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CHAIR & CHIEF EXECUTIVE'S

Financial year 2022 (FY22) started out positively, with Kiwis flocking back to domestic travel in numbers greater than pre-Covid while borders remained closed. However there were challenges ahead. Auckland produces around 50 per cent of domestic travel and the extended spring Auckland lockdown for Delta was impactful.

OUR PLACE

IN THE WORLD

Meanwhile, the mid-December opening of Auckland's border saw domestic travel rebound again, only to be followed by the February traffic light red setting for Omicron. While there was no national travel ban under red, Kiwis self-imposed an 'essential travel only' setting which again impacted passenger numbers. In late autumn Kiwis began to travel domestically again and the international border began to reopen after more than two years' closure. Ultimately the aviation system moved into a rapid restart phase, particularly domestically and on the Tasman and Pacific Island routes.

Bringing all this together, our passenger volumes were very volatile and FY22 ultimately proved to be the toughest year of the pandemic for New Zealand aviation, but also the point at which the population moved toward a 'living with Covid' mindset.

For Christchurch Airport, the past decade has been a series of managing through major external events. From the earthquakes to the terror attack to the pandemic, our team has been constantly managing the business through big external events beyond our control. During that time, we have been careful to avoid becoming reactive and have allowed ourselves time to learn, adapt and evolve to be better placed for the next major event. The biggest benefit from all of this is how Christchurch Airport has become a perpetual learning organisation.

By 2019, we had materially re-structured our revenue portfolio, growing and diversifying the portfolio, and had deeply re-engineered our operating structures. Between 2014 and 2019, except for rates and insurance costs, our team held operating costs nominally flat for five consecutive years as we focused heavily on driving greater productivity into every part of the business. Our headcount over this period reduced from 400 to around 210 staff through a mixture of stopping some things, contracting in some of our operating needs and embedding into our culture a programme of using technology to drive increased productivity. This combined to materially lift returns and drove increased dividends to shareholders over that period.

As a result, Christchurch Airport entered the pandemic with a strengthened balance sheet, and with restructured revenue risks and operating changes already in place to navigate these types of events. We also learnt through the earthquakes that we needed to be prepared for future major events and have a plan for them, because low probability is not zero probability. We completed and practiced our pandemic plan in 2018. Out of this came the key philosophy we wanted to use to navigate an as-then future pandemic, that of 'stakeholder equity', balancing the needs of our customers, staff and shareholders short term for the long term benefit of the airport.

Pleasingly we have maintained this approach through the pandemic and feel we have been prudent managers, a fair landlord, fair employer and a good investment.

Christchurch Airport has, where needed, provided extensive support to tenants, customers and businesses on our campus through rebates, deferrals or acute suspension of contractual obligations where demonstrably needed. We have held our team together, avoiding Covid driven redundancies and/or remuneration cuts, have grown total asset book value, and we have paid, or proposed to pay, circa \$30 million in dividends across the pandemic period.

We also moved to accelerate our sustainability programme, driving the business to genuine world-class levels for airports, with our people now contributing to some awesome global working groups in this area. These include helping write the next update in global decarbonisation standards for airports, contributing to the UN Secretary General's 18-member panel on Net Zero, and leading the APEC Business Council work programme on Climate Change. This is in addition to continuing to mentor and collaborate with a number of airports around the world on their own sustainability and Environment, Social and Governance (ESG) journeys. During FY22 our airport was named one of five 'world airports of the future' by Traveller magazine (traveller.com.au), the only southern hemisphere airport in the group.

While we have had one eye directly on the present during the pandemic, we have also kept balance with the other eye on the future, being proactive in matters we can control over the next three, 10 and 20 years. We have initiated several intergenerational projects, such as a new greenfield airport in Central Otago and launching a grid scale solar park project at our Christchurch campus.

A QUICK RECAP

CUSTOMERS: Our Christchurch campus is home to around 250 businesses who together employ circa 7,000 people. It is this group that brings the airport to life each day. Each of those 250 businesses has navigated the pandemic in different ways. Some are large, some are small, some have prospered, some have been challenged through the ups and downs of the past two years. Regardless of their size, the airport has sought to be a fair landlord and a supportive partner throughout.

Overall our customer base has navigated the challenges well and seized the opportunities when they have been on offer. We feel confident this part of our stakeholder equity plan for global pandemics has functioned well. We remain well placed for the restart phase we are currently in, noting staff shortages remain a relevant restart factor for many airlines and tenants, and this will have an impact on how quickly many can return to 2019 levels of activity over the next two years.

A number of businesses on campus handle high value, time sensitive air freight in and out of the South Island. Air freight is critical to enable South Island exporters to get high value meat, seafood and produce to world markets, and for the importation of time critical medical and mechanical components. With the closure of the borders came the almost total cessation of wide-body passenger aircraft at Christchurch Airport, which handle more than 90% of air freight into and out of the South Island. At the onset of the pandemic we worked swiftly with the Ministry of Transport to establish the International Air Freight Capacity Scheme (which evolved into the current Maintaining International Air Connectivity, or MIAC, scheme). This scheme was a lifeline for airfreight, supporting airlines to continue to fly without passengers, providing continuity of value and time sensitive supply lines. This saved thousands of jobs and small to medium businesses across the South Island.

While the borders remained closed to international visitors, the international terminal remained active through the year, handling arriving passengers destined for Managed Isolation Quarantine (MIQ). Christchurch was one of only two airports which, through the establishment of a dedicated and physically separate 'red' pathway, was approved by Ministry of Health and border agencies to process these passengers in a safe and compliant way.

STAFF: In line with our stakeholder equity philosophy, we sought to remain a fair employer through the pandemic. This started at the beginning of the pandemic with general agreement we could avoid Covid driven redundancies and/ or remuneration cuts if we were able to freeze wages and recruitment for at least one year. Our staff agreed to this across the board and, when coupled with the post-quake cost compression and productivity gains we had already put in place (as noted above) this allowed us to avoid Covid driven redundancies and/or remuneration cuts. The recruitment freeze asked staff to be open to working in different functions to help us cover vacancies. This saw our headcount lower by a further 10% over the pandemic period as some staff selfselected out of aviation. We deployed an extensive wellbeing programme for our team during the pandemic with feedback indicating this was very helpful to many.

Christchurch Airport was twice named a New Zealand employer of choice in the annual HRD Awards during the pandemic, and we are all very proud of that.

Our leaders stepped up. The executive team focused on the big issues needing acute attention and ensuring we kept our long-term strategic work progressing. They were able to do this because our senior leaders stepped up and ran the Covid impacted airport operations on a day-to-day basis over the two years of the pandemic. The bench strength we developed post-quake became a critical aspect of maintaining our operation and keeping our people well.

It is also important to mention the way the Board and Executive have worked closely together across this period of time. The effort put in to maintain a trusted, but ultimately accountable relationship, has been a foundation stone of the airport's outcomes during the pandemic.

> Our whole team has been supportive, flexible and just awesome!

> > Malcolm Johns Chief Executive

SHAREHOLDERS: It is with some pride that we can say the work we did re-engineering the airport after the earthquakes, coupled with the time we took to look and learn from other major events, meant we had a pandemic plan for the airport ahead of Covid. As a result, we remained profitable throughout the pandemic and maintained our dividend policy of paying out 90% of underlying operating NPAT.

Christchurch Airport's treasury policy was set to anticipate a major external event which might impact our revenue. It provides that five per cent of our maximum allowable gearing be reserved for navigating such events. This reflects the practical challenge of seeking new equity as an early option. In 2020, during the first national lockdown, the airport prudently extended its bank facilities, using this five per cent headroom, and sought short term covenant relief from banks and bond holders. Ultimately, the covenant relief was not needed. The airport did draw circa \$25 million of debt to maintain operations and support customers during the first 11-week national lock down in 2020. This was repaid in full within the same financial year from free cash flows, returning debt to pre-Covid levels. With no current Covid related debt, and having not required any new equity because of Covid, as at FY22, the airport's balance sheet remains strong and undisturbed by Covid.

SUSTAINABILITY: One area we have continued to invest in, and looked to accelerate during the pandemic years, has been our long term commitment to sustainability and our desire to be world-class in this area. Within this annual review is our more detailed sustainability report, however some highlights are worth noting upfront.

After executing a detailed asset transition plan, which allowed us to change our energy profile more towards renewables, our team has been able to reduce our Scope 1 emissions by almost 90% and our Scope 2 by almost 10% against 2015 benchmark levels. These are the emissions that most closely relate to airport operations and the areas we have most direct influence over.

In 2020, Christchurch Airport was extensively independently audited by the world airports body (ACI) and became one of the first airports in the world to be accredited at the highest level of airport decarbonisation. Following this achievement, our team has been in regular demand from other international airports across the world seeking learnings for their own decarbonisation journeys. We are currently active with around 40 other global airports in this area. Our Board and Management made the decision in 2020 that we would not charge for, or protect, any IP when it came to helping other airports decarbonise. Climate change is a whole of world problem - it is not an area that needs to be reserved for competitive advantage, and it is something aviation overall must play its part in addressing.

In 2021, we moved to offset our remaining emissions having satisfied ourselves we had gone as far in reducing our at-source emissions as we were technically and commercially able to do at this point in time. In 2022, we began working with CarbonZ to use science-based carbon offsets driven



Our first solar panels have been installed at this potable water treatment plant to reduce carbon emissions and operating costs while providing safe and compliant water across the campus.

from native reforestation in New Zealand to move beyond carbon zero to climate positive.

In addition to emissions, our teams have been active in the areas of water and waste as we drive our company specific 'donut economics' model back inside planetary boundaries over time.

We have deployed a data driven smart water management system which is enabling us to optimise water usage across our operation in real time. Our team has also started a project on creating a circular economy model for waste in our terminal. This is ambitious, as it requires taking all of our terminal users on this journey with us.

We have also partnered with our terminal cleaning supplier, OCS, to introduce a data driven and more automated terminal cleaning model based on real time human activity, rather than the traditional analogue approach. The focus of this project is to take our own learning on productivity growth through digital transition into accelerating better outcomes for our cleaning team. Together, we believe we can achieve material productivity gains and we have agreed with OCS to focus these gains into lifting remuneration for all our OCS team above the national average living wage.

Once this process has been completed over coming months, our whole of company post-quake programme of driving productivity growth into our business will mean Christchurch Airport has none of its own staff or third-party staff supplying contracted services to the airport below the national average living wage. This has been a long-term project to balance holding nominal operating costs flat by using technology and data to drive productivity gains across the business and lift remuneration levels. We're really proud of being able to achieve both outcomes.

LOOKING FORWARD TO FY23/24

Two key things occurred in autumn 2022. Firstly, as Omicron spread, Covid moved from something primarily outside New Zealand to something in our community and workplaces. Secondly, borders began opening, not just in New Zealand but around the world.

It became clear aviation was experiencing a restart and not a rebuild. People globally moved quickly back to air travel to reconnect with friends, family, businesses and places. This caused demand to run ahead of of supply. For a global aviation system that had been plunged into widescale global hibernation for two years, it wasn't just a flick of the switch for things to go back to normal. The system has been stressed during the restart, especially at the big global airport hubs, and airlines are still working to build the required muscle memory into their operations.

This, coupled with ongoing staff shortages in our airline and tenant customer base, means it is going to take at least FY23 and possibly FY24 to rebuild the supply side of the aviation sector to match the rebound in global traveller demand.

Beyond aviation there is also a general supply shock occurring across the world. Businesses and society have not had to grapple with a supply shock for about 50 years and managing through a supply shock is quite different to a demand shock.

These factors impacting our customers, although beyond Christchurch Airport's direct influence, will nevertheless shape our outcomes over the next two financial years.

LOOKING OVER THE HORIZON

During the past 18 months, the airport team has been looking at our long-term strategy in a post-Covid context. Our team believes there are three non-Covid macro shaping forces in play over the long term: Digital (data) Transition, Climate Change and Future of Work. They will play out through both a New Zealand Inc and aviation context.

Our Horizons 2030 (H30) programme recognises these macro forces and the fact that during the pandemic we have moved from operating activity on one airport campus to now actively exploring a second campus in Central Otago. In addition, we have been approached by other airports wishing to access our IP in a number of operational and strategic areas. We do charge for that type of insight and our team has undertaken a range of consultancy contracts with other airports during the pandemic, generating new revenues (albeit modest in the overall context, but helpful in offsetting costs during the pandemic years).

H30 moves our strategy from a single campus approach at Christchurch to having three key cogs in the airport's business. Our first priority is, and will remain, growing our engine room, our Christchurch campus. This is, and will remain, the biggest part of our business and we will continue to invest in growing it as a priority.

The other two cogs revolve around expanding our horizons, which is our new airport project in Central Otago and partnering our capitals (working with other airports and customer segments) to share our knowledge.



EXPANDING OUR HORIZONS: For more than 30 years there has been an ongoing discussion around the long-term future needs of airport infrastructure in Central Otago. Publicly available information indicates Queenstown Airport will ultimately reach its capacity at some point across the next decade, leaving the region with an infrastructure deficit. Christchurch Airport has been mindful of this and has been keeping an eye on this area since well before the earthquakes and the current Board and leadership team. The decision to progress becoming an active participant in the discussion was driven by three reasons.

Firstly, Central Otago is one of New Zealand's fastest growing regions and that growth is being driven by affluent and highly mobile sections of the community who have some of the highest use of air travel in New Zealand. Over the next 20 years and beyond, it is likely to grow as fast outside of the Wakatipu basin as inside it, meaning the weighted centre of population in Central Otago will ultimately move more towards Wanaka, Cromwell and Alexandra over time. It is also a fast-growing centre for high value, time sensitive exports that rely on air freight. Secondly, all airports are part of an overall network and constraint in one part causes ripple effects elsewhere. 80% of jet services to/from the South Island connect to either Brisbane, Auckland, Melbourne, or Sydney airports (the BAMS). Collectively these airports are forecasting a doubling of passenger demand over the next 20 years or so, and are currently investing more than \$10 billion expanding their own airport infrastructure to accommodate this. In the South Island, only Christchurch Airport will be able to swallow the growth they are forecasting using existing infrastructure.

Thirdly, there is no 'do nothing' scenario either from a national, local or aviation perspective.

Airports create the efficiency factor between land and air transport networks. They are the point where the two intersect. The length and location of runways determines how efficient the two networks work together. Incorrect length and/or location creates inefficiencies which ripple into both networks.

For example, which might be more efficient: trucking high value exports from Central Otago to Christchurch or Auckland then flying them to Melbourne or Sydney (as is the case currently), or flying them direct from Central Otago to Melbourne or Sydney? Passenger logistics are no different. In a capital and carbon constrained future, resilient, appropriate and well located infrastructure that enhances the efficiency of land and air transport networks will be as important to net zero 2050, as the energy transitions for trucks, vans and planes themselves.

Using wide-body aircraft is not about focusing on long-haul services. New Zealand's international air freight carried on wide-body passenger aircraft accounts for less than one per cent of New Zealand's total international freight volume, but accounts for about 16% of the dollar value of our exports. The annual value of a daily wide-body service to the New Zealand economy has been calculated at around \$670 million p.a., of which circa \$510 million p.a. is from air freight. By contrast, a narrow-body aircraft is \$185 million p.a., with only \$100 million of air freight. Wide-body aircraft are around 3.5 times more valuable than narrow-body aircraft.

Because air freight typically transports higher value exports than sea freight, it currently produces a much higher foreign exchange (forex) earning per tonne of CO2e for New Zealand Inc. New Zealanders are highly reliant on foreign exchange. It funds our mortgages, business loans, car loans, credit cards, medical imports and much of our standard of living. Forex/ CO2e will be a critical aspect of how New Zealand optimises how it allocates future CO2e budgets.

About 90% of 2019 wide-body aircraft flying to New Zealand were handled by Auckland Airport. Auckland will continue to dominate long-haul wide-body aviation in New Zealand. The majority of passengers and parcels arriving at Auckland on these aircraft feed directly on to domestic jet services to Wellington, Christchurch and Central Otago. Auckland Airport is in the early stages of constructing a major new domestic jet terminal attached to its existing international terminal to help handle future growth. The option of wide-body aircraft on key domestic and Tasman routes, especially during peak times will become more relevant in the future for airlines.

Airlines generally seek to optimise their networks around operating economics (income less costs) and going forward carbon will become an increasing part of those economics. Wide-body aircraft, on domestic and/or Tasman services, are likely going to produce the better operating economics on high volume routes.

Length and location of runways within the domestic and Tasman networks will determine the future opportunity for passenger, carbon, land/air optimisation across Australasia. If Melbourne, Sydney, Brisbane, Auckland and Christchurch can offer that optimisation, but Central Otago cannot, NZ Inc, net zero 2050 and the air and land transport networks become suboptimal.

Purchasing and holding land long term is something Christchurch Airport has always done. Our Christchurch campus was set aside in 1936, when the then-City Council took a 100-year view on the future of aviation, despite the many unanswered questions and uncertainties on the future of aviation at that time. The airport has added land over time, however has never sold any land. It is a long-term holder of land for use in the long term development of aviation and aviation-related activity for the benefit of a broad set of stakeholders. The current social and economic amenity enjoyed by Christchurch city and the wider South Island from the Christchurch Airport campus stems directly from that 1936 intergenerational decision by Christchurch City Council, and the ensuing intergenerational philosophy of Christchurch Airport.

Having purchased the land in Central Otago, we are now in a broad and ongoing engagement and information gathering phase, with a view to an ultimate approvals process. We expect this phase to last some years and we will methodically work our way through each of the many interconnected pieces of work we believe we need to and as we do will share it publicly via the Central Otago Airport website www.centralotagoairport.co.nz

There is no shortage of parties who have indicated an interest in investing in this project. A broad range of active, or wanting to be active, investors in airports from many different parts of the world have made unsolicited contact since this project became public. We have been clear throughout that we are in the engagement and information gathering phase on Central Otago, and Christchurch Airport will undertake this phase itself. However, some years into the future when the time comes to move to the next phase, we expect multiple options to be available for funding and activating this project. Those discussions and their associated decisions are not for today or this phase of the project, they will be available to the airport, its shareholders and stakeholders in that future context, when all the information from this phase is available.

AVIATION IN A DECARBONISING WORLD

As a \$3 trillion USD global industry, aviation accounts for circa two per cent of global CO2e emissions. The vast majority of these arise from planes using mineral fuel as the primary source of energy. The industry is truly global in nature, spanning both developed and developing countries, each with their own policies and approaches, each with their own view on aviation's growth and position in their future. For many without credible land transport options, aviation serves as an essential public transport network for people and goods.

At a global level the aviation industry acknowledges the need for energy transition to drive decarbonisation, and at a country level there is a wide range of incentives and regulations being applied to speed up this transition.

New Zealand is one of those countries for which aviation is an essential part of the existing and future transport network, both domestically and internationally. Aviation currently supports the highest forex/CO2e sectors in the New Zealand economy and New Zealand and Kiwis are highly dependent on foreign exchange earnings for social and economic wellbeing. We have just seen during the pandemic how dependent we are, as we could not have navigated the pandemic without international and domestic aviation connectivity.

Airlines in this part of the world are investing in energy transition pathways. Air New Zealand and Qantas have publicly acknowledged the need for energy transition and are active with aircraft manufacturers and energy suppliers. Sounds Air has committed itself to an electric aircraft fleet.

On the back of Christchurch Airport's emissions reduction leadership and Kōwhai Park announcement, the airport has spent the past few years forming industry leading partnerships to support the uptake of both new aircraft technology and new fuel technology options from an airport perspective. It is clear there are options in both areas and that partnerships between airlines, airports, energy suppliers and aircraft manufacturers will play an important role in ensuring aviation in this part of the world has options to transition energy. The greatest opportunities currently appear to arise in the domestic and Tasman/Pacific Island networks (short haul) and these are the networks our Christchurch campus and our proposed new campus in Central Otago will service.

Supporting the energy transition of our airline customers is, and will remain, a key focus for Christchurch Airport.

BOARD

While some boards and management teams may have become fractious during Covid, our culture survey results, which were already very high, strengthened and the handshake between board and management, which was already robust, continued to strengthen.

We welcomed Andrew Barlass as a new Crown director. Andrew currently manages family interests in agriculture in mid-Canterbury, having spent many years in the finance industry offshore. Andrew is a former director of Melbourne Airport and holds a number of current independent directorships. We are thrilled to have Andrew join the board.

SUMMARY

The past decade of earthquakes, terror attack and pandemic has been challenging. Through learning, planning and good implementation, Christchurch Airport has navigated the pandemic in a strong position for customers, staff and shareholders. By maintaining a focus on the short term aspects of Covid, while also progressing long-term value accretive projects, the company is well positioned financially and strategically. The post-quake city is a new, valuable and exciting dimension to the airport's future.

We would like to thank the directors, management and whole team for the effort they have put into our journey through Covid.

On behalf of everyone at Christchurch Airport, we would like to thank our customers and shareholders for their support. Bring on the next decade!

Malcolm Johns Chief Exectutive Catherine Drayton Chair

OUR CITY

In 2019, our city was still in a post-quake phase, with many key aspects of the visitor economy still awaiting new infrastructure and amenity. Covid has to some degree caused a visitor sector pause, which has seen many aspects of this phase come into place. In 2022, the quakes are not the shadow on the city visitor sector they were in 2019. In 2022, we can look forward to re-entering key visitor sectors we haven't been able to be part of since 2010/11.

Our city is again a key player in our future aviation demand. We expect to see a return over the next two years of all the aviation services we enjoyed in 2019. We also expect the city to add to our 2019 passenger volumes as national sports events (especially school and community) return to Christchurch, with the introduction of Nga Puna Wai sports hub and Metro Sports facilities. Te Pae convention centre will be a game changer in many ways, the Lyttleton Cruise Terminal and ultimately Te Kaha arena will all be very influential over coming years. Externally, our assessment is our national and international customers view Christchurch through a different lens post-pandemic - it's a positive, attractive and reborn view of our city. Christchurch Airport is fully committed to working with city and national agencies, investing alongside them to maximise these opportunities for our city.





L-R Paul Reid, Sarah Ottrey, Catherine Drayton, Chris Paulsen, Kate Morrison and Andrew Barlass.

RESTARTING aviation

Airports and airlines across the world are responding positively, and as quickly as possible, to borders re-opening and health measures changing.

For us, financial year 2022 started out positively, with Kiwis flocking back to domestic travel in greater numbers than pre-Covid. However, the Auckland lockdown over spring, followed by the emergence of the Omicron variant, once again suppressed travel, through either formal or self-imposed travel restrictions. In late autumn, Kiwis began to travel domestically again. Flights in and out of Christchurch were especially buoyant due to the high proportion of leisure travel, small and medium enterprises (SMEs) and agribusiness passengers travelling again. Air New Zealand, Jetstar, Sounds Air and Air Chathams all started returning schedules to pre-pandemic levels. By the end of the year domestic capacity was back to around 90%.

With Covid-19 entering the community, New Zealand's high vaccination rates, and the risk at the border normalising in line with the risk in the community, the government strategy moved from elimination to containment. This coincided with the commencement of the government's 'Reconnecting New Zealanders to the World' staged opening plan. From 27 February 2022, New Zealanders in Australia could return without the need to self-isolate or quarantine.

In mid-April Australian citizens began to enter New Zealand While there was no isolation requirement for Australian visitors arriving into New Zealand, there still remained the need for arrivals to be vaccinated. On 21 June 2022, the requirement for Australian visitors to produce a negative pre-departure test was also removed. An important milestone in getting back to normal.

AIR NEW ZEALAND

The change in border settings resulted in the recommencement of Air New Zealand, Qantas, Jetstar and Fiji Airlines services to Christchurch. By the end of the year, Tasman and Pacific Islands capacity was back to around 32% of pre-Covid levels.

Importantly, the recommencement of trans-Tasman travel allowed for the pent-up demand to be fulfilled, with passengers flocking back to travelling again to see loved ones, for business or for holiday. Demand was certainly greater than supply as airlines faced challenges in scaling their operations back up, especially recruiting and training cabin crew and pilots.

Our partner of 36 years, Singapore Airlines, continued to fly to Christchurch right through the pandemic, carrying critical freight and returning passengers. In line with the reconnecting New Zealand staged approach, it has been great to see Singapore Airlines increase frequency to daily operations from June to capitalise on the growth in Kiwis wanting to travel further afield and overseas visitors heading to the South Island.



KEEPING FREIGHT Moving

Covid-19 has significantly increased the importance of global air freight.

Increases in online shopping and the disruption to other modes of freight, such as sea freight, has seen the demand for air freight globally increase. For an island nation at the bottom of the world, we are highly reliant on air freight to get high value and time sensitive imports and exports into and out of the South Island. Being the only wide-body capable airport in the South Island means Christchurch Airport plays a critical role.

A number of businesses on the campus handle high value, time sensitive air freight in and out of the South Island. Air freight is critical for South Island exporters to get high value meat, seafood and produce to world markets, and for the importation of time critical medical supplies (such as vaccines) and mechanical components.

When the borders closed it resulted in the almost total cessation of wide body passenger aircraft at Christchurch Airport, which handles more than 90% of air freight into and out of the South Island.

At the onset of the pandemic we worked swiftly with the Ministry of Transport to establish the International Air Freight Capacity Scheme (which has evolved into the current Maintaining International Air Connectivity, or MIAC, scheme). The initial scheme was a lifeline for air freight, supporting airlines to continue to fly without passengers, providing continuity of value and time sensitive supply lines. This initiative saved thousands of jobs and supported small to medium businesses across the South Island.

The continuation of the government's freight support scheme through FY23 will underpin freight-only flights which will service the air freight needs of the South Island through Christchurch.

Of note has been new freight services that have been flown between Christchurch and the United States (LAX) and Asia (TPE, CAN, PVG), which shows the strong freight demand that exists out of Christchurch to key markets.







SISTER CITIES

Christchurch and Adelaide airports celebrated their cities' 50-year relationship by signing a Memorandum of Understanding with a view to securing a direct air service between the two cities.

The sister city relationship was formed in 1972 to facilitate diplomatic ties, student and economic exchanges, social connections, tourism and sporting events. Both airports say the time is right to pursue direct flights to better support these connections.

The idea has been under discussion for some time and research shows traffic between the two cities was on a steady rise pre-Covid, with people indicating they would make the trip more often if there was a direct route.

The two airports will talk to airlines about building a service, realising this may take a couple of years to come to fruition. However, the MoU signals definite interest in getting it across the line - or more accurately across the Tasman!

A direct air service between the two cities would be equally appealing in both directions. Christchurch is the gateway to the South Island, providing a winter playground, as well as amazing mountains, lakes and adventure options in summer, while Adelaide is the gateway to South Australia, renowned for its cosmopolitan city, great wineries, eco-tourism and access to the Outback.



Our humanoid robot Pepper has made many new friends in the terminal over the past few years, and is about to make even more by becoming a more visible presence.

Pepper is designed to interact with humans, so taking up a new position to help people prepare for security screening ahead of domestic flights seems a natural next step.

The robot and two airport minders, Molly and Shweeta, have worked with Aviation Security staff to teach Pepper all about security checks before flights.

Pepper will be at the front of the screening area to offer friendly reminders for people wanting to get through the process without delay. Reminders will include removing clothing or footwear with a lot of metal, removing boots that sit above the ankle, taking jackets off, emptying pockets and placing large electronic devices into trays.

Many people require more than one tray – one for carry-on baggage on its own and another for the items listed above, so please don't be offended if Pepper reminds you of this, it's just friendly advice.

In case you think you might not see Pepper, don't worry – we've made a special stand to both help you hear the messages through the crowds and keep the popular selfie model safe if people crowd in for a photo!



A PET PROJECT IN THE TERMINAL

Have you heard there's another good reason to 'P.A.W.S.' at the airport?

Airports can be bustling places and flying can be stressful for some people, so we've become the first airport in the country to invite the St John Therapy Pets volunteers to calm nerves during especially busy periods.

St John Therapy Pets volunteers and their pets have spent almost 20 years working across the country in schools, retirement villages and hospitals, and have settled well into the airport environment.

The service is based on the many proven benefits of people having contact with an animal. Benefits include decreased stress and anxiety levels, improved physical and emotional health and for many, the longer term enjoyment of an animal companion.

The volunteers who bring their therapy dogs to the airport say the feedback they get from people who stop to interact with them is very positive. Travellers of all ages are delighted by the experience and lots of photos are taken. Some children who might start out a little hesitant about approaching a dog are usually won over by the pets, who take the lead from the person and respond in the right way. One mother was so delighted by the increased confidence her child showed in interacting with a therapy dog at the airport, she said they were going to consider adding a puppy to their family.

When the programme started in our terminal we asked our staff to suggest a name for it. The winning suggestion was P.A.W.S. Programme (Pups Assisting With Stress), which says it all.

At the moment, P.A.W.S. operates in our regional lounge during school holidays, when we see increased numbers of families travelling. Just listen out for the "oohs" and "aahs" to find a dog to cuddle.





A number of new initiatives progressed our role as a diverse and inclusive airport.

CHRISTCHURCH AIRPOR

It is important to us to celebrate our city's diverse rainbow communities, not least because we welcome millions of people to the airport every year and want everyone to feel welcome. We're a modern workplace filled with open-minded people and want everyone to feel able to be their authentic selves. That is why this year we made a public Pride Pledge, committing to all rainbow people having the freedom to be safe, included and visible in our place, and using our voice to actively support and celebrate rainbow communities.

To demonstrate our commitment, we established a team of PRIDE champions, an enthusiastic group of employees who support the company to deliver on this pledge. These employees, along with more than 50% of the the wider organisation, including our Executive and Board of Directors, participated in Rainbow Inclusion training ahead of Christchurch Pride, and many now wear rainbow lanyards alongside their security tags to demonstrate their support.

In June, we were a very visible and colourful supporter of Christchurch Pride Week. Our terminal walls and the Airways tower were spectacularly lit, and we installed a mural at the main entrance to the terminal.

Though this year's rainbow mural was displayed for a short time, we are working on something more permanent so, as they say, watch this space.

This year we also opened an all gender toilet block. It's located next to baggage belt #5 in the domestic reclaim area on the ground floor and includes baby change facilities and accessibility toilets.







#CHCHPRIDE

AIRPORT PEOPLE

People who work at the airport know where they work, and what they do, fascinates many people, so this year we have used our social media channels and website to introduce some of our team.

In a series called 'People of the Airport' we have featured more than a dozen of our people. We asked each of them many of the same questions and got some interesting answers that even we were surprised by although we work with them every day!

We've featured a range of people who have given us insights into how they spend their leisure time. We have learnt our Board Chair Catherine likes to travel to experience very diverse cultures; fire fighter Hayley trains hard for the physical challenge of the Firefighter Combat Challenge; Partnership Manager Briar Nash speaks four languages including Swahili; while Airport Ambassador Shaun ticked off a bucket list wish to sky dive with his 14 year old grandson.

The interest in our team doesn't stop there. We've also responded to requests to profile 'Dogs of the Airport' who work for various businesses across the campus. These include Mindy, whose super sense of smell is put to good use searching bags and cargo for explosives; FloJo, who can smell multiple different currencies; and Theia, who greets visitors to the International Antarctic Centre.



To read about our people, visit christchurchairport.co.nz/people-of-the-airport





Nick Ashley - Airline Development Manager



One hundred days out from the **Women's Cricket World Cup** we unveiled a giant cricket ball in the plaza outside the terminal as part of a countdown event we hosted to promote the month-long tournament.

Canterbury Cricket legend Sir Richard Hadlee, former world cup winner Debbie Hockley and White Ferns vice-captain Amy Satterthwaite began the countdown and hailed the coming tournament as the time for cricket fans to see the world's best teams in action on Kiwi soil.

A few weeks before our event to honour the Women's Cricket World Cup, we had witnessed the excitement across our terminal when the first **Olympians** were (eventually) welcomed home from the Tokyo Olympics.

The Olympians landed in Christchurch for two weeks in MIQ, then came to the terminal to a welcome event and much anticipated hugs from friends and families, before heading to their homes. A large crowd gathered in the terminal to celebrate their achievements, admire (and in some cases try on) the many shiny medals around athletes' necks and meet their heroes for autographs and photos. The welcome event was the first of three we'd planned, but the other two were cancelled at short notice because the country went into lockdown.

Olympian Chloe Tipple says the welcome event was very special.

"It was just lovely, especially to have my family there," she says. "I had 12 family members booked to go to Tokyo to support me, but the pandemic meant they weren't allowed to go, so having them at the airport to welcome me home was wonderful. "It was special for all the team members, because we had been in isolation for two weeks and not able to talk to each other in person until that event. Even in Tokyo, we hadn't had a lot of time together, so being at that celebration, all together and with friends and family, was super cool.

"I felt really well looked after at that event and know others in the team felt the same way."

Crusaders fans turned out in big numbers when the team flew home after winning their sixth consecutive Super Rugby Pacific final. Loud "Crusaders" chanting, cheering and flag waving began before the players and staff walked into the terminal and grew even more enthusiastic when they arrived. Lot of 'selfies' with players and with the large silver trophy, autographs and back-patting followed, with fans from tiny tots to nanas wearing red and black making sure the team got a heroes' welcome.



66

Chloe Tipple Olympian













THE GATHERING PLACE OF CHRISTCHURCH

In December 2021, we welcomed the opening of Te Pae, Christchurch's world-class \$450m convention centre. Located right in the heart of our city and on the banks of the Avon River, this truly world-class facility is set to put Christchurch firmly on the global conference map. The venue has technology, sustainability and local sourcing embedded into its offering, whether it's the regionally inspired and sourced menu, its 5-Star NZGBC Green Star Design Rating, or the latest high tech audio visual that brings conferences to life.

The venue is proving popular with more than 100 events already booked for the first twelve months. Before the earthquakes, Christchurch was the second most popular destination for conferences in New Zealand, hosting almost a third of all conferences. With the opening of Te Pae, the city once again has a venue that will enable it to attract this valuable market to Christchurch.

For the airport, this will result in the equivalent of, on average, an extra three Boeing 737s a week carrying delegates into Christchurch to attend conferences.

As a city, we are proud to work together on maximising the opportunity Te Pae creates. For our part, Christchurch Airport has developed a dedicated arrivals space in the terminal for delegates to meet and register for their event. This creates a unique and special welcome to Christchurch and means their conference starts when the national or international delegates land.

> For the region, conference delegates are highly valuable, spending on average \$375 per day, compared with \$232 for international visitors and \$155 for domestic travellers.



When research revealed business event organisers wanted a way to welcome their attendees as soon as they arrived in Christchurch, we got to work on making it happen.

In time for the MEETINGS 2022 event, we opened a purposebuilt Welcome Lounge in the terminal. Parts of it have remained in the terminal permanently so we can scale up when future event organisers want to theme and publicise their events, and, most importantly, make incoming attendees feel special

Business events start when people touch down, so a Welcome Lounge brings people together to meet and network as they prepare to travel to their event.

UR PLACE

WELCOME TO CHRISTCHURC

MEETIN

Christchurch Airport ANSWERS THE CALL

Another way event organisers can welcome visitors is to take advantage of a package of digital options to publicise their event throughout the terminal – another 'welcome mat' activation for the arriving delegates.

We are the South Island's truly international gateway, with 12 partner airlines preparing to reconnect us directly to 25 destinations as soon as they can, and extensive trans-Tasman schedules, so now is a great time to highlight our famous warm southern welcome.







Recognising Covid-19 had caused significant disruption at the airport and left our team feeling flat, our People and Culture team wanted to give employees opportunities to 'fill their bucket' in the lead-up to the end of 2021. New 'Giving back' initiatives were activated, including funds from a sale of donated pre-loved clothing going to Women's Refuge, and 20 shoeboxes being filled by team members with toys and goodies for children who needed a smile at Christmas.

ONE MOTHER TO ANOTHER

Having a child so ill they have to be in hospital is every parent's nightmare – and it's that nightmare that led to the establishment of One Mother to Another.

We are proud our award-winning registered charity provides support, empathy and kindness to parents and caregivers, primarily mothers, in hospital with a sick newborn, child or children.

One Mother to Another began six years ago, as two mothers reaching out to others who were experiencing the trauma they'd both felt when their own children were hospitalised. From these beginnings we have grown into an established service that delivers 3,500+ care packages every year to parents and carers in six neonatal or paediatric wards, a mothers and babies unit and a community support group – with more wards on the horizon.

The charity relies on the kindness and generosity of companies donating or discounting products to put in the care packages which are carefully put together by a team of volunteers. They deliver the packs to hospital staff who then gift them to parents when they are most in need of encouragement. Extra gifts are also supplied at Christmas and on Mother's and Father's Day.

Volunteers are at the heart of our organisation. We have more than a hundred amazing volunteers who put in thousands of hours each year to support parents of ill children in hospital. These people exemplify our core idea of community supporting community, especially as many of our volunteers have themselves been in the very situation they support. Our volunteers openly describe their wish to give back to others going through a situation they once experienced. One Mother to Another is run by its co-founder Joy Reid, a TVNZ reporter and former European correspondent, whose three children spent time in hospital as newborns or toddlers. She is supported by husband Geoff, a small staff, a board chaired by Judge Robert Murfitt (retired), and former Governor General Sir Jerry Mateparae as patron.

Each package has three purposes. The first is 'practical help', including items to make a hospital stay more comfortable, such as toiletries, tea and coffee, a snack and chocolate, and our unique gratitude journal designed to help with mental wellbeing in a hospital setting.

We call the second purpose 'heart'. We want parents and carers to feel special, loved, appreciated and cared for, so items include a handwritten note of encouragement and a handmade crocheted heart.

The third is 'something special'. We know well how mothers often put other's needs before their own, so we take pride and joy in adding some beautiful treat items to the packs, including one or more gifts ranging from earrings to beauty products. We hope these treats spoil the recipient in a small way and we know from feedback we receive that the little luxuries are greatly appreciated.

This has been a big year for our charity. The grant from Christchurch Airport's Community Fund is helping us expand, so we can support an additional 1000 parents and whānau a year in three new hospital wards, including Christchurch's Child Cancer Haematology Oncology Centre, Christchurch's Child Youth Adolescent Mental Health service and Dunedin's Neonatal Intensive Care Unit.

Natalie Chung Project Coordinator, One Mother to Another Staff also re-started the other activities they do in the community – from ecological restoration and cooking dinners for families at Ronald McDonald House, to raising money for community groups and offering grants to support community projects. Two community groups reflect here on what they do and how we have assisted recently.



CHAMPIONING PERINATAL WELLBEING

PADA (Perinatal Anxiety & Depression) is a non-government funded national charity working to eliminate the stigma around perinatal mental health in Aotearoa New Zealand. We do this by championing awareness and facilitating best practice in perinatal mental health and wellbeing to ensure all families and whānau have equitable access to appropriate information and support.

We provide training, advocacy and awareness for care providers working with families and whānau during pregnancy, childbirth and early parenting.

Perinatal mental illnesses can affect around 25 per cent of women and 10 per cent of men.

Anxiety and depression can be more than just feeling 'down' after having a baby. At its most serious, it can be life threatening. Suicide is the single leading cause of maternal death in Aotearoa New Zealand and is seven times more common here than in the United Kingdom. Care providers who attend our seminars will potentially see women or men who are suicidal and our training will equip them with the tools and contacts to know exactly how to manage these situations. We hope to reduce the suicide rate related to perinatal mental illness.

While many people focus on the new mother, the arrival of a baby can be a huge change for fathers and partners too. About ten per cent of men experience depression after childbirth, and handling and relating to a baby does not always come naturally, so we also train care providers and raise awareness of the importance of the partner's relationship with their infant.





The grant we received from the airport's Community Fund this year was very welcome support for a successful seminar we held in Christchurch in June.

We welcomed 36 care providers in person and another 12 online, all keen to learn more about a variety of topics directly pertinent to mental illness caused by pregnancy, childbirth and early parenting.

Topics covered included the intersections of family violence, mental health and alcohol and other drugs, fortitude, fragility and culturally relevant management, eating disorders in pregnancy, being 16 and pregnant, and how to cope with triggers.

After the seminar, attendees said they felt better prepared to support pregnant women and new parents to be the best parents they can be. Over time, these care providers will care for thousands of families throughout Canterbury, supported by PADA, the 'go to' place for training and information.

There is no health without mental health. Increasing awareness will drive social change with a goal toward improving the quality of care for parents experiencing all types of perinatal depression, and reducing the stigma of mental illness.

Treena Cooper General Manager PADA



PUTTING SMILES ON CHILDREN'S DIALS

Our Airport Fire Service has a wide variety of skills, but this year added some new ones and thrilled some children in the process.

The 'jewel in the charity crown' activity was four playhouses being built and decorated by our Airport Fire Service. The fire fighters took part in an in-house competition to design, build and decorate children's playhouses, to be auctioned to raise money for charity.

The four teams – Blue Watch, Brown Watch, Green Watch and Red Watch – were each given a basic kitset playhouse and a Bunnings voucher towards materials, with a brief to create something unique.

The opportunity to thrill the children who would own the playhouses, and raise money for charity quickly came into play.

While the fire fighters got to work, KidsCan was chosen as the beneficiary of the funds raised, in recognition of the work it does for disadvantaged Kiwi kids. The charity supplies tens of thousands of children with food, clothing, shoes and health products. Education is a child's ticket out of poverty, but children can't learn when they are cold, wet and hungry, so KidsCan supplies the essentials to overcome those barriers. We also chose KidsCan because its work aligns with the United Nations Sustainable Development Goals, which the airport also supports.

The four playhouses built by our teams were completed, auctioned on TradeMe and raised thousands of dollars.

Jason Mooney from Green Watch, says every member of the shift was involved at some time during the build, and at times other staff joined in too.

"It was a good hands-on task for a great cause and we enjoyed the collaboration," Jason says. "We tossed a few ideas around, then settled on a design that replicated our fire station – including the runways.

"The build was not difficult, our budget was realistic and each of us brought different skills, including design, building and painting. It took three weeks to complete the build because of shift changes, but along the way we had fun, communicated well and enjoyed building something someone else would benefit from," says Jason.

The little replica fire station was won at auction by a local family, so the fire fighters delivered it and met the family.

"It was great to meet them, have a chat and a laugh, and see the children excited by what we had made. For us, this was a great idea that benefitted families and a great charity. Win-win!"

Brown Watch also had every member involved in the project.

Senior Fire Officer Tim Evans says the project brought back some special memories for him.

"When I was a child I'd often stay at my grandfather's home in Riccarton. He was a master joiner and could make anything out of wood in his garage there, so taught me how to be creative with wood and use machinery," he says.

"We designed the playhouse as a group working on a white board. We wanted to focus on interactive activities as much as possible, so decided to dedicate the money we had available to building materials to allow us to make it a small fort. We had a sandpit underneath, climbing wall, rope ladder, noughts and crosses game, playhouse on the top level (incorporating a ship's wheel), perspex windows, shade sail roof (to keep the sun off the little ones) and, to put the 'fire fighter's theme' on the build, we finished it off with a pole slide.







"I was glad to use some of my grandfather's machinery to work on some of the pieces, but we also have a tradesman builder and painter on the team. We're great friends who solve problems together and genuinely got behind the project from start to finish.

"After the auction, two of our team delivered the playhouse to the purchaser's business, so he could keep it there until Christmas Eve, then take it to his home under cover of darkness. He was extremely happy with the purchase and our team is thrilled to have made a family so happy."







AIRLINE BEDDING LANDS CLOSE **TO HOME**

When the pandemic abruptly stopped international flights crossing our border, our international airline partners were left with some logistics to manage.

TAKING UP ARMS AGAINST A PANDEMIC

When health authorities approached us looking for a building to offer Covid testing from for a couple of weeks, we were only too happy to help.

One of those was what to do with bedding waiting here to go on long haul flights, but possibly here indefinitely until the border re-opened. In more settled times, people would be snuggling up under that bedding as they travelled through the night to far-off places.

Airlines gave us hundreds of their blankets, duvets, pillows, and cushions with a request to donate them to community groups and charities across the city.

A team of our staff folded and grouped the items, which were then shared across community groups including SPCA, Red Cross, Christchurch City Mission, Te Whare Hauora and The Aunties.



The building we offered at 100 Orchard Road had space to allow social distancing as well as lots of on-site parking and easy access to main roads and highways. It also gave campus workers the ability to take a test ahead of their shift.

As time went on and vaccines became available, we offered the site as a vaccination centre. With consent and support from the city council team, it was agreed the building could host up to 250 people safely at any one time. It was then altered to allow an entry space, waiting area, private booths for nurses and their patients, a separate area for vaccinated people to sit for the 15 minutes required after vaccination, and facilities for the health staff working there.

Reconfiguring our building for this use made sense to us because of the other benefits the site offered. These included spaces to appropriately store essential items such as Personal Protective Equipment (PPE), a secondary emergency power supply to ensure correct refrigerated storage of the vaccine and security considerations.

Businesses and contractors we often work with donated their time and effort to the fit out. They supported the project with tasks including expert advice, transporting items and supplying signage, all free of charge to support everyone in the community.

Anyone across the campus, city and region could use the services at the centre, and certainly did. The vaccination site delivered its first vaccination on 14 April 2021 and delivered its last vaccination on 2 April 2022. During those months, 151,114 vaccinations were delivered at the site. At the peak, an average of around 1,200 vaccinations were delivered each day between July and September 2021.

Wins for Airport **CLEANING CONTRACTORS**

Christchurch Airport and cleaning contractor OCS have been learning more about each other's businesses and getting wins for both as a result of a digital partnership.

The focus of this partnership is to take learning about productivity growth through digital transition into accelerating better outcomes for the cleaning team.

Enhanced efficiency, a reduction in cleaning chemicals and utilities, and environmental gains have led to more satisfaction for workers on a practical level, with technology meaning people do the most valuable work and automate the least appealing work.

During Covid-19 restrictions, the OCS staff played a critical role in maintaining safe operations at the airport. Though they usually prefer to work 'behind-the-scenes', they became more comfortable being visible to passengers as they did their work as a way of reassuring passengers the airport environment was meeting the extra-high standards of early pandemic requirements.

Traditionally OCS has spent significant time and resource keeping the amenities hygienic for passengers by working to daily schedules to clean all facilities at a set frequency.

OCS New Zealand and Christchurch Airport have partnered to drive innovation and technology solutions. Together we're working to keep the airport clean and hygienic, and

I'M SAFE have more than 20 sensors so I don't bump into things while I'm cleaning

F

provide you with a world-class experience



However, digitisation over the past year has seen small sensors placed at each amenity's entrance to count foot traffic. Learning which amenity block got the most usage now sends alerts to OCS when usage exceeds a set number of people, so the most frequently used facilities get more frequent cleaning rather than a routine that didn't factor in usage

OCS has found the sensors have realised significant efficiency gains and this has encouraged the airport and OCS to co-invest in adding two robotic cleaners to the team. The two units operate out of hours and are expected to deliver further efficiency gains.

The efficiencies will deliver another big win by using these productivity gains for the migration of cleaners' wages to above the national average living wage over the next 12 months. The airport believes this will make a significant impact for the cleaning team which performs a critical frontline duty and has worked especially hard over the past two years to deliver exacting health standards.

EFFICIENT kia ora: G MY NAME IS OSCA AND I'M & FLOOR

Dakota PARK

KEEPS ON GROWING

There's been some interesting new developments on the campus in recent times, and if you're one of the people wondering what the very tall building in Dakota Park is, here comes the answer.

It's Boxman Automated Storage System (BASS), the first storage facility of its kind built to store 2,600 shipping containers five high, six deep and 69 wide with no gaps between. Inside the 24.5 metre tall facility is an automated gantry crane which can locate and deliver containers as required to customers at one of the facility's 30 roller doors.

As well as catering to personal storage customers, founder Mat Charles is offering an entirely new solution for small to medium businesses.

"BASS is ideal for businesses who need better stock management but don't have the capital to pay for their own warehousing," he says. "It provides highly efficient, cost-effective storage for businesses who want to self-manage their stock."

If you are a keen observer of how our campus grows, you will have seen the two new office/warehouse buildings at the western end of Dakota Park. These two buildings were designed to address a steady stream of tenant inquiries for premises in the freight and logistics precinct, so developing these buildings offered several options for businesses looking for premises. The buildings were completed in December 2021 by which time they had been snapped up by Online Distribution, a third-party logistics provider, Bapcor's distribution centre and DHL Express.

As the growth of online shopping continues, so too does the need to process the flood of parcels coming and going through the airport. Since the facility was completed in 2017, there has been a significant increase in parcel deliveries with the pandemic adding even more to that. To help NZ Post keep up with demand, we developed an extension – with a total floor area of more than 4000 square metres – to the east of the original building. The mail still got through while construction occurred and new equipment was installed. The extensions were completed in May 2022... and, yes, your latest purchase is on its way.



Christchurch Airport Project Delivery Manager Francois Baudet with Boxman Group Managing Director Mat Charles.



NZ Post expansion.



Containers are requested via mobile app and delivered to a specific door at a specific time, with a code supplied to the customer to key in on arrival at the door.



The Boxman building can store 2,600 shipping containers and deliver them to clients by automated gantry crane.



Airport Senior Project Manager Natasha Evans outside new office-warehouses on the corner of Grays and George Bellew Roads.



Airport Commercial Manager John Raso with NZ Post Operations Manager Ross Newton.

Sofia's FOND FAREWELL

In August, after seven winters at Christchurch Airport, SOFIA's fans lined up around the perimeter of the airport to farewell the iconic Boeing 747SP as she departed Christchurch Airport for what is likely to be the final time.



The SOFIA flight crew preparing to depart Christchurch.

NASA's flying telescope has made the most of the crystal clear and dry night skies above New Zealand to set up a home-away-from-home in the South Island. At night, the Stratospheric Observatory for Infrared Astronomy (known as SOFIA) has flown night missions at 38,000 to 45,000 feet, as far south as Antarctica and above 99 per cent of earth's infrared-blocking atmosphere. These are the best conditions for our astronomers on board to study the solar system in ways telescopes on the ground are unable to capture.

It's been said we get 'sublime science' on our southern deployments because the night skies are 'perfect' for what we do and need to see. When we fly from Christchurch, we can see the light coming from outer space which would usually be absorbed by water vapour, can get above it and fly to things we want to see, rather than work with limited views from the ground.

We've made many discoveries, but a memorable flight in 2015 was observing the occultation of Pluto. It was within two weeks of the fly-by of Pluto by the New Horizons space craft and allowed us to see Pluto's light as it passed in front of a background star. We saw the shadow of the planet at exactly the right time for the few seconds it took to cross the earth.

SOFIA is now an older aircraft, which started life with Pan Am and United before NASA bought it in the 1990s. Our pilots operate an updated modern flight deck and from a seat behind them, a flight engineer opens up the door that exposes the telescope to the skies.

The first time I saw SOFIA in 2005, the telescope wasn't in place so I could see right through the aircraft from side to side. When the installation was complete and the plane had to fly to California, it wasn't quite ready to fly at altitude, so we flew all the way at 10,000 feet and with F-18s alongside us.

I've been on every deployment since then and I believe this aircraft must be one of the most photographed and followed aircraft in the world. There's huge interest in astronomy, which makes this marriage between astronomy and an airplane fascinating to so many people. The public has an intense interest and support for SOFIA, which never ceases to amaze me.

We know Christchurch loves SOFIA and we appreciated seeing the thousands of people parked around the perimeter of the airport the day we arrived in June. That was repeated with the heartwarming response to our post-repair test flight over the city in early August. That affection is mutual, and on the day of our departure we took pleasure in a farewell wingtip to thank the people of Christchurch who've supported us.

The future of SOFIA is uncertain. NASA officials have announced the programme is likely to be shut down after missions flown out of California in September. The aircraft is considered a national asset and there may be institutions interested in using it as a museum piece or some sort of teaching tool, so there's a lot of work to do to decommission the aircraft over the next couple of years.

For now, I can truly say it's been a pleasure to work with the Kiwis over the years and Christchurch Airport has been a great partner for us, as well as the United States Antarctic Program based here.

It's been a wonderful experience and I'm sad I won't be here as often in future, but I will be back to visit your beautiful country and friendly people. Several of our crew have made some good friends here and you can be sure we will be back – as tourists.

Edward Harmon NASA Mission Manager For now, I can truly say it's been a pleasure to work with the Kiwis over the years and Christchurch Airport has been a great partner for us, as well as the United States Antarctic Program based here.

> Edward Harmon NASA Mission Manager

Photo: Tim Ward



Creating INTERGENERATIONAL OPPORTUNITY FOR CENTRAL OTAGO

There's an unassuming brown manilla folder in our archives.

Inside it sit dozens of neatly typed and meticulously handwritten pages - a report on establishing an airport that City Engineer A. R Galbraith presented to the Christchurch City Council in 1935.

At the time, flying was new and no one was quite sure what its future held.

However, Galbraith and the city's councillors recognised aviation had potential economic and social benefits. The city was less than a third of the size it is today, but they didn't want current and future generations to miss out, so voted to establish the airport.

It was bold, intergenerational thinking that benefits the city to this day. Christchurch, without an airport, is an unthinkable prospect.

Some decisions genuinely make a difference for future generations. We view our project examining the potential for a new regional airport in Central Otago as equally intergenerational.

AN IRREFUTABLE NEED

Queenstown Airport has served its local community very well, however it will reach its passenger capacity in the foreseeable future. It's an issue that's been talked about for decades. All New Zealand airports are predicting passenger numbers will return to pre-pandemic levels within the next two to three years.

The aviation system that feeds Central Otago is growing at pace.

Up to 80% of the passengers who arrive in the region come from Auckland, Brisbane, Melbourne or Sydney airports. These airports are currently investing significant sums to cater for their overall passenger numbers to double by 2040.

That will see the number of people seeking to fly to Central Otago grow too.

Central Otago is among the fastest growing populations in the country and by 2050 its population will have grown to that of a small New Zealand city.

Our team has spent considerable time understanding the distribution and rate of this population growth. For the past 20 years the actual growth has consistently outperformed all of Stats NZ's forecasts.

For example, in 2003 Stats NZ forecast Central Otago's population would reach up to 49,600 in 2021... in 2021, the actual population was 73,100. The population served by the Central Otago District Council was expected to decline by around 1,400 over this same period. Instead it grew by over 10,000!

Getting this stuff right is critical for future decisions about where the region puts its key assets in the long-term future.

Now is the time to carefully plan how to maximise the benefits of visitor growth, minimise its impacts and ensure connectivity for future generations. That is the foresight behind our project.

RESOLVING UNCERTAINTY; CREATING FRESH OPPORTUNITY

The reality is, if nothing is done, Central Otago will outgrow its airport capacity.

That will make it harder to secure seats or freight slots. Prices will rise and emissions will increase as people are forced to fly further than they need to and drive back to their destination.

It is residents who will be disadvantaged by this, as visitors book earlier and are more willing to pay higher prices.

Covid has given us some insight into the economic pain that occurs when our aviation network is disrupted – tourismreliant businesses shed jobs, supply chain issues emerge and it's difficult to recruit staff.

Central Otago's pre-Covid visitor spending sat at \$1.25 billion per year. This sustained one in three of the region's jobs, with the productive capacity of the entire Otago region expanded by more than 15,000 workers on visitor visas. It's about acting with foresight now, so future generations don't look back and wonder why this generation failed to resolve a very well-known issue.

Aviation is critical to this economy.

A new regional airport has the ability to resolve the constraint for the next 50+ years.

It would also create fresh opportunities such as the ability to welcome aircraft, like wide-body jets, that can't fly into Central Otago currently.

Wide-body aircraft can carry up to twice as many people, and up to 7.5 times as much freight, as narrow-bodies. That enables airlines to move the same number of people with fewer flights which has its advantages, as we saw this winter when trying to clear backlogs of passengers after winter storms.

It would also give southern businesses more options for sending and receiving time-sensitive freight and make it possible to access more destinations from Central Otago.

Of course, it is ultimately up to airlines not airports what planes fly where. Our project's focus is on creating opportunities for Central Otago's future generations that they currently don't have.

That is what Galbraith and the city councillors of 1935 did for Christchurch.

It's about acting with foresight now, so future generations don't look back and wonder why this generation failed to resolve a very well-known issue.

GEARING **UP TO** POWER **FUTURE** generations

This year Christchurch Airport has gone beyond carbon neutral to become climate positive.

Our airport is widely considered a global leader in the transition of airports and aviation to a lower carbon future. In late 2020, we were recognised as world leading in airport decarbonisation when we became the world's first airport to achieve Airport Carbon Accreditation Level 4. As a result, we now mentor airports around the world on how to reduce emissions.

The airport will continue to address emissions reduction, ahead of science-based targets aligned with limiting global temperature rise to 1.5 degrees. This includes working with airline partners to accelerate the decarbonisation of the aviation sector.

Emissions by aircraft while in the air are a big part of the remaining challenge. Airlines and aircraft manufacturers have plans to accelerate the development and deployment of lower-carbon technology.

In addition to this work, Christchurch Airport is voluntarily As an airport, our focus is on leading development of the supporting permanent New Zealand native forestry restoration necessary infrastructure so we can be early adopters of new that removes GHG emissions from the atmosphere. technology. New Zealand's first electric passenger aircraft was launched at Christchurch Airport in October 2020. Leading We have followed best practice as set out by the Ministry technological contenders for adoption are hydrogen and for the Environment 'Interim guidance for voluntary climate battery electric power for short-haul aircraft.

Last December the airport announced a new addition to the airport campus. At 400 hectares, Kōwhai Park is on track to be New Zealand's largest solar energy array.

By developing renewable energy, we will have the potential to provide 100% renewable electricity or hydrogen for aviation in Christchurch, and a renewable energy source to power low carbon ground transport and industry for Christchurch.

Kōwhai Park is a step beyond carbon neutrality and a way to usher in a low carbon future for the Canterbury region.

To progress this work, our airport is working with Hamburg International Airport. Hamburg is the European leader in applying hydrogen within airport operations, and works with Airbus to assist the transition of aviation to more sustainable energy. Together, we have combined our knowledge to accelerate adaptation.

But we are not stopping there.

change mitigation'. Before making claims of voluntary climate change mitigation, organisations are advised to first measure their emissions, commit to an emissions reductions plan, and continue to take action to reduce their emissions in accordance with science-based targets.

We achieved 90% reductions in our Scope 1 emissions, but at the moment, there is no technology available to reduce the final 10%. Our ambition is to go beyond 'neutral'. We want to have a positive net benefit on our environment and draw down 125% of our remaining GHG emissions from the atmosphere, going beyond neutral.

Investing in New Zealand-based permanent native forestry restoration allows us to remove carbon from our atmosphere beyond our own footprint. This will also actively assist biodiversity, habitat restoration, landscape resilience improvements, soil health and water quality.

This work sees Christchurch Airport partnering with CarbonZ to support permanent native forest restoration in the Lake Hawea region in Otago, including Manuka, Kanuka and Mountain Beech reforestation.



Signing up, NOT ROLLING OVER

This year we put our money where our mouth is by successfully re-financing an existing loan, and at the same time converting it into our first Sustainability Linked Loan.

Signing up to this with Westpac was a milestone achievement that financially incentivises the airport to meet agreed sustainability targets. While this is not a new loan, it is the first step in the airport building our ambitious sustainability targets into our financial strategy.

Increasingly, we are seeing many stakeholders becoming interested in companies demonstrating commitment to sustainable outcomes. Converting this loan with Westpac means we have joined other leading businesses championing sustainable finance practices across New Zealand.

It's another way for us to demonstrate our genuine commitment to sustainability, rather than just rolling over maturing facilities on the same terms.

The Sustainability Linked Loan (SSL) means the financial terms of the Westpac loan are linked to whether we achieve our ambitious goals for carbon reduction, renewable energy generation on our campus and energy efficiency.

Our progress will undergo independent scrutiny and if we achieve our targets, we will receive lower funding costs for this loan. If not, it will be charged at a higher interest rate.

Yes, it's ambitious, but we back ourselves to achieve our agreed SLL targets alongside the many goals we've set and achievements we've made in sustainability. That includes being the first in the world to achieve the highest level of carbon reduction for an airport.

Our airport team daily demonstrates best practice in sustainability, so makes it possible to commit to this refinancing. Every member of our team has an impact on sustainability outcomes, which gave our finance team confidence to sign up to the Sustainability Linked Loan.



BUILDING THE FUTURE AIRPORT NOW

About a year ago, Christchurch Airport approached me with an intriguing request – would I assess whether the airport walks its sustainability talk?

As a consultant focused on sustainable futures, I accepted the challenge and conducted an exploratory research programme. Methods included operational immersion, interviews, analysis of internal and public reports, and investigative review of airport sustainability issues, nationally and internationally.

What I found surprised me. I found Christchurch Airport has been proactively focused on the challenges of climate change and environmental responsibility for a long time.

In 2007, it was the world's first airport to conduct an independently-verified carbon audit. In 2015, airport shareholders challenged the organisation to sustain commercial returns while delivering on sustainability objectives. In 2016 it launched a Sustainability Strategy, while in 2017 the airport benchmarked itself against 24 airports considered leaders in airport sustainability. All this work informed the Green Transition Plan (GTP), an ambitious framework for advancing initiatives, developing future-thinking, and integrating sustainability decision-making in all planning and operations. In 2019, the airport appointed a Sustainability Transition Leader to oversee its GTP, possibly the first such role in New Zealand's corporate sector.

In 2020, having reduced its direct carbon emissions (Scope 1 and 2) by 54% since 2015, Christchurch was the first airport in the world to achieve Level 4 (transformation) in the Airport Carbon Accreditation (ACA) scheme administered by Airports Council International (ACI).

All this from an airport required to operate with balance sheet separation and governed by a board of professional independent directors tasked with delivering a commercial return on capital. In other words, a purpose driven corporate entity, with a mission to simultaneously build a stronger airport and enhance customer journeys and be great kaitiaki. Air travel is frequently invoked as an activity with a carbon cost too high to be justified if we are to mitigate the worst effects of climate change. However it would be unrealistic to imagine a cessation of air travel, particularly for a geographically isolated island nation with a global marketbased economy. Christchurch Airport has considered how to decouple flight from fossil fuels. Four years on from initiating its Green Transition Plan, Christchurch Airport is recognised as a world leader in airport decarbonisation and sustainability. It shares its knowledge and expertise with other airports and organisations, works with stakeholders and tenant companies to reduce environmental impacts, and exercises leadership on climate change at national and international levels. Its efforts are helping consolidate an increasingly shared agenda for airport sustainability.

Christchurch Airport has demonstrated how a transition agenda emerged from a sustainability strategy, involving an organisation recognising the gravity of the ecological crisis, and transforming its operations in pursuit of a viable, decarbonised future. This involved rethinking business purpose to go beyond the bottom line, making sustainability considerations integral to prudent business decision-making. This has involved creating a framework for driving change, and developing ways to educate, enthuse, and empower staff for innovative excellence. It has involved setting targets, upgrading infrastructure, utilising new technologies, and collaborating with partners. It has also involved advocating for transition, planning for climate risks, developing Just Transition thinking, and engaging with alternative economic models conducive to behavioural change in a low emissions economy.

What does the climate challenge mean for New Zealand when 60% of the country's energy comes from fossil fuels? That places us sixth among OECD countries for our ratio of renewable energy to carbon and reminds us of the scale of change needed for the energy transition we must make. This requires re-thinking the ways we do business, live our lives, and use energy.

Businesses must go further, embracing more extensive plans for green transition as part of a broader collective mission. Greater cooperation and improved understanding will be necessary. The lessons learned, and being learned, by Christchurch Airport are numerous, and applicable for many other organisations. Its efforts to transition and to help other businesses to transition, surely represents a crucial contribution to the climate challenge New Zealand is committing to.

Dr Piers Locke PhD



LEANING IN TO SUSTAINABLE AVIATION

In April 2022, Chief Executive Malcolm Johns was a member of the Prime Minister's business delegation to Singapore – the first offshore delegation since Covid.

Along with getting the message out that New Zealand was open for trade and tourism, a key focus of the visit was the signing of a Sustainable Aviation Arrangement (SAA) between the New Zealand and Singaporean governments. The SAA commits both Governments, in collaboration with industry, to cooperative activities to aid the development of, and transition towards, a global sustainable aviation sector.

Christchurch Airport is already acknowledged as a world leader in decarbonising its business. We are the first carbon positive airport in the world and were one of the first to achieve ACI's Level 4 accreditation for carbon reduction. The next step in our journey is to lean into and support, where we can, the decarbonisation of aviation.

Being part of the delegation, and the industry working groups that will ensue, is an important part of our commitment to sustainability. Following the signing, Christchurch Airport has had further meetings with Changi Airport, Singapore Airlines, Air New Zealand, sustainable aviation fuel supplier NESTE, Airbus and Boeing to better understand how to accelerate sustainable aviation and the role our airport can play.

There is no doubt that decarbonising is a whole world problem, one we must all work together to accelerate towards a low carbon future. Through developments such as Kōwhai Park, we are excited about the role we can play in this future for our airline customers.



Our Chief Executive (standing far left) witnessed the signing by Prime Minister Jacinda Ardern (seated second from left) of a commitment by New Zealand and Singapore governments to work towards a global sustainable aviation sector.





FY22 SUSTAINABILITY HIGHLIGHTS



OUR WASTE TRANSITION TO CIRCLES









LINEAR ECONOMY

RECYCLING ECONOMY

CIRCULAR ECONOMY

REDESIGNING OUR APPROACH

We know to amplify intergenerational wellbeing we must shape-shift from the take-make-dispose model to a circular economy, regenerative by design.

We aim to minimise waste by working with our partners and redesigning our approach to better support a circular economy. In January 2022 'Sustainably', our Waste Minimisation Service provider, conducted an exhaustive three day waste audit, thought to be one of New Zealand's largest waste audits ever.

Sorting 1,000kg of general waste in our own terminal Southern Waste Room they produced a massive 34% improvement in diversion from landfill and showed us how we could do that each day with the right infrastructure.

EnviroWaste, our partner for environmentally responsible waste management, also provides full transparency of our waste stream supply chain and ultimate end use. The insights and data from our valued partners inform our future workstreams, and what broader reach we could have across the airport network.

Three priority workstreams are currently underway to deliver the biggest impact:



1. ESTABLISHING A WASTE SORTING FACILITY -

Based on the audit results, the airport is underway to install a waste sorting station by the end of 2022. In order to really understand the problem at hand and what sorting waste involves, members of the airport team mucked in, including people from Airport Services, Sustainability, Procurement, Health and Safety, and our external partners 'Sustainably' and EnviroWaste.

2. REFURBISHMENT OF OUR TERMINAL BINS -

How we help our customers make the right choice even when rushed. In particular, we're eager to divert contaminating liquids from general waste.

3. CIRCULAR ECONOMY SOLUTIONS -

We want to understand where every waste stream at the airport ends up, and gradually work on an ultimate circular economy solution for each. Perhaps in some instances recognising that some waste streams, those which have no viable circular options, may need to be phased out. This will be an ongoing piece of work that will constantly evolve as new technology becomes available on the market, and the wider New Zealand waste system develops. We are keen to be leaders in this space, and to support innovative solutions that ultimately change the way we view products, prioritising on-going value and keeping them out of landfill.

66

If you have any serious intention to become a sustainable business, you need to go and visit Christchurch Airport. What they have achieved is nothing short of inspirational. They are the best in the world at this stuff.

> Prime Minister Jacinda Ardern, addressing Australian politicians and media



RECYCLING OUR E-WASTE

Thanks to Jordan Clement from our Technology team, our significant archive of end-of-use electronics found its way back into 'useful life'. An 'Electronic Spring Clean Day' was arranged. Volunteers amassed an amazing 10 pallets of old televisions, computers, phones, and obsolete equipment from across the airport campus. This was then donated to e-waste specialist Remarkit, whom Jordan knew would deliver our unwanted equipment back into service. Our working goods were gifted to schools and small businesses while non-working items were dismantled down to their core components and recycled.

"Their main focus is to reduce, reuse and recycle and avoid going to landfill, definitely a good thing!"

Jordan Clement Desktop Engineer



NEW HOMES FOR AIRPORT FURNITURE

Our Park to Plane Customer Experience team led by Hannah Cooke took the initiative to embed a circular end-of-life furniture programme into the upstream project planning as part of furniture asset management plans. A fun staff auction resulted in 34 pieces of furniture being rehomed, raising \$295 for our Community Fund. For further redirection, Hannah has sourced amazing partners including EcoCentral, Mutu and All Heart. Our common values are believing that improving the way we both source and dispose of corporate goods can positively impact our planet and our communities.

"Working with external partners with similar values allows us to give old furniture a second life and fulfill a need in the community."

Hannah Cooke Project Coordinator

WORKING TOGETHER ON SUSTAINABILITY -Kotahitanga

Our airport has again received global recognition for its sustainability achievements and leadership. The Airport Council International awarded Christchurch the highest achievement for Carbon Reduction in Airports, the 'Green Airports Recognition 2022 Platinum Award'. New Zealand Airports Association also awarded Christchurch Airport the 'Sustainability Initiative' for 2021 for our science-based emissions reduction programme.

When accepting these awards, we detail how the airport's success in reaching its sustainability goals is due to a whole of team approach. Like health and safety, it doesn't work if you have just one really safe person. When it comes to sustainability, we have a whole business that contributes to the airport's success.

Our **FINANCE TEAM** initiated a Sustainability Linked Loan, so now airport borrowing is linked to whether we achieve our sustainability targets. They're also helping lead our Climate Risk Disclosures, and the next steps will be Nature Related Financial Disclosures and Integrated Reporting.

Our **PROCUREMENT TEAM** is embedding sustainability in our supply chain by drawing it into our procurement process, thinking about what items we procure and their lifecycles, what services we are procuring, and what their GHG footprint/ waste practices look like.

Our **AERONAUTICAL AND TRADE TEAM** is talking to tourism operators and airline partners about how we support future aviation, figuring out how we partner to achieve our goal of being a hub for future zero emissions aviation.

Our PARK TO PLANE AND TERMINAL SERVICES TEAM

looks at how we are supporting passengers to achieve our sustainability goals, thinking about electric charging infrastructure, land transport emissions and waste minimsation actions.

Our **PEOPLE AND CULTURE TEAM** leads the behavioral pieces - including 'Knowledge Bites' education opportunities, clothing swaps, and tree planting days.

Our **DIGITAL**, **IT AND ANALYSTS TEAM** collects all the data and makes it meaningful for us to determine how we are progressing and what projects we undertake, not to mention looking for innovative ways to meet our sustainability goals. Our **CENTRAL OTAGO AIRPORT TEAM** is exploring how to build a best practice sustainable airport for the future, the lowest emission takeoff and landing routes, optimal efficiency flight paths, and future aviation preparedness.

Our **LEGAL TEAM** does all the due diligence on our contracts relating to sustainability, including our partnerships with external sustainability groups or purchasing native regeneration credits.

Our **HEALTH AND WELLBEING TEAM** supports our people to carry out our sustainability work in a manner that recognises the importance of safety and sustainable work practices.

Our AIRFIELD, INTEGRATED OPERATIONS CENTRE (IOC) AND WILDLIFE TEAMS are champions of efficiency and utilisation in their operations. They are committed to biodiversity protection and signed up to Predator Free NZ. They also have a transition plan to electrify the airport apron, including supporting ground service equipment transition to a zero emission fleet, and preparing for electric aircraft.

Our **FIRE TEAM** uses virtual reality firefighting technology, and has been lobbying manufacturers to provide clean vehicles for their specialist use case fire trucks.

Our **PROPERTY TEAM** developed green building standards to align future builds with best practice in terms of energy efficiency, insulation, water treatment, building materials, solutions for building waste, provision for rooftop solar, and EV chargers.

Our **COMMUNICATIONS AND MARKETING TEAM** helps to take our learnings, and make them more accessible and able to be shared with a broader audience.

Our **PLANNING AND SUSTAINABILITY TEAM** ensures our sustainability strategy fits within best practice global goals and overlapping planetary boundaries, meets the needs of future decarbonised aviation, are actionable within our consenting environment, and make sense according to a just transition intergenerational model. They also mentor airports and businesses around the world in best practice sustainability.

Our **ASSETS TEAM** replaced our diesel generators with a ground source heat pump system (reducing our operational emissions by 900t per year) and initiated building management software that optimises energy efficiency, and looks for best practice assets replacement plans, and advocates for new technology to be developed.

Not to mention all the individuals who sit across the airport team, field queries from the public, and share their ideas for initiatives that could improve a practice. This is how so many great ideas start!

HAMBURG AIRPORT FRIENDSHIP -Whakahoanga

Guten tag and Mōrena friends! Our monthly early morning and evening calls with Hamburg Airport - Flughafen Hamburg has led to the formation of a 'sister airports partnership' based on the ambitious sustainability goals of each airport.



A global meeting across different time zones of the 'sister airports partnership' focused on sustainability.

Hamburg Airport, alongside the Hereon Institute, has demonstrated remarkable leadership in progressing hydrogen as a zeroemission fuel alternative onsite at Hamburg Airport over the past 20 years. Christchurch Airport, with our carbon reduction leadership and renewable energy precinct, makes a complementary partner. We are exchanging measures to achieve net zero emissions, the technical aspects of our respective energy parks, and are actively preparing for the future use of green hydrogen. Together we are helping to progress the next steps towards powering future aviation from a clean fuel source.

Our respective CEOs, Michael Eggenschwiler and Malcolm Johns, met recently and found there were many similarities between the airports - both in terms of the airports' sustainability ambitions, and the development of renewable energy parks, Kaltenkirchen and Kōwhai Park, for electricity and green hydrogen. Interestingly Hamburg Airport, established in 1911, is the oldest airport in Germany, and Christchurch Airport was New Zealand's first international airport.

BUILDING MANAGEMENT SYSTEM ANALYTICS

In last year's Annual Review, we mentioned installing an analytics software package on our Building Management System (BMS). The BMS Analytics is a programme that trawls through the huge amount of data generated by the BMS looking for issues and anomalies.

It has been running in the Integrated Terminal for almost a year now and has recently been deployed in the International building as well.

It has well and truly proved its worth already by identifying a number of opportunities for saving energy ranging from finding leaking heating and cooling valves to making recommendations on how a system could be operated more efficiently.

BMS Analytics is a key tool for us to ensure we maintain the massive gains in energy savings we have produced over the last several years. In the coming year we will continue to refine the system as it learns more about the buildings and can therefore make even more 'intelligent' decisions about how efficiently the building is operating.

SHARING OF SUSTAINABILITY INFORMATION – Mohiotanga

Over the past year we have been sharing our knowledge and mentoring other businesses and airports on their sustainability journeys. Some of the highlights include:

Our CEO Malcolm Johns chairing the APEC Business Advisory Council's Climate Leadership Principles for Business workstream. This involved our team working on the baseline principles for emissions reduction best practice. Based on our Christchurch Airport model, these were then worked on with representatives from businesses across our region to develop agreed best principles.

Our Sustainability Transition Leader has been facilitating workshops with other Christchurch businesses, ChristchurchNZ, and leading the CCHL group Sustainability Working Group programme on emissions reduction.

We assisted in the development, and are proud early signatories, for the new Climate Leaders Coalition increased ambition pledge, which will now push businesses within New Zealand to have a greater impact on their Scope 3 emissions and include biodiversity to a greater extent.

CLIMATE RISK DISCLOSURES

Climate change risk has been firmly on our radar since our first organisation-wide climate risk assessment in 2018. We have committed to taking a leadership position in addressing climate risk, both in terms of climate risk mitigation (emissions reduction) and climate risk adaptation, building resilience into our business model and our long-term strategy.

Our annual strategic risk review has highlighted climate risk and climate action failure as key emerging strategic risks for us for 2022 and beyond. Correspondingly, our Statement of Intent 2022-23 notes climate change is one of three macro shaping forces that forms the airport's new Horizons 2030 (H30) Strategy. Acknowledging climate change will be the biggest shaping force for the business and our stakeholders over the next 10-30 years, we will apply the three lenses of mitigation, adaptation, and just transition, to ensure climate change-related risk is effectively managed.

Our proactive approach to climate risk management has positioned us well to comply with the New Zealand Government's climate related financial disclosures reporting mandate. We are already in the process of preparing our inaugural climate-related disclosure with the support of Deloitte, well ahead of the External Reporting Board's (XRB) mandated disclosure timeline.



Christchurch Airport's Statement of Intent 2022-23 states our commitment to pursue a core philosophy of stakeholder equity, where People & Planet & Prosperity across key stakeholders must be considered and balanced.

SCENARIOS

Climate scenarios illustrate what the future might look like under differing degrees of climate change. They are not predictions about what will happen, but rather hypotheses about what could happen in the short to long term. The global warming futures are evaluated using scenarios. These are collectively known as the Shared Socioeconomic Pathways (SSPs) that offer different reference narratives regarding socioeconomic trends that could shape the future over time and are associated with distinct global warming trends.

The SSPs are from the Intergovernmental Panel on Climate Change Sixth Assessment Report (IPCC AR6). The SSPs build upon the Representative Concentration Pathways (RCPs) from the IPCC Fifth Assessment Report (IPCC AR5). We use the RCP scenarios (that are aligned to the SSP scenarios) from the IPCC AR5 for climate metrics that have not yet been developed within the IPCC AR6 models.



CONTEXT

Climate change is already affecting Canterbury, with downstream effects on its natural environment, the economy, and communities. Without adaptation, further climate-related changes are projected to have a substantial impact on water resources, coastal ecosystems, infrastructure, health, agriculture, and biodiversity (Pearce et al 2020).

Our 2022 climate risk assessment leverages the National Institute of Water and Atmospheric Research's (NIWA) downscaled climate change projections (downscaled from the original data provided by the Intergovernmental Panel on Climate Change) for the Canterbury region as the basis for identifying and rating climate risks presenting for us.

For the purposes of stress testing our exposure to climate change, we adopted consistent climate scenarios with the other large New Zealand airports, which were SSP1-RCP2.6 (an orderly transition resulting in a 1.5°C - 1.8°C increase in global surface temperature over the long-term), SSP2-RCP4.5 (moderate mitigation global surface temperature over the long term), and SSP5-RCP8.5 (global resulting in a 4.4°C global surface term). The climate risk assessment tested CIAL's exposure to climate risk at three different time horizons: 2030; 2050; and 2100, against each of the scenarios described above.

The 2022 climate risk assessment draws on the expertise of 19 subject matter experts (SMEs) from the airport's Planning & Sustainability, Finance, Air Tower Communications, Airfield Operations, Commercial (including both Buildings and Terminals & Facilities commercial teams), Health & Safety, Facilities Management, IT Communications and the Central Otago airport project teams, to identify and rate physical and transition risks and opportunities.

PROCESS AND METHODOLOGY

Our 2022 climate change risk assessment adopts the New Zealand Ministry for the Environment's National Climate Change Risk Assessment (NCCRA) methodology for identifying, analysing, and evaluating physical climate risks and opportunities (risks and opportunities directly related to the physical impact of a climate hazard). The climate risk assessment also draws on the Taskforce for Climate-related Financial Disclosures (TCFD) framework guidance for identifying and assessing transition risk and opportunities.

The process involved identifying transition risks related to the transition to a lower-emissions global and domestic economy, such as technology risks, policy and legal risks, market risks and reputation risks; and transition opportunities, such as resource efficiency and cost savings, the adoption and utilisation of low-emission energy sources, the development of new products and services and building resilience within our supply chain.

We ran a series of workshops to:

1. Establish the scope and boundary of the climate change risk assessment and to agree the global warming scenarios

2. Identify the physical and transition climate risks and opportunities for the airport, based on our SMEs' insights, knowledge and observed events

3. Assess and rate the level of exposure, sensitivity and adaptative capacity of the airport to the risks identified by the group, against the agreed time horizons and scenarios. of 2030, 2050 and 2100 and the SSP1-RCP2.6, SSP2-RCP4.5, and SSP5-RCP8.5 scenarios provided by IPCC CIPMC 6 data and NIWA's downscaled climate change projections for Canterbury and

4. Identify and rate the airport's Transition Risks and Opportunities

Our physical risk assessment methodology is provided below:

THE CLIMATE RISK ASSESMENT AND RATING METHODOLOGY PROCESS IS AS FOLLOWS:

Risks are rated using a five-tier criteria rating, from very low to extreme, in order to assess a receptor's exposure, sensitivity and adaptive capacity, to determine the final risk rating.



EXPOSURE

The SME group identified a total of 151 climate-related risks across the three key risk areas, namely: Assets, People and Operations. In terms of the value chain, the climate risk assessment included risks within the airport's direct sphere of operational control (for example, assets and operations within the airport campus, over which the airport has direct control); tier 1 upstream risks, (for example, supply chain logistics, resourcing through contractors, and energy security); and tier 1 downstream risks, directly related to airside (for example, risks presenting for airline customers).

The outputs of the physical risk workshops were then put through Deloitte's materiality quant model to rank risks by their independent score, and to identify the most material risks by climate hazard, by risk type, and by risk area.

MATERIAL RISKS BY RISK AREA

The assessment found the airport's operations to be most at risk, with 45% of all risks identified relating to operational risk. Asset-related risks comprised 36% of all risks, followed by people-related risks (risks to airport staff, tenants, and passengers), which comprised 19% of all risks.

ALL CLIMATE RISKS BY RISK AREA



AGGREGATED CLIMATE RISK SCORE BY CLIMATE HAZARD



MATERIAL RISKS BY CLIMATE HAZARD

In terms of aggregated risk scores as presented in the chart below, the climate hazards presenting the highest number of risks were, in the following order: increasing number of hot days, extreme weather events, extreme wind, pluvial and fluvial flooding, wildfire, intense rainfall events, invasive pest species, landslides, coastal inundation and biodiversity impacts.

An increasing number of hot days in the region presents a risk to operation and maintenance regimes for assets such as the apron, which is susceptible to asphalt rutting from the weight of parked planes; and to operations, due to a heightened need for dust management near runways, and potential aircraft operational impacts linked to dust. The projected extended periods of hot days indicate a need for investment in HVAC systems in tenanted areas, covered walkways and heat refuge for outdoor workers and/or automation of outdoor activities.

Extreme weather events present a risk to airport operations, presenting an increasing frequency of disruption to operational windows. Surface flooding associated with increasingly frequent, intense rainfall events and ageing stormwater infrastructure presents multiple risks, including compliance, asset damage, increased asset investment requirements and disruption to operations.

TRANSITION RISKS AND OPPORTUNITIES

Deloitte facilitated a series of transition risk and opportunity workshops to identify and rate the risks and opportunities. The workshops included 11 SMEs from across our organisation.

The workshops applied the transition risk and opportunities categories provided by the Task Force on Climate-Related Financial Disclosures (TCFD) under the following categories:



Action needed now - impact in 2-5 years Action needed - impact in 5-10 years Sustain current action - impact in 15-20 years Watching brief - impact in 20-30 years

A total of 11 transition opportunities and 29 transition risks across the categories were identified.



TECHNOLOGY POLICY AND LEGAL

MARKETS

The most material transition risks identified for the business span all four risk categories and relate to energy security, technology obsolescence, climate risk litigation and climate-related security threats. These ratings reflect the urgency for issues to be addressed. Market risks, and policy and legal risks, dominate our Transition Risk profile.

Market risks relate predominantly to carbon pricing and availability and cost of sustainable aviation fuel. Policy and legal risks are dominated by risks related to uncertainty around regulation (international and national) and conflicting international policies and standards. Technology risks are largely related to fragmentation of sustainable aviation fuel markets, such as hydrogen, electric, charging infrastructure; and a lag in adoption of technologies across the board which increases the risk of stranded assets due to early technology obsolescence.

Half of the transition opportunities identified are market-related, with energy source-related opportunities comprising 30% of all opportunities identified. Market opportunities relate to enhanced reputation with the public, the regulator and international airport hubs. Energy source opportunities arise as a result of our first mover advantage and fuel price shields conferred by our onsite generating capacity linked to Kowhai Park.

TRANSITION RISK CATEGORY	RISK DESCRIPTION	URGENCY CRITERIA	URGENCY RATING
TECHNOLOGY	Risk of a shortfall in energy generating capacity to meet the increased energy demand of a decarbonised aviation sector.	Action needed now - impact in 2 -5 yrs	
TECHNOLOGY POLICY AND LEGAL MARKET	Insufficient investment and policy response to support the wider airport network's transition to new energy and aircraft technology, and related infrastructure upgrades.	Action needed now - impact in 2 -5 yrs	
POLICY AND LEGAL	Increased likelihood of litigation due to increasing climate risk exposure.	Action needed now - impact in 2 -5 yrs	
MARKET	Public attitude towards climate change and aviation means heightened scrutiny and risk of security threats.	Action needed now - impact in 2 -5 yrs	

NEXT STEPS

The next step is for us to quantify the financial exposure presented by our top five to ten material climate risks (based on scoring), in financial terms, under each of the scenarios and time horizons.

We will then establish a tolerance threshold framework and undertake a tolerance threshold mapping exercise to understand at what point in time, under any given global warming scenario, our tolerance threshold is breached. This enables us to identify trigger points for investment decisions.

We will reference our climate risk assessment to inform strategic planning decisions and to ensure future significant investment decisions take account of climate risk, to ensure resilience is built into our long-term strategy.

Having understood the financial cost that climate risk presents, we will then identify and cost our adaptation options and assess these against our strategic time horizons and global warming scenarios, with the objective of establishing a Dynamic Adaptive Pathways Plan (DAPP). The DAPP will be a final output of our Adaptation Plan.

REPUTATION

Photographic contributions by: Waynne Williams, Kelly Shakespeare and Tim Ward.



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