OUR PLACE

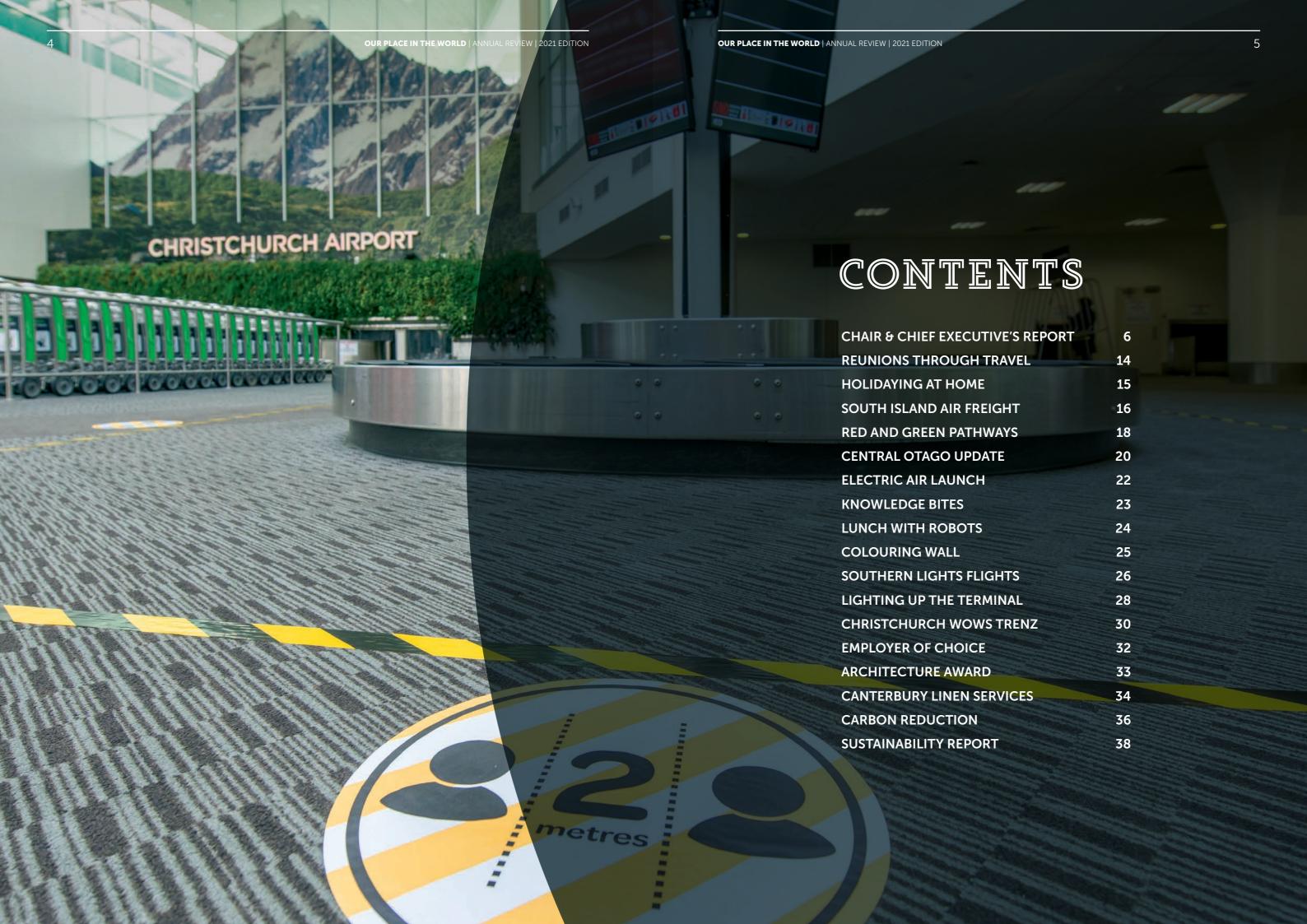
IN THE WORLD

2021 EDITION | Annual Review









6

CHAIR & CHIEF EXECUTIVE'S REPORT

FINANCIAL YEAR 2021 (FY21)

MANY WOULD SAY THE PAST YEAR
HAS BEEN DEFINED BY COVID-19. FOR
AVIATION THIS IS INDEED THE CASE AND
AS A PART OF THE AVIATION SECTOR,
CHRISTCHURCH INTERNATIONAL AIRPORT
LIMITED (CIAL) HAS ALSO BEEN IMPACTED.

However, the way the past year has played out for us has ultimately been defined by the learning organisation we have become following the 2010/11 earthquakes. The proactive changes we made between 2014 and 2019 not only accelerated our recovery, but also built in resilience in case of a future major event. We have relied on our inbuilt resilience over the past year to define the team and our outcomes

FINANCIAL

The recovery of domestic aviation has been stronger than originally anticipated across FY21. This, along with income from our contract with the New Zealand Government for the use of our hotel as a managed isolation facility, the strength of our property portfolio, and the continued compression of core operating costs, has delivered a positive net profit after tax of \$38.7m (with underlying operating profit after tax also positive at \$7.5m).¹

CIAL has maintained its dividend policy, paid a dividend in FY20 in line with that policy, has signalled an intention to pay a dividend for the current financial year and will make a final decision in October.





LEARNING LESSONS AND BUILDING RESILIENCE

As we recovered from the 2010 and 2011 earthquakes, we took the opportunity to build resilience into the business and prepare ourselves for a future major event should one occur. This started with revenue diversification and future risk management. Accelerating development of our bare land not only produced new revenue (lifting income from property from under 10% of total operating revenue to around 27% pre-COVID-19), it also diversified revenue risk through the creation of different development precincts on campus. While still airport activity related, these offer a map to different market segments we felt would be impacted differently to each other in possible future major events and would spread our risk.

In 2017, we equalised our aeronautical fees (fees to use our runways, taxiways, aprons and terminals) across domestic and international passengers through our regulated pricing process. This meant the aviation value to us of a domestic passenger became the same as an international passenger.

As part of this change, we aligned our interests with airlines, moving our fees to apply to passengers rather than a specific aircraft type. Meaning, an airline only pays a fee at this airport when it has a passenger in a seat. If the seat is empty there is no charge, so our income indexes the airline's income and provides equal incentives for growth.

Airports can be largely fixed cost operations and often cost as much to open for one flight a day as 100 flights a day. Between 2014 and 2019 we not only held operating costs flat for five consecutive years (except rates and insurance premiums) we also made changes to our operating structure to build more flexibility into our operating costs. Our staff headcount naturally trended down by more than 20% during this transition. This not only provided us with greater short-term flexibility in a future major event, but was also designed to avoid the need to rush to people's payroll as a cost control lever.

Our goal was to be able to compress operating costs by up to 30% during acute periods (like lockdowns) and 20% for up to a few years in an event like a global pandemic, leaving payroll as the last lever we would reach for.

The last element of our resilience plan was to build the value of our balance sheet (which grew circa 77% between 2014-2019) and manage our debt, to ensure we always had headroom to navigate an event like COVID-19 and severely impacted revenue.

We learnt from the earthquakes we needed to be purposeful in how we approached future major events before they occur, especially how we managed and supported our broad range of stakeholders in the early stages of such an event. We wanted to take a stakeholder equity first approach to how we managed these events, balancing the needs of our people, customers and funders (shareholders and lenders). We also wanted to act to support the thousands of stakeholder businesses and tens of thousands of jobs that rely on this airport for their own commercial and social outcomes.

We finished this work in 2019, then had around six months' leeway before we would need to use this proactive planning!

 $^{\rm 1}$ Reconciliation of Net Profit After Tax to Underlying operating profit after tax

(000s)	30 June 2021		
Net Profit After Tax	38,658		
Less: Gain on disposal of assets	(28)		
Less: Fair Value Gain on Investment Properties	(47,828)		
Add: Impairment of Property, Plant & Equipment	4,348		
Add: Associated Tax Effects on Investment Property Fair Value Gain/Impairment	12,350		
Underlying operating profit after tax	7,500		

USING LESSONS AND RESILIENCE DURING COVID-19

When COVID-19 arrived, it became clear we would need to lean heavily on the resilience we had just finished building into the business after the earthquakes. We weren't expecting to have to do this so soon, but we were ready.

PEOPLE: Our people agreed to a hold on wages, salaries, overtime and recruitment across FY21. In return, we agreed to a hold on possible structural change for at least six months, which we ultimately extended to the whole year. This was in line with our philosophy of stakeholder equity and using payroll as a last resort lever. During this period, natural attrition saw headcount reduce by around 14% as people self-selected out of aviation and into sectors less impacted by COVID-19 and were not replaced in the short term. We note our headcount had already reduced by circa 20% between 2014-2019 through natural attrition, recruitment policies and via the sale of some non-core activities.

CUSTOMERS: The change in approach to airline fees mentioned above meant CIAL's income indexed the passenger loads of airlines servicing Christchurch i.e. during Alert Level changes and bubble pauses, our income has been as equally affected as our airline customers. CIAL has, and continues to provide fair support to tenants, reflecting the impact of COVID-19 on their specific businesses, noting some have benefited from COVID-19 and seen strong growth, especially those in freight and logistics.

We quickly worked with government to establish the international air freight support scheme which kept air freight services open. This ensured more than 60,000 jobs across the South Island's many exporting and importing businesses have been able to be maintained.

Our team worked at pace to physically divide the international arrivals area of the terminal, so it could safely accommodate red/amber/green borders now and into the future. Our teams have also handled numerous different airlines' needs over the year, working with new and different airlines operating here, and exporting and importing items we may not usually have handled.

SHAREHOLDERS & LENDERS: CIAL has maintained its dividend policy, paid a dividend in FY20 in line with that policy, and will do so again for FY21.

Following on from the lockdown period last year, the company obtained waivers from both bank lenders and the bond supervisor for its interest cover ratio out for periods up to 31 December 2021. However, CIAL has not needed to rely on these waivers as it was in compliance with all financial covenants during the current and prior financial years.

The resilience strategies built from learning the lessons of the earthquakes, and the stakeholder equity approach we have maintained, have allowed us to purposefully lean into projects. These include keeping and enhancing international airfreight services, making a constructive contribution to smart border development protocols, instituting structural changes in the terminal to create red and green pathways - all the while pursuing our long-term strategy around property development in Christchurch and exploring the development of a new international airport in Central Otago. Along the way we have achieved some truly world class, world leading and world first outcomes.



FY21 HIGHLIGHTS

OUR TEAM: The highlight of the year is without doubt our team members, who have navigated the twists and turns of the global pandemic with all the experience and capability learnt from the earthquakes and the 15 March 2019 terror attack in Christchurch. It would be impossible to single out any one part of our team. Every person and every business unit has played a key role at some point over the past year. They are a bunch of awesome people doing some cool stuff every day. They are world class from Christchurch!

From the Board and executive, our message to them is simple - thank you!



OUR PARTNERS: Airports have many partners which bring an airport to life and help things operate smoothly every day. While COVID-19 has caused disruption and challenges across many of our partners, they remain great to work with and have kept delivering for us throughout the pandemic.

Our partners have had to turn each day's government media conference into reality on the ground at New Zealand's Christchurch border. These include the Aviation Security service, New Zealand Police, New Zealand Customs Service, Ministry for Primary Industries, Ministry of Transport, Canterbury District Health Board, our airline partners and their teams on the ground, in their call centres and in many other parts of the business.

From all of us, our message is simple - thank you!



WORLD FIRST: Our philosophy on sustainability over the past seven years has been to focus on doing the important stuff, and leave the awards and badges till later. We know aviation must transition beyond non-renewable energy sources over time. We know airlines will carry much of the load in this transition, however we wanted to ensure we not only played our part, but were world class in our approach.

So, our team has been working on our Green Transition Plan (GTP) for some years, measuring our impacts annually and publishing a sustainability report to cover our main areas of focus.

During lockdown in 2020, our sustainability team was keen to use the time to complete a number of external assessments, one of which was the Airports Council International's (ACI) decarbonisation assessment. This is an independent science-based assessment by international experts. When we had supplied our data and the panel had thoroughly reviewed it, we achieved the highest level of decarbonisation achievement: Level 4, the first airport on the planet to do so.

World first from Christchurch!



Following this announcement, we have been contacted by a number of airports including the Port Authority of New York and New Jersey (which operates the five New York airports), Perth International Airport, and up to 40 other Asia Pacific airports, to share our learnings and help them on their decarbonisation journey.

The Level 4 achievement reflects a comprehensive energy transition plan within our company over several years, which has placed us on track to remove circa 90% of Scope 1 CO2e against our 2015 baseline numbers. We are now essentially down to our fire trucks, emergency generators and a few other small things which aren't operating on renewable energy. We publish our Scope 1,2 and 3 emissions annually in our sustainability report. (See page 38).

As a result of this, we have made the decision to offset what is remaining and become carbon neutral certified from FY21 onward - bringing our 2030 target forward by nine years. This will also lift us to Level 4+ under the ACI's grading, the highest offsetting you can achieve.



We welcome Air New Zealand's recent announcement that we can expect to see electric domestic air options at some stage in the next five years. We are committed to ensuring we are in a position to provide supporting infrastructure for this.

Our team remains in close contact with a wide range of international customers and operators around aviation's energy transition. Globally, the airline industry is worth more than USD\$3trillion. It is an industry that has met and normalised every major issue it has had to face over its history. We continue to have confidence aviation will make the decarbonisation transition over time, using fuel and aircraft technology including electric, hydrogen and sustainable aviation fuels (SAFs). It may ultimately end up being the first sector of the New Zealand domestic transport industry to fully decarbonise. Time will tell!

What is clear is fit for purpose infrastructure will remain a key part of achieving full decarbonisation.

For a country like New Zealand - long, thin and at the bottom of the world - it is essential aviation does make this transition. As an airport, our focus will remain on three key principles in driving this transition: reduction, mitigation and just transitions, for our company, customers, community and country.

12

OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

DIGITAL TRANSFORMATION: While CIAL has been invested in embedding digital transformation for some time, COVID-19 has given us the opportunity to accelerate this process. Using a simple applied model, our team looks at how we can digitise assets and processes that are currently analogue to generate data and disrupt how we do things. This approach was key to us holding operating costs flat for five consecutive years across 2014-2019 (except rates and insurance premiums).

Our digital transformation team has begun harnessing the knowledge of where we don't currently have data from our team members and subject matter experts working at the forefront of different parts of our business. By working with these subject matter experts, applying our internal model, and using external experts where needed, we have accelerated our digital transition in an approach which has lots of little transitions happening at once. This is producing many small operational cost savings.

CASE STUDY: Our world leading sustainability progress, coupled with our digital transition process, has led to interest in capturing this as a case study. In 2021 we have worked with Dr Piers Locke to capture the cool stuff our awesome people have been doing. We will publish this case study once it is completed.

AIR FREIGHT: Like many things in life, we often aren't fully aware of something until it's gone, and airline passengers are no exception. When it comes to international air services, passengers pay for planes!

In fact, passengers can account for about 90% of an airline's revenue for any given flight, with air freight contributing the other 10%. However, the economic benefit is quite different. For a widebody (787, A350, 777) flight to Christchurch, the passengers might pay for the plane but the larger economic benefits are derived from freight. Over a year, passengers on a plane may bring in about \$160 million of new spending to the South Island, however high value air freight may bring in \$520 million. These widebody planes also bring in heart valves, knee joints, hip joints, specialist agriculture components and all the things you need to fix your car, truck, bus or farm machinery.

Tourism had been paying the bill for an out-sized share of our international air freight costs for decades, with the medical, transport, agriculture, food export sectors taking the freight benefit. Once the borders closed, tourists and their airline revenue stopped, and so did the planes!

About 60,000 jobs in the productive sector across the South Island rely in some way on international air freight flights. Keeping air freight moving while tourists can't pay for the planes has been a key focus for our aeronautical development team, working with freight and logistics operators, airlines and the government. The support the government has given to keep air freight open during closed borders has been essential, welcomed and exactly what was needed. We say thank you for this.

It's not just been about our long-term freight customers. Many businesses across the South Island have taken to e-commerce, which relies heavily on air freight. In fact, parcel volumes at Christchurch have risen about 40% over the past year.

As the government moves ahead with digitally enabling New Zealand's small to medium businesses, e-commerce will become a bigger and more important part of our economy. As e-commerce grows, it will need air freight. Keeping and growing the tens of thousands of jobs reliant on air freight at Christchurch will need the return of tourism and maintaining 24/7 operations at Christchurch Airport.

CENTRAL OTAGO: Mid-2020 we announced we had purchased around 750 hectares of greenfields land in Central Otago to hold long-term for a new fit for purpose regional airport to service both domestic and trans-Tasman cities in the future.

This is an intergenerational project and we are an intergenerational company building fit for purpose infrastructure.

A new airport in Central Otago has been in discussion for some decades and the location of our land purchase has been identified as an ideal site for just about as long. The difference here is we have now moved from discussion to action and active consideration. We will take our time to engage respectfully with all stakeholders - and it is a broad and diverse set of regional, national and international stakeholders that have an interest.

We are fully aware of, and already very invested in, the decarbonisation of aviation. The current 2050 net neutral objective under law in New Zealand means any new (or existing infrastructure) will be operating in a reducing carbon budget environment. This means we should build in a future fit way, mindful that New Zealand will have to engage with how the country will 'spend' its carbon budgets. As a country reliant on foreign exchange, it is easy to see a discussion where New Zealand will need to undertake export activity that produces the highest foreign exchange earnings per tonne of CO2e generated. Fortunately, international business services, tourism and air freight exports are currently at the higher end of this.

Demographics is another area worth spending time understanding. For example, around 115,000 people (the current population of Dunedin) will live in Central Otago by 2040. They will be amongst the wealthiest and most mobile New Zealanders, who are likely to be high consumers of e-commerce and medical support. Air connectivity will play a critical role in their lives, either directly or indirectly.

For our company, Central Otago is about exploring fit for purpose future airport infrastructure.





As we began writing this report, the trans-Tasman bubble was being paused for an 8-week period. This is reflective of managing COVID-19 in an unvaccinated world. A pause in any part of our aviation network creates negative impacts. However, CIAL is well placed and well-rehearsed to manage these disruptions in a way that minimises those impacts.

We expect New Zealand's vaccine program to roll out across the first half of FY22 (second half of calendar year 2021), and so establish the foundation for evolving our management approach from a pandemic to an endemic disease response. As this occurs, we expect border risk protocols to evolve over time and to be managed on a before border, at border, and after border risk basis, in a way that begins to allow

movement of vaccinated people. While there will always be uncertainty as this evolution occurs, we have developed patience. It took us around eight years to recover from the earthquakes and COVID-19 has only been underway 18 months.

Before the most recent lockdown event, our domestic network was performing exceptionally well and we expect that to be the case again as domestic travel restrictions are eased around the country.

We will enter a new normal beyond COVID-19. CIAL is focused on embracing the new and optimising the normal for our customers, company, community and country. Our people are at the centre of our ability to do this and we fully intend to maintain our stakeholder equity approach, and to look after our people, our customers and our shareholders.

We would like to take this opportunity to acknowledge and thank director Justin Murray, who retired from the Board in April after serving as a Director for three three-year terms, and another year to cover the initial COVID-19 period and lockdown. Justin oversaw a very significant investment in our property and commercial portfolio, and has certainly left his mark on this airport.

Finally, from both of us, we say thank you to our shareholders for maintaining confidence in our approach, thank you to the Board for the extra effort that has been asked of you during the past 18 months, thank you to our partners, thank you to our community, thank you to our team who have been superstars, and a big thank you to our customers.



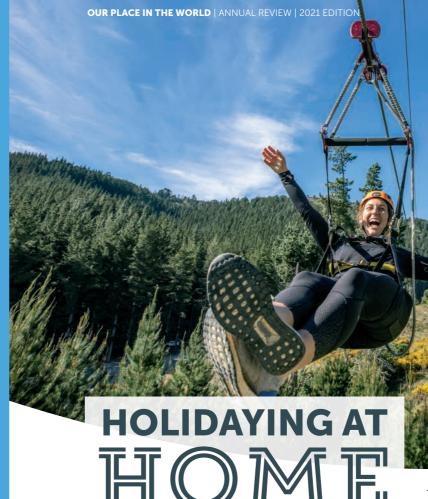
THERE WERE HUGS AND TEARS ON 19 APRIL WHEN THE TRANS-TASMAN BUBBLE OPENED TO ALLOW TRAVEL TO RESUME BETWEEN NEW ZEALAND AND AUSTRALIA.

business opportunities.

To facilitate the opening of Quarantine Free Travel between

and implement safe border processes and protocols.

opening of their business to serve the international departing passengers moving again.



With limited international travel options, Kiwis have shifted their focus to travelling domestically, and as a result we have seen our domestic capacity rebuild a lot stronger than expected.

Our domestic airlines - Air New Zealand, Jetstar, Sounds Air, and Air Chathams - are all experiencing strong travel demand within New Zealand, with a number of routes performing better than pre-COVID-19 levels.

Christchurch as a destination, and Gateway to the South Island, is proving to be highly attractive, especially to those in the North Island wanting to experience something new. This is evident through the strong growth in domestic visitation to Canterbury.



Christchurch Airport has worked in partnership with ChristchurchNZ and Tourism New Zealand to promote all that Christchurch has to offer, both as New Zealand's newest city and as a basecamp to the wonders of the South Island - Kaikoura, West Coast, Hanmer Springs, Mt Cook and the Canterbury/Mackenzie ski areas.

The appeal of Christchurch only stands to increase with an exciting events schedule which includes the Cricket World Cup, and the opening of the Te Pae convention centre in December.

Our terminal is abuzz with Kiwis transiting the airport to conduct business or experience their own backyard - Kiwis discovering New Zealand and visiting friends and family.

Indeed, the activity through our terminal suggests July school holidays will be a record month for passengers.



KEEPING HIGH VALUE FREIGHT flowing

BEING AN ISLAND NATION AT THE BOTTOM OF THE WORLD MEANS WE ARE HIGHLY RELIANT ON AIR FREIGHT TO GET HIGH VALUE PERISHABLE EXPORT PRODUCTS TO OFFSHORE MARKETS, ALONGSIDE IMPORTING CRITICAL ITEMS INCLUDING MEDICAL AND MANUFACTURING COMPONENTS.

In a normal year, more than 35,000 tonnes of imports and exports are handled through Christchurch Airport, from fresh flowers, crayfish and meat to artificial limbs - and even COVID-19 vaccines. This has an annual combined value of more than \$4.5billion.

Closing the border to international visitors resulted in the removal of widebody aircraft which carry air freight in and out of the South Island. At the onset of the border restrictions, and faced with no way to get air freight into and out of the South Island, we worked with the Ministry of Transport and the freight industry to establish a freight support scheme. The government moved swiftly and implemented an excellent scheme which enabled the pipelines to remain open and widebody aircraft to continue to fly.

FY21 has seen the scheme continue, which has enabled air freight to continue to flow. About 60,000 jobs in primary production across the South Island rely in some way on international air freight flights. Keeping air freight moving while tourists can't pay for the planes has been a key focus for our aeronautical development team, working with freight and logistics operators, airlines and the government.

In fact, during FY21, we had more widebody activity than we normally would, with dedicated freight services coming on stream from a range of airline partners. This included services between new destinations, such as Air New Zealand flying to Los Angeles and Shanghai, and Qatar Airlines flying to Doha. It also enabled our existing widebody operators like Qantas, Emirates and Cathay to continue to service Christchurch.

So robust has been the South Island demand for export capability that Singapore Airlines has maintained the majority of its flights out of Christchurch simply to feed its own distribution network in Singapore.

However, we have not just focussed on established freight customers. In recent months, many businesses across the South Island have followed their customers' new habits and embraced e-commerce - which relies heavily on airfreight. As a result, parcel volumes through Christchurch Airport have risen about 40% in the past year. This has seen Airworks add a daily 737 freighter to Auckland and on to Melbourne, where e-commerce goods are increasingly warehoused.

Often, on any given evening, three 737 freighters can be seen on our bespoke parcels hub ramp at the same time.

As the government moves ahead with digitally enabling New Zealand's small to medium businesses, e-commerce will become a bigger and more important part of our economy, growing the tens of thousands of jobs already in this sector.

As e-commerce grows, so will air freight demands. Christchurch Airport is committed to helping grow air freight capacity and is working alongside government and industry, as well as investing in the development of freight and logistic precincts such as the airport's Dakota Park.





WE ARE PROUD TO BE THE ONLY SOUTH ISLAND AIRPORT, AND ONE OF ONLY TWO IN NEW ZEALAND, ABLE TO MANAGE 'RED' AND 'GREEN' PATHWAYS FOR PEOPLE ARRIVING HERE INTERNATIONALLY.

GREEN FLIGHTS carry passengers from Quarantine Free Travel destinations deemed by the government as safe in pandemic times. Those passengers go through the arrivals processes, walk out into the terminal to be greeted by friends and family, and go home.

RED FLIGHTS carry eligible people on specified flights who require 14 days in a managed isolation and quarantine (MIQ) facility. These passengers arrive via a separate pathway where they are processed under strict health protocols.

The two groups of passengers cannot mix, so early on we established a health-led collaborative project, including all border agencies, to re-shape the parts of the terminal the two groups would use, to ensure they would never cross paths or share facilities.

Our Manager of the Park to Plane Customer Experience, Craig Dunstan, says Christchurch Airport was ready and safe for the two types of passengers months before the 'trans-Tasman bubble' became a reality.

"At the time we had detailed processes in place and had been approved by the relevant government agencies," he says. "We could safely accept red and green flights by scheduled separation of their arrival times and allowing for the rigorous cleaning processes before the next flight arrived.

"However we wanted to make it possible for both red and green passengers to be safely processed in different areas of the terminal at the same time, so we invested in a purposebuilt dedicated pathway for the red flights."

Craig says the airport team believes red and green flights will be a reality for some time to come, so the new pathway both future-proofs the airport and gives it flexibility. The pathway was built in partnership with government departments, with health officials informing and assessing plans as they were drafted. It took six months to implement, from design to opening the new dedicated pathway, which coincided with the opening of the trans-Tasman bubble. Meanwhile, during construction, approved repatriation flights continued to arrive.

The construction of the pathway activated 'back of house' spaces in a different way, to flex with increasing or decreasing health needs.

"With border closures fluctuating around the world, Christchurch Airport is able to handle whatever decision governments anywhere make about who can fly where," says Craig.

"Not only can we manage any flight, we can adapt to any change. We have built the pathway for the 'new normal' and changing travel patterns, with the top priority being to keep everyone in this airport safe."

Knowing arriving passengers might be stressed and uncertain about what happened next, the decision was made to put one of our Pepper robots into the red pathway. Pepper welcomes passengers and tells them the process they are about to go through, reminds them what they need for the next stage, what to do (such as keep their mask on), provides some interest and lowers stress levels. Importantly, it also means fewer airport staff are required in the red pathway – another way to keep our people safe.

"I am enormously proud of the way the airport team has led this work and collaborated with external agencies, which appreciated being at the table from the beginning. They tell us they are often only called in at the end of the design stage, but we had their input right from the start. The agency stakeholder group signed off every step of the project, which helped us collectively create these dedicated pathways so efficiently," says Craig.



THE RED PATHWAY — Keeping our place safe —

First we understood stakeholder requirements, then used them to direct the implementation team and contractors.

Craig Rickard,
Technology Services

Our contractors did an amazing job constructing the pathway to meet the trans-Tasman bubble opening.

Mike Parker, Property

We created clear informative signage to direct passengers through the checkpoints as efficiently as possible.

Kerry Gill Marketing

I am super proud to be the Operations lead helping deliver this creative solution. Richard McMann, Airport Services

With government agency colleagues, we co-created a solution to mitigate risk and maximise efficiency. Craig Dunstan, Park to Plane



Early and open stakeholder engagement led to a co-designed pathway that enables the protection of all our people.

Lynley Lawler, Health, Safetv & Wellbeing

Innovative technology, including Pepper, improves passenger engagement and helps minimise airport staff interaction in the red pathway.

Dominic Lallemant, Digital

A staged approach to procurement meant construction began early, while the design was being finalised.

Our teams worked together to solve some really complex issues and deliver a fantastic result.

Tim Morris. Airfield Operations



BUILDING A STRONGER -BUSINESS

ENHANCING CUSTOMER

BEING GREAT KAITIAKI



CENTRAL OTAGO: creating opportunity

AS AN 80 YEAR OLD COMPANY, CHRISTCHURCH AIRPORT HAS LONG CREATED OPPORTUNITIES FOR GENERATIONS OF SOUTH ISLANDERS OUR PROJECT EXPLORING A NEW AIRPORT IN CENTRAL OTAGO HAS THE POTENTIAL TO DO THE SAME.

The need for more aviation capacity in the lower South Island has been discussed for decades. Central Otago's population is among the fastest-growing in New Zealand and pre-COVID there were projections Queenstown Airport's noise limits would likely be reached in coming years.

The pandemic has given us some space which will be used to fully explore and carefully develop a long-term solution that fits New Zealand's low carbon future.

There have been many proposals, but this project is the first to closely explore a greenfield (new airport) option.

To us, a new airport to serve this area of the South Island makes sense. Retrofitting existing infrastructure can be expensive and, in many cases, will only provide a short-term solution that is not climate-friendly.

As the developer and operator of one of the world's most sustainable airports, we were drawn to the opportunity to use our expertise and capital to explore a new airport that could resolve this problem for 50-plus years.

We are not new to property investment and this project, like our other developments, would make our business even stronger and create new value for our Christchurch shareholders.

Christchurch Airport will always be our mothership and, as the gateway to the South Island, it will continue to grow.

Any airport in Central Otago would always remain smaller than Christchurch's. It would, however, be an important part of our business and create opportunities the current infrastructure cannot provide for the lower South Island.

THE PRELIMINARY TICK

FY21 has been a year of careful and methodical progress for the project with the key marker being the release of our preliminary aeronautical assessment.

We chose our 750-hectare site because it's accessible

Our preliminary assessment validated that thinking. Getting to this stage was not a straightforward process. It involved highly technical work, gathering and overlaying multiple data sets on weather and topography, creating a 3D digital model of the area around our site, testing various runway alignments each runway under various scenarios.

These early investigations confirmed there are two potential

Our findings also show the site lends itself to sustainable aviation. The surrounding topography means aircraft can ascend and descend more gradually as they take-off and

Our next steps are to gather more detailed data from the site and refine our modelling.





ENGAGING THE COMMUNITY

While one of the reasons we selected the site is because it is an area of lower population, Tarras is a place people call home with environmental features, including the Clutha (Mata-Au) River which must be respected and looked after.

We've started assessing the potential impacts an airport could have on the communities' wellbeing and the environment.

Overall, our planning and validation phase will take at least three years. Since the project was announced in July 2020, we have spent a lot of time in Central Otago – meeting with residents, briefing officials, and sharing information at community drop-in days.



These conversations have involved a lot of listening and we have learned things that are helping to shape our thinking. We also answer the questions we are able to, although there is a lot of work to do before we will have all the answers to the many questions the project poses.

There is a diverse range of views and we respect them all. Some say they will oppose an airport no matter what, others are looking forward to the jobs and opportunities it would create for future generations.

We are a long way from validating that an airport on our site will work aeronautically, commercially, environmentally and socially.

We are committed to doing this planning and validation work well so we weave together a strong base of information on which we can make decisions.

We are acutely aware this project is not just exploring the potential for a world-class low carbon airport - it's about creating economic, environmental and social opportunities for future generations across the South Island.

You can read more about the project at centralotagoairport.co.nz

Michael Singleton, Project Director







NEW ZEALAND'S FIRST ELECTRIC AIRCRAFT WAS LAUNCHED AT OUR AIRPORT LAST OCTOBER IN FRONT OF ENTHUSIASTIC GUESTS KEEN TO GIVE IT A VERY CLOSE ONCE-OVER.

ElectricAir was founded in Christchurch to offer what it describes as 'clean, quiet and guilt-free flight'. Founder Gary Freedman says New Zealand is the perfect place for those aspirations.

"We want to encourage the take-up of low emission aviation here because this country has one of the cleanest electricity grids in the world and one of the highest rates of short-haul flights per capita," he says. "Christchurch is the home of New Zealand's electric air industry thanks to the innovative airport team having a proven record of successful sustainability projects, and Christchurch City Council's vision and support."

Airport General Manager of Strategy and Sustainability Rhys Boswell told assembled guests ElectricAir is the inaugural user of its newest charging infrastructure.

"We use electricity to power jet aircraft while they are parked on the ground, we offer EV and e-Bike charging stations, so installing e-plane charging infrastructure was a natural next step," he said. Airport Manager of Digital Solutions and Data Technology Art Martinson says installing infrastructure ElectricAir could use was a good fit.

"We are keen to demonstrate, alongside our support of Wisk, electric vehicles and other sustainable initiatives, our commitment to being part of the decarbonisation solution," he says.

Gary says the idea to operate New Zealand's first electric plane began in 2016.

"I was driving an electric car but flying a petrol plane, so I went looking for a solution. During a family holiday in Slovenia, I visited the Pipistrel factory and flew in the Alpha Electro. I was hooked and the rest is history," he says.

Pipistrel has a long record of aircraft manufacturing and is the only manufacturer in the world serially producing a battery electric plane. The plane's battery lasts for around 90 minutes and recharges in 45 minutes at the dedicated charging station at Christchurch Airport.

Gary urges all flight schools, scenic flight operators and short haul airlines to adopt electric technology as soon as possible. He says the plane is 70% quieter than its fossil fuel equivalents, costs about \$2 an hour to power and maintenance costs are also relatively low because there are very few moving parts.

SHARING WHAT WE KNOW one bite at a time

SOMETIMES WE CAN BE SURPRISED BY WHAT – OR WHO – IS RIGHT UNDER OUR NOSE!

Take, for example, a number of airport employees returning from the first lockdown after communicating by phone, email and online conferencing for weeks, and keen to re-connect face to face.

The People and Culture team put out a call for employees who might like to offer their colleagues a lunchtime session to share something they know or can do, or to introduce someone they know with something interesting to share.

Manager People and Culture Kylie Frisby says offers poured into her inbox, the sessions were named 'Knowledge Bites' and interesting things were on the menu.

"In the wake of the lockdown, we were keen to ensure learning and development activities were available to support our wider team's ongoing personal and professional growth, so we got creative to deliver that. Social learning (peer-topeer) was something we hadn't tapped into before and it proved to be very worthwhile.

"We've had 23 sessions so far, with 19 facilitated by employees," she says. "Several of the topics included sharing something they might not use at work every day - language skills (Mandarin, te reo Māori, French, German, Samoan), how to live more sustainably, a guide to social media, financial skills, negotiation skills, change and project management, and airport projects.

"We had great turnouts and it was not only the attendees who learnt new skills. The people up the front grew their presentation skills, were proud to share what they know, and realised they had helped their colleagues move the focus away from the pandemic."

Kylie says a survey revealed more than 80 respondents gave the lunchtime sessions the thumbs up.

"They enjoyed the sessions, appreciated colleagues giving up their time to share their knowledge and expertise, and learnt new things – plus there were several requests for repeat sessions from people who couldn't attend something when it was offered the first time and felt they had missed out!

"It was obvious from the comments that people had a greater awareness of the depth of skill across the business and they appreciated the social aspect of this learning, mixing with workmates, learning from each other, and collaborating across and within different teams."

Word got out across other companies within the Christchurch City Holdings Limited (CCHL) group the airport company is part of, and Kylie received offers from subsidiary companies' staff to lead a session on their area of expertise.



"Our guests offered meaningful and relevant sessions on different topics, met our people and said they felt energised by sharing their knowledge in a different setting," she says.

"Our association with BOMA also gave staff the opportunity to attend a session about courage and vulnerability. Everything we offered was well attended voluntarily and greatly appreciated."

Kylie says the sessions will continue as people offer time and topics, repeat or update their sessions, or offer an advanced version of their session, making lunchtimes extra-tasty.



MEETING OUR ROBOTS

24

PEOPLE AT THE AIRPORT HAVE DISCOVERED A NEW HUNGER
- FOR LUNCH WITH OUR HUMANOID ROBOTS.

It started with a request from a local school which knew we had robots in our terminal's Digital Innovation Zone. The children came to meet the robots and an idea grew from there to give other local children a taste of new and exciting technology.

As a member of our Park to Plane team, Airport Services coordinator Shweeta Shayal started spending a lot of time with our four robots - a set of identical Pepper twins and a set of smaller identical Nao twins. She had training to understand and refine what they could do, and how they could better respond to her voice, so she could entertain small audiences without her robot friends getting stage fright!

"There was a lot to learn, but that's why Pepper and Nao robots came to our airport - so we could all learn together what robots can do to help our visitors," Shweeta says.

"Pepper is a robot designed to interact with humans. Our visitors are surprised and delighted when Pepper and little brother Nao 'play' with them, and it's lovely to hear the laughter during the sessions."

Once the robots' routine had been refined, another local school was invited to bring its Year 5 and 6 students to the airport in their lunch hour. While students ate from their lunchboxes, Pepper introduced itself and shared some facts and figures about itself and about the airport. But the fun really began when the first child stopped eating and started to engage with Pepper.

"They loved playing with the robots, asking them questions, playing games, watching them dance and sing, and taking the robots' hand for a walk through the terminal," Shweeta says.

"The first school visits were very satisfying for me, because I knew we had identified things the robots would do reliably for every visit. We also asked the schools for feedback to tell us how we could make things even better.

"I also enjoy walking Nao down to the food court and the Regional Lounge, because as soon as we arrive, crowds of people gather around, asking questions, taking photos and videos, and showing lots of interest.

"As word got out that our robots were walking around the terminal and entertaining visitors, we got requests from companies across the airport campus for lunch dates with their teams, so we have been doing that too."

But it's not all about entertainment. One of the Pepper twins now works in the 'red pathway', greeting arriving passengers on their way to managed isolation and quarantine (MIQ) facilities. Pepper explains the process people are about to go through before they board a bus to travel to their MIQ hotel.

"Having Pepper in that area reduces the number of our people operating in the quarantine area," says Airport Services Duty Manager John Jones. "It also gives travellers calm, clear and consistent information in an interesting way. People seem to enjoy the different way we are offering that step-by-step information, and they're ready when they meet agency staff, so the whole process moves smoothly and quite quickly.

"Watching Pepper take on this important role gives us confidence we can do even more with the four robots. We have lots of ideas and can't wait to see what our robots do next to help us work with visitors to the airport."



Upstairs near Gate 15, as part of our focus on enhancing the customer journey, we have installed a 5m by 1.8m colouring wall, where the young (and young-at-heart) use our coloured pens to bring to life drawings of recognisable objects.

There's familiar Christchurch landmarks and objects, Kiwiana, signs, travel items, flora and fauna, food, sports gear and clothing ... and much more. The black outlines on the white wall simply cry out for colour to be applied!

Airport staff say as well as visitors, they see staff from airlines and companies all over the airport leaving their colourful mark on the wall. A quick glance suggests the ice cream,

the dog, the aeroplane, and the strawberry may be the most popular things to colour in.

The idea for this pastime came from a wall we had in the international arrivals area, where people could stick a magnet to show where they had come from. It showed how far our visitors had travelled, whether they were overseas visitors coming here, or Kiwis who had been exploring the planet before arriving home.

For now, the wall focuses closer to home, with no shortage of outlines waiting for you or your small people to visit and pick up a pen. Go on, you know you want to!

SEEING THE LIGHT

THE PHRASE 'OUT OF THIS WORLD' SEEMS ENTIRELY APPROPRIATE FOR THE CHARTER FLIGHTS LEAVING CHRISTCHURCH TO EXPERIENCE THE WORLD'S MOST REMARKABLE NATURAL LIGHT SHOW.

The Southern Lights, also known as Aurora Australis, are best viewed above the Southern Ocean where the lights tend to shine brightest, especially when timed with the equinox. This year, thanks to a new venture, hundreds of Kiwis have seen the lights up close.

An Air New Zealand Dreamliner heads south towards Antarctica, high above clouds and weather systems, so the more than 200 passengers get clear views - and photos of constellations as well as the lights on the ten-hour round flight.

Viva Expeditions Managing Director Rachel Williams put together the charter flights to see the lights, when COVID-19 and border closures turned her travel tour business upside down. The first two flights on the same March weekend sold out immediately, with long wait lists.

"The flights were a huge success and we were overwhelmed with positive feedback," Rachel says. "We're a small team that worked really hard to get this together in a tight timeframe and we didn't get much sleep for days. People were so excited and the airport team helped make the inaugural event extra-special by setting up a lovely reception for people to gather and meet each other before boarding their flight."

The Southern Lights Flights feel much like an international flight. Passengers are offered the customary full inflight catering service in both business and economy classes, but with the cabin lights turned off. Even the external lights on the aircraft are specially turned off to ensure light pollution doesn't interfere with the view.

Self-professed aurora hunter Dr Ian Griffin was one of a team of astronomers who provided commentary and information during the flights, including an explanation of how an aurora is created, and pointing out other night sky objects. The astronomers also read the signs in the sky to assist the pilots on the hunt for the Southern Lights.

Dr Griffin describes the first two aurora flights as "an extraordinary success."

"On both nights we flew into really active auroral conditions, with passengers getting memorable views of the southern lights," he says. "For me, one of the highlights of the first flight was criss-crossing the international date line more than ten times as we flew through a truly beautiful auroral display".

Passengers rotated in and out of window seats to share the experience and take photos and videos, some on their mobile phones. Professional photographers were on board to offer advice on how to get the best photos and to later share their memorable images with all passengers.

The inaugural flight certainly got rave reviews after it flew into an aurora storm only an hour out of Christchurch. One passenger captured this experience in photographs as his window glowed green, then white, before moving through bright green, pink, red and purple as his colour sensitive camera caught the aurora.

More flights are planned for next year and open for bookings at vivaexpeditions.com/styles/southern-lights



through COLOUR

OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION



Time zones mean we are the first in the world to tell a story with colour or to help publicise an event around the world, while closer to home reminding visitors through the Gateway to the South Island that all Kiwis are uniting for something.

For example, in conjunction with the Airways tower, we lit up red for Anzac commemoration, rainbow colours for Christchurch Pride, bright pink for Breast Cancer Awareness, blue for prostate cancer awareness campaign Blue September, yellow for the Cancer Society's Daffodil Day and orange for World Vision 40-hour Famine.

We also coloured up green for St Patrick's Day, joined the Light the World in Teal initiative for Alzheimer's, World Prematurity Day (purple), World Pneumonia Awareness (cobalt blue) and International Pregnancy and Infant Loss Remembrance Day (pink and blue).

In stark contrast, we turned the lights off to support

Using our walls to give charities and events visibility has been especially important this past year, offering hope and positivity by drawing attention to highly valued community work.

We have also hosted charity collectors on national collection days, and as a team, cooked several meals at Ronald McDonald House, planted trees on the Port Hills, wore gumboots to raise funds for 'I Am Hope.' We are always on the lookout for new ways to galvanise behind the communities we support.









POSITIVE ABOUT ___ CHRISTCHURCH



EVEN SCEPTICS AGREE CHRISTCHURCH WOWED AND EXCITED THE 700-PLUS PEOPLE WHO CAME TO NEW ZEALAND'S SECOND LARGEST CITY FOR THE TOURISM RENDEZVOUS (TRENZ) IN MAY THIS YEAR.



Christchurch had a lot to show tourism businesses and operators. Notably, one hardy cynic is on record as saying Awesome job promoting Christchurch and its offerings – the Town Hall venue is incredible and the food and beverage offerings in general around the city are something to be proud of!"

OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

Hosts Christchurch Airport, Christchurch NZ and Air New Zealand were determined to host an event which would 're-launch' the city. The event was over-subscribed with the hundreds of delegates agreeing they received pleasant surprises at every turn.

Christchurch Airport General Manager of Trade Development, Scott Callaway, says TRENZ was the first major tourism faceto-face event in more than a year.



"The tourism sector embraced the opportunity to come together and reconnect," he says. "In her opening remarks, our Mayor, Lianne Dalziel, not only welcomed people to Christchurch, but said "Go and find out for yourself what we have done in this city". And they did!

"In our re-opened Town Hall, delegates went from one refreshed space to another, to different events which included the stirring performance 'Tumahana', a collaboration by the Christchurch Symphony Orchestra and Ngãi Tahu which explores the creation story from a South Island perspective. Then they went exploring, as the Mayor suggested, walking from the Town Hall to the soon-tobe-opened Te Pae Convention Centre and along the wide boulevards to the hub of Christchurch's nightlife. They were thrilled!"

Scott says some attendees told him their two-day experience began when they landed at Christchurch Airport and drove along Memorial Avenue into the central city, reminding them "How easy Christchurch is to get around". Another said "Everything looked so much better than I expected", and another:

"BY THE TIME I LEFT. I WAS TELLING EVERYONE 'I'VE HAD AN AMAZING TWO DAYS IN CHRISTCHURCH'."

Feedback Scott and others received suggested having TRENZ back in Christchurch was the beginning of the next chapter of growing visitor numbers at business events.

"This city has always had a very strong reputation for really good business events, but in recent years we've been busy rebuilding," he says. "This year we were keen to grow the industry's confidence again, not only in this city, but in the





PEOPLE WHO WORK AT THIS AIRPORT WILL TELL YOU THERE'S SOMETHING VERY SPECIAL ABOUT THEIR WORKPLACE.

It's not unusual to celebrate airport company staff milestones of 10, 20, 30 or 40 years as people stay in roles they love, while any vacancy always attracts a large field of applicants.

Perhaps it's not surprising then, that Christchurch International Airport Limited was named an Employer of Choice in the 2021 New Zealand HRD Awards.

With 198 fulltime equivalent staff (FTE) employed at New Zealand's second largest airport and international Gateway to the South Island, there is a wide skillset and experience applied daily across a diverse range of required tasks.

Since COVID-19's arrival, the company has placed an even greater focus on supporting staff through the challenging and rapidly changing times. Extra support was added to the many health and wellbeing initiatives already available to employees.

The award submission detailed many aspects of employee support and care, including a dedicated welfare resource within an internal working group overseeing the airport's pandemic response. Regular checks on employees occurred and they were asked through a number of surveys during

2020 how well supported they felt. Information gathered was utilised in future decision making.

"We were delighted to be told by our team that when they need us, we look after them and make them our priority," says Manager of People and Culture Kylie Frisby.

This was reflected in the award judges' feedback saying the company had gone above and beyond over the past 12 months, safeguarding its people, protecting the organisation and supporting its teams.

Kylie says the airport company has been focused on improving the employee experience, particularly as employees have in recent years coped with considerable adversity and unprecedented change.

"We believe we put our people first and wanted to check that, to make sure we were consistently supporting and responding to our team's needs," she says. "Our approach has shifted to be more proactive and focused on engagement and leadership across the business, enabling our people to bring to life the company values they developed and agreed on – to be ambitious, proud, safe and to make a difference."

Kylie says engagement is very high and employee feedback is heartening, with the majority of comments highlighting the way employees look out for and after each other, and the sense of pride our people have working for Christchurch Airport

Kylie says the overall feeling is perhaps best encapsulated by a feedback comment – "Working for Christchurch Airport gets in your blood and there's no better place to work".









SAFE



CLEAN LAUNDRY IN MORE WAYS THAN ONE

IF YOU CONSIDER YOUR LAUNDRY IS A BIG JOB, A NEW AIRPORT TENANT MIGHT CHANGE YOUR VIEW.

Canterbury Linen Services (CLS) is the largest commercial laundry in the South Island and washes, dries and folds about 150 tonnes of laundry in its busiest weeks. The facility has a total floor area of almost 6500m², and the boiler house includes emission stacks about 30 metres high, so the total facility is an impressive sight in the airport's Dakota Park.

Owned by Canterbury District Health Board (CDHB), the laundry replaces its earthquake damaged facility at Hillmorton. It processes all CDHB laundry across Canterbury, the West Coast and South Canterbury DHBs, as well as rest homes, medical centres, food service providers, event operators, the New Zealand Army and accommodation

General Manager Rodney Fisher says while the laundry volume is significant, it is the sustainability achievements that please him the most

"We built and updated our premises to improve the resilience of the business, but searched the world for sustainability initiatives to significantly decrease our water and energy use,"

"We spent more than three years looking for and factoring stateof-the-art technology into the design of the new building. Now people are coming to us to understand how we reduced our carbon footprint and whether they can do the same."





The new laundry is powered by a woodchip boiler fed entirely by forestry waste products. This alone saves about 2,5000 tonnes in CO2 emissions every year, which is attracting interest from companies keen to remove coal-fired or diesel boilers from their business

A smart system of tunnel washers has created 70% savings in water usage. Other commercial laundries use 15-20 litres per kilo of laundry where CLS uses four litres per kilo. A heat exchange system extracts heat from wastewater and further reduces energy input. Plus air conditioning and ventilation has improved working conditions for the almost 100 staff.

"In the first few months, we almost achieved carbon neutral status and we're looking for more improvements. For example, we're currently focussed on recycling protective equipment (PPE). We process four tonnes of it each week to

"We received several proposals, but the airport's was the best. The airport team and site manager made it easy and were excellent to work with. The only surprise was that there were no surprises. It all works very well and makes sense to be close to main transport routes and a number of our hotel clients," says Rodney.

Airport project manager Natasha Evans says the project had many highlights, but taking invited guests through the facility has been special.

"I've seen it through their eyes and know they're 'wowed', she says. "In fact, wow is the word I heard over and over as people realised the size of the operation, its clever aspects, the commitment to sustainability, and the woodchip boiler. It's interesting and encouraging that several other big companies ask to see the woodchip boiler as they consider replacing theirs with a similar one. That is a win for everyone."

Rodney says he's met a lot of interesting people through the process and now the facility is operating he is enjoying sharing it with companies and people on sustainability missions.

"I personally have a green focus and have been pleased to blend that into this facility," he says. "What's good for the planet is good for everyone."



WORLD-FIRST HONOUR FOR CARBON REDUCTION



LAST NOVEMBER, OUR AIRPORT BECAME THE FIRST IN THE WORLD RECOGNISED FOR DEMONSTRATING BEST PRACTICE IN CARBON REDUCTION - THE HIGHEST CARBON CERTIFICATION AN AIRPORT CAN ACHIEVE.

Not for carbon offsetting, but for real and measurable carbon reduction.

This was awarded by Airports Council International (ACI) through the Airport Carbon Accreditation (ACA) programme, which oversees global standards including those for airports' measurement and reduction of emissions.

It was a huge achievement and welcome reward for this airport's unrelenting focus on an emissions reduction plan which lays out a pathway to absolute zero by 2050.

Sustainable Transition Leader Claire Waghorn says the submission was a big task.

"We were required to present a verified Carbon Footprint, a Carbon Management Plan in line with science-based targets, and a Stakeholder Partnership Plan to influence Scope 3 emissions," says Claire. "All this went to independently verified accreditors who scrutinise carbon accounting and airports.

"Since our 2015 baseline year, we reduced our Scope 1 emissions by 85% from 1730 tCO2e to 280 tCO2e, through installing ground source heating and cooling in our terminal building.

"Our Scope 2 emissions have reduced by 28%, against baseline year 2015, through LED replacements and improved energy efficiencies.

"Plus, as part of our commitment to support aviation industry transition to a low carbon future, we installed aircraft ground power at 13 of our 15 gates. When an aircraft is on the ground, it can use electricity rather than jet fuel and save approximately 730 tCO2e per plane per year."

The Sustainability team shaped what is known as Christchurch Airport's Green Transition Plan, a series of projects across all facets of the airport, aimed at measurable improvements in our key sustainability pillars.

"We were also working on an Emissions Reduction Pathway to make sure we were playing our part in the transition to a low carbon future.

"We support the global target, as established by the United Nations Framework Convention on Climate Change (UNFCC) in the Paris Agreement 2015, to keep global temperature rise within 1.5 degrees. We also support the New Zealand target of being net zero by 2050 and in fact, we're more ambitious than that. We want to be at absolute zero Greenhouse Gas (GHG) emissions by 2050 without offsetting to achieve that."

Making an application to ACI required us to robustly demonstrate five things.

The first was our governance commitment, demonstrating a whole of company commitment from the Board down, and although one piece of supporting evidence was required, we had five. It is standard practice for our Board to get monthly updates on our carbon and cost centre leaders, and they don't shy away from ambition and commitments in this space.

The second was aligning our targets with the Paris Agreement 2015 and tracking our progress alongside science-based targets. We chose 2015 as our baseline and found, and continue to find, ways to keep reducing our carbon even if our operation grows.

We were audited to prove demonstrable reductions. Our auditors were the only two independent auditors in the world who had passed the necessary exams to audit the Level 4 accreditation we were seeking.

The fourth requirement was an emissions reduction plan, which includes every reduction project we plan to undertake to achieve our targets. This included the necessary resourcing to ensure the projects were carried out. Claire says we have set very ambitious targets with achievable plans "because everything in the next decade really matters for climate." We are already ahead of where we set out to be.

The fifth requirement was a stakeholder partnership plan, demonstrating leadership and influence.

"Showing leadership means supporting other businesses to do the right thing too, by showing green transition doesn't have to be costly and has upsides. One of our projects certainly proved that. We removed our diesel boilers and installed a ground source heat pump, which has saved us 1000 tCO2e per year, and half a million dollars a year in cost savings, through not paying for diesel and having lower maintenance costs."

"We have identified lots of projects for our airline partners and our tenants. The best completed example is helping airlines reduce their emissions, by installing aircraft ground power. This means an aircraft on the ground can use electricity rather than jet fuel and save approximately 730 tCO2e per plane per year."

"More widely, we have also established waste minimisation across the company moving towards a circular economy approach, and added to our campus design-build guidelines."

Demonstrating those exacting requirements took our team three months, but Claire says the world-first achievement was genuinely welcomed by everyone across the airport company.

"We are very aware of how ambitious we are in this area, but measuring it all and compiling it all into one document was valuable validation of how far we have come. Airports are intergenerational assets and we must plan for the future of aviation. That includes de-coupling from fossil fuel and being part of a societal shift to a low carbon future.

"Becoming the first airport in the world to demonstrate measurable best practice in carbon reduction will not allow us to rest. We have much more to do, and the whole company is sincerely up for it," she says.



Claire Waghorn and pilot Gary Freedman prepare for take-off in New Zealand's first ElectricAir aircraft

CHAMPIONING SUSTAINABILITY

PEOPLE AND PLANET AND PROSPERITY

PEOPLE

FAIR INCLUSIVE DIVERSE

PROSPERITY CONTRACTOR OF THE PROSPERITY

MARKET COMPETITIVE GLOBALLY CONNECTED COMMERCIALLY FOCUSSED PLANET

REDUCE ADAPT JUST TRANSITION

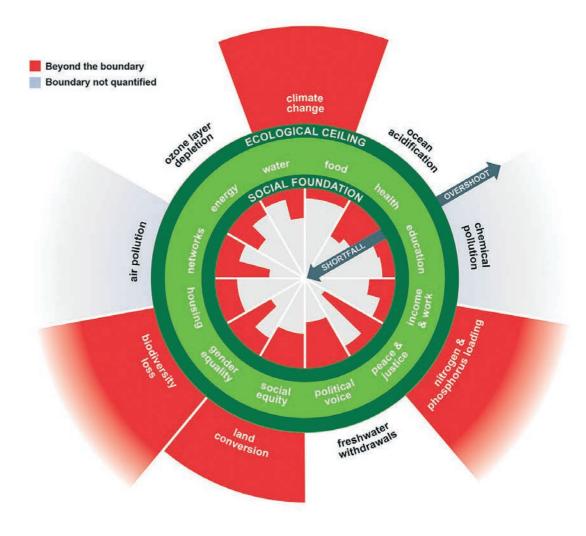


Image: Kate Raworth and Christian Guthier/The Lancet Planetary Health

KAITIAKITANGA AND INTERGENERATIONAL WELLBEING

Our approach to sustainability is centered on the Māori concept of kaitiakitanga (responsibility, care and guardianship of and for the environment we are a part of). Our base criteria for which we measure activity within our business includes whether our ambitions are good for people and planet and prosperity. We want to create genuine and enduring change that will have a lasting positive impact for environmental and intergenerational wellbeing.

Ko ngā pae tawhiti whāia kia tata Ko ngā pae tata whakamaua kia tina The potential for tomorrow depends on what we do today

When we have talked about sustainability in the past, our approach typically centered around our environmental work. Yet in practice, we undertake sustainability according to a much broader interpretation covering environmental, social and governance practices.

We draw from the United Nations Sustainable Development Goals, and the 'donut economics' model developed by Oxford University's Dr Kate Raworth. This model draws together our planetary boundaries and environmental overshoot, in the same framework as our basic social metrics as determined by the Universal Declaration of Human Rights.

We recognise that we globally face the challenge of both overshooting planetary boundaries, and underdelivering on social indicators. This year we have developed an Environment Social Governance (ESG) Working Group to address sustainability according to this broader interpretation.

While we strive to make meaningful improvements in each of these focus areas, we are particularly focussed on our commitment to reduce and eliminate greenhouse gas (GHG) emissions from our operations, plus acting where we can help our suppliers, customers and the wider economy to reduce or eliminate GHGs.

FY21 SUSTAINABILITY HIGHLIGHTS

55%
REDUCTION IN CARBON EMISSIONS

FY21 SCOPE 1 & 2

85%

REDUCTION IN SCOPE 1 EMISSIONS

AGAINST FY15 BASELINE 30%

REDUCTION IN MONTHLY AVERAGE TERMINAL ENERGY CONSUMPTION

12-MONTH AVERAGE ENERGY USAGE IS NOW 14.02KWH/M2

45%

DIVERSION OF WASTE FROM LANDFILL

COMPARED TO 2020 3%

REDUCTION IN LITRES OF WATER PER PASSENGER

FROM FY20 12.4L P/P TO FY21 12.07L P/P

ONLY

2
REPEAT NOISE COMPLAINTS

80%

OF GATES WITH JET GROUND POWER INSTALLED 100%

OF ENGINE TESTING ACTIVITIES COMPLETED HAVE BEEN WITHIN THE ENGINE TESTING NOISE BUDGET

WORLD CLASS TELEMETRY, LIVE LEAK DETECTION AND INTERACTIVE DASHBOARDS

In parallel with the drinking water infrastructure upgrades completed in the previous financial year, we have completed the roll-out of advanced water telemetry devices across the campus' potable water network.

These devices constantly monitor water use throughout the water network. Information is displayed on a series of interactive dashboards and every water user in the campus has their own individual dashboard to monitor their water use.

This technology drives more sustainable water use, autonomously detects leaks and alerts asset managers to the infrastructure requiring attention, constantly monitors the network against compliance, and provides a telemetry dashboard for easy use.

TELEMETRY DASHBOARDS

We have developed an online Water Telemetry Service, managed and maintained by City Care. This service enables tenants to log in to the system and review their water consumption for the current calendar month, with daily breakdowns and the past 15 months' summary graphs. By interacting with the displayed graphs, tenants can:

- 1. View the current month's consumption and value
- 2. View a selected past month's consumption and value
- 3. Interrogate a selected day's consumption and value in either the current month or a selected past month
- 4. Interrogate a selected hour's consumption and value.

The goal is that this technology drives more sustainable water use across our campus.

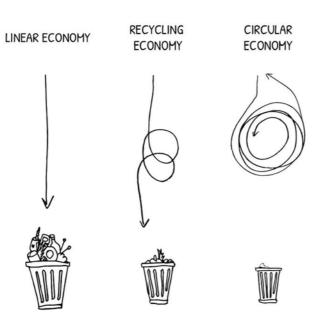


WASTE JOURNEY TOWARDS A CIRCULAR ECONOMY

We are undergoing a major re-think of how we 'do waste' in Aotearoa. The rate at which we are filling our landfill sites is unsustainable, so the government has introduced broad changes, from behavioural pieces (banning plastic bags) to legislative price signals (a waste levy increase), designed to take us from a linear waste economy, to the end goal of operating a circular economy system.

Ultimately, we need to move away from a 'throw away culture' to one that values our resources.

We viewed this 'nationwide reset' as a great opportunity to reset ourselves and be early adopters of best practice. We started by undertaking a procurement process that sought two different waste providers – waste removal and waste minimisation services. Rather than accepting the waste levy increase from a financial perspective and continuing under a status quo approach, we decided to re-design how we approach waste, prioritising minimisation and circularity, to further our sustainability goals and answer the levies with genuine waste reduction.



(Source: Plan C – Empowering circular futures.)

Our partners in this journey include Envirowaste as our waste removal partners, and Sustainably, our waste minimisation partners. We are excited to be working with them and will soon undertake a major waste audit involving us digging through the bins over the course of three days.

Here's what our partners had to say:

We are committed to promoting sustainable processes, continual improvement of our operations through integration of sustainability in financial planning, business processes, services and strategic decision making.

As an organisation, we dedicate substantial investment and resources to ensure that we are delivering to the highest environmental standards and the most innovative and sustainable solutions. We are keen to work with likeminded partners to support and accelerate innovation in New Zealand.

- Jacob Stapleton, Envirowaste

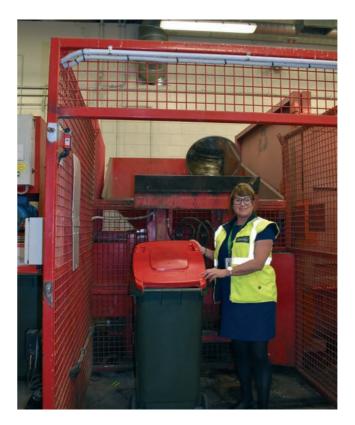
Sustainably has evolved to support the waste minimisation goals of our customers as well as align more closely with our purpose - we are working for Canterbury, because it's ours – our home, our community and our future.

Our partnership with CIAL and Envirowaste will pioneer waste minimisation and circularity within an airport environment. Collaborating for innovation, efficiencies and engagement we have bold goals for waste and its impact on people, planet and prosperity for every CIAL journey.

- Aimy East, Sustainably



L to R: Jacob Stapleton, Anna Laity, Richard McMann, Aimy East, Kat Ralph-Triebels, Kate Gislason, Rob East, James Parrott, Claire Waghorn



AIRPORT SERVICES CHAMPIONING SUSTAINABILITY THROUGH WASTE

We have the perfect opportunity during compactor training to educate our tenants with the importance of 'doing the right thing' for the environment. Our team has also gone over and above our normal duties by mucking in to move waste contents into the correct sustainable areas. This is not always a pleasant experience!

A recent example of this is of a passenger who had 20kg of fresh mussels the airline declined to accept. At the time, our only option was to dispose of the mussels, so Annette and I gloved up and used the office dustpan to scoop the mussels into the lined organics bins. The quicker option would have been to put the entire container with the mussels into the general refuse. While 'doing the right thing' may sometimes take a little longer, it is the right thing to do. Now the mussels will eventually be ground into producing bio-blend ... and yes, we washed the dustpan!

Day by day, we are making a difference, albeit slow and small changes, but good change is happening. We are excited about our involvement in this journey. The people we get to meet, the sights we see, the opportunities to educate and ohhhhh the stories! We look forward to the upcoming changes in the Southern Waste Room and going that one step further with even more sustainable gains.

Sharon Watson, Sustainability Champion

CASE STUDY: BIODIVERSITY SPOTLIGHT

On the western side of the airfield lies our airport's hidden gem – our dryland habitat. On the face of it, it presents as a barren flat paddock with rocky, dry parched land, but what it holds is untold value by way of endemic diverse flora and fauna. This patch of land represents a piece of original Canterbury habitat, its point of difference is it has never been intensively grazed or irrigated, as much of the plains have been.

In this understated paddock, under yellowed grass, lives a world of native plant species that exists in only one place in the world, Canterbury. In fact, it is only in a limited number of Canterbury spots, including our paddock.

We are currently working on our first biodiversity audit to fully understand the unique habitat we have, and how best to support the regeneration of these species. Many of these plants are best viewed when crawling around on hands and knees as they are no bigger than the size of your thumb.

Some favourite discoveries to date include our native orchid, and the endemic native boulder copper butterfly.





44

RECOGNITION IN SUSTAINABILITY

Christchurch Airport has been focussed on the projects and processes required to achieve our sustainability goals for many years now – and this is very much a journey, still in progress. However, this past year has seen much recognition of the progress Christchurch Airport has made in sustainability, in particular, with carbon reduction and climate leadership.

In November 2020, Christchurch Airport became the first airport in the world to reach the highest level of global achievement for Airport Carbon Accreditation – recognition of the emissions reduction progress, the commitment and proven resourcing to enable a zero-carbon transition, and the demonstrated leadership in this space.

In addition, we were delighted to be recognised as finalists in the Energy Excellence Awards 'Low Carbon Future' category for our Ground Source Heat Pump system in our International Arrivals area, which delivered a 1000 tCO2e savings per annum, representing an 85% reduction in our Scope 1 emissions. The project has saved \$500,000 annually due to lower operating and maintenance costs.



Energy Excellence Awards - Christchurch Airport a finalist in the Low Carbon Future. L to R: Catherine Drayton, Rhys Boswell, Mike Parker, Claire Waghorn, Malcolm Johns.

We have subsequently been named as finalists for the Environment Award in the New Zealand Tourism Awards, for our contribution and leadership in decarbonisation and waste.

Christchurch Airport is also a finalist in the Climate Action Innovator and Climate Action Leader categories of the Sustainable Business Network's 2021 Sustainable Business Awards, with Chief Executive Malcolm Johns a finalist in the Sustainability Superstar category. Malcolm's leadership is well-deserving of recognition, and extends beyond our team here at the airport to include work at the national and international level.

While these achievements are all linked to our sustainability outcomes, they belong to the entire Christchurch Airport team, from the Board right through the organisation. It is this embodiment of the principle 'people and planet and prosperity' approach that enables our sustainability work to truly be sustainable.

CASE STUDY: BMS ANALYTICS

The Building Management System (BMS) is a key tool used by Facilities Managers operating a complex and dynamic building in a safe and compliant manner while minimising energy use. The BMS also generates massive amounts of data on a multitude of operational and asset performance, so the challenge is to interpret and use this data efficiently and effectively.

In a traditional model, the Facility Manager relies on the BMS to generate alarms to direct them to potential issues with an asset. Even with a dedicated engineer, it tends to be a reactive process because there is so much information in a large scale BMS it is virtually impossible to track everything.

This is where BMS Analytics Software comes in. Real time BMS Analytics is our data led, technology assisted real list energy saver developed in partnership with EECA and Lumen. The software acts as a 24-hour, 7 days a week engineer, trawling through data collected by the BMS and proactively looking for potential problems. By analysing data against a set of predetermined rules, this software can determine issues such as a stuck valve or faulty sensor that would not necessarily be obvious and could be left undetected for some time, causing operational inefficiencies, wasting energy and costing money.





ADDRESSING OUR CLIMATE CHALLENGE

We accept the role carbon dioxide and other greenhouse gases play in climate change. We take a principled approach based around reduction, adaptation and a just transition. Crucial to this, is the need for urgency and transparency when addressing our global climate challenge.

The science is clear. We are facing a truly global problem, which requires deep collaboration and innovation, alongside behavioural change. The scale of the ecological challenge and consequences are so severe that current generations, not future generations, depend on our action now. The Intergovernmental Panel on Climate Change's latest report sets out

"Climate change will fundamentally reshape life on Earth in the coming decades, even if humans can tame planet-warming greenhouse gas emissions... Species extinction, more widespread disease, unliveable heat, ecosystem collapse, cities menaced by rising seas – these and other devastating climate impacts are accelerating and bound to become painfully obvious before a child born today turns 30. The choices societies make now will determine whether our species thrives or simply survives as the 21st century unfolds..."

So everything we do now to address our planetary boundaries matters and will lessen the negative impacts in future years. This decade really is everything.

Aviation contributes two to four per cent of global emissions. It is a sector with a proven history of innovation and is a sector that can decarbonise. Collectively we can be a significant part of the solution.

This knowledge has driven our deeply ambitious Emissions Reduction Plan, already resulting in a 90% reduction in our Scope 1 emissions (direct emissions), and a 28% reduction in Scope 2 emissions (purchased electricity). This puts us 10 years ahead of the pace set by science-based targets to keep warming to 1.5°C.

But we know the 'elephant in the airport' is the emissions associated with airlines, rather than airport operations themselves. This is why we developed a Stakeholder Partnership Plan – to map what actions we could take to address wider emissions, beyond our own operational emissions, to accelerate the decarbonisation of the wider aviation sector.

46

SNIPPET: FUTURE AVIATION UPDATE

We are committed to making sure as airlines transition to a decarbonised fleet, be that electric, hydrogen or Sustainable Aviation Fuel, we will have the airport infrastructure ready to support that transition.

We are working alongside Sounds Air, which has indicated commercially available domestic electric flights from 2026, and Air New Zealand, which is transitioning its domestic fleet to electric and hydrogen fuelled planes.



New Zealand's first electric plane charger, at Christchurch Airport.

CASE STUDY: ELECTRICAIR LAUNCH

New Zealand's first electric plane was officially launched at our airport by Christchurch start-up ElectricAir and is now flying demonstration flights from here.

Designed as a training aircraft, it is available for people wanting to experience electric flight and learn to fly in a more sustainable way.

ElectricAir's mission is to promote the uptake of electric aircraft to reduce the aviation industry's greenhouse gas

emissions. The start-up received support from Christchurch Airport, Christchurch City Council's Innovation and Sustainability Fund and the Christchurch Agency for Energy Trust.

At the launch, airport spokesman Rhys Boswell told assembled guests the airport's 80th birthday had occurred during nationwide lockdown.

"We quietly celebrated 80 years of aircraft operations from this site," he said. "We have been a successful airport in large part because we are always looking to provide for the needs of the industry's next phase of development. It is obvious to us that providing for low emissions aircraft operations will be essential to keeping the South Island well connected to the rest of the world."

For more about ElectricAir, see page 22.





Airport staff are regular participants in environmental projects around the region

MORE ABOUT ADDRESSING OUR CLIMATE CHALLENGE

Part of our commitment to speed up the sector transition includes having an open source policy in relation to sustainability and the decarbonisation journey, and sharing that with the wider sector. Over the past year, we have responded to requests from, and shared knowledge with, the Port Authority of New York and New Jersey, the Asia Pacific Airports group, Bristol Airport, Perth Airport and the NZ Airports Association; moderated an international panel on sustainability in aviation; and are mentoring Hamilton Airport on its airport carbon journey.

Beyond airports, we have addressed Christchurch-based Green Drinks, lectured at Lincoln University in Sustainability for Business, provided technical leadership to the CCHL Sustainability Working Group. CEO Malcolm Johns also chaired the APEC Business Council Climate Principles for Business taskforce – extending best practice principles for climate reduction, adaptation and just transition across business in the APEC region.

It's fair to say, this past year has seen Christchurch Airport take a role in driving efforts to help other airports transition in sustainability.



Aotearoa Sustainable Development Goals Summit panellists – L to R: Claire Waghorn (CIAL), Caitlin Burns (Connetics), Kim Kelleher (LPC), Pip Newland (Orion), and Tahu Stirling (Orion).

48 OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

CLIMATE RELATED DISCLOSURES

Christchurch Airport will fall within the scope of the New Zealand Government's proposed climate related financial disclosures reporting measures, and although mandatory reporting will not come into effect until 2023, we are eager to engage in this transparent process.

We are cognisant the work of the government's External Reporting Board (XRB), tasked with developing the reporting standards to support the new climate reporting measures, is evolving. Our reporting will evolve in conjunction with this, and in line with the intent of the disclosures bill.

Christchurch Airport was involved in contributing to the National Climate Change Risk Assessment. Public climate disclosures will assist in addressing our National Climate Change Risk, and also with meeting Aotearoa's net zero by 2050 carbon target. The Taskforce on Climate Related Financial Disclosures (TCFD), an international taskforce established by the G20, has recommended four thematic areas that represent core elements of how organisations operate.

CORE ELEMENTS OF RECOMMENDED CLIMATE-RELATED FINANCIAL DISCLOSURES



GOVERNANCE

The organisation's governance around climate-related risks and opportunities

STRATEGY

The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning

RISK MANAGEMENT

The processes used by the organisation to identify, assess, and manage climate change

METRICS AND TARGETS

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

GOVERNANCE

Christchurch Airport's governance of climate-related risks involves the Board, senior management and the broader organisation.

Our Sustainable Transition Leader prepares a monthly update for the Board on carbon emissions and mitigation measures. This includes any peaks, troughs, unexpected setbacks, and progress against our science-based targets. We are also committed to publicly disclosing our Annual Carbon Footprint on our Christchurch Airport website.

Our General Manager of Planning and Sustainability reports on climate risks and adaptation through asset management planning, and our CFO reports to the Risk, Audit and Finance Committee on the impact on our assets and long-term strategy.

The Christchurch Airport Board of Directors prepare a Statement of Intent (Sol) Report as per their obligations under the Local Government Act 2002. This includes reporting on our commitment to reduce and eliminate fossil fuel-based energy from our operations, and acting where we can to help our suppliers, customers and the wider economy reduce or eliminate fossil fuels. The Board is aware there are levels of relevance within aviation, infrastructure and finance that will be influenced by climate change risks both now and into the future. The Board is also conscious of ensuring the airport company not only does its bit to reduce emissions where it can, but is also ambitious to go beyond simply being net carbon zero, to being carbon positive.

OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

49

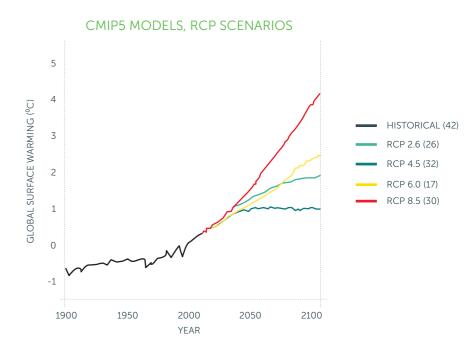
STRATEGY

The global average temperature has risen around 1°C since the late 19th century. At the present warming rate, global temperatures will reach 1.5°C around 2030. This warming means the Earth is more sensitive to climate extreme events, and these extremes will occur more frequently, intensely and with increased volatility.

Our climate risk reporting will consider two Representative Concentration Pathways (RCPs). RCP climate scenarios are all plausible futures. The RCPs are not predictions or forecasts and are not accompanied by a likelihood rating. RCPs are used for understanding changes in physical climate risks climate risks and were developed by the United Nations Intergovernmental Panel on Climate Change (IPCC).

Christchurch Airport will use RCP 4.5 as the lower end scenario and RCP 8.5 as the higher end scenario.

In addition, we will consider two transitional risk scenarios orderly and disorderly.



An orderly transition is planned, with a clear national transition pathway, a steady range of predictable policy incentives and implementations, and a steadily increasing carbon price.

A disorderly transition would therefore involve unpredictable or significant policy swings in the national pathway, an increasingly polarised community response, an inequitable transition, a fluctuating carbon price, and a climate response inadequate in terms of pacing and effectiveness.

RISK MANAGEMENT

We have identified our likely physical risks, and undertaken preliminary assessment on the physical risks of our destination pathways.

Our risk assessment considers:

EXPOSURE + VULNERABILITY + ABILITY TO ADAPT + CRITICALITY

Physical risks resulting from climate change can be event driven (acute) or longer-term shifts in climate patterns (chronic).

Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as fires, cyclones, severe wind or rain events or floods. Chronic physical risks refer to longer-term gradual shifts in climate patterns (e.g. sustained higher temperatures) that may cause sea level rise, drought or sustained heatwaves. These are likely to exacerbate losses from acute physical risks.

Christchurch Airport is constructed of a wide array of distinct and fundamental elements. All these elements are potentially exposed to different climate change effects. The management team has performed a preliminary risk assessment to evaluate the vulnerability of the airport to climate changes through all its components.

The following table identifies the risk all climate changes pose to the different airport components identified (or the vulnerability of the airport components to different climate changes):

OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

OUR CLIMATE RISK ASSESSMENT

AIRPORT COMPONENTS CHANGES		WIND	TEMPER	RATURE	EXTREME EVENTS CYCLONES SNOW FALLS				BIO- DIVERSITY	SEA LEVEL
		CHANGE IN WIND DIRECTION	HEAT WAVES	DRAUGHT	HEAVY RAIN	FLOODS	HIGH WINDS	SNOW FALLS	EVOLUTION OF BIRD NUMBERS	SEA LEVEL RISE
INFRASTRUCTURE	ACCESSES									
	CAR PARKS									
	RUNWAYS									
	TAXIWAYS									
	APRON									
BUILDINGS	TERMINALS									
	BUILDINGS									
	AIR BRIDGES									
	TOWER									
OPERATION	FUEL DEPOSIT									
	DE-ICING									
	AIRPORT FIRE SERVICE									
	NAVIGATION AIDS									
	HUMAN RESOURCE									
INDIRECT	TOURISM									
	EXPORT PRODUCTS									
	SERVICES NETWORK									
	AVIATION DISRUPTION									

RISK = PROBABILITY OF OCCURRENCE * IMPACT



OUR PLACE IN THE WORLD | ANNUAL REVIEW | 2021 EDITION

It's important to note sea level rise is not expected to have a direct impact on Christchurch Airport from an infrastructure or operational perspective. Indirect effects are more likely, because key partner airports are coastal and may face costly mitigation actions as sea levels rise. Similarly, storm surge events could cause network disruption and delays at coastal airport hubs in Australia and Asia.

51

Over the next year we will undertake a number of workshops to better understand our physical and transitional risks, and expect transitional risks will also be significant to Christchurch Airport.

We recognise the gravity of the global climate challenge, and the urgency with which we all need to act – business, government, and communities. We also recognise that aviation, as it currently exists, is a high emitting activity. With a narrow window in which to avoid catastrophic warming, being transparent about our operations, our impacts and how vulnerable groups are affected, is important to us. This has already informed our 'open-source' sustainability and 'open-dialogue' policy where we invite those with expertise or concerns to come and talk to us, and where we share knowledge.

GREENHOUSE GAS EMISSIONS METRICS AND TARGETS

Christchurch Airport wants to see a thriving, climate-resilient low emissions Aotearoa that is equitable, inclusive, protects livelihoods and makes economic sense. We see value in a collaborative approach, working alongside tangata whenua, acknowledging rangatiratanga and kaitiakitanga.

We therefore measure everything – our non-financial metrics are just as important and audited to the same degree as our financial metrics. This includes full flight emissions (domestic and international). Through measuring everything, we have greater ability to understand and address all aspects. Our full carbon footprint data can be found in the sustainability section of our website: www.christchurchairport.co.nz

OUR TARGETS

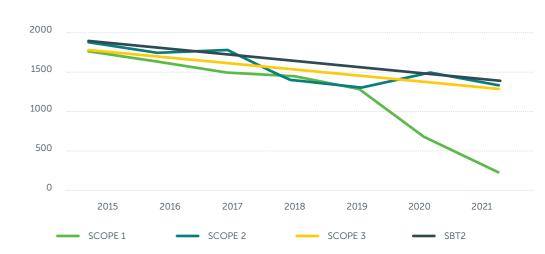
We aim to be absolute zero emissions from our Scope 1 and 2 emissions, or carbon positive, ahead of 2050.

We have year by year reductions we need to meet, including a milestone target to reduce our Scope 1 and 2 emissions by 84% against our FY2015 levels by 2035. This means our combined Scope 1 and 2 emissions will need to be less than 566 tCO2e by 2035 or sooner.

SCIENCE BASED EMISSIONS REDUCTION TRAJECTORY

We have checked our emission reduction targets using absolute emission targets in line with the global ambition set out by the United Nations Framework Convention on Climate Change, to keep global temperatures within 1.5°C. Using the Science Based Target Initiative (SBT) current methodology, we can confirm our targets align with their emission reduction trajectories.





Photographic contributions by: Waynne Williams, Kelly Shakespeare, TNZ, ChristchurchNZ and Tourism Industry Aotearoa



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