

OUR PLACE

IN THE WORLD

2020 EDITION | Annual Review

COVID-19

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From 15 March, 11 April 2020, all travellers boarding an aircraft to New Zealand must be advised:

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- comply with any direction given by a Medical Officer of Health relating to COVID-19.

Thank you for your understanding and patience as we help protect New Zealand from COVID-19.



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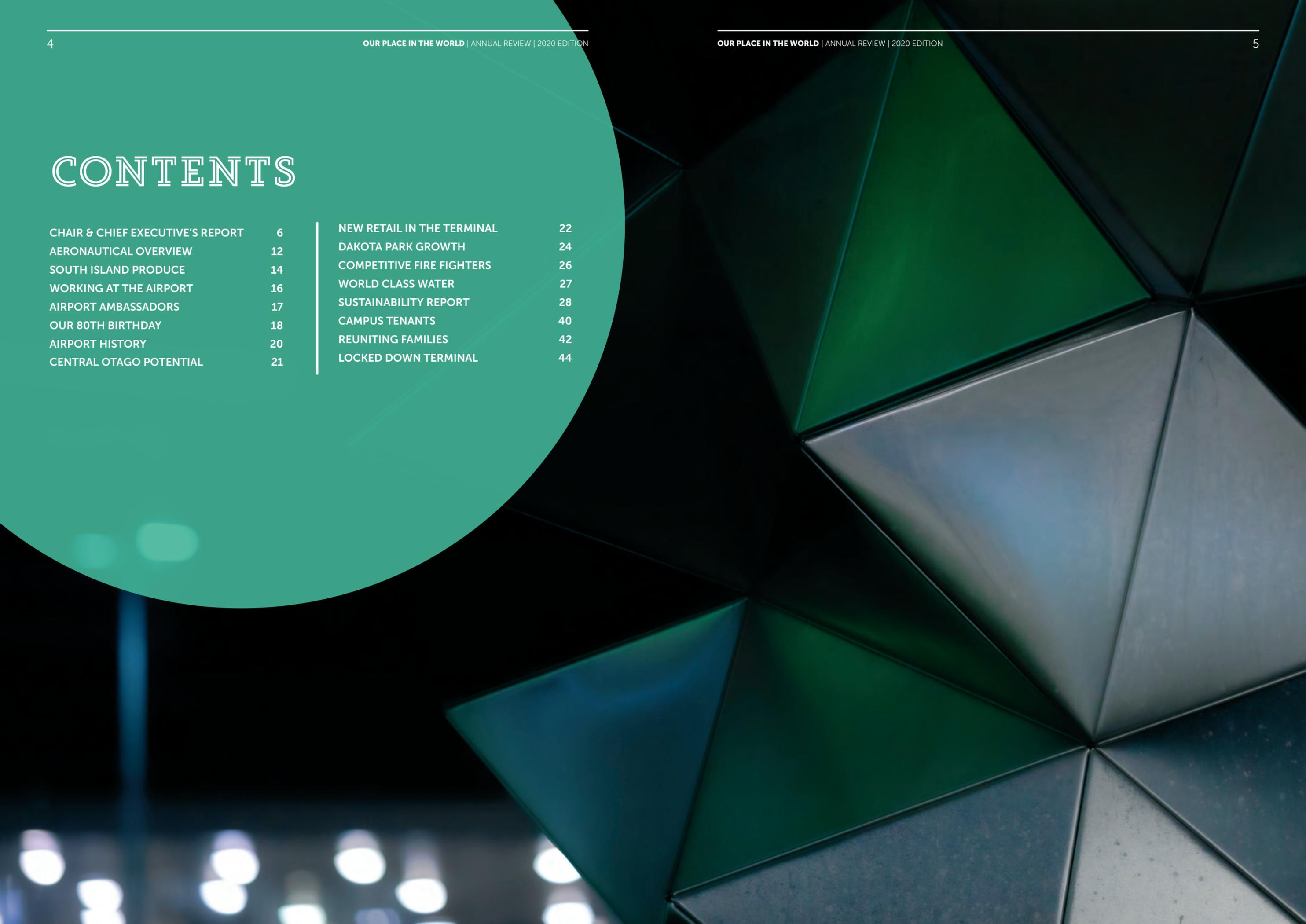
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CHAIR & CHIEF EXECUTIVE'S REPORT

FINANCIAL YEAR 2020 (FY20)



Catherine Drayton, *Chair*



Malcolm Johns, *Chief Executive*

The past financial year, FY20 (1 July 2019-30 June 2020) has been ultimately defined by COVID-19 (CV19). It will be a year that is written about, talked about and studied by students for decades to come. While CV19 re-defined FY20, it did not affect the whole period under review. In this report we will cover off both periods; pre-CV19 and post-CV19, as well as suggest what the near and medium term future currently looks like.

PRE COVID-19

From July 2019 until January 2020, Christchurch International Airport Limited (CIAL) was operating in a normal environment with many positive things happening across our three pillars; Planes, Passengers and Property.

After several years of high growth, both tourism and aviation had settled into a more stable but much higher level cycle, with international market growth flattening and most airlines migrating to yield maximisation over capacity growth.

Despite this stable dynamic, Christchurch Airport was outgrowing national trends in a number of key areas, thanks to the hard work of our business development teams and our 13 regional partners in our 'South' marketing programme. New services were launched including Air New Zealand's 787 service to Singapore (complementing the existing Singapore Airlines service), and Korean Airlines direct service from Seoul. Pre-Covid, we saw more flights from Cathay Pacific (+56%) and China Southern (+9%). This boosted visitor arrivals ahead of the national average from China (13% vs -3%) and South Korea (12% vs 3%) markets.

More importantly, the view forward was very positive, with several international airlines foreshadowing new international capacity at Christchurch Airport for summer 2020/21. After a herculean effort by our Aeronautical Development Team to build relationships and commercial cases, American Airlines announced a new service direct from Los Angeles to Christchurch. Having an American carrier, with deep sales reach into the US market, announce a new direct service to the South Island was a major vote of confidence in the work we and our regional partners in the South programme had undertaken.

Our 'South' programme, where we all work together as South Island Inc to build international opportunities for all the regions and businesses of the South Island is growing in strength. Research shows the South Island triggers around 80% of the emotional desire for an international traveller to visit New Zealand, yet the South Island only receives about 17% of international services. This lack of direct air capacity diverts gateway visitor spend related to the South Island away from the south and with that a range of the social and economic benefits.

In our terminal, we welcomed a number of new retail partners. A new partnership with Aelia meant a new duty-free proposition, with the new store double the size of the previous duty-free footprint, and including a new South Island showcase, presenting produce from all regions of the South Island. This was complemented by new specialty stores featuring Merino, Whittaker's Chocolate, and Alps Bar & Pizza, located to give visitors stunning views of the Southern Alps.

During FY20, our Property Development Team invested \$67m in new investment property that will deliver future revenue streams and enhance both long term shareholder value and dividends. Harvard Park, our trade supply precinct,

opened for development with the completion of our anchor tenant Bunnings Warehouse. Our new Agri-Export precinct came to life with new export orientated businesses, reliant on aviation to operate their business, moving in as tenants. In our freight and logistics precinct, Dakota Park, we continued developing both standard and bespoke premises for companies heavily involved in e-commerce driven parcel freight (which continues to show double digit growth).

Property revenue accounted for around 25% of total revenue, with our long term focus still centred on lifting this to about one third of total revenue. Property revenue is a portfolio across several airport precincts which attach to different market segments. The strongest airports have a good balance across the 3Ps; Planes, Passengers and Property. We need to be a strong airport and property revenue provides us with greater resilience in times when aviation may be challenged, something that has been proven invaluable during CV19. Our WALT (Weighted Average Lease Term) finished at 6.56 years, up from 6.00 years the previous year, and we enjoyed circa 97% occupancy at year's end.

In January 2020, as we all returned from summer breaks framed by orange skies from the bushfires raging in Australia, we had an incredibly positive outlook for our financial year. Aviation was peppered with new international services, retail was trading strongly, and our property pipeline was encouraging.

Within four weeks international borders were closing and New Zealand was moving rapidly through Government Alert Levels 2 to 4. We were about to put into effect the lessons we had learnt from the devastating 2010/2011 Canterbury earthquakes, and test the post-quake changes we had made to our business in ways we had planned for, but not expected to implement in FY20.



POST COVID-19

The lessons we had learnt from the quakes, and the work we had undertaken in 2015/16, meant we were prepared when CV19 arrived. The company had a financial, operational and strategic plan ready to put into place during a pandemic, and we activated these plans in mid-January.

In order to preserve and create long term value, our plan was underpinned by a philosophy of stakeholder equity across our customers, our staff and our shareholders. We learnt from the quakes that short term cash flows will be volatile during force majeure events and that it is imperative to focus on preserving and creating long term value because these events all have an end, and all have a 'new normal' (nobody knows just how much 'new' and how much 'normal' will apply until they are over). Short term thinking can have material influences on long term value outcomes, and currently we continue to operate based on this philosophy.

We supported our customers who needed support during lockdown and we continue to do so where there is genuine need. We provided our airline customers with free parking for grounded planes. Our people plan was based on everybody being in the same waka (canoe), and we asked all our people to accept the same wage and salary freeze for 18 months, to which they all agreed. We implemented an 18-month recruitment freeze with a sinking lid on staff numbers. We paid our shareholders a dividend for FY20 and flagged that a dividend for FY21 was unlikely. We believe this equitable approach will give us the best chance of not only surviving CV19 but thriving beyond it in a way that will maximise long term shareholder value and dividends.

The changes we made to our business in the post-quake years meant we had already reduced our head count by circa 20% when CV19 arrived. Meanwhile, the additional flexibility

we had built in to our operating cost structures allowed us to compress short term operating costs by up to 30%, without the need to shed any of the talent we would need in the near future.

We remained committed to completing our current capital projects and will have budget available to take on new investment property development over the next one or two years as opportunities arise.

Our commitment to executing our Green Transition Plan remains through CV19. We have driven out 90% of our Scope 1 emissions from our airport operations and we simply do not see CV19 as an excuse to stop advancing our sustainability programmes across our Christchurch campus.

During lockdown and since, we have been able to advance our long-term strategy of being a Champion for the Regions of New Zealand, both here on our Christchurch campus and in Central Otago.

To create the foundation for the above strategy, we have obtained the waivers and facility extensions we need from our banks and bond holders so, assuming a major secondary event does not occur before we are clear of the worst impacts of CV19, we will be able to maintain our strategic momentum without the need to seek new equity from shareholders.

LEARNING HARD LESSONS

In 2010/11 Canterbury experienced a series of devastating earthquakes which greatly impacted our company. The impact phase of these events lasted a further three years until 2014, and the recovery phase a further five years until 2019. For eight years, we had been surviving and reviving from the quakes, to the great benefit of others.

This meant when CV19 arrived in February 2020, we had only just started to come out of the impacts of our last low probability, high consequence event (LPHC): the earthquakes. Our journey of recovery, revival and planning fundamentally shaped how CIAL entered CV19, how it has navigated the pandemic and how it will exit from it.

Post-quakes the Board and management looked at what LPHC events our company might have to navigate in its future, what lessons we could draw from the quakes, and how we could prepare the business to survive, revive and thrive from an LPHC event. As part of this review, we identified global pandemic as a possible LPHC event.

We learnt from the quakes that LPHC events need more direct action than just thinking about them and creating lines on a risk register. They need to translate into models of how such events might impact the company financially, operationally and strategically. These scenarios then need to translate into actual financial and operational plans and be practised and embedded in company strategy, treasury policies and capital planning.

Financial: For CIAL, this work provided an understanding that to navigate most LPHC events without needing to seek new equity from shareholders, the business was likely to need circa five per cent of its balance sheet available within its maximum gearing ceiling. The Board translated this work into our treasury policy as follows: CIAL must maintain a BBB+ credit rating (S&P), debt/debt+equity must not exceed 40%, and five per cent of that 40% must be set aside for navigating an LPHC event. This meant that operational gearing (cash used to grow the business) could not rise above 35%. This decision by the Board is the foundation of how LPHC events were baked in to CIAL financially and strategically.

Operational: What we learned from the quakes was the companies that thrived had several things in common. Deep organisational leadership capacity during LPHC events is extremely influential on how organisations survive and thrive, and this capability can have material post-event impacts on outcomes for their customers, people and shareholders. During CV19 both the Board and management wanted to cement our culture around our three core components of Belief, Belonging and Trust. All our leaders rose to this task and we have retained very high levels of engagement, alignment and trust in CIAL with our people.

In the years following the quakes, CIAL has put a lot of effort into being clear on what leadership skills and capacity it needs for both business as usual (BAU) and LPHC events, and shaping its leadership accordingly. Leadership begins with how each person leads themselves and builds their capabilities through leading others, leading systems and ultimately to leading leaders.

Our new leadership approach was first truly tested in the March 2019 Christchurch terror attacks, and has now been thoroughly tested through CV19. During lockdown we maintained exceptional operational leadership of the airport at a day-to-day level, managing multiple high activity repatriation flights with a number of embassies. At the same time we were able to free up executive leadership to focus on medium term needs including national working groups; New Zealand Aviation Coalition, Domestic Travel at Level 2, Tasman Bubble and the Safe Border Working Group. This gave us the capacity to keep one leadership eye in the microscope and the other in the telescope.

Between 2015 and 2019, we fundamentally reshaped our operating structures, building specialist operational partnerships rather than insourcing everything. This resulted in our team reducing in size by circa 20%, operating costs (except for rates and insurance) remaining flat for five consecutive years, and our operational resilience and flexibility rising materially. Net Profit After Tax also rose from circa \$18m in FY14 to circa \$57m in FY19. When CV19 arrived, we had already restructured our talent and people capacity, and were able to use the flexibility we had put into our operating structures to reduce short term operating costs by up to 30%.

The Board requires management undertake multi-stakeholder operational exercises every two years to practice LPHC events. In 2018 we brought together multiple stakeholders, including CDHB, Police, Airlines and Border Agencies, to practice a global pandemic. Implementing our Pandemic Response Plan at short notice therefore went better than expected, largely because we had practiced a pandemic in 2018 and had the terror attacks in 2019.

Strategic: The companies that thrived post-quake were the ones that were clear not only about their survival plan but also their strategic plan. They truly kept one eye in the microscope and the other in the telescope. LPHC events make environments unstable. Unstable environments are dynamic, and companies zig when you expect them to zag. For some, that can make things unfavourable, for others it brings new opportunities.

As the country went into lockdown, we remained committed to our strategy which focuses on how we can be a Champion for the Regions of New Zealand. We were very clear during the first days of lockdown that we would not only remain true to this strategy but would also take every opportunity to advance it. We concluded the contracting of circa \$30m of new investment property at our Christchurch campus during Level 4 lockdown. We also completed our land purchases in Central Otago, which will allow us to engage with a wide range of stakeholders and seriously investigate new airport infrastructure to address the long term aviation, social, economic and environmental needs of the lower South Island over the next 50 years.





TOURISM

The international inbound tourism sector has been hard hit by the closure of the borders and it is likely this situation will persist out into at least 2022. The tourism situation can only change when the health situation does. We simply do not currently have enough hard facts about vaccines, therapies and/or future health management strategies. We must work from first principles and change our outlook as and when the health facts change.

For tourism, the first principles revolve around a couple of key assumptions and the three As; **Attraction, Access and Amenity**.

If we assume New Zealand will remain a market-based economy, with an open border connected to the rest of the Asia Pacific region, then the three A's of tourism will remain the first principles of how the sector will return over time.

Attraction: Research shows visitors to New Zealand are attracted here by our natural capital; our landscapes, oceans, rivers, animals etc. CV19 has not impacted any of this natural capital and currently the world's desire to visit has increased rather than decreased.

Access: The borders are closed to all but returning New Zealanders and therefore currently there is no access to New Zealand for international visitors. 99% of visitors to New Zealand arrive and depart via international aviation. The international aviation industry has been materially impacted by CV19 and airlines will need recapitalisation to both survive and revive over the coming years.

Amenity: Amenity is the thousands of businesses on the ground in New Zealand who help our international visitors engage with our natural capital. These businesses can be organised into three groups: Transport, Accommodation and Activities. The larger companies with bigger balance sheets tend to be in the Transport and Accommodation groups, while the Activity operators are often smaller to medium-sized entities. The Amenity group is where most regional jobs occur, most regional investment occurs and where communities draw most benefit from tourism. In previous high-impact events on tourism, we have seen equity change at scale in this group, and it can be expected that this group will need new equity to survive and revive.

We learnt from the quakes, and we can see from history, that all LPHC events do come to an end. It's just too early right now to be sure about when the end of CV19 will emerge. Borders cannot open without changes in CV19 health management strategies, vaccines and/or therapies. During lockdown, and since, CIAL has been an active member of the New Zealand Aviation Coalition and the Safe Border Group who have worked to establish the protocols we will need as we move toward less restrictive borders.

When this occurs, we can expect New Zealand to remain a highly desirable and attractive destination for international visitors. Aviation will take some time to revive, however it is likely to attract new capital and it has a long history of responding to demand when it is available. New Zealand's biggest challenge will likely be how quickly its Amenity can revive.

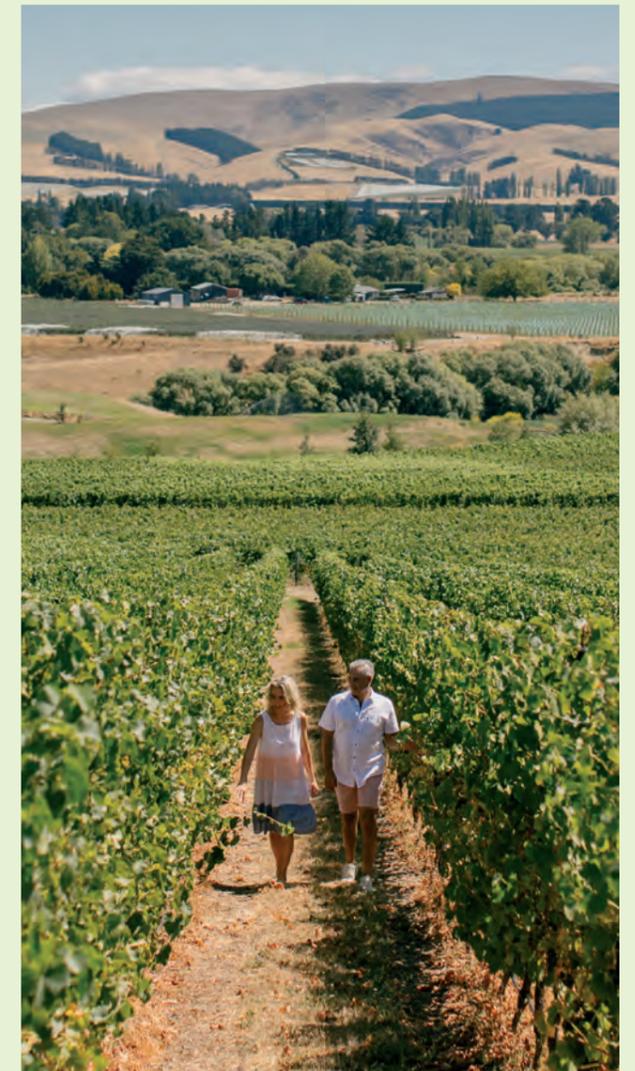
GOING FORWARD

Within New Zealand, Auckland, Christchurch and Central Otago airports are most influenced by international visitors to New Zealand. Their future growth is linked to what happens in tourism in New Zealand. For most other airports, the biggest influence is traveller demand from local travellers who live in the cities their airports attach to.

Before CV19, our aviation networks to service non-resident demand was short haul in nature - 93% of air routes into Christchurch were either domestic, Tasman or Pacific Island. We can expect this to remain the same post-CV19 and these air routes to return sooner than longer, thinner air routes might. We can also expect the big regional airport hubs like Brisbane, Auckland, Melbourne and Sydney (BAMS) to play a greater role in aviation networks to/from the South Island as we move beyond CV19. All our pre-CV19 airline partners are likely to be smaller post-CV19, but have good pathways to new capital, either via government assistance or new investors.

Christchurch city as a destination is also entering a new and exciting chapter that will provide access to higher value visitor sectors we have not seen for a decade as an airport. By 2025, the city will have a fantastic new Convention Centre, a nationally significant Metro Sports centre, a new covered sports and concert facility (the largest in New Zealand), a new purpose-built cruise ship facility, and a rebuilt CBD. These will attract new, higher value visitors from within New Zealand, Australia and beyond to Christchurch, with most needing to get here by air. Outside the leisure tourism sector, Christchurch can be extremely positive about the next 10-20 years and how it might make the most of being a higher value visitor destination.

The leisure tourism sector will return post-CV19 and people will continue to want to explore the South Island, with Christchurch and Central Otago being key entry and exit points. For CIAL to grow, ensuring there is good new airport infrastructure that speaks to the aviation, social, economic and environmental aspects of the next 50 years is essential. Christchurch and Central Otago are two sides of the same coin when it comes to leisure visitors to the South Island. Lack of capacity in either area would ultimately hurt our growth.



SUMMARY

FY20 was a year of two parts for Christchurch International Airport Limited.

Pre-CV19 we were incredibly optimistic about our future and what was happening across our business. Post-CV19 we remain incredibly confident about the future and what is happening in our business. CV19 will be with us for the next couple of financial years.

The quakes were the biggest shaping force on CIAL going into CV19, while CV19 was the biggest shaping force on CIAL in FY20. From the quakes we built height and breadth across our business to increase its resilience. From CV19 we will need to add depth to the mix to continue to build even more resilience into CIAL. Depth means proactively building deeper partnerships that will help all parties meet the challenges of the next 50 years in aviation infrastructure. This will mean in future events we can not only survive and revive, but be best placed to thrive, delivering well-thought through outcomes for our customers, our people and our shareholders.

Aeronautical *overview*

Our aviation development focus of 'finding and filling' planes over the past five years has delivered strong and sustainable aviation growth, strengthening our international gateway position, and enabling Christchurch Airport to grow ahead of the national average from a number of key markets.

FY20 was shaping up as a post-quake watershed year with new routes, new airlines, more capacity and exciting growth prospects.

Air New Zealand, along with alliance partner Singapore Airlines, commenced a new direct 787 Dreamliner service between Christchurch and Singapore, and had a very strong first season. The two airlines combined added 31% more capacity to the Singapore route, and achieved load factors in the high 80% for the season.

January saw China Southern Airlines up-size its aircraft to fly the second largest aircraft in their fleet, the 777-300ER into Christchurch. This helped Chinese arrival growth at Christchurch to reach 43%, outpacing the national growth of 15% in that month.

Cathay Pacific extended its operating season and added 56% more capacity from Hong Kong up to January, and we welcomed the commencement of a direct service by Korean Airlines from Seoul. The first season was almost a sell-out, showing the strong potential from this new market.

Excitingly, FY20 saw the announcement of American Airlines commencing a new direct service between Los Angeles and Christchurch. This followed an orchestrated effort with the regions of the South Island, via our South programme, to build demand in America for the South Island as an exciting new direct destination.

The addition of more capacity from our key airline partners and the new services was set to provide a strong platform for continued growth.

COVID-19 has put a pause on this in the short term. However, Christchurch, as a gateway to the South Island, is well placed to restart strongly and continue its sustainable growth progression.



Getting South Island produce to the world

CHRISTCHURCH AIRPORT ACTS AS THE EXIT GATEWAY FOR THE SOUTH ISLAND'S EXPORT TRADE – VITAL REVENUE EARNING FOR THE REGION'S ECONOMY. THE IMPACT OF COVID-19 HAS DEMONSTRATED THE KEY ROLE THE AIRPORT PLAYS IN THE LOGISTICS CHAIN BY GETTING THOSE EXPORTS TO MARKET AS QUICKLY AS POSSIBLE.



In normal trading conditions, about 70% of our exports head off to only six destinations, where they are broken down further for distribution.

Only ten per cent of our exports normally fly by freighter aircraft directly from Christchurch Airport. The balance is flown in the cargo hold of our regular scheduled passenger services to Singapore, Hong Kong, Guangzhou, Dubai, Sydney and Melbourne. From there, our exports continue to their final destination.

COVID-19 stripped New Zealand of that additional passenger freight capacity almost overnight.

During 2020, CIAL worked closely with the Ministry of Transport to secure access to these significant ports. Without access to our normal supply of widebody passenger aircraft, the capacity had to be replaced by cargo-only aircraft - a major task given every city in the region was also seeking to secure access to their own export markets.

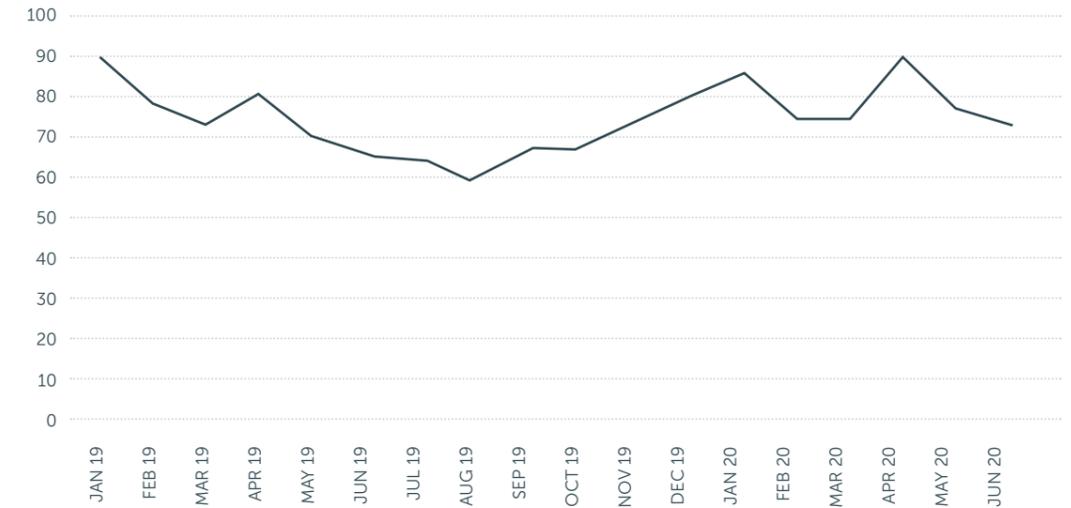
Christchurch Airport, in partnership with Government, managed to secure air freight capacity that enabled 75% of last year's volumes to be exported directly from our airport.

CHRISTCHURCH AIR FREIGHT EXPORTS BY VOLUME



Our economy is extremely dependent on our export agricultural trade. Depending on the month, these vital and high-value exports can comprise up to 90% of the flown freight from Christchurch Airport.

FOOD AND AGRICULTURAL PRODUCTS AS A PERCENTAGE OF TOTAL EXPORTS BY WEIGHT



The relationship between air freight and our export trade is symbiotic - we need the capacity to ensure we reach our international markets. To sustain this relationship, Christchurch Airport worked on securing air freight capacity from both foreign and local airlines to ensure the pipelines to our key markets were sustained.

Since March 2020, Christchurch Airport has hosted almost daily freighter services from Qantas, a weekly freight-only flight operated by Emirates, a weekly passenger flight from Singapore Airlines, and a regular freighter service operated by AirWork to Australia.

Air New Zealand operated a programme of Boeing 787 passenger flights exclusively for air freight demand to both Sydney and Melbourne.

In addition to its direct international services, Air New Zealand operates the widebody Boeing 787 on domestic flights to Auckland, to ensure exporters have the option of routing their freight overseas via a North Island connection. Freight forwarders also run regular trucking services taking almost 50% of the South Island's air freight production to Auckland for export.

The coming summer will see a spike in demand for air freight for our valuable stone-fruit exports in particular, and, as happened last year, Christchurch Airport will ensure it is instrumental in ensuring this demand can be satisfied in what has been one of the most difficult years in aviation to date.



A great place to WORK



MOST PEOPLE COME TO THE AIRPORT JUST TO LEAVE IT, BUT OTHERS SPEND YEARS HERE.

Airport employees will tell you 'the airport gets in your blood,' and recent celebrations of long service certainly supports that assertion.

Over the past year, 24 members of the airport team notched up a total of 240 years' service between them, with two team members each marking 40 years.

We choose not to let that service go unnoticed. We recognise the efforts and contributions of our employees and celebrate these milestones every year. Sharing their milestone with colleagues whose paths they don't usually cross, or whose shifts don't intersect, enables new social relationships to be created and further grows the connectedness we have across our diverse teams.

Long service is not taken for granted in our company and the experiences of our team members over their years here are not overlooked nor forgotten. We create a memento booklet, where each service milestone recipient shares highlights, stories and reflections of their time at the airport. Their manager contributes similar thoughts and the booklet becomes a valued and special record, and helps new team members understand some of the airport's growth and history.

We choose to celebrate these milestones as they occur rather than when a person leaves, and it gives our executive team the opportunity to show their personal appreciation for the part the team member plays in the company's development.

For our airport team, coming together to acknowledge milestones, achievements and contributions to a company we care about is special and memorable, as is the job team members choose to spend years in.



**CHRISTCHURCH
AIRPORT**



Ten years ago, we called for volunteers to assist visitors at Christchurch Airport - and the 16 people who answered the call became Christchurch Airport Ambassadors.

A decade on, all those still living in Christchurch are still here, still call the airport their 'happy place', and still work their magic in the terminal.

Over the last decade they, and the other Ambassadors who joined them, have supported millions of visitors, answered thousands of questions, and offered directions, advice, suggestions - always with big smiles.

Jacqui Robertson manages the Ambassador Programme and says the programme began in 2010 during the major redevelopment of the airport terminal.

"During that time, every time someone arrived, the layout inside was different, so we needed people to help direct travellers who were a bit lost. The more people they assisted, the more it became apparent the service could become a permanent fixture," she says.

Jacqui says several of her team not only volunteer at the airport, but also for other organisations, while some work part-time or full-time.

"Our Ambassadors are an amazing group of people," says Jacqui. "Not only do they support our visitors, they support their community and each other, and some very strong friendships have developed through their time together here.

"If something happens in their personal lives, the others rally round to assist in whatever way they can. During the nationwide lockdown this year, they were emailing and calling each other often, and as soon as the Alert Level allowed gatherings, they started meeting for coffee.

"We knew when we invited them to celebrate ten years of the Ambassador programme, they'd be keen. Sure enough, about 45 turned up - early as usual, happy to see each other and with plenty to talk about."

Those who couldn't attend sent messages reflecting how much they enjoy their Ambassador role. One said the best parts of the role are the spontaneity, and lifelong friendships made with other Ambassadors. The message continued, "It is very satisfying to help people in times of great stress, especially when they have no family or friends nearby. When I retired, I wanted to keep active, interact with other people and give back to the community. Being an Ambassador ticks all those boxes - and more!"

Jacqui says she constantly gets positive feedback about the Ambassadors.

"They make the airport a happier place and visitors tell us all the time what a great service they offer. They're often the first and last friendly face for people coming to, and going from, the South Island - and we are incredibly proud of them," she says.

Lighting up

for our 80TH BIRTHDAY

DURING THE LONG AUTUMNAL DAYS OF OUR NATIONWIDE LOCKDOWN, CHRISTCHURCH AIRPORT CELEBRATED ITS 80TH BIRTHDAY... RATHER QUIETLY.

There were no cakes or celebrations at the time, but bright lights were certainly turned on!

The Antarctic Walkway, from the international arrivals area of the terminal towards the Novotel hotel, offers a special new light and sound interactive experience - and although it doesn't sing Happy Birthday, it could!

The walkway is both a piece of art and a functional piece of infrastructure to protect people from weather. It highlights the airport as a gateway to Antarctica and helps guide people from the airport terminal around the campus and to the International Antarctic Centre tourist attraction and Spitfire Square.

Airport Asset Planning Manager Nick Flack says the walkway is a permanent interactive art installation.

"It reacts to movement, speed and direction and reacts with you as you move through it," he says. "The interaction happens both day and night, but you'll get the best effect at night, when it's dark and the coloured lights show up well."

The walkway is a built-from-scratch interactive smart system called 'Echoes'. It combines a comprehensive audio, lighting and sensor control system, with each light, speaker and sensor controlled individually, which means there is a long list of effects on the airport's 'wish list' to introduce in the future.

"We may well theme the walkway according to season, events, celebrations and just for fun," Nick says. "We know the walkway can display interactive 'games' for people to play. For example, we've already found that moving arms through the sensor zones felt like hitting a ball, making the beam of light travel down the corridor. With a player at each end of the tunnel, it is very similar to playing tennis. We had several ideas of what we could do with it, and now that people are walking through it and seeing how it works, the list of fun ideas is getting longer and longer!"



With Great Foresight

OUR AIRPORT'S HISTORY STARTS WITH A DOCUMENT STORED IN OUR ARCHIVES.

It's a 1935 report written by Christchurch's then City Engineer, A R Galbraith, considering establishing a Christchurch aerodrome. This was a time of sea planes, airships and the wonders of a new-found freedom to fly.

Based on that report, city leaders invested in building an airport, keen to connect to the world and create social and economic outcomes for our city. Their decision made Christchurch the Gateway to the South Island for visitors. Eighty years on, we expect to make the best of 'our place in the world' for the next eight decades.

Mr Galbraith's report refers to the year 1919, when a regular daily air service began between Paris and London, noting that during the following 15 years, passenger numbers increased from 100 or so a week to thousands each week.

Mr Galbraith wrote "In 1919 it cost 20 guineas to fly between the two European capitals in small noisy planes", but by the time the report was written "the fare is only five pounds by the deluxe service of flying Pullman's in which passengers lunch and dine whilst aloft". He added air mail loads had grown over the same time from a few thousand letters a year to millions, while parcels had increased from a mere handful to more than sixty tons a week.

He included a 1935 map of the world showing "commercial airways have now extended to every important country throughout the world, excepting New Zealand, which is rather significant".

These facts were among those which led Mr Galbraith and then City Land Surveyor and Town Planning Officer, A H Bridge, to consider whether Christchurch should have an airport at one of 15 suggested sites.

The rest, as they say, is history.



Credit: RNZAF Museum

The two visionary council officials might be surprised to see the modern-day impact of their work. The site they carefully selected became New Zealand's first international airport. Seventy years later, the airport became a critical lifeline to our city during the challenging times of the 2010/11 Canterbury Earthquakes.

These days, a regularly referenced fact is the 'multiplier effect' the airport has on the city, island and country. Independent research shows every dollar this airport earns benefits the South Island by \$50 - another reason the 1935 bold vision helps guide decisions we make today for this airport.

A hardcover book we published tells the story of the airport. It's called "With Great Foresight" and for us the title says it all. The work we do now will build things our grandchildren will use to make the South Island and the country better socially, economically and environmentally.



A new approach IN CENTRAL OTAGO

WE ANNOUNCED IN JULY WE ARE EXPLORING THE POTENTIAL OF BUILDING A WORLD-CLASS SUSTAINABLE AIRPORT NEAR TARRAS IN CENTRAL OTAGO.

We have long seen the potential of a new airport in Central Otago and so, over several months, pre-COVID-19, bought 750ha of farmland, to test our thinking that an airport on the site would keep future generations of South Island residents and businesses connected to the rest of the world.

The site has a lot of pluses. It is close to existing infrastructure and easily accessible to a number of regions across the central and lower South Island. We believe it would also enable airlines to use their most sustainable aircraft.

While the concept would deliver widespread social and economic benefits to the Central Otago, Upper Clutha, Mackenzie and Queenstown Lakes District regions, it is a long way from becoming a reality. Years away, in fact.

Chief Executive Malcolm Johns says there is a case for meeting un-serviced demand for air travel, but a lot of work to do before the concept can be confirmed as viable.

"Our top priority is talking to the Central Otago community, especially people who live close to the site. We have begun one-on-one discussions with community members to understand their thoughts, concerns and questions, no matter what they think of our idea, and gather all the information we can to shape any case for a new airport.

"We have a history of doing things with communities, not to them. We may not be able to solve everything for everybody, but we'd like to try. This will be a very long-term

project and we're just getting started."

The airport team admits it is unusual to announce the plan before it has answers to all the questions and an official proposal. However the airport's mission is to champion the South Island, so this fits within that and will help to be informed by the people who know the area best - the residents.

The \$45m purchase of the land near the intersections of State Highways 8 and 8A was initiated and funded by our business, a standalone commercial entity with an independent board of directors.

Our current thinking is to start with a 2.2km, jet-capable runway and a small terminal building. We would design and build the airport in such a way that it could grow to meet any future demand. Building from scratch would allow us to design and build one of the world's most sustainable airports.

Since we started this project, aviation and tourism globally have been severely impacted by COVID-19. While we are confident the sectors will recover, the speed that happens clearly impacts this project.

There is unlikely to be any construction on-site for at least five years, or maybe longer. In the meantime, we are comfortable land-banking, as over our 80-year history, we have been a long-term holder of land.

TASTY NEW RETAIL

OVER THE PAST YEAR, SEVERAL NEW RETAIL AND FOOD AND BEVERAGE STORES WERE ADDED TO THE TERMINAL ENVIRONMENT, NOT JUST TO OFFER TRAVELLERS MORE CHOICES, BUT TO PUT SOUTH ISLAND DELICIOUS-NESS FRONT AND CENTRE.

An international retail overhaul project, in partnership with global retail specialist Lagadere, completely transformed the international departure journey, offering a totally new experience - resulting in people saying it was not what they'd expect at an airport!

The international departures area was completely changed to accommodate a new 1700sqm retail feature for Aelia Duty Free, Whittaker's chocolate, expanded Relay store, Naturally New Zealand, Tiki Tour souvenirs, and the all new Alps Bar & Pizza.

The work took place between April and December and was operationally challenging. Hundreds of tradespeople were on-site over those months, with up to 140 on-site at any one time - all while travellers came and went.

The intention was not only to offer more of what travellers told us they wanted to buy, but to integrate a true sense of 'our place' through featuring local imagery and a taste of the South Island as the first or last thing a traveller might fancy.

South Island-sourced salmon, wine, lamb, beef, honey and artisan chocolates were quickly the hottest selling items. Departing visitors want to take goodies home as reminders of their time in the South Island, while locals like to take gifts their host can't get on the other side of the world.



The specialist Whittaker's chocolate store was the sweet spot. The combination of the same Kiwi family making exquisite chocolate since 1896, and world famous British chef Nigella Lawson's endorsement, gave the packaged chocolate two ticks of approval.

The new bar gave international departing passengers a new place to relax between check-in and boarding a flight, offering famous Kiwi food and beverages including gourmet pizza and a wide range of South Island beer and wine. To top it off, the bar overlooks the airfield, facing westwards, giving stunning views of the South Island's Southern Alps.

The international arrivals journey was not spared. Passengers were treated to a re-designed duty free arrivals store echoing the departure experience, designed to welcome international visitors and returning Kiwis alike.

That is all international airside, beyond security.



In the Level 1 food court, a new All Blacks store took centre stage. The black (of course) store, complete with continuous rugby highlight videos playing on the outer walls, offers a wide range of items from the country which calls rugby its national game.

Across the terminal, Travelex currency exchange and money conversion delivered three new spaces that saw the removal of traditional bank style barriers, enabling their team to engage more fully with customers to help them on their onward journey.

A big job well done! All in all, more than 2,700m2 of development completed in the terminal through FY20.

NEW IN DAKOTA PARK

Dakota Park, Christchurch Airport's freight and logistics precinct, is one of the South Island's most efficient multi-modal logistics locations, and home to world-leading supply chain companies.

The precinct has direct access to State Highway 1 (north and south) and Highway 73 (west), and potential for direct access to the airfield in the future. It is home to blue chip occupants including NZ Post, Freightways, DHL, DB Schenker, Agility, Martin Brower, Iron Mountain and EBOS Group.

Dakota Park's success is due to several factors, including its location on the western side of Christchurch, giving easy access to the central city, and occupants' use of the full

campus - including Spitfire Square and three accommodation and conference options. The airport company not only delivers the projects, it also manages the buildings.

The airport company's environmental focus is attractive to many other companies which respond to our commitment to operate sustainably. Our focus is on growing the business to achieve economic, social and environmental objectives, and responsible operation. For us, operating sustainably is the best path to business growth, and is good for both the market place and the community.

CURRENTLY UNDER CONSTRUCTION

SPEC 6 - DUE FOR COMPLETION EARLY OCTOBER 2020

Our most recent speculative building, Spec 6, was designed and began construction without a tenant. This is the sixth and largest building of its type in Dakota Park, with a warehouse of 4000m², which is more than twice our previous builds. During construction NZ Post signed-up as tenant.

CANTERBURY LINEN SERVICES - DUE FOR COMPLETION MID-OCTOBER 2020

This is a new facility for Canterbury Linen Services (CLS), a commercial and industrial linen rental service and wholly owned subsidiary of the Canterbury District Health Board. It provides linen services for healthcare, accommodation, hospitality and spa and beauty. Following earthquake damage to their existing facility, they required a new custom-built facility.

BOXMAN - DUE FOR COMPLETION MID-DECEMBER 2020

This one-of-a-kind facility offers state-of-the-art self-storage. Boxman provides containers to a wide range of customers for a variety of storage needs. This new custom-built 9000m² self-storage warehouse features a computerised gantry crane which sorts and stores storage containers.

Dakota
PARK





TWO TOUGH MINUTES

THE SAYING, 'WHEN THE GOING GETS TOUGH, THE TOUGH GET GOING' CAME TO LIFE WHEN WE HOSTED THE SOUTH ISLAND COMBAT CHALLENGE AT THE AIRPORT IN MARCH.

Known as 'the toughest two minutes in sport', and essentially an Iron Man challenge for fire fighters, the Combat Challenge is something our Airport Fire Service staff train for every year, aiming to get through the South Island champs to the nationals, then to represent New Zealand at the world champs in America.

Our teams hold national and international records, so when the United Fire Brigades' Association asked us to host the South Island round we agreed, not least to show our fire fighting colleagues from other stations the workplace we're so proud of.

Every year, just getting across the finish line is a serious achievement. Male and female fire fighters wear 25kg of full bunker gear and breathing apparatus while racing each other and the clock during five tough tasks.

We climb a six-storey tower carrying a 19kg hose, hoist the hose coil up six storeys, use a 4kg hammer to drive a beam 1.5 metres, extend a charged length of hose to knock down a disc, and drag a dummy more than 30 metres.

It really is tough... and we love it! It tests fitness and skill and shows the physical demands of fire fighting, which people don't usually see.

This year, as hosts, on top of training, we were managing logistics. It was a very busy time - and a seriously great day!

Fire crews from other stations were gobsmacked by having spectacular aircraft as the backdrop to the course. For us, having airport colleagues and our bosses there to cheer us on was awesome - especially when we reached the final.

COVID-19's arrival the next week meant there was no North Island competition, nor a national team going to world champs this year - but we will be ready for its return. In fact, we are already considering hosting the competition here again - and are already in training!

Hayley Rossiter
Senior Fire Fighter



WORLD CLASS WATER



ATTENDING THE WORLD'S LARGEST WATER CONFERENCE WAS LITERALLY A WATERSHED MOMENT FOR AN AIRPORT EMPLOYEE.

During Singapore Water Week in 2015 our Facilities Manager came away with the realisation that the airport's water supply environment is unique. Over the past five years, our team has been working towards delivering a world-class water system, to provide a world-class product to our shareholders, customers and community.

The team is currently rolling out water telemetry devices across the campus' potable water network. These devices constantly monitor water use throughout the water network. Soon every water user on the campus will have an individual dashboard so they can 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 removes the need for people to read and interpret the meters.

The airport water supply now includes the use of industry leading technologies to supply the whole campus with safe drinking water. Although there has been a change to

drinking water legislation over the past 12 months, we have been preparing for the last three years for a tighter legislative environment and a higher level of service. We have raised well heads to prevent hazards entering the water system, introduced UV treatment to remove particles and hazardous chemicals from the water, and using chlorine gas to maintain the quality of water in the distribution system. These infrastructure upgrades have been completed to supply the safest quality water across the campus.

Partnerships and collaboration have been important, with Citycare and Fulton Hogan critical to the work we have undertaken in this area. Together, our three companies have pushed the boundaries on what is possible, how it can be delivered, and have put the operational processes in place to keep pushing the boundaries. Having a source of high-quality water is of high importance to the thousands of people accessing the airport campus every day, and delivering it is a source of pride to those who have worked on the project.





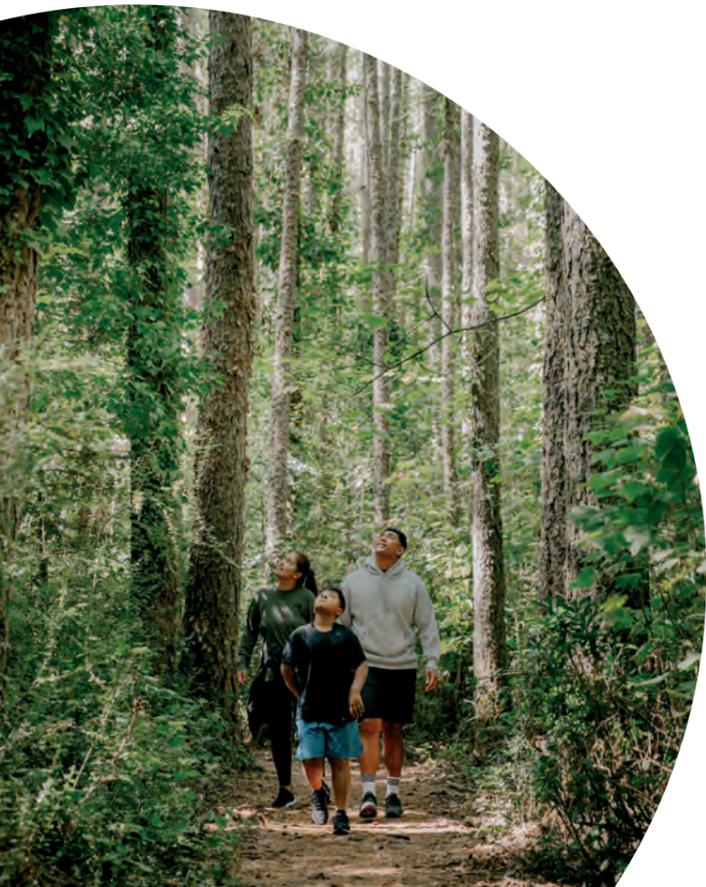
OUR SUSTAINABILITY REPORT FOR 2020 DEMONSTRATES AMBITION, ADAPTABILITY AND OUR CONTINUED COMMITMENT TO EMBED SUSTAINABILITY ACROSS THE CHRISTCHURCH AIRPORT CAMPUS (AND BEYOND!)

This report contains our FY20 sustainability highlights, a thought piece on the future of aviation from a sustainability perspective, and several case studies unpacking progress relating to our six sustainability pillars. That's not to say the year has been all success and no setbacks. It would be premature to suggest we now understand or have felt the full implications of the COVID-19 pandemic, and a lot of uncertainty remains.

What we do know is our actions need to be adaptive, mindful of the broader climate, in line with global goals, while remaining steadfast in our commitment to being great kaitiaki (guardians).

At its roots, sustainability is about long-term thinking, ensuring the actions of today serve future generations in a way we can feel proud of. COVID-19 presents a challenge, converging alongside our global climate crisis - if anything, the pandemic has served to strengthen our sustainability ambitions. So, although we have faced significant budgetary constraints, we have also reprioritised our work programmes, and managed to do so without compromising our sustainability goals.

"Gentlemen, we have run out of money. It's time to start thinking."
Ernest Rutherford



FY20 SUSTAINABILITY HIGHLIGHTS



THIS MEANS PEOPLE ARE WASHING THEIR HANDS!

FUTURE OF AVIATION FROM A SUSTAINABILITY PERSPECTIVE

Aviation overall is a force for good - it underpins the global economy, broadens the mind, and connects people. It is the resulting carbon emissions that are increasingly problematic. Aviation currently contributes around three per cent of global carbon emissions, but pre-COVID-19, the aviation sector was the fastest-rising source of carbon emissions over the previous decade.¹

Our challenge is to protect the benefits of aviation while helping pave the way to a future without carbon. With the COVID-19 impact on the aviation industry potentially shading some of the measures that should be considered for a sustainable recovery, concerns are growing over the cost and devastating environmental and business impacts of losing sight of taking mitigating actions towards climate change. More broadly, restarting aviation will play a key role in the recovery of the global economy, while climate change remains the greatest long-term challenge we face. This crisis is an opportunity to 'build back better,'² and we believe sustainability is not simply a 'nice to have' but a critical part of business recovery.

ICAO CLIMATE GOALS

The UN Framework Convention on Climate Change (UNFCCC) sets out the current science and collective responsibilities for global greenhouse gas emissions. The UN specialised agency for aviation, the International Civil Aviation Organisation (ICAO), guides the aviation sector towards a consensus on standards and recommended practice to address its responsibility for three per cent of global emissions.

To that end, ICAO introduced the 'four-pillar strategy' to achieve carbon-neutral growth from 2020.

This involves mandating operational improvements, aircraft technology improvements, sustainable aviation fuels, and market-based measures to oversee off-setting requirements for international flights.

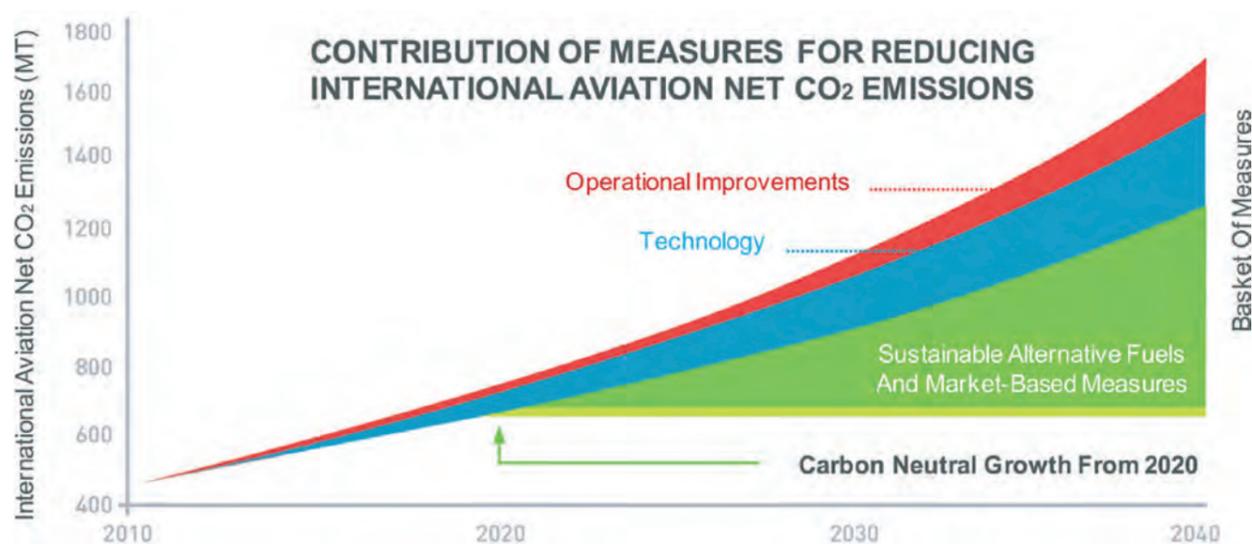


Figure 1 ICAO 'four pillars' for reducing International Aviation net carbon emissions (pre-COVID-19)

¹ Watts, J. 'Something in the Air: Could COVID-19 crisis be the catalyst for greening our airlines?', The Guardian Weekly, 22 May 2020, <https://www.theguardian.com/world/2020/may/17/is-covid-19-crisis-the-catalyst-for-the-greening-of-worlds-airlines>

² ACI Europe Working Paper - "Off the Ground"; Report of the WS1 - Sustainability - Climate Change

OPERATIONAL IMPROVEMENTS

Operational improvements are the industry's carbon reduction 'low hanging fruit'. This includes introduction of ground power for airlines - where an aircraft can plug in to electricity, rather than burn jet fuel in their auxiliary power unit. We have this capability at Christchurch Airport, with 80% of our gates now capable of providing ground power.

Likewise, improvements in air traffic management systems, such as New Zealand's 'New Southern Sky' initiative, allows planes to take off and land with minimal waiting time.

As airlines are encouraged back, and contracts renegotiated, this is the time to mandate greater adoption of emission-saving technology - and the environmental benefits and cost savings should make it an easy win.

IF AN A320 IS PLUGGED IN TO GROUND-POWER FOR FIVE HOURS PER DAY, OVER 365 DAYS OF THE YEAR THE COST IS US \$6,000 P.A., COMPARED TO THE COST OF JET A1 FUEL US \$130,000 P.A.

**THE RESULTS ARE:
TOTAL ANNUAL COST SAVINGS = US \$124,000
TOTAL ANNUAL EMISSION SAVING = 730 TONNES CO2-E P.A.**

Airports can also make substantive operational improvements. For Christchurch Airport, this has included the installation of ground source heating, refinement of waste practises, replacement of refrigerant systems to limit fugitive hydrofluorocarbons emissions, and continual carbon monitoring with reduction as the primary goal.

AIRCRAFT TECHNOLOGY

The aircraft technology pillar develops steps to create more efficient aircraft operations. Compared to aircraft of the 1960s, aircraft types today demonstrate an 80% efficiency improvement. Airlines have made progress in reducing emissions through maintaining a fuel-efficient fleet, the fitting of 'sharklets' to wings, improving approach pathways and departure climb profiles, and reducing aircraft weight.³

But aircraft fuel-efficiency gains are plateauing⁴, and the goal now is to develop 'eviation', aka aviation no longer dependent on fossil fuel. It is estimated that electric aviation technology would be available to the domestic market in the 2030s, with long-haul electric technology to follow further down the track. Pre-COVID-19, responsibility for developing low-carbon aviation technology sat with the aircraft and engine manufacturers. It is difficult to see how or who will continue this important work now.

SUSTAINABLE AVIATION FUELS

Sustainable aviation fuels (SAF) generate lower carbon emissions than conventional aviation kerosene - from production to consumption. These fuels function in the same way as traditional jet fuel, so they do not require significant changes to aircraft or airport infrastructure. SAF will slow carbon emissions in the short to medium term, as new technologies (such as battery electric or hydrogen) are developed.

Without ready access to an approved SAF, there are limited short term carbon reduction opportunities available. For example, in FY19 Air New Zealand domestic flights (taking-off and landing within New Zealand) produced a total of 556,404 tonnes CO₂-e. Allowing a blend mix of up to 50% SAF with fossil jet fuel, Air New Zealand could, over a year, reduce those emissions by 214,215 tonnes CO₂-e.⁵

The COVID-19 global lockdown effect on the price of oil has resulted in record lows. This may have an impact on the development of SAF, as feasibility studies demonstrate a dependence on rising oil prices to make their business cases stack up.

³ Scion, New Zealand Biofuels Roadmap Summary Report: https://www.scionresearch.com/_data/assets/pdf_file/0005/63293/Biofuels_summary_report.pdf

⁴ Green Air, 'New aircraft fuel efficiency improvements return to historical average but lag ICAO fuel burn goals, finds ICCT Report (18 Sept 2015), <https://www.greenaironline.com/news.php?viewStory=2130>

⁵ Scion, New Zealand Biofuels Roadmap Summary Report: https://www.scionresearch.com/_data/assets/pdf_file/0005/63293/Biofuels_summary_report.pdf

MARKET BASED MEASURES

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) has been developed as a single global market-based measure, to make up the residual emissions gap after all operational, aviation technology and sustainable fuel improvements are made.

Under CORSIA, airlines will be required to buy carbon offsets to compensate for their growth in CO2 emissions against 2019 volumes of international flights. Originally this baseline was to include 2020 aviation data, but with COVID-19's unprecedented impact forcing emissions down, ICAO dropped 2020 from the baseline data. Effectively this gives the industry three to five years of initial relief from their CORSIA obligations.⁶ This will be of financial relief to airlines, but risks stranding investments in emission reductions and undermining investor confidence in aviation's commitment to a low carbon future, including sustainable aviation fuels.

SHIFTING ATTITUDES

Even before the pandemic, pressure was growing amongst the climate conscious to reconsider flying, amidst global conversations around what individuals could do to decrease their carbon footprints. Professor James Higham called this the 'Flyers' Dilemma', weighing up the personal benefits of tourism against climate concerns.⁷

In 2019, McKinsey & Company surveyed 5,300 passengers in 13 aviation markets to gather views on flying and climate change. More than 50 per cent of respondents said they were 'really worried' about climate change.⁸ Yet respondents also viewed air travel as a right and considered stopping international air travel for their holidays as one of the last personal actions they would take to address climate change.⁹

When considering the expectations of the next generation of passengers, and the specific type of tourists New Zealand currently attracts, climate impacts and sustainability are increasingly known to be a priority for them. Post-COVID-19 analysis from Tourism New Zealand also suggests sustainability as a key area of focus for tourism sector recovery - to be world-leading in environmental sustainability. The report concludes "the conditions and timing are right to launch New Zealand into the top tier of tourism environmental sustainability destinations."¹⁰ Alongside this, the work of the Parliamentary Commissioner for the Environment, reminds us that while we are 'trading on New Zealand's environment' we must find a way to meaningfully address the associated environmental impacts, which of course includes aviation emissions.¹¹ As journalist Rod Oram explains "we must learn how to work with nature, not against it. In all we do."¹²

⁶ EDF, 'Covid-19, International Aviation and Climate Change: How Airlines' Proposed Re-Write of International Civil Aviation Organisation Rules would Undermine the Carbon Offsetting and Reduction Schedule for International Aviation, (May 2020), https://www.edf.org/sites/default/files/documents/Impact_of_COVID_on_International_Aviation_Analysis.pdf

⁷ Higham, J, Cohen S, Cavaliere, C. 'Climate Change, Discretionary Air Travel, and the Flyers' Dilemma', Journal of Travel Research, 2013, https://www.researchgate.net/publication/270710902_Climate_Change_Discretionary_Air_Travel_and_the_Flyers'_Dilemma

⁸ <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/how-airlines-can-chart-a-path-to-zero-carbon-flying>

⁹ McKinsey & Company 'Environmental sustainability and climate change: travel impacts for New Zealand', 2020, shared internally within CIAL

¹⁰ Ibid

¹¹ PCE, 'Pristine, popular...imperilled? The environmental consequences of projected tourism growth', (2019), <https://www.pce.parliament.nz/publications/pristine-popular-imperilled-the-environmental-consequences-of-projected-tourism-growth>

¹² Oram, R. 'Nature is showing us the way' (3 May 2020), Newsroom, <https://www.newsroom.co.nz/2020/05/03/1151190/nature-is-showing-us-the-way>

CARBON



In 2007, Christchurch Airport became the first airport in the world to be independently audited and certified as carbon neutral. We used CarbonZero to certify we had measured and reduced our greenhouse emissions and neutralised the remaining unavoidable emissions through the purchase of offsets. This included emissions associated with corporate operations, terminal buildings, emergency response, airfield and infrastructure maintenance.

We have been independently carbon audited each year and continue to look for ways to make meaningful reductions to our carbon footprint.

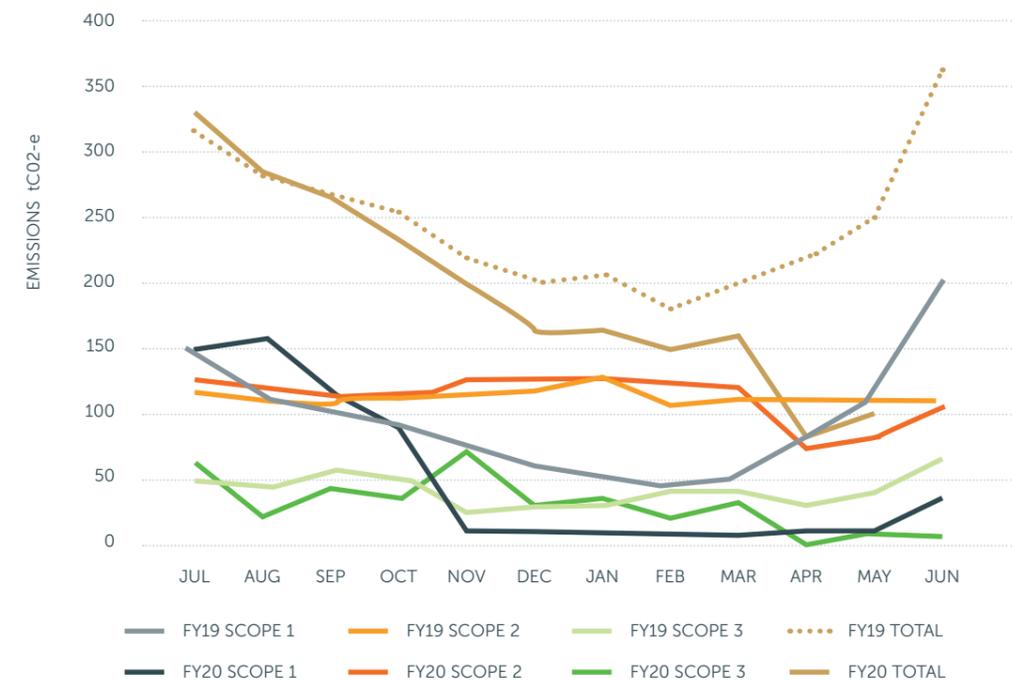
In the first quarter of FY19, we introduced internal quarterly carbon budget reporting, and have now completed our first full year. The purpose of quarterly carbon budgets is to reflect to leaders across the organisation how their teams are tracking in terms of Scope 1, 2 and 3 emissions, and perhaps spark a bit of healthy competition too!

When we measure, we gain better understanding and can look at where reductions can be made. The quarterly carbon reporting allows for a deeper dive into our organisational behaviours, and although FY20 reductions in some areas were forced down by COVID-19, there were also genuine reductions achieved as well.

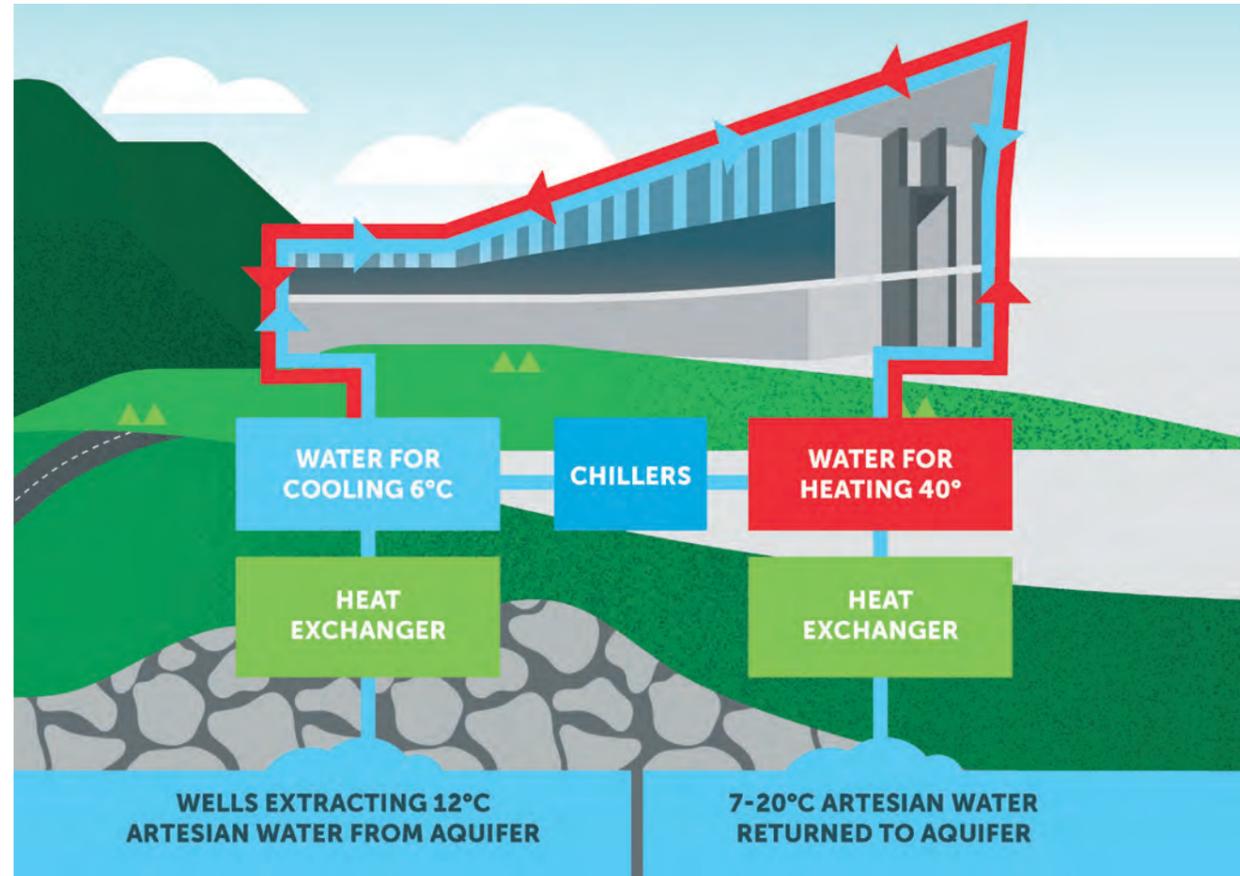
Looking at carbon emissions for FY20, we can celebrate emissions reductions against our baseline year in all areas:

- Scope 1, 602.99TCO2-e (decrease of 65.2% against baseline FY15) – this covers our stationary fuel and vehicle fuel usage and includes several emergency response vehicles that do not yet have electric equivalents available
- Scope 2 1324.24TCO2-e (decrease of 27% against baseline FY15) – this is our purchased electricity, and fugitive emissions from refrigerants
- Scope 3 353.89 TCO2-e (decrease of 75% against baseline FY15) – this extends to our air travel, transmission and distribution lines losses for purchased electricity, and waste to landfill with landfill gas recovery
- Total Scope 1,2,3 for 2020 is 2281.12TCO2-e (decrease of 54% against baseline FY15)

FY19 V FY20 EMISSIONS TRACKING



CASE STUDY: USE OF GROUND SOURCE HEAT-PUMPS FOR HEATING AND COOLING



In 2013, a world-class innovation in ground source heating was pioneered at Christchurch Airport. This new technology was able to utilise the water that flows beneath Christchurch and the Canterbury Plains to provide an artesian-based heating and cooling system for our Integrated Terminal Building.

This new system would replace the diesel boilers formerly used for heating and cooling, and in making the switch, huge energy efficiencies were gained, alongside reduced carbon emissions and lower operating costs, all the while maintaining the integrity of our pristine natural aquifers.

However, back in 2014, the core HVAC infrastructure for the international area of the terminal required higher water temperatures than the rest of our integrated terminal building, so there was a technology gap we needed to overcome to enable this system to be replicated in the international area.

In 2019, that technology became available and we jumped at the opportunity to retire the remaining boilers and decarbonise our heating system. By November 2019, we had fully transitioned to the use of ground source heating, and after only eight months with this new system, had reduced our emissions by 580t CO₂e. That's the equivalent of what 9,590 tree seedlings grown for 10 years would be able to remove from the atmosphere.

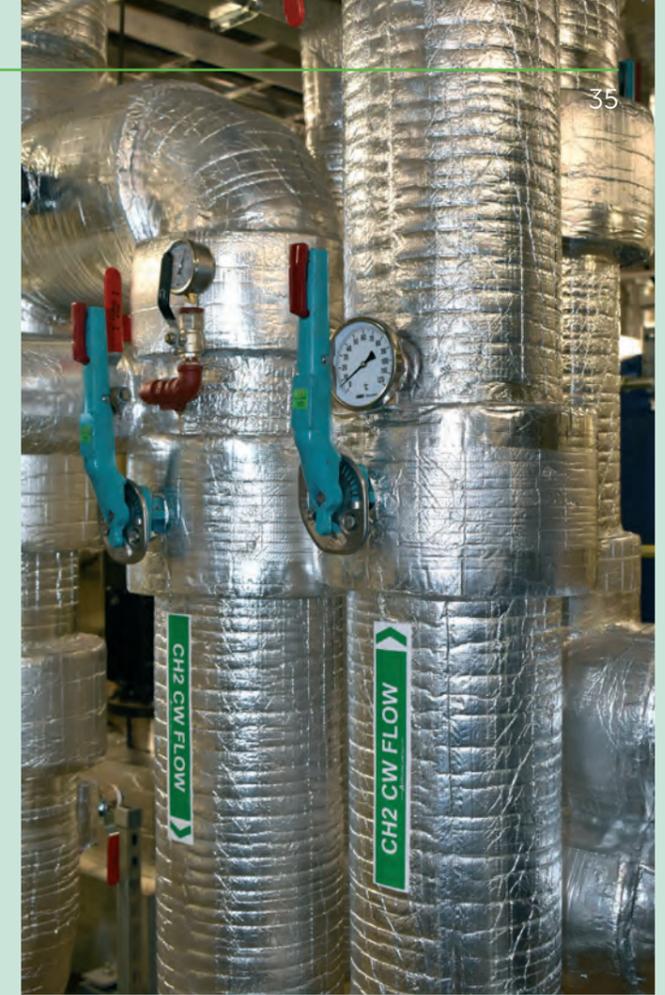
This will only improve as we continue the reductions over the final few months until the groundwater heat pump system completes its first full year of operation.

Artesian water has a constant year-round temperature of 12°C. This can be utilised in a way similar to a heat pump-type system, not only rejecting heat energy to the aquifer for cooling, but also taking heat energy for heating.

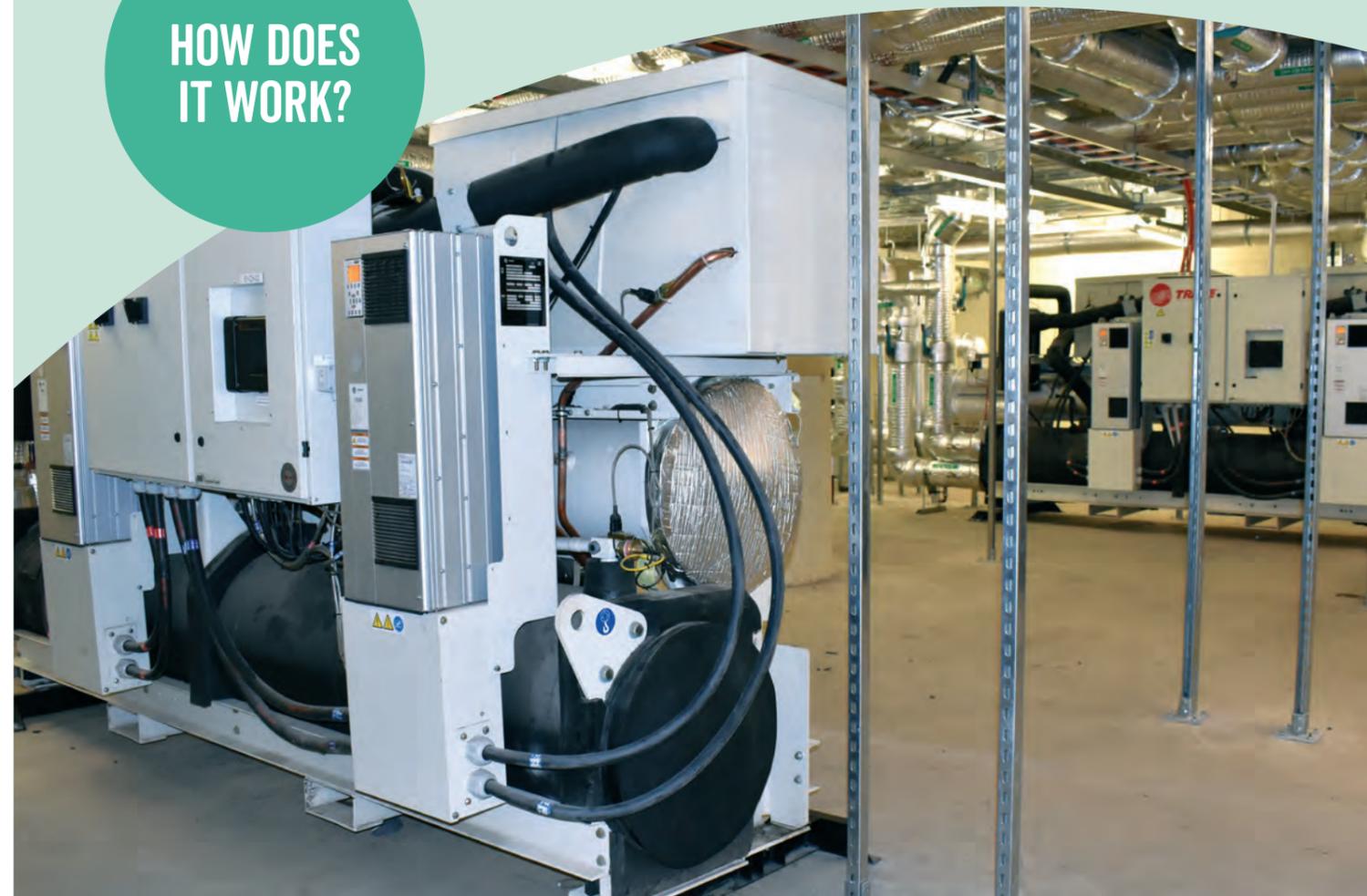
Once extracted, the artesian water passes through heat exchangers that increase or decrease the water's temperature, and in doing so extracts or rejects heat energy. Cooling the water provides heating to the building (by extracting heat energy), while heating the water provides cooling to the building (by rejecting heat energy). This work is done through relatively standard air-conditioning equipment.

Pleasingly, our pristine natural water is protected throughout the process. The heat exchangers create a physical separation between the artesian water and the building's water supply to eliminate the risk of contamination of the artesian water. Afterwards, the water is returned in the same condition it was taken (with only the temperature altered).

Every aspect of the system's design was analysed, challenged and developed to maximise energy efficiency and sustainability, with the end result dramatically reducing Christchurch Airport's energy consumption, carbon emissions, operational costs and dependency on fossil fuels.



HOW DOES IT WORK?



WASTE



Following New Zealand's nationwide success banning single-use plastic bags, this year has seen the introduction of a new Government Waste Levy, which Christchurch Airport supported through the public consultation process. This Waste Levy will see the price of municipal and construction waste increase six-fold. While this will add to our operational costs, it clearly sits alongside our commitment to reducing waste to landfill and being great kaitiaki.

As a result, we have taken the opportunity to reconsider the way we manage waste. We issued a major open market Request for Proposals, spanning operations across the airport, asking how we can design our processes to incentivise waste minimisation and ultimately work towards feeding into a circular economy.

We continue to work with stakeholders to reduce, reuse and recycle, and though much of our reduction in waste volumes can be attributed to COVID-19, some small-scale in-house initiatives have contributed. For example, our colleagues at Ministry for Primary Industries, who work in the airport terminal to manage biosecurity risks at the border, were able to identify a new waste stream to divert quarantine waste to landfill.

There are also regular repurposing wins across the airport campus - such as Aviation Security carrying out an office refurbishment, and their old office equipment going to our new tenant the Electoral Commission. Likewise, unwanted furniture going to the Eco Depot, and Metalman taking anything in aluminium or steel.

FY20 WASTE VOLUMES (TONNES)

	2018	2019	2020	CHANGE (%)
GENERAL WASTE	527.25	504.16	383.18	-5.7
ORGANICS/ RECYCLING	469	438	307.61	-32.7
GRAND TOTAL	996.49	942.35	690.79	18.1

This equates to 7kg of waste to landfill for every 100 passengers. This is a decrease of 22% when compared to FY19.

SNAPSHOT: CHAMPION KAITIAKI – WASTE MANAGEMENT TRAINING WITH SHARON WATSON



"I'm proud to be part of the Airport Services Waste Management training team. We are a dynamic team offering 24/7 compactor training for our terminal tenants. What drives us is our strong emphasis on health and safety, safe practises with our compactors, all while doing the 'right thing' for our environment.

We have formed great relationships with our tenants. Three of our trainers speak multiple languages, which has enabled us to spread our message across a wide spectrum of nationalities.

It is a privilege to meet so many passionate people who share our vision for sustainability, and together create a sense of comradery and memorable moments along the way."

CASE STUDY: SEPARATED RECYCLING STREAMS ON THE APRON



During the reduced activity in New Zealand's COVID-19 Alert Levels 3 and 4, all recycling bins were removed from circulation because of sorting restrictions at the collection end of the recycling process. Our Apron Manager, Angus Johnston, seized this as an opportunity to reset recycling behaviours with our lead stakeholder, Air New Zealand, using the regional apron.

Initially all red bin (waste) numbers were reduced to essential collection points only, to meet overall waste volumes. All aircraft waste, including the catering waste, was removed by Air New Zealand ramp staff. Angus then met with several stakeholders to ascertain what could be practically separated and delivered to a non-contaminated collection point. After analysing the challenges, a simple strategy was agreed on as deliverable from an operational perspective: segregating plastic bottles and cardboard into designated bins that could be easily assessed for contamination by the collection agency.

Over the past few months, Air New Zealand has delivered large quantities of clean uncontaminated recycling to designated bins to be collected by Waste Management. The next key step in this success story will be to find a way to work the two uncontaminated materials back into a circular waste economy.



Pictured: L - Angus Johnston (Christchurch Airport Apron Manager) and R - Nathaniel Topperwien (Air New Zealand Ramp Team Leader)

WATER



We continue to monitor our water usage in the terminal and across the campus. This year we have seen a 10% increase in water usage from the terminal building, averaging at 12.4 litres of water used per passenger in 2020. In any normal year, our goal would be to decrease the amount of water used per passenger. However, 2020 is an anomaly year, and we are attributing the increase in water usage per passenger to increased hand washing and hygiene practices due to COVID-19 best practise, which we are comfortable with.

We have also completed the upgrade of our airport drinking water supply network. This includes proceeding with water chlorination, at controlled rates in line with New Zealand Drinking Water Standards, to ensure we continue to supply safe drinking water to the airport campus. To minimise any possible odour or taste impacts from chlorination, chlorine will be applied in a gas form, and all campus drinking water supply lines will be flushed to reduce the existence of biofilms in the network. The chemical reaction between biofilms and chlorine causes odour and taste, not chlorine on its own.

CASE STUDY: PROCUREMENT



One of our priority Green Transition Plan projects underway in this financial year is the development of Sustainable Procurement Guidelines. Our Procurement Team, in conjunction with the wider business, has been hard at work in this area.

Updated information, aligned to our broader Sustainability Strategy and Green Transition Plan, is now shared in our external procurement documentation for suppliers. This enables suppliers to better understand our sustainability objectives and our expectation that they contribute to these targets.



In addition, we have made process improvements that put responsibility on our supply chain to share information related to their own sustainability policies and procedures. This demonstrates the value we place on our suppliers being aligned to our sustainability aspirations.

The next step on this journey will be to determine how sustainability, with emphasis on carbon, can become a point of difference during the assessment stage for future procurement.

CASE STUDY: DESIGN BUILD GUIDELINES



Construction Design Guidelines for new builds on campus have been completed, championing sustainability best practice. The guidelines provide a greater level of certainty for all stakeholders when we develop a new commercial asset.

We wanted to set the design principles bar intentionally high. Doing this will help create a healthy tension between achieving long lasting sustainable outcomes and achieving increased accretive value across the property portfolio.

The Construction Design Guidelines will be a live document which we will continue to refine in order to improve outcomes. As new solutions become available we will adapt to include them as part of best practise. An example of this over the next 12 months, will be looking into structural timber solutions, due to the lower embodied emissions and potential to locally source.

KEY OBJECTIVES FOR FY21

- DEVELOP AN EMISSIONS REDUCTION PLAN AND STAKEHOLDER PARTNERSHIP PLAN IN SUPPORT OF NET ZERO EMISSIONS BY 2050
- PURSUE RESEARCH INTO DECARBONISATION PROJECTS
- CONTINUE EMBEDDING GREEN TRANSITION PLAN ACROSS THE ORGANISATION:
 - DEVELOP COMMERCIAL VEHICLE STRATEGY TO SUPPORT VEHICLE ELECTRIFICATION
 - WATER TELEMETRY ACROSS CAMPUS
 - EXTEND SUSTAINABILITY THROUGH PROCUREMENT PROCESS
 - PROGRESS DELIVERY OF THE ACOUSTIC TREATMENT PROGRAMME
 - PROGRESS STORMWATER MANAGEMENT PROGRAMME

SUSTAINABLE DEVELOPMENT GOALS

The Sustainable Development Goals (SDG) are 17 goals ranging from reduced inequalities, responsible consumption and affordable clean energy, to climate action. They are global ambitions, a blueprint for peace and prosperity, for people and planet. They were agreed in 2015 by all UN member states, including New Zealand. We are proud to join the global commitment to the realisation of these goals.



Solutions

FOR TENANTS

LIKE MANY BUSINESSES, THOSE BASED ON OUR AIRPORT CAMPUS HAD TO RAPIDLY EVALUATE THE WAY THEY OPERATE WHEN THE COUNTRY WENT INTO LOCKDOWN IN MARCH.

About 250 companies operate across our campus and while they have in common the need to operate at the airport, they also have many differences. The businesses include car rental, retail, hospitality, export, freight logistics and medical supplies, with many others in the mix.

Airport property team members were on the phone every day during Alert Level 4 lockdown, working out how to assist tenants' particular circumstances. Some companies were able to continue working because they are essential services, some continued operating from home, some could not trade at all.

CourierPost was bustling, transporting huge volumes of essential items and online shopping.

Christchurch Branch manager John Roche says it quickly became clear they needed more space.

"We knew we had a huge responsibility to help keep service companies going. We were fortunate we could contribute in a tangible way, but needed to keep our own people safe as they did increased amounts of work. That meant we needed more space to be able to put distance between people.

"We were working all hours, but so were the airport team. The first time I rang to ask for extra space was 8am Sunday morning. The airport team was able to provide us with a 1200 sqm building and we had the keys within two hours.

"We knew the airport team was very responsive, because earlier in the year we had discussed a spec building of 4500 sqm they were building nearby. We had big plans for growth in our parcels business due to commence in early 2021. We approached the airport company to ask if we could take the lease on that building and I was grateful the team had it sorted for us within a couple of days.

"That helped, but a couple of weeks later we had to call again to ask if there was any more space available," he says.



Some campus businesses were unable to work at all.

Property team members considered each company's bespoke lease and discussed options with business owners and managers.

Property Portfolio Manager John Raso said the businesses presented a wide range of circumstances and possibilities.

"We supported our tenants before the lockdown and wanted to do that through the Alert Levels into the future," he says. "We created tailored solutions for different tenants, shared the full details of the various government subsidies available to them, and helped them work through the details to fully understand all their options.

"The COVID-19 pandemic means our tenants, and our company, face a changing environment. There is not just one solution and we are always happy to discuss possibilities."



we are happy
to fly you
home!

Willkommen
Welcome

An open letter

FROM LUFTHANSA GROUP

THE COVID-19 CRISIS BROUGHT THE WORLD TO A STUNNING HALT AND AIR TRAVEL TO A COMPLETE STANDSTILL THAT, IN MOST CASES, CONTINUES TO THIS DAY. ALMOST OVERNIGHT, MILLIONS OF PEOPLE WERE STUCK OVERSEAS, NOT KNOWING HOW TO RETURN HOME. BORDERS EVERYWHERE WERE SHUT WITH FLIGHT SCHEDULES STRIPPED TO A BARE MINIMUM.

In our home markets of Germany, Switzerland, Austria and Belgium, governments quickly decided to call for repatriation flights to bring their citizens back home. It was an initiative Lufthansa Group and its airlines - Lufthansa, SWISS, Austrian Airlines and Brussels Airlines - not only wholeheartedly supported, but saw as their civic duty: helping in times of crisis. It was time to do the right thing.

Alone in New Zealand, more than ten thousand Germans, Austrians and Swiss travellers were stranded. Quite a few, one might say.



But it comes as no surprise since your country with its natural raw beauty, laid-back attitude and utter friendliness of its people is one of Europe's favourite travel destinations (even before the "Lord of the Rings" movies.) However, despite being stuck in paradise, many Europeans were longing to head home to reunite with friends, families and loved ones. This called for immediate action, tremendous teamwork and an iron will to build an air bridge between New Zealand and Europe from scratch, spanning more than half the globe.

Months later we all know that pulling off this Herculean task ran like clockwork. New Zealanders helped lift more than a dozen A380, Boeing 777 and Boeing 747 with thousands of passengers on board to return to Europe. Christchurch Airport and its fantastic crew alone got seven fully loaded 747 airborne, with almost every aircraft circling downtown Christchurch to wistfully say goodbye to a wonderful city and its citizens before returning to Europe. That our pilots did this was not surprising, since you were there for us 24/7 when we needed you most. This is something neither Lufthansa Group nor our diplomatic missions in New Zealand will ever forget.

Our crews and ground staff were deeply touched by your hospitality, your relentless support, and your unparalleled

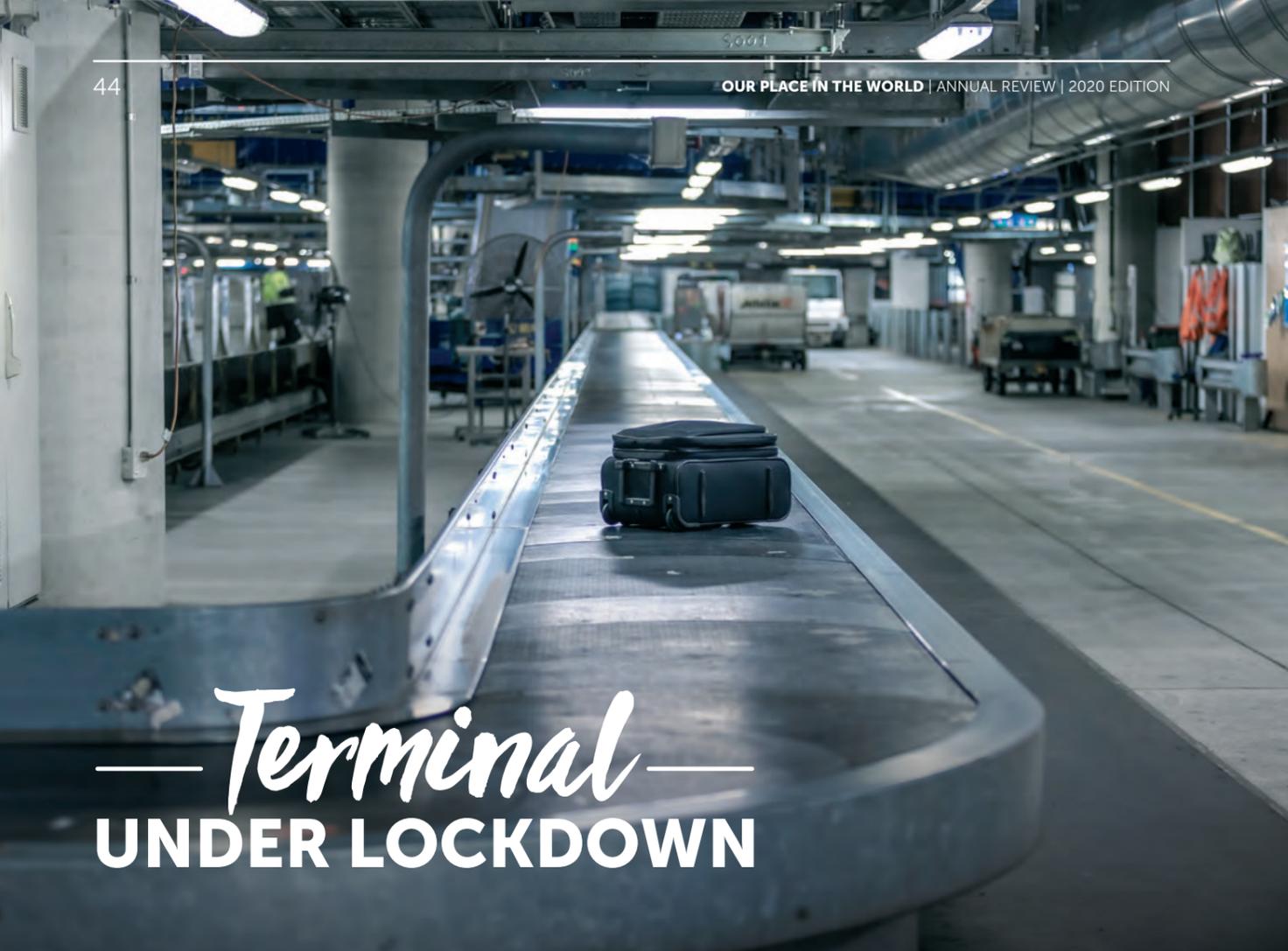
kindness. Social media postings of our New Zealand repatriation flights with tons of pictures and video clips went viral for the world to witness what was love at first sight between Lufthansa Group and your country. Every one of our airline colleagues working with you say they'll never forget this "experience of a lifetime" and will always have a special place in their hearts for these "amazing Kiwis."

It is said, in times of crisis people show their true colours and New Zealand's couldn't have been shining more brightly. Your will to help get stranded Europeans home, your hands-on-let's-do-this mindset, your famous Kia Kaha fighting spirit was one for the history books.

Dear New Zealanders, dear Christchurch Airport: joining forces with you was an honour, a pleasure and nothing short of a match made in (airline) heaven. Even though we're not operating on a regular schedule to your country, you can rest assured: you'll never fly alone - now or in the future.

Sincerely,
Lufthansa Group





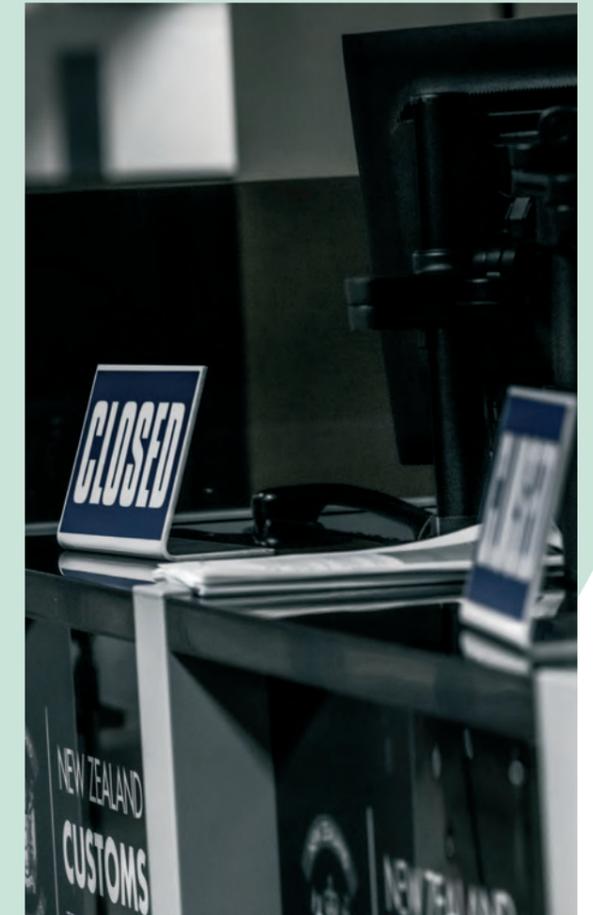
Terminal

UNDER LOCKDOWN

"THESE IMAGES WERE TAKEN AT A TIME WHEN NEW ZEALAND WAS ALMOST AT FULL LOCKDOWN. IT WAS AN UNSETTLING SIGHT TO SEE SUCH A VIBRANT AND BUSY AIRPORT APPEAR COMPLETELY STILL AND SILENT. WHILE WALKING THROUGH AREAS OF THE AIRPORT THAT HAVE NEVER BEEN SEEN IN THIS WAY BEFORE, I EXPERIENCED A SENSE OF SHOCK, OF UNCERTAINTY, BUT ULTIMATELY HOPE. COVID-19 WILL BE RECOGNISED AS A SIGNIFICANT MOMENT IN HISTORY, NOT ONLY FOR CHRISTCHURCH AIRPORT, BUT THE ENTIRE WORLD."

NICK PAULSEN

Nick Paulsen is a New Zealand photographer who trained and specialised in Photo Journalism at Spéos International Photography School located in Paris. Currently based in Auckland, Nick has a diverse portfolio focusing on Documentary, Series, Music and Portrait photography.



Photographic contributions by: Wayne Williams, Kelly Shakespeare, Jay French and Nick Paulsen.



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