to them, which in turn facilitates the continued growth and development of research in New Zealand.



Janine Smith MNZM
Chair

30 June 2020



Ross Peat
Deputy Chair

THIS STATEMENT OF INTENT IS SUBMITTED BY THE BOARD OF DIRECTORS OF RESEARCH AND EDUCATION ADVANCED NETWORK NEW ZEALAND LIMITED (REANNZ), PURSUANT TO THE CROWN ENTITIES ACT 2004. IT SETS OUT THE STRATEGIC DIRECTION FOR REANNZ FOR THE PERIOD 1 JULY 2020 TO 30 JUNE 2024.

The purpose of REANNZ's Statement of Intent

This Statement of Intent summarises REANNZ's strategy for the period 1 July 2020 to 30 June 2024, along with performance measures that enable the public and all interested stakeholders to evaluate how effectively REANNZ delivers its outcomes.

The Statement of Intent and 2020/21 Statement of Performance Expectations have been brought together in this combined document. It sets out the initiatives being pursued to progress the strategic intentions, the funded outputs and the performance measures against which REANNZ can assess its operational performance for the next four years.

The performance measures are reported in Quarterly Reports to the Ministry of Business, Innovation and Employment (MBIE) and in the Annual Report.

The Annual Report provides information on progress relative to strategic intentions and reports on progress during the year.

Overview

REANNZ, the Research and Education Advanced Network New Zealand, is New Zealand's National Research and Education Network (NREN).

REANNZ is a not-for-profit Crown-owned company under Schedule 4A of the Public Finance Act 1989. Shareholding Ministers are the Minister of Finance and the Minister of Research, Science and Innovation.

An independent Board of Directors appointed by the Ministers provides governance. REANNZ is funded through MBIE's Strategic Science Investment Fund (SSIF) and by member organisations.

REANNZ operates and supports a specialist high-performance digital network that is engineered to meet the unique performance demands of scientists, researchers, innovators and educators. It is used by researchers to access, move and share data-intensive research across the country and around the world, enabling them to collaborate and contribute to world-leading research to benefit New Zealand and the world.

REANNZ engineers also develop and support solutions, systems, and platforms to address complex technical issues in this specialist environment.

REANNZ is an active member of the international community made up of over 120 National Research and Education Networks (NRENs). REANNZ and these international partners have agreed processes, protocols, and settings that enable them collectively to provide a seamless international research infrastructure allowing traffic to transit to, or through, their countries.

Established as an NREN

In 2005 the Crown formed REANNZ with the constitutional purpose to “establish and operate the New Zealand research and education network that provides research and education users with high speed, wide bandwidth, and domestic and international connections to enable new forms of research and new research collaborations”.

REANNZ was tasked with undertaking a number of related public good objectives that could not and are not being delivered by the commercial provider sector. This public good characteristic also means that most advanced international networks similar to REANNZ cannot be sustained by member funding alone. In countries comparable to New Zealand, Government contributions account for between 50% and 70% of revenues.

The Ministers letter of expectations for 2019/20 requires REANNZ to work with MBIE officials to “develop a clear understanding of the options to sustainably provide the required data intensive research network capability”. This requirement also reinforces the purpose of REANNZ to support data-intensive research.

NRENs are....

National Research and Education Networks (NRENs) connect and support creators and users in the science, research and education sectors (R&E), both nationally and internationally, by providing a specialised high-performance network and other supporting services.

An NREN is essential to support research, productivity and collaboration and this is achieved through data movement at a scale not commonly found outside of the research and education sector. However, capacity alone is not sufficient - other technical features such as a commitment to very low packet loss, consistent and known latency, and dedicated data transfer support make it possible for end users and consumers to perform their work.

REANNZ and other globally interconnected Research and Education networks provide high-speed, high-quality service connectivity alongside other value-added offerings such as forums for collaboration and discussion, technical support and expertise, and vendor and supplier management.

From a New Zealand perspective, data-intensive research provides a significant value opportunity and increasing the amount of internationally connected and data driven research helps the sector stay relevant and effective in a changing research environment.

There are four common denominators for all NRENs, they:

1. provide services for a closed user or member group,
2. are not-for-profit organisations - their mission is to provide services at lowest possible cost,
3. provide national and international connectivity at a minimum, and
4. provide additional services that support and enable effective use of the advanced networks.

REANNZ Value proposition

The value proposition is the value delivered to the membership that is uniquely delivered by REANNZ. There are three primary areas where REANNZ provides value to its members:

- › **An Advanced Network** – a high speed network fit for the purpose of supporting existing innovation and research and enabling future research approaches.
- › **Applications and Reporting** – reporting and applications that enable, facilitate and encourage leading edge connectivity and collaboration approaches.
- › **Consultancy and Engagement** – providing support, advice and representation to the membership and in the global NREN sector.

Implications of being an NREN for REANNZ Strategic and Business Planning

The REANNZ Constitution and NREN business model have significant implications for strategic and business planning of the REANNZ business, for example:

- › **Closed membership** – membership of REANNZ is primarily for those educational and research entities that undertake data-intensive research. In New Zealand this is usually Universities and Crown Research Institutes (CRIs). All Universities and CRIs are current members of REANNZ, therefore there is limited scope for expanding the customer or membership base.

A small number of other tertiary educational entities and research organisations are also members (e.g. some Institutes of Technology and Polytechnics, Callaghan Innovation, Malaghan Institute, and Cawthron Institute).
- › **Product and Services** – products and services are mostly based on the access and use of the *Advanced Network* and there is limited scope for developing entirely new products and services. Within the *Applications and Reporting* area there is a focus on new technology-based innovations and improving service quality. *Consultancy and Engagement services* is the area where significant improvements and additions can be developed.
- › **Key Partnerships** – REANNZ can also explore opportunities for strategic partnerships that may focus on:
 - being a key player in the international NREN community,
 - outsourcing non-core operations or joint operating arrangements,
 - strategic alliances with other Government Agencies,
 - partnerships with network providers, Data Centre and Cloud service providers, and
 - brokering bulk purchasing arrangements that benefit members.

Operating environment

Large-scale science and data-intensive disciplines need networks optimised for very different traffic patterns than the commercial internet. Commercial networks see many millions of small, short duration flows that, when aggregated, produce smooth and easy to predict traffic patterns.

Research networks' traffic mix is dominated by bursty, high-throughput, multi-terabyte flows that may last for days. Allowing this flexibility requires the provisioning of capacity beyond what is typically cost effective for commercial networks. For research networks to facilitate science, there needs to be enough available capacity for traffic to burst into and allow these large flows through, but this headroom is quite deliberately not fully utilised all of the time.

Research disciplines require different network technology from an ordinary internet user. Time sensitive and interactive research data requires the network to be optimised for consistent and known latency, large data sets need guaranteed end-to-end performance (from the researcher to their, often international, end host destination) and compatibility between different networks and end users. These specialist requirements are on a scale that commercial networks simply cannot cost-effectively provide.

In this sense, REANNZ exists to address a niche market that commercial networks don't meet - the provisioning of the unique services and enabling collaborations that meet science, research and education needs.

In addition to this, the nature of science activity has changed dramatically in recent years due to the increasing availability of optical fibre networks. These fibre-based networks have enabled science to become increasingly distributed, with remote access to instruments, wider collaboration on projects between institutions and countries, and the sharing of massive datasets between multiple users for different research purposes. Gone are the days where scientists conducted ground breaking research by toiling away in isolation in their labs.

Purpose-built network platforms like the one REANNZ provides to its community are oxygen for data-intensive research and advanced applications, and are proving to be essential in the recruitment and retention of world-class talent.

Networks are the common infrastructure that binds communities. REANNZ is part of the research, education and innovation ecosystem, connecting participants in those sectors to each other and the world. Nearly all developed countries, and many developing countries, have a research network similar to REANNZ.



REANNZ is a membership organisation, funded by a mix of Crown contributions and Member revenues.

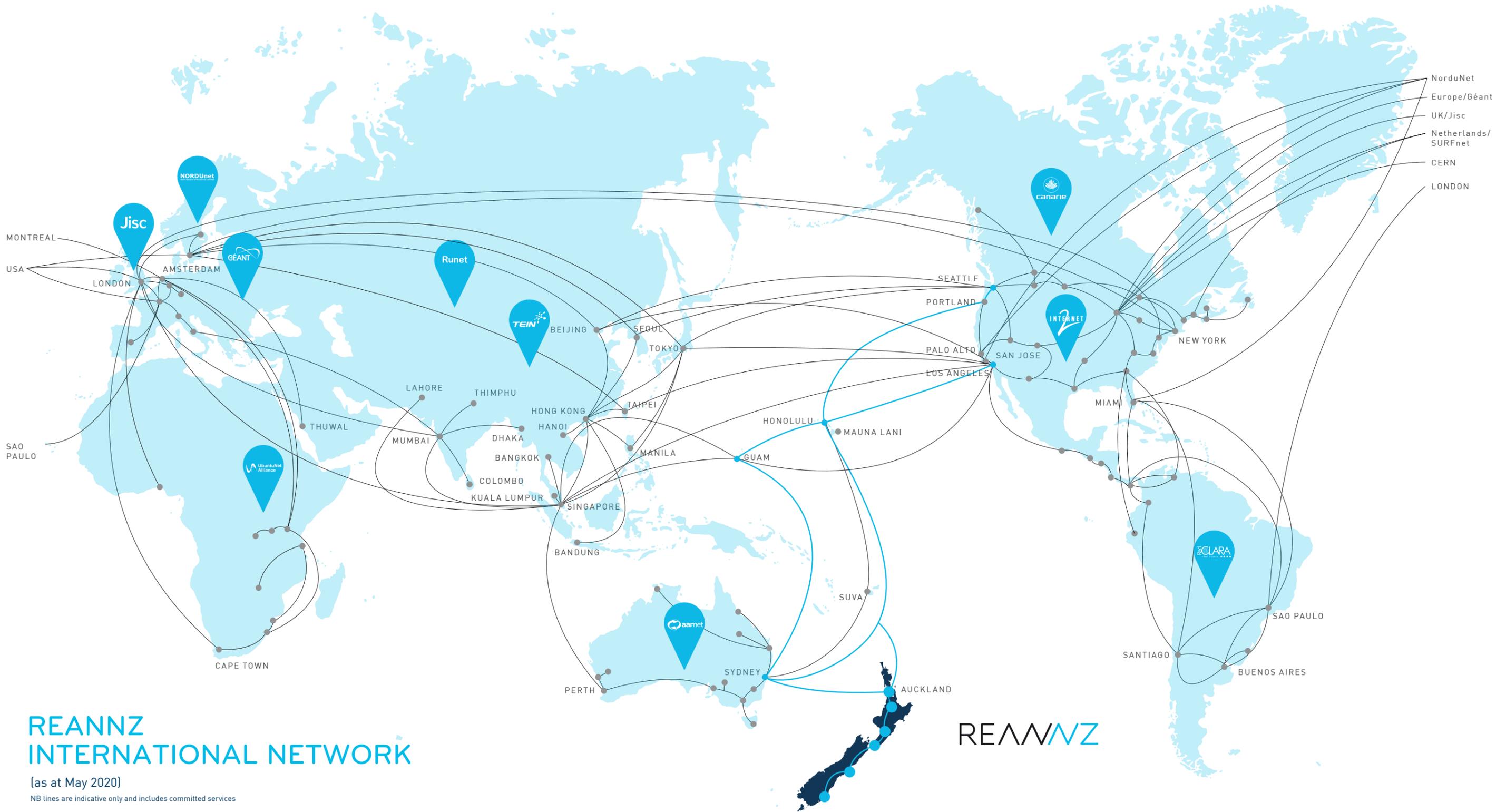
REANNZ's core members are the New Zealand Universities and Crown Research Institutes, with Polytechnics, Institutes of Technology and Wananga making up the remainder of the tertiary education membership base.

In order to help facilitate its mission, REANNZ also connects organisations that provide services of benefit to the membership base, such as providers of cloud service, cloud-based applications and data storage facilities. This both decreases the cost to members of accessing relevant content by delivering it across the REANNZ network instead of over commercial carriers, and improves the quality of their user experience by ensuring it is accessible through a high capacity, quality network.

Additionally, REANNZ connects innovative businesses to the network, allowing them to work directly with the science and research institutions that are assisting them with product development or commercialisation.

The REANNZ network's national footprint is shown on the following pages.

GLOBAL RESEARCH AND EDUCATION COMMUNITY /



REANNZ INTERNATIONAL NETWORK

(as at May 2020)
 NB lines are indicative only and includes committed services

These lines are indicative only and do not show precise routes.

THE NATURE AND SCOPE OF REANNZ /

The strategic direction laid out in this Statement of Intent reflects the Government's priorities for REANNZ, the infrastructure needs of the research, science and innovation sector and how this contributes to the long-term economic outcomes for all New Zealanders.

VISION /

REANNZ provides the pathways and connections with global research leaders so that by 2027, New Zealand will be a global innovation hub, a world class generator of new ideas for a productive, sustainable and inclusive future.

MISSION /

Design, build and operate New Zealand's high-performance network, provide network and other services to members and users, enabling them to connect to and collaborate with each other and the global NREN ecosystem.

Values and Driving Principles

The values adopted to assist in achieving the vision are:

- > **Being fair, open and respectful** – To be open minded and respectfully discuss and debate thoughts, ideas and plans to broaden and further inform beliefs and approaches. To be a reliable, stable, non-commercial and neutral partner for members.
- > **Being good partners** – Collaboration and strategic partnerships are fundamental to improving science and research outcomes for New Zealand. REANNZ is developing partnerships that benefit all parties and increase public value.
- > **Exercising responsible stewardship** – Careful and responsible management of the assets and resources that have been entrusted to the care of REANNZ.

The driving principles are:

- > Technical excellence
- > Focus on the important
- > Leverage off strengths for the common good
- > Be flexible and adaptive
- > Be outward looking and curious

Outcomes

The vision is to be achieved by delivering on outcomes and strategic intentions.

The following three outcomes articulate what REANNZ is delivering to support the New Zealand research, education and innovation network users:

- > **Advanced Network** – Establish and operate the Advanced New Zealand Research and Education Network.
- > **Collaboration** – Support and enable New Zealand's connection with the global research, science and innovation systems.
- > **Business Performance** – Ensure New Zealand has an affordable and sustainable NREN business.

Intentions

The vision, values and outcomes are intended to be enduring and remain largely constant over time, but intentions change over time to reflect the medium term areas of focus.

Strategic intentions are the areas where efforts are being concentrated to deliver the vision and outcomes. These are:

- › **Advanced Network:**
 - grow international recognition of REANNZ as a high-quality National Research and Education Network (NREN),
 - improve the suite of applications and reports that enrich the end to end use of the network.
- › **Collaboration:**
 - improve member and user outcomes and experiences,
 - increase key partnership arrangements that create value for the REANNZ network.
- › **Business Performance:**
 - sustainable funding streams and business performance improvements developed and implemented.

Performance Framework

REANNZ's priority and business as usual activities are key contributions to delivering these strategic intentions. The following performance framework is used to illustrate progress towards the strategic goals in the following areas.

- › Delivering high-quality Network performance is measured using the following parameters:
 - Bandwidth available – keeping network capacity ahead of members' demands and remaining capable of supporting the most demanding data-intensive collaborations.
 - Packet delay variation – minimise packet delay that will support real-time services such as voice or video.
 - Packet loss – aim to eliminate packet loss as it is catastrophic for large data transfers typical of REANNZ user groups.
- › Providing members and users with access to the content and tools they need is measured by:
 - Increased use or uptake of international access federated services.
 - Increasing member and user satisfaction that the REANNZ network is essential or valuable to their work.

- › Improving member engagement is measured by:
 - Increased customer satisfaction and engagement.
 - Issues resolution timeliness.
 - Sharing Case Studies to demonstrate how members are supported in moving data and the outcomes achieved.
- › Improving key partnership arrangements is measured by:
 - Increasing the number of Strategic Alliance memorandum of understandings in place.
 - Increasing the number of Knowledge Sharing sessions that provide awareness of REANNZ's high-performance network, data transfer capabilities and value.
- › Maintaining financial sustainability and business performance is measured by:
 - Increasing employee satisfaction.
 - Increasing employee retention.
 - Reducing the actual expenditure to Budget variance.

Treaty of Waitangi | Te Tiriti o Waitangi

REANNZ is committed to the principles of the Treaty of Waitangi. REANNZ's goal is to foster meaningful connections between Māori, the research and innovation system, and to grow opportunities for Māori science and innovation.

REANNZ STRATEGY /

VISION / REANNZ provides the pathways and connections with global research leaders so that by 2027, New Zealand will be a global innovation hub, a world class generator of new ideas for a productive, sustainable and inclusive future

MISSION / Design, build and operate New Zealand's high-performance network, provide network and other services to members and users, enabling them to connect to and collaborate with each other and the global NREN ecosystem

Values and Driving Principles

will help achieve the strategy

Values

- Being fair, open and respectful
- Being good partners
- Exercising responsible stewardship

Driving Principles

- Technical excellence
- Focus on the important
- Leverage off our strengths for common good
- Be flexible and adaptive
- Be outward looking and curious

Outcomes

the Vision is achieved by delivering on the outcomes and strategic intentions strategy

Advanced Network

Establish and operate the Advanced New Zealand Research and Education Network

Collaborations

Support and enable New Zealand's connection with global research, science and innovation systems

Business Performance

Ensure New Zealand has an affordable and sustainable NREN Business

Purpose

REANNZ is a Crown-owned company, established for the purpose of ...

REANNZ will establish and operate the Advanced New Zealand Research and Education Network:

- that provides research and education users
- with high speed, wide bandwidth, and domestic and international connections
- to enable new forms of research and new research collaborations

REANNZ will operate in such a way that it:

- **enables** leading-edge e-research;
- **facilitates** universal connectivity throughout the New Zealand and international research and education community;
- **encourages** broad participation by the research and education sector in New Zealand through accessible technology and cost-effective pricing;
- **connects** the research and education sector to the broader innovation sector for pre-commercial, research-based collaboration;
- **facilitates** participation by multiple telecommunications-sector partners so as to ensure the greatest possible flexibility for on-going evolution

REANNZ will manage foreseeable upgrades and increases in the Advanced Network in a financially sustainable manner through the accumulation of reserves

Strategic Intentions

Strategic intentions are where REANNZ will concentrate efforts to deliver the vision ...

- Grow our international recognition as a high-quality National Research and Education Network (NREN)
- Improve the suite of Applications and Reporting that enrich the end to end use of the Network

- Improve member outcomes and experiences
- Increase key partnership arrangements that create value for the REANNZ Network

- Sustainable funding streams and business performance improvements developed and implemented

Measuring our Impact

REANNZ will use these measures to assess its performance

High-quality network performance

- Bandwidth
- Packet delay variation
- Packet Loss

Tools & services available

- Uptake of international access federated services
- Member and user satisfaction

Member engagement

- Member satisfaction
- Issues resolved in a timely manner
- Sharing Case Studies

Key partnership arrangements

- Strategic Alliance Memorandum of Understandings
- Knowledge sharing sessions

Financial sustainability & business performance

- Employee satisfaction
- Employee retention
- Actual expenditure to budget variance

THE PURPOSE OF REANNZ'S STATEMENT OF PERFORMANCE EXPECTATIONS /

This Statement of Performance Expectations is submitted by the Board of Directors of REANNZ, pursuant to the Crown Entities Act 2004. It sets out the service expectations for REANNZ for the period 1 July 2020 to 30 June 2021.

The REANNZ Board is responsible for the Prospective Financial Statements and Statement of Performance Expectations contained in this document, including the appropriateness of the assumptions underlying them. It is also responsible for internal control systems, which provide reasonable assurance as to the integrity and reliability of financial reporting.

PRIORITIES AND MAJOR INITIATIVES FOR 2020/21 /

There are three outcomes to achieve over the long term:



Advanced Network

Establish and operate the Advanced New Zealand Research and Education Network.



Collaboration

Support and enable New Zealand's connection with global research, science and innovation systems.



Business Performance

Ensure New Zealand has an affordable and sustainable REANNZ business.

Outcomes are to be delivered by pursuing five strategic intentions as described in the Statement of Intent:

- > Grow international recognition of REANNZ as a high-quality National Research and Education Network (NREN).
- > Improve the suite of network related applications and reports that enrich the end to end use of the network.
- > Improve member and user outcomes and experiences.
- > Increase key partnership arrangements that create value for the REANNZ network.
- > Sustainable funding streams and business performance improvements developed and implemented.

2020/21 Priorities and major initiatives represent the areas where efforts are to be concentrated during 2020/21 that contribute to delivering on the longer-term strategic intentions.

Grow international recognition of REANNZ as a high-quality National Research and Education Network (NREN)

a) Why is this important?

REANNZ operates and evolves New Zealand’s National Research and Education Network (NREN). This world-class network is critical infrastructure supporting today’s data-intensive, globally collaborative research.

REANNZ was established primarily to serve the advanced and unique needs of the science and research community in New Zealand. Their needs are complex and driven by the very foundation of how science and research is conducted.

Additionally there are unique challenges in co-ordination and supply of data-transfer services across this community that do not exist elsewhere.

To meet these needs the REANNZ Network is designed to deliver predictable, low risk and high quality outcomes to researchers and scientists, every time they use it. Key features include:

- › Scalability – the network must have the ability to meet the changing needs of its users and members.
- › Coverage / reach – need to provide access wherever the researcher is or where the research is undertaken.
- › Capacity – headroom needs to be maintained across the network to support high-volume data transfers on demand.
- › Resilience – the network is designed to provide and maintain very high levels of service in the face of faults and challenges to normal operations.

As New Zealand’s designated NREN, REANNZ is an active member of the global community of over 120 national and regional research and education networks. Because of this global network of NRENs, New Zealand researchers gain access to a worldwide, multi-billion-dollar research and education infrastructure, dedicated to the pursuit of science and research.

It is REANNZ’s strategic intention to grow its international recognition as a high-quality NREN. A dedicated and high-performance specialist research and education network is a signal of a country’s commitment to, and value placed on, data-intensive science.

b) What are the priority activities for the coming year?

Priority activities for the 2020/21 year include:

- › **Product & Services Post COVID-19** – a set of initiatives that support members’ use of the network as their environment has changed dramatically due to the COVID-19 pandemic restrictions. For example, providing a more distributed access, leveraging home connections and enabling on-line resources to enable researchers and scientists to work when and where they may be.
- › **Future “Blueprint”** - develop a future focused Network and Technology Roadmap that incorporates emerging technology and trends to deliver services as required by the community. The “Blueprint” provides the basis for key partnership arrangements and network infrastructure agreements.
- › **Network Analysis** - improve the computational model of the network to understand capacity and usage. This would then provide a sound, real time basis for decisions around investment in the network. Capacity planning and path viability are existing activities directly supported by this modelling.

c) How is performance tracked?

The following key measures have been selected to demonstrate the extent to which REANNZ is making a difference:

Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21	Why this measure is important
Bandwidth Available				This represents the actual bandwidth that is available between two end-points on a network. Increasing network capacity (speed) supports a higher number of connections, increased traffic levels and more collaborative work. We must continually balance the need to keep the network ahead of our members’ demands while remaining cost effective to ensure the service remains capable of supporting the most demanding data-intensive collaborations.
- national backbone capacity	20 Gbps	100 Gbps	100 Gbps	
- international network capacity	60 Gbps	60 Gbps	60 Gbps	
Packet delay variation	N/A	N/A	A new measure from 2020/21 that will set the benchmark for future years	Packet delay variation, often known as ‘jitter,’ is particularly an issue for real-time services such as voice or video where a human user is involved. High packet delay variation can lead to these services being unusable.
Packet Loss	0.00000731%	0.00000632%	Less than 0.0001%	Packet delivery is a key element of network quality and one of the defining features of research and education networks. A major differentiator of research and education networks is the aim to eliminate packet loss as it is catastrophic for large data transfers typical of our user groups.

Improve the suite of applications and reports that enrich the end to end use of the network

a) Why is this important?

REANNZ provides additional services, applications and reporting that support and enable effective use of the advanced network. Applications and reporting provide authentication, identity federation and reporting for further networking with global NREN and research partners.

REANNZ provides tools that facilitate collaboration between institutions, specialised services that enhance members' ability to use the network, and products and services that enhance the effectiveness and efficiency of members' activities.

REANNZ ensures members can understand how well REANNZ performs services and provides the ability to demonstrate how the network supports their requirements.

b) What are the priority activities for the coming year?

Priority activities for the 2020/21 year include:

- › **Flow analysis** – improving use of flow data to develop a deeper understanding on the traffic carried on behalf of the membership. This would improve REANNZ ability to report internally to members and to other stakeholders.
- › **Unified web platform** – combining the public website and member portal into a single web entity that unifies the online experience of the public, stakeholders and membership. Internal data sets and real time data feeds this website making it significantly more dynamic and relevant.
- › **Stocktake** – undertaking a stock take of current applications and reports to ensure they continue to meet both the needs of members and strategic direction for REANNZ. Develop new or enhance services to meet identified gaps in the needs of members or users.
- › **International NREN offering** – monitoring the changing application and reporting offerings within the international NREN community to ensure members remain up to date and stay connected with the global community. This initiative also targets increasing connection and usage of international access federated services (e.g. eduRoam, eduGain, eduTeams and eduVPN).

c) How is performance tracked?

The following key measures have been selected to demonstrate the extent to which REANNZ is making a difference:

Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21	Why this measure is important
Increased use of international access federated services				These services allow participants to automatically join the networks of any other participating institutions, anywhere in the world. Use of these services is an indicator of the quantity of services provided and their value to both our members and visitors to New Zealand from within the global research and education community.
- number of device connections made to eduroam by NZ users at other sites in NZ or	79,920	100,100	Increase	
- number of members using Tuakiri and eduGain	14	15	Increase	
Member and User satisfaction				Network availability is vital to the ability of the REANNZ network to carry big bursts of data, as and when required.
- the proportion of network users that consider the REANNZ network essential or valuable to their work	100%	100%	Greater than 80%	

Improve member and user outcomes and experiences

a) Why is this important?

REANNZ is a member focused organisation, specialising in meeting the unique needs of its community. To do this effectively, REANNZ must have close relationships with members, to tailor solutions and support for optimal results.

Value is delivered not only through the specialist services that support users at individual institutions, but also through the communities of practice fostered by bringing people together across sectors and disciplines to solve research and science challenges.

It is important that the experience is improved for those who interact with REANNZ; users, members and specific research sectors. This need was highlighted in recent member feedback and independent reports.

The COVID-19 pandemic will have a significant impact on our members, both financially and how collaborative research and innovation is undertaken in the future. REANNZ works closely with members and users to support their changing needs.

b) What are the priority activities for the coming year?

Priority activities for the 2020/21 year include:

- › **COVID-19 response** – working closely with individual REANNZ members supporting their changing needs of REANNZ as they work through the impacts of COVID-19 on their businesses.
- › **Product / Service strategy** – develop a longer term product and service strategy that considers the suite of products and services that REANNZ provides in the future and how these are to be funded and delivered.
- › **Sector engagement** – engagement plans with key sector representative bodies.
- › **Member profiles and segmentation** – develop member profiles and segmentation based on their needs and expected interactions with REANNZ.
- › **Individual member engagement plans** – develop engagement plans for each core member. These include internal engagement requirements and regular review points.
- › **Tools and resources for Researchers** – develop a tool box for researchers of courses, training, education tools and resources.
- › **Customer Relationship Management (CRM) system** - stock take of user requirements to ensure the CRM meets requirements. Implement standard processes, templates, usage requirements and reporting.
- › **Product and Service Information** – develop product and service information for the website and external engagement use. This includes quick guides, value received, standard features and options. Case studies are developed explaining how researchers are using the REANNZ network.
- › **Understanding the Research Market** – gather information, data and trends regarding the New Zealand research sector or market to ensure a rich understanding can be obtained of key users and how REANNZ can add value. This also assists in projecting the growth of research that uses increasing amounts of data so REANNZ can plan to have the network capabilities when required.

c) How is performance tracked?

The following key measures have been selected to demonstrate the extent to which REANNZ is making a difference:

Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21	Why this measure is important
Customer satisfaction and engagement	N/A	N/A	New survey providing the benchmark for future years	A new customer satisfaction survey developed during 2020/21 to provide insights on how well REANNZ is fulfilling the needs of its members and users. The first survey undertaken during 2020/21 establishes the benchmark against which improvement actions can be measured.
Issues resolution timeliness - the proportion of members that consider any issues are resolved in a timely manner	80%	80%	Greater than 80%	Addressing any issues, queries or requests from our members in a timely manner, supports and promotes research and science.
Case studies	2 Case studies	4 Case studies	4 Case studies	Supporting our members to build capability and solve data movement challenges by developing and distributing case studies that demonstrate how members are supported in moving data and the outcomes achieved.

Increase key partnership arrangements that create value for the REANNZ network

a) Why is this important?

REANNZ wants to work more effectively with partners across government and the sector to help deliver the vision. Building effective long term relationships delivers benefits for the research and science community.

NZ is part of a global partnership of over 120 national research and education networks (NRENs) that have the same commitment to high performance; allowing REANNZ users to collaborate with their peers worldwide and ensuring their connectivity experience is seamless from source to destination.

Through these partnerships with the global NREN community, REANNZ is participating with the development of next generation technology at a global scale and bringing this work to New Zealand. REANNZ also contributes to sharing the unique understanding developed in New Zealand environment to the global research community.

REANNZ is proud to be the smallest NREN to have a seat at the table of the international NREN Chief Executive's Forum. REANNZ intends to grow its recognition as an international NREN and will use international networks and connections in building public value for all New Zealand.

Computing is now essential in many areas of science in New Zealand and institutions are relying on supercomputers, cloud service providers and cloud-based applications to control costs and achieve their strategic objectives. Whether it's connecting universities to their online payroll provider or facilitating scientists' access to cloud computing resources, networks like REANNZ are becoming critical components of the research and education 'supply chain'.

REANNZ forms strategic partnerships with the other key players in the research, education and innovation infrastructure to ensure members have access to the research and support they need to build on and use.

b) What are the priority activities for the coming year?

Priority activities for the 2020/21 year include:

- › **Active participation in the international NREN community** – participate in NREN forums and conferences. Establish a programme of activity that ensures REANNZ obtains the maximum value of these partnerships. Also increased collaboration with targeted NRENs where the New Zealand Government is investing in strengthening global connections' and researchers want to connect.
- › **Knowledge sharing** – establish opportunities for sharing knowledge and making connections across research disciplines, members, users scientists.
- › **Support MBIE** - participate in the development of the Research and Innovation System Strategy and the future of eResearch. In addition, supporting Government initiatives that address the changing technology needs of researchers, innovators and scientists due to the impacts that the COVID-19 pandemic has had on their support infrastructure.
- › **Strategic alliances with other Government Agencies** – form strategic partnerships with the other Government Agencies providing research and innovation infrastructure (e.g. New Zealand eScience Infrastructure (NeSI) and Network for Learning (N4L)).
- › **Partnerships with network providers, Data Centre and Cloud service providers** - form strategic partnerships with providers of cloud service, cloud based applications and data storage facilities.

c) How is performance tracked?

The following key measures have been selected to demonstrate the extent to which REANNZ is making a difference:

Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21	Why this measure is important
Strategic Alliances memorandum of understanding	N/A	N/A	2 Memorandum of Understanding agreed.	REANNZ will develop and enter into a Memorandum of Understanding with each strategic alliance which will signal the willingness to work together and how this partnership will proceed and operate.
Knowledge Sharing sessions	N/A	N/A	- 4 presentations at relevant conferences /workshops - 8 Lunchtime information sessions - Site visits to all Universities and CRIs'	Increasing awareness of REANNZ's high-performance network, data transfer capabilities and value throughout our membership base

Sustainable funding streams and business performance improvements developed and implemented

a) Why is this important?

To deliver on REANNZ strategic intentions it needs high performing, member-focused teams that are supported by modern, reliable and secure systems.

Organisational culture and capabilities underpin its ability to deliver on the strategic intentions. REANNZ wants to develop and sustain high performing, member-focused teams. Additionally, given its role and mandate as New Zealand's NREN, it is important that REANNZ demonstrates leadership and excellence in the network provision and support services.

This is achieved by attracting the right people, at the right time, into the right roles and by growing and developing our existing capabilities and talent.

A strong financial platform enables the provision of high quality services and products that members and users expect. REANNZ must continue to improve the member and user experience and outcomes while increasing financial sustainability and membership fee stability.

The COVID-19 pandemic has had a significant financial impact on REANNZ members and the New Zealand economy as a whole. This will create further challenges in developing a sustainable funding model for REANNZ. In the interim, REANNZ needs to closely manage cash flows and continue to fund expenditure shortfalls from reserves. Without a change in the funding model REANNZ's reserves will be completely used during 2023/24 and REANNZ will no longer be a going concern.

In exercising responsible stewardship of New Zealand's NREN the costs of delivery, resources and administration must be actively managed.

b) What are the priority activities for the coming year?

Priority activities for the 2020/21 year include:

- › **Sustainable Funding** – engage with MBIE and core members to agree a sustainable business model and funding that ensures the core network services model remains relevant for the future national and international needs of research and science members and the Government's Research and Innovation Strategy.
- › **Business aligned with strategic direction** – develop internal REANNZ Business Plans that align with the strategic direction set-out in this document and ensures delivery of strategic intentions.
- › **Value for business review** – undertake a review of all expenditure areas to ensure alignment with strategic intentions and providing maximum value for money.
- › **Develop capable and highly motivated staff and leaders** – align remuneration, recognition and conditions with strategic intentions ensuring that high-performing people are attracted, retained and motivated. This includes developing opportunities for employee development and experience across multiple disciplines.

c) How is performance tracked?

The following key measures have been selected to demonstrate the extent to which REANNZ is making a difference:

Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21	Why this measure is important
Employee satisfaction	N/A	N/A	New survey providing the benchmark for future years	<p>A revised staff satisfaction survey will be developed during 2020/21 to provide insights on how well REANNZ is fulfilling the needs of its staff.</p> <p>The first revised survey will be undertaken during 2020/21 to establish the benchmark against which improvement actions can be measured.</p> <p>Disengaged employees are costly to manage and impact on business performance.</p>
Employee retention	65%	69%	85%	Employee retention is important because it shows the businesses ability to keep employees motivated and satisfied.
Actual expenditure to budget variance	23% Underspent	16% Underspent	within 10%	<p>Budget variance analysis compares budgeted and planned activities against actual results. Material variances are to be investigated and remedial actions taken if required.</p> <p>This measure therefore demonstrates management's ability to forecast or plan and manage unforeseen impacts.</p>

SUMMARY OF 2020/21 PERFORMANCE MEASURES /

The following table provides all the performance measures together.

Contributing to Strategic Intention	Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21
Grow international recognition of REANNZ as a high-quality National Research and Education Network (NREN).	Bandwidth Available			
	- national backbone capacity	20 Gbps	100 Gbps	100 Gbps
	- international network capacity	60 Gbps	60 Gbps	60 Gbps
	Packet delay variation	N/A	N/A	A new measure from 2020/21 that will set the benchmark for future years
	Packet Loss	0.00000731%	0.00000632%	Less than 0.0001%
Improve the suite of network related applications and reports that enrich the end to end use of the network.	Increased use of international access federated services			
	- number of device connections made to eduroam by NZ users at other sites in NZ or Overseas	79,920	100,100	Increase
	- number of members using Tuakiri and eduGain	14	15	Increase
	Member and User satisfaction			
- the proportion of network users that consider the REANNZ network essential or valuable to their work	100%	100%	Greater than 80%	
Improve member and user outcomes and experiences.	Customer satisfaction and engagement	N/A	N/A	New survey providing the benchmark for future years
	Issues resolution timeliness			
	- the proportion of members that consider any issues are resolved in a timely manner	80%	80%	Greater than 80%
	Case studies	2 Case studies	4 Case studies	4 Case studies

Contributing to Strategic Intention	Performance Measure	Actual 2018/19	Expected 2019/20	Target 2020/21
Increase key partnership arrangements that create value for the REANNZ network.	Strategic Alliances memorandum of understanding	N/A	N/A	2 Memorandum of Understanding agreed.
	Knowledge Sharing sessions	N/A	N/A	- 4 presentations at relevant conferences / workshops - 8 Lunchtime information sessions - Site visits to all Universities and CRIs'
Sustainable funding streams and business performance improvements developed and implemented.	Employee satisfaction	N/A	N/A	New survey providing the benchmark for future years
	Employee retention	65%	69%	85%
	Actual expenditure to Budget variance	23% Underspent	16% Underspent	within 10%

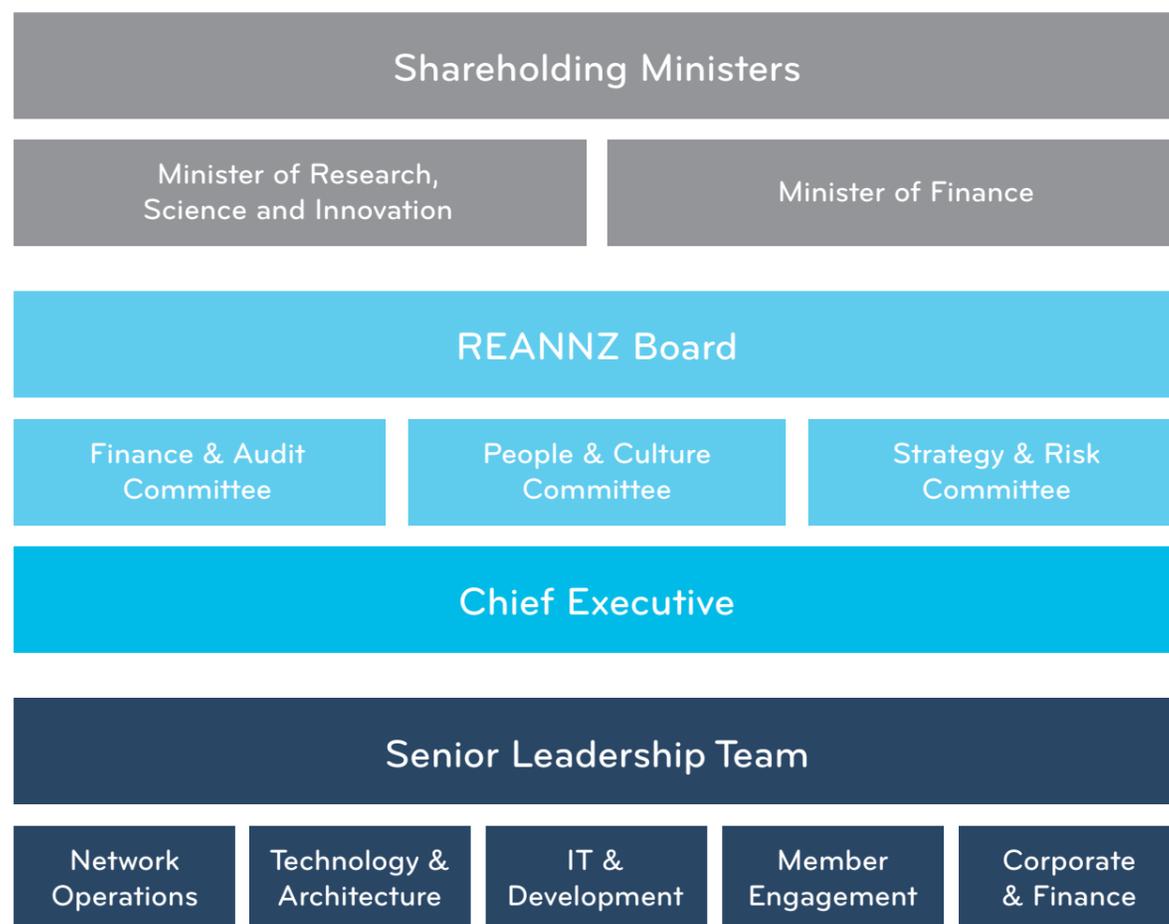
Governance

Structure

REANNZ is governed by a Board of Directors, appointed by its shareholding Ministers following agreement by Cabinet. REANNZ currently has eight appointed directors.

The Board appoints the Chief Executive, who is responsible for the day-to-day operations of REANNZ.

REANNZ's governance and management structure is shown below:



REANNZ Board Committees

The REANNZ Board has three committees that assist the Board in the discharge of its responsibilities and oversight relative to:

- Finance and Audit** - Integrity of financial reporting, internal controls and accounting policies; the nature, scope, objectives and functions of internal and external audit; and producing accurate financial statements in compliance with appropriate legal requirements and accounting standards.
- People and Culture** - People and Culture strategy and policy, remuneration, employment conditions and performance management relating to the senior executives, and Health and Safety strategy, policy and practices
- Strategy and Risk** - Risk management policies, frameworks and processes; Strategy and Policy development in relation to the Network Technology and Application strategic road map, Service and Product development strategies and Service and Consultancy Engagement strategy; and Overseeing the development of the Strategic three year plans (i.e. Statement of Intent).

REANNZ Management Teams

The **Technology and Architecture** team are responsible for the acquisition of technology or services. This team leads the development of new services or trial new technology. It has overall responsibility for the technology policy and for design and development functions. It co-operates with operations in the implementation of services.

The **Network Operations** team is responsible for day-to-day operational management of the current REANNZ network platform, management of network supply contracts, implementation and support of new platform based services, connecting members and supporting their end-to-end network performance.

The **IT and Development** team is responsible for day-to-day operational management of the compute platform, operational support systems, business support systems and desktop platform. The IT and Development team lead our internal software development approach and participate globally in various projects in support of research and the community.

The **Member Engagement** team is responsible for catalysing a network-enabled community of researchers, educators and innovative institutions in New Zealand with

the capabilities to take full advantage of the opportunities advanced network connectivity provides. The Member Engagement team is focused on engaging with members to identify ways in which REANNZ can help them perform their work more effectively.

The **Corporate and Finance** team provides financial, legal, people, administrative, and commercial support to ensure staff and the company can operate effectively and professionally.

Capability

As a small organisation, REANNZ is critically dependent on its people. The highly specialised nature of REANNZ's work means they are highly valued.

REANNZ promotes and supports flexible working and a good work-life balance. The nature of our work provides exciting, leading edge opportunities for personal and professional development.

Leadership, accountability and culture

REANNZ has a small and dynamic team, with fewer than 30 staff. The culture is built upon a platinum rule: 'treat others as they would like to be treated'. Staff are all encouraged to lead by example, supporting others to behave in a way that is consistent with the culture and the values that are crucial for success.

Recruitment, selection and induction

REANNZ recruits new staff members through a number of channels, some through a recruitment agency and others through industry networks and recommendations. All positions are openly advertised. Prospective employees give a short presentation to REANNZ staff, allowing all staff to participate in the recruitment process and have a say in the appointment of their co-workers.

Employee development, promotion and exit

Being a small and diverse organisation there is opportunity for continual development and experience across multiple disciplines. External training and development is also encouraged and specific budget is set aside for courses and conferences to ensure staff remain current in their field.

Remuneration, recognition and conditions

There is a commitment to attracting, retaining and motivating high-performing people. REANNZ continues to provide an environment that identifies, encourages and rewards excellence, innovation and high-quality services

by using a remuneration structure that is competitive and fair. Flexible working hours are offered by agreement and REANNZ invests in the right tools and systems to make work easier from any location.

Harassment and bullying prevention

The REANNZ policy on harassment and bullying has a zero tolerance approach. An employee assistance programme is available to all staff to enable them to get confidential support. Open communication between staff and the leadership team is supported and encouraged.

Safe and healthy environment

Health and safety is taken seriously at REANNZ and policies and procedures are in place to minimise risks, particularly when handling network equipment or when visiting our point-of-presence (PoP) locations. Staff wellbeing is high priority and REANNZ offers a flexible working environment where staff are able to manage their work responsibilities around other personal commitments.

Assets

REANNZ's major asset is its network. REANNZ has asset management plans, accompanied by technology roadmaps and future demand assessments that outline its approach to ensuring value of investments is maximised. Proactive network maintenance and monitoring programs ensures active management of the qualities and features of network services.

Part of maintaining the network is regularly refreshing network hardware and software as it nears the end of its useful life. Over the next four years REANNZ will be investing in new international capacity and national network capacity will be upgraded regularly to support continuing growth in use.

Significant capital investment will be required for the national network around 2022/23, when the current national network infrastructure agreement expires, and the optical networking assets reach the end of their expected useful life.

Accountability

Corporate

REANNZ is a Crown-owned company, listed under schedule 4 of the Public Finance Act 1989 and incorporated under the Companies Act 1993. Its current shareholders are the Minister of Finance and the Minister of Science and Innovation.

Although REANNZ is not a Crown Entity listed under the Crown Entities Act 2004, it is the intent of the shareholders that it acts in a manner consistent with the Crown Entities Act. REANNZ is subject to the Official Information Act 1982.

The functions and purpose of the company are contained in its Constitution and further augmented by an annual Letter of Expectations from shareholding Ministers.

REANNZ's performance is currently monitored by the Ministry of Business, Innovation and Employment (MBIE). The Ministry also maintain policy oversight roles with respect to REANNZ's outcomes.

Reporting

Annual Report

An Annual Report is made available to Ministers within four months of the end of each financial year. It is to comply with the reporting provisions of the Crown Entities Act 2004, the Companies Act 1993, and the Financial Reporting Act 1993.

Statement of Intent

A draft Statement of Intent is made available to shareholding Ministers no later than two months prior to the commencement of the financial year.

Statement of Performance Expectations

A draft Statement of Performance Expectations is made available to shareholding Ministers no later than two months prior to the commencement of the financial year.

Quarterly Reports

Quarterly reports are submitted to MBIE providing provisional financial and non-financial performance data, measured against the forecasts in this Statement of Intent. This information is provided through CFISnet, the Crown's Financial Information System.

Other Information

REANNZ provides other information relating to the affairs of the Company as requested by its shareholding Ministers.

PROSPECTIVE FINANCIAL STATEMENTS /

Research and Education Advanced Network New Zealand Limited

Prospective Statement of Comprehensive Revenue and Expense for the Year ending 30 June

Forecast 2020 \$ 000		Budget 2021 \$ 000
	Revenue	
	Grant revenue	
3,000	Strategic Science Investment Fund	3,000
	Network revenue	
6,094	Membership fees	6,189
4,159	Other revenue	4,002
517	Interest revenue	261
13,770	Total Revenue	13,452
	Network Expenses	
2,221	Depreciation and amortisation	2,254
2,033	Employment expenses	1,997
7,821	Network operating expenses	9,932
12,075	Total Network Expenses	14,183
1,695	Gross Surplus / (Loss)	(731)
	Less:	
	Operating Expenses	
33	Audit	35
154	Depreciation and amortisation	149
181	Directors fees	180
1,481	Employment expenses	2,430
530	Other operating expenses	991
106	Professional services	356
313	Operating leases	347
71	Travel expenses	260
2,869	Total Operating Expenses	4,748
(1,174)	Surplus / (Deficit) excluding gains / (losses)	(5,479)
942	Foreign currency gains / (losses)	-
(232)	Surplus / (Deficit)	(5,479)
-	Other comprehensive revenue	-
(232)	Total Comprehensive Revenue and Expense	(5,479)

Research and Education Advanced Network New Zealand Limited

**Prospective Statement of Financial Position
for the Year ending 30 June**

Forecast 2020 \$ 000		Budget 2021 \$ 000
Assets		
Current Assets		
2,815	Cash and cash equivalents	3,248
2,528	Receivables and debtors	2,556
19,500	Investments	16,500
558	Derivative financial instruments	-
301	Prepayments	271
2,082	Prepaid network expenses	2,154
27,784	Total Current Assets	24,729
Non-Current Assets		
9,129	Property, plant and equipment	7,627
265	Derivative financial instruments	265
17,280	Prepaid network expenses	16,486
26,674	Total Non-Current Assets	24,378
54,458	Total Assets	49,107
LIABILITIES		
Current Liabilities		
629	Accounts payable and accrued expenses	816
114	GST payable	143
153	Employee entitlements	153
2,011	Revenue in advance	1,940
17	Deferred lease incentive	14
2,924	Total Current Liabilities	3,066
Non-Current Liabilities		
14	Deferred lease incentive	-
14	Total Non-Current Liabilities	-
2,938	Total Liabilities	3,066
51,520	Net Assets	46,041
EQUITY		
16,001	Contributed capital	16,001
35,519	Accumulated surplus / (deficit)	30,040
51,520	Total Equity	46,041

Research and Education Advanced Network New Zealand Limited

**Prospective Statement of Cash Flows
for the Year ending 30 June**

Forecast 2020 \$ 000		Budget 2021 \$ 000
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash was provided from (applied to)		
3,000	Strategic Science Investment Fund	3,000
7,371	Network revenue	6,189
4,124	Other revenue	3,907
650	Interest received	261
(151)	Net GST	172
(8,892)	Payments to suppliers & employees	(10,966)
(3,258)	Prepayments for network connectivity	(4,124)
2,844	Net Cash Flow from Operating Activities	(1,561)
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash was provided from (applied to)		
(438)	Purchase of plant & equipment	(1,006)
(3,500)	Term deposit investments	3,000
(3,938)	Net Cash Flow from Investing Activities	1,994
CASH FLOWS FROM FINANCING ACTIVITIES		
Cash was provided from (applied to)		
-	Net Cash Flow from Financing Activities	-
(1,094)	Net Increase/(Decrease) in Cash Held	433
3,909	Cash at beginning of the year	2,815
2,815	Cash at end of year	3,248
Represented by:		
2,815	Cash at Bank	3,248

Nature and purpose of prospective financial statements

The Prospective Financial Statements have been prepared to the best of our knowledge and belief as an indication of REANNZ's future financial performance. Actual financial results achieved for the period covered may vary from the information presented, and potentially in a material manner.

The purpose of the Prospective Financial Statements is to inform readers of this Statement of Performance Expectations of REANNZ's best estimate of its future financial performance at the date of publication, and to comply with REANNZ's specific reporting and disclosure obligations. The statements may not be suitable for other purposes.

Notes to the Prospective Financial Statements

The reporting entity is Research and Education Advanced Network New Zealand Limited ('REANNZ'), a Crown entity as defined by the Crown Entities Act 2004 and a New Zealand incorporated company. As a Crown entity, REANNZ's ultimate parent is the New Zealand Crown.

REANNZ's primary objective is to establish, own and operate a high-speed data network for the research and education sector. As such, REANNZ's aim is to provide services for the ultimate benefit of the New Zealand public, on a not-for-profit basis.

Accordingly, REANNZ has designated itself as a Public Benefit Entity ('PBE') for the purposes of PBE accounting standards with reduced disclosures.

Basis for preparation

Statement of compliance

The Prospective Financial Statements have been prepared in accordance with the Crown Entities Act 2004, and with generally accepted accounting practice in New Zealand (NZ GAAP).

These Prospective Financial Statements comply with PBE accounting standards, which include PBE FRS 42 Prospective Financial Statements.

REANNZ elected to report in accordance with Tier 2 PBE accounting standards with reduced disclosure requirements and is eligible to report as a Tier 2 reporting entity on the basis that it does not have public accountability and is not large.

Preparation and rounding

The Prospective Financial Statements are presented in New Zealand dollars, rounded to the nearest thousand (\$000). The functional currency of REANNZ is New Zealand dollars.

Early adoption of standards

PBE IFRS 9 Financial Instruments is effective for reporting periods beginning on or after 1 January 2022.

The standard sets out requirements for recognising and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. The Treasury has elected to early adopt PBE IFRS 9 in the Financial Statements for the Government for the 30 June 2019 financial year. REANNZ early adopted the standard from the 30 June 2019 financial year to be consistent with Crown's accounting policies for financial instruments.

The adoption of this standard has had no material impact on the financial statements.

Significant accounting policies

Accounting policies are selected and applied in a manner that ensures that the resulting financial information satisfies the concepts of relevance and reliability. REANNZ accounting policies, therefore, are designed to report the substance of the underlying transactions undertaken by the entity.

The following significant accounting policies have been adopted in the preparation and presentation of the Prospective Financial Statements.

Revenue

The specific accounting policies for significant revenue items are explained below.

Grant revenue

REANNZ is funded in part by the Crown from the Strategic Science Investment Fund (SSIF). The SSIF grant is provided to partially fund the delivery of specialist services and activities to meet the Government's goals for research and education. REANNZ must undertake an agreed work plan (Platform Plan) and the grant is recognised as revenue when paid because there are no other conditions attached.

Other grants are recognised as revenue when they become receivable unless there is an obligation in substance to return the funds if conditions of the grant are not met. If there is such an obligation, the grants are initially recorded as deferred revenue in the Prospective Statement of Financial Position, and recognised as revenue when conditions of the grant are satisfied.

Network and other revenue

Revenue is measured at the fair value of the consideration received or receivable. All transactions are exchange transactions.

Interest revenue

Interest revenue is recognised by accruing the interest due for the investment on a time proportion basis.

Foreign currency transactions

Transactions in foreign currencies, including those for which forward foreign exchange contracts are held, are translated to New Zealand dollars (the functional currency) at the spot rate on the date of transaction.

Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Prospective Statement of Comprehensive Revenue and Expense.

Operating leases

An operating lease is a lease that does not transfer substantially all the risks and rewards incidental to ownership of an asset to the lessee. Lease payments under an operating lease are recognised as an expense on a straight-line basis over the lease term.

Lease incentives received are recognised in the Prospective Statement of Comprehensive Revenue and Expense as a reduction of rental expense over the lease term.

Where the leased items are not in use, the operating lease payments will be treated as a prepayment in the Prospective Statement of Financial Position. Once the items begin to be used in deriving revenue, these prepayments are released to the Statement of Comprehensive Revenue and Expense on a straight-line basis over the period of the remaining operating lease term.

Finance leases

A finance lease is a lease that transfers to the lessee substantially all the risks and rewards incidental to ownership of an asset, whether or not title is eventually transferred.

At the commencement of the lease term, prepaid finance leases where REANNZ is the lessee are recognised as an asset in the Prospective Statement of Financial Position at the fair value of the leased item.

The amount recognised as an asset is depreciated over its useful life. If there is no reasonable certainty as to whether REANNZ will obtain ownership at the end of the lease term, the asset is fully depreciated over the shorter of the lease term and its useful life.

Indefeasible Rights of Use (IRUs) have been granted to REANNZ over specific fibre pairs and have been accounted for as finance leases as the risks and rewards of ownership have transferred to REANNZ.

Receivables and debtors

Accounts receivable are recorded at the amount due less an allowance for credit losses. REANNZ applies the simplified credit loss model of recognising lifetime expected credit losses for receivables.

In measuring expected credit losses, receivables have been assessed on an entity-type basis as this determines shared credit risk characteristics.

Receivables are expensed in the Prospective Statement of Comprehensive Revenue and Expense when there is no reasonable expectation of recovery. Indicators that there is no reasonable expectation of recovery include the debtor being in liquidation.

Investments

Bank term deposits

Investments in bank term deposits are initially measured at the amount invested. Interest is subsequently accrued and added to the investment balance. A loss allowance for expected credit losses is recognised if the estimated loss allowance is not trivial.

Derivative financial instruments

REANNZ enters into derivative financial instruments, including forward foreign exchange contracts, as part

of its normal operations to manage its exposure to foreign exchange rate risk. REANNZ does not hold or issue derivatives for trading purposes. REANNZ has not adopted hedge accounting.

Derivatives are initially recognised at the fair value on the date a derivative contract is entered into and are subsequently revalued at each balance date, with the resulting gain or loss recognised in the Prospective Statement of Comprehensive Revenue and Expense.

A forward foreign exchange derivative is classified as current if the contract is due for settlement within 12 months of balance date. Otherwise the full fair value of forward foreign exchange derivatives are classified as non-current.

Property, plant and equipment

Property, plant and equipment assets fall into six classes, which are measured, at cost less accumulated depreciation and impairment losses, as follows:

- Leasehold improvements
- Routers, switches and optical equipment
- Information technology equipment
- Office equipment
- PoP equipment
- Fibre and fibre housing.

Additions

The cost of an item of property, plant and equipment is only recognised as an asset when it is probable that future economic benefits or service potential associated with the item will flow to REANNZ and the cost of the item can be measured reliably.

Work in progress is recognised at cost less impairment and is not depreciated.

In most instances, an item of property, plant and equipment is initially recognised at cost. Where an asset is acquired through a non-exchange transaction, the asset will be recorded at fair value at the date of acquisition.

Costs incurred subsequent to initial acquisition are capitalised only when it is probable that future economic benefits or service potential associated with the item will flow to REANNZ and the cost of the item can be measured reliably.

The costs of servicing property, plant and equipment are recognised in the Prospective Statement of Comprehensive Revenue and Expense as they are incurred.

Disposals

Gains and losses on disposals are determined by comparing the proceeds of disposal with the carrying amount of the asset. Gains and losses on disposal are included in the Prospective Statement of Comprehensive Revenue and Expense.

Depreciation

Depreciation on property, plant and equipment (excluding work in progress) is calculated on a straight-line basis, from the time the asset is in the location and condition necessary for its intended use. This basis allocates the cost or value of the asset, less its residual value, over its estimated useful life.

The depreciation method, estimated useful lives and residual values of property, plant and equipment are reviewed annually to assess appropriateness.

The following estimated useful lives are used in the calculation of depreciation:

Leasehold improvements	6 years
Routers, switches and optical equipment	3–8 years
Information technology equipment	3 years
Office equipment	5 years
PoP equipment	8 years
Fibre and fibre housing	20 years

Leasehold improvements are depreciated on the basis of estimated useful life or the remaining lease term, whichever is shorter.

Impairment of property, plant and equipment and intangible assets

REANNZ does not hold any cash-generating assets. Assets are considered cash-generating where their primary objective is to generate a commercial return.

Non-cash generating assets

At each reporting date, assets are reviewed to determine whether there are any events or changes in circumstances that indicate that carrying amounts may not be recoverable. An impairment loss is recognised as the amount by which the asset's carrying amount exceeds its estimated recoverable amount.

If the carrying amount of an asset exceeds its recoverable amount, the asset is impaired and the carrying amount is written down to the recoverable amount. The impairment loss is then recognised as an expense in the Prospective Statement of Comprehensive Revenue and Expense.

Where an item of property, plant or equipment has been revalued, any impairment loss is recognised against the revaluation reserve for that class of asset. Where this results in a debit balance in the revaluation reserve, the balance is recognised in the Prospective Statement of Comprehensive Revenue and Expense.

Any reversal of an impairment loss is recognised in the Prospective Statement of Comprehensive Revenue and Expense. Impairment losses can only be reversed to the extent that the carrying amount of the asset matches the carrying amount as calculated under the cost less accumulated depreciation method.

For items of property, plant or equipment that have been revalued, any reversal of impairment loss is credited back to the revaluation reserve. However, to the extent that an impairment loss for that class of asset was previously recognised in the Prospective Statement of Comprehensive Revenue and Expense, a reversal of impairment loss is also recognised in the Prospective Statement of Comprehensive Revenue and Expense.

Intangible assets

Software is a finite-life, intangible asset and is recorded at cost less accumulated amortisation and impairment. Amortisation is charged on a straight-line basis over the estimated useful life of the intangible asset.

Costs associated with maintaining computer software are recognised as an expense when incurred.

Staff training costs are recognised as an expense when incurred.

Costs associated with the development and maintenance of the REANNZ website are recognised as an expense when incurred.

The useful life and associated amortisation rates of major classes of intangible assets have been estimated as follows:

Illustration & Software Licences	3 years
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Payables

Short-term payables are recorded at the amount payable.

Employee entitlements

Employee benefits due to be settled within 12 months after the end of the year in which the employee provides the related service are measured based on the accrued entitlements at current rates of pay. These include salaries and wages accrued up to balance date, and annual leave earned but not yet taken at balance date.

A liability and an expense are recognised for bonuses where there is a contractual obligation or where there

is a vpast practice that has created a constructive obligation and a reliable estimate of the obligation can be made.

Statement of Cash Flows

The Prospective Statement of Cash Flows is prepared exclusive of GST, which is consistent with the method used in the Statement of Comprehensive Revenue and Expense.

Definitions of the terms used in the Prospective Statement of Cash Flows are:

'Cash' includes coins and notes, demand deposits and other highly liquid investments readily convertible into cash used by REANNZ as part of its day-to-day cash management.

'Investing activities' are those activities relating to the acquisition and disposal of long-term assets and other investments not included in cash equivalents.

'Financing activities' are those activities relating to changes in equity of REANNZ.

'Operating activities' include all transactions and other events that are not investing or financing activities.

Goods and services tax (GST)

These Prospective Financial Statements are prepared on a GST-exclusive basis except for accounts receivable and accounts payable, which include GST.

The net GST paid to, or received from, Inland Revenue, including the GST relating to investing and financing activities, is classified as an operating cash flow in the Prospective Statement of Cash Flows.

Commitments and contingencies

A schedule of commitments and contingencies is not separately disclosed in these Prospective Financial Statements.

Income tax

As a public entity under Section CW 38(2) of the Income Tax Act 2007, the company is exempt from income tax. Accordingly, no provision has been made for income tax.

REANNZ