Smarter farming

for a better New Zealand – Ka pūkekotia a Rongomātāne, ka poho kererū a Aotearoa

2022 | Integrated Report

ravensdown

Interconnecting productivity and sustainability

Contents /

Front cover image: Rupert, Henry and Tom Thatcher help their dad Dave with tree planting near Peel Forest, South Canterbury.

A changing sense of good

This year's Ravensdown Integrated Report takes place within a time and in a generation of immense societal pressure and change. In the small space of just the reporting year, simple life principles have been redefined by our shared experiences with Covid-19, global shipping restraints, aggression over sovereign boundaries near Europe and the ever-increasing intrusion of digitisation and data into everyday life.

These changes, and more, have disrupted not only how things are done, but even how we assess and understand the world around us. A booster is no longer simply the ejected fuel cell of a rocket, it is a personal passport to travel. A Rat is no longer simply a rodent, but rather a ritual required for engaging with others. Machinery and new vehicles take 12 months to arrive. We measure nitrogen application per hectare to a ceiling of 190 kg/ha on pasture, but do not really know what impact that has on the environment, even though we are told it must be good. Wearing a mask into a bank was illegal, now it is mandatory.

The definition of 'what is good' is being broken down to smaller and smaller units, being endlessly refined, with expectations being reset every day. All of this is happening in ways that are harder and harder to measure, to manage, to invest in – and to inspire investment.

The process of reporting in this environment is not immune to change and to a reset of 'what is good'. For our part, we continue to report against external benchmarks and expectations of 'what is good', such as The United Nations Sustainability Development Goals (SDGs), the six capitals described in the Integrated Reporting Framework as specified by the International Integrated Reporting Council, and the governing standards for financial reporting.

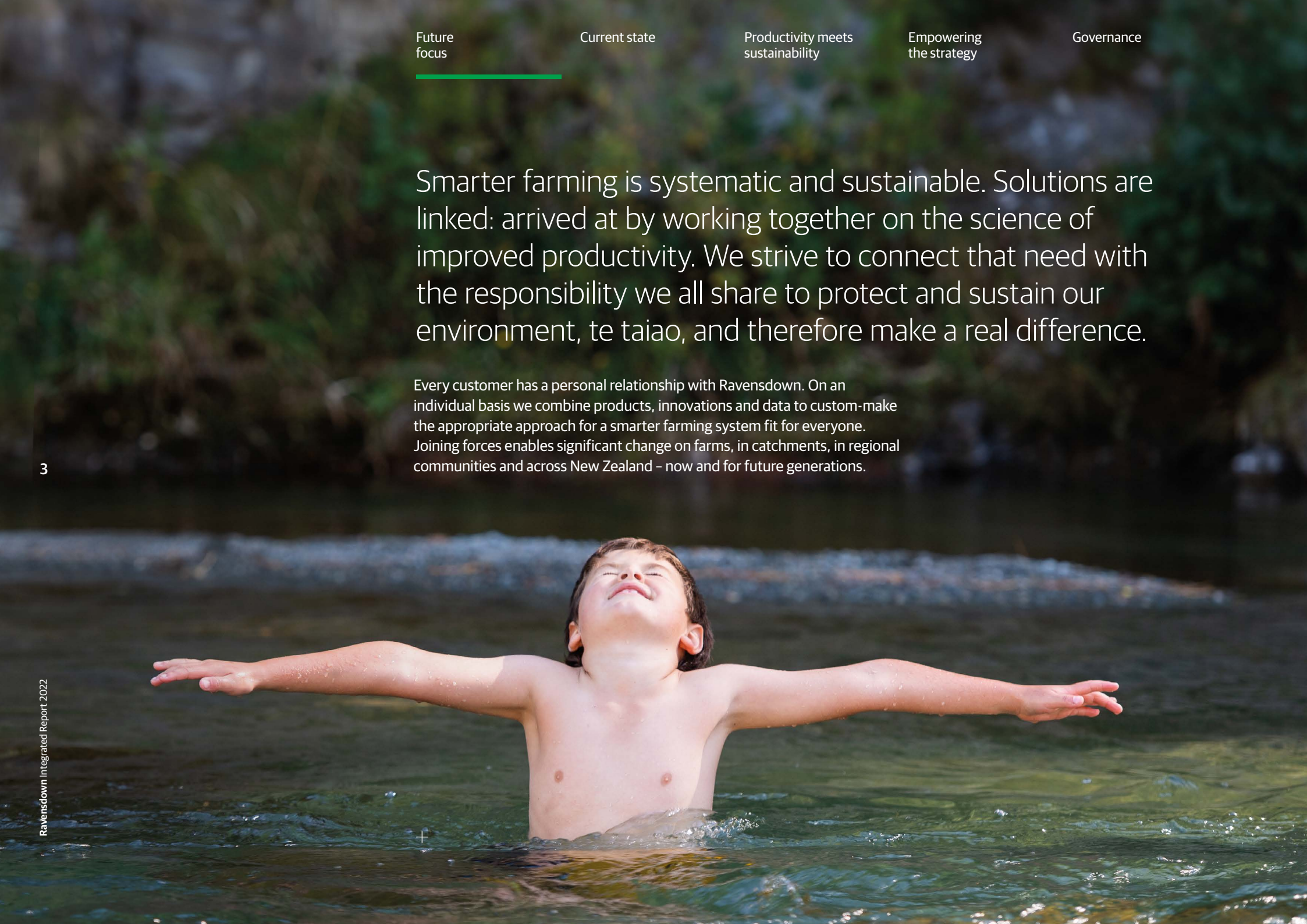
Meanwhile, our own definition of 'what is good' for Ravensdown is simpler. We have the huge privilege of our Vision statement – 'Smarter Farming for a better New Zealand'.

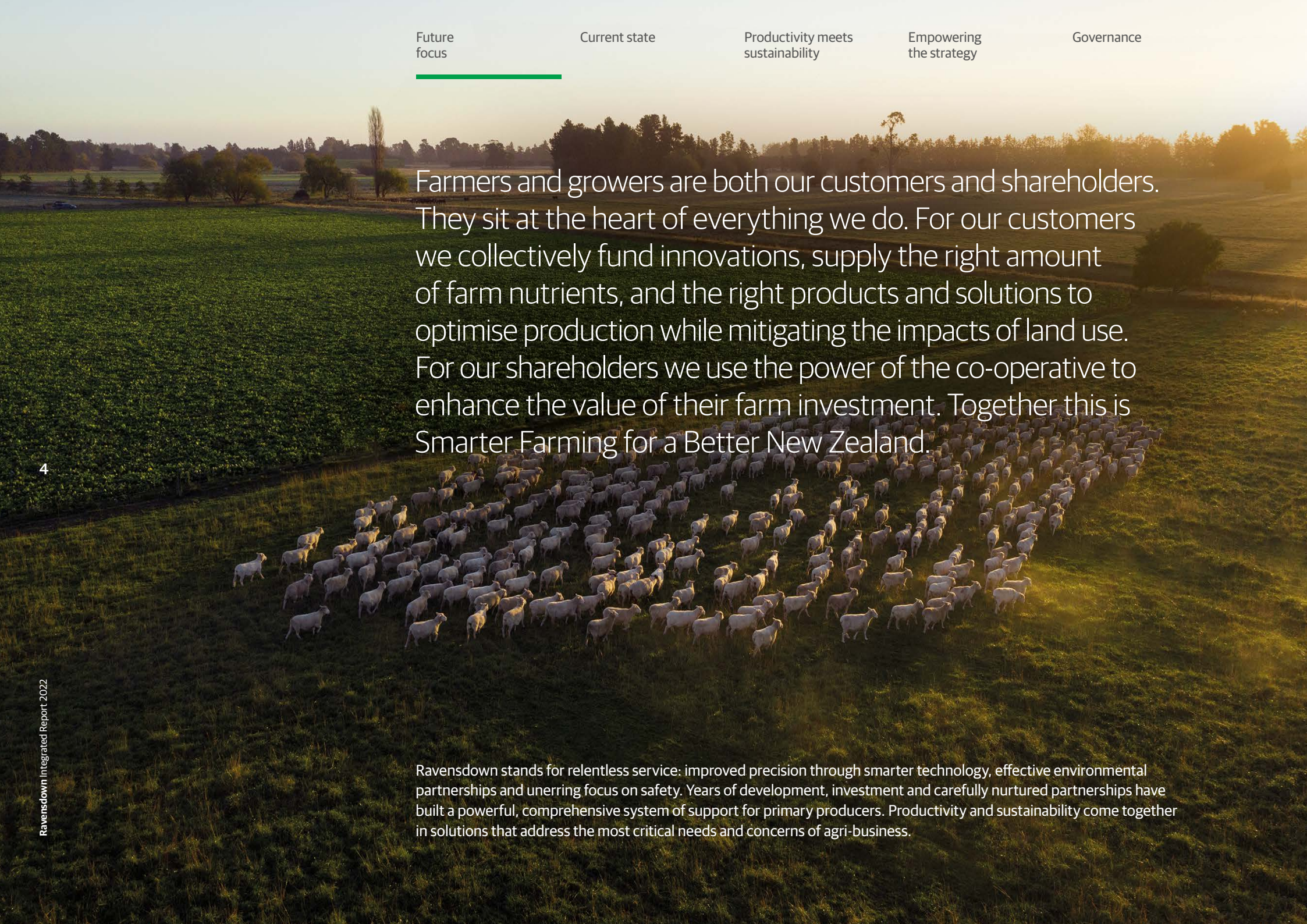
For us, 'good' is meeting and exceeding our progressive pursuit of this vision in a sustained, planned, and shared basis with all those who invest in us, work with us, work for us, use our products and services, and all those in society who live with the impacts of our endeavours.

This report presents the 2022 snapshot of the ongoing Ravensdown journey. As proud as we are of our excellent company, there is much to do to ensure our good performance remains aligned with, and where we can, leads in the fast-changing environment in which our farmers and growers operate.

Smarter farming is systematic and sustainable. Solutions are linked: arrived at by working together on the science of improved productivity. We strive to connect that need with the responsibility we all share to protect and sustain our environment, te taiao, and therefore make a real difference.

Every customer has a personal relationship with Ravensdown. On an individual basis we combine products, innovations and data to custom-make the appropriate approach for a smarter farming system fit for everyone. Joining forces enables significant change on farms, in catchments, in regional communities and across New Zealand – now and for future generations.





Farmers and growers are both our customers and shareholders. They sit at the heart of everything we do. For our customers we collectively fund innovations, supply the right amount of farm nutrients, and the right products and solutions to optimise production while mitigating the impacts of land use. For our shareholders we use the power of the co-operative to enhance the value of their farm investment. Together this is Smarter Farming for a Better New Zealand.

Ravensdown stands for relentless service: improved precision through smarter technology, effective environmental partnerships and unerring focus on safety. Years of development, investment and carefully nurtured partnerships have built a powerful, comprehensive system of support for primary producers. Productivity and sustainability come together in solutions that address the most critical needs and concerns of agri-business.

Ravensdown has the privilege of being the steward of our shareholders' collective expectations. Through sourcing and applying the right amounts of the right nutrients, for the right purposes, at the right times, we help ensure the sustainable use of land for food production, now and for generations to come.

Future focus

To do that effectively, our stewardship must ensure both sustainable growth in productivity while meeting and exceeding the expectations those future generations will have for a sustainable environment.

The nature of the challenge

This inherent tension demands excellence in governance and investment, soil science and nutrient mitigation, ethical and efficient procurement, leading environmental advice and management, smart digital development that will fit with data-driven farming systems,

and in strong partnerships connected to climate impact – as no one farm, single catchment nor particular region can make the difference required on their own.

From this challenge, our vision for 'Smarter Farming for a better New Zealand' has emerged and now guides the expectation of our performance, corporate culture, and engagement with our many shareholders, customers, and stakeholders. While we have been on this journey for a number of years, we now want to up the ante.

The scope of the challenge

Science and technology

In recent years we have invested well in science and technology to enhance productive yield from New Zealand soils, and, in so doing, reduce the overall nutrient footprint. We have targeted precision spreading to enhance location accuracy and reduce environmental intrusion (e.g., Intellispread, soil scan), and we have delivered some excellent enhancements to our digital capability for precision placement and nutrient management.

Where we would like to go:

We want to ensure that nutrient management and technology integrates better with wider farming systems and performance management capability. There is also more we can do to enable nutrient management to be part of our customers' wider integrated productivity and sustainability performance management.

Garry Diack tours the Christchurch Works bag store with employees Peter Vaughan, Camille Wilson and Greg Costello.

Investment and the environment

This report highlights excellent progress on climate mitigation technologies (e.g., EcoPond) and our Scope 1–3 emissions reductions, such as our investment in a biomass drier for lime processing. We are deeply vested in technology investment that contributes to, and drives, the national commitment to reduce GHG emissions to 2017 levels by 2030.

Where we would like to go:

We can do more to make these investments, technologies, and their combined benefits commercially available to our shareholders – moving beyond technological release to in-market product performance that ensures tangible environmental mitigation and benefits for shareholders.

Supply

We have an excellent track record for ensuring ethical supply of quality products at the lowest possible cost. Despite being truly challenged by sourcing, pricing and logistics this past year, our procurement team delivered superbly for our customers.

Where we would like to go:

Finding enduring solutions for all parties to the tensions of importing phosphate rock from Western Sahara continues to be a priority.

Customer relationships

We need to be both an efficient low-cost supplier of nutrients and a customer-driven service partner to our differing customer groups. Every farming system is different. As a very strong, inside-the-farm-gate supplier and service partner, our products and services are increasingly essential to farm returns and environmental performance. In this changing world we can contribute to whole-of-value-chain support for our market driven customers.

Where we would like to go:

We are working to better understand our customers' farming systems now and as they evolve, so that we can be more responsive in the service and value propositions we bring to market. By getting this right, we can offer stronger value to our customers.

Company culture

We are proud to be a great and safe company to invest in, work in, partner with, and rely upon. Our brand is strong, ethical and a truly integrated part of the New Zealand commercial farming formula. We have maintained our staff engagement post Covid-19 and we continue to invest in our people, our assets and our customers.

Where we would like to go:

We want to continue to invest to match and outperform the changing market – in safety, in staff development and in an aligned motivated workforce that will ensure customers and external stakeholders continue to choose our strong brand as their partner.

Stakeholders

Ravensdown has a strong record of investing widely in external relationships essential to meeting our mandate, e.g., with climate leaders, industry representation bodies, with regulators, with government agencies and our local communities. This has allowed us to become an essential contributor to the country's agri-economy.

Where we would like to go:

We will continue to strive to improve our environmental performance, seek more opportunities to partner with iwi and use the power of an aggregated voice of over 18,000 shareholders to collaborate with our primary industry colleagues to achieve policy that is pragmatic to implement whilst meeting better environmental and climate outcomes. We will continue to be a good neighbour to local communities and improve our dialogue with iwi.

Ravensdown has for some years been on a journey to enhanced productivity and, in doing so, meeting and exceeding sustainability expectations.

Coming into this year, this journey has been driven by a vision of Enabling Smarter Farming for a better New Zealand, providing support behind our shareholders and enabling their performance.

'Where we would like to go' sees us stepping up alongside our customers and shareholders and standing shoulder to shoulder in this rapidly changing world with a shared vision of 'Smarter Farming for a better New Zealand'.

The interconnectedness between greater productivity and sustainable environmental performance is our sweet spot.

Our 2022 Integrated Report presents our progress on our journey. Please read this report within the context of our vision and our performance to date, and join us on the next stage of our journey.

Turn the page to read more about Smarter Farming for a better New Zealand.

Interconnected

HAWKEYE
Farm mapping, nutrient management and compliance reporting software

GHG MODELLING
Helping farmers understand their farm's GHG loss number

C-DAX ROBOT
Autonomous pasture measurement

SOILSCAN
Variable rate P fertiliser technology powered by soil testing

AIRSCAN
Hyperspectral scanning for remote testing and 3D mapping

INTELLISPREAD
Computer-controlled topdressing aircraft for precise application

CLEARTECH
Treats and recycles washdown water for reuse

N-PROTECT
Coated urea reduces N-loss to the atmosphere

ECOPOND
Effluent pond methane reduction technology

ARABLE N TEST
Precise measurement of N mineralisation in soil

SUPERPHOSPHATE
Still a tried-and-tested option for NZ farming

SP

LUCI-AG
Modelling tool for decision making at farm and catchment level

Delivered through our trained and capable people

Current state

12%
Reduction in carbon emissions from fertiliser

Welcome to our co-operative's fourth integrated report.
It is my pleasure to report to you for the first time as Chairman.

Smarter farming requires us to understand shifting local and global dynamics. This year we successfully overcame a wide range of challenges to help the country's hard-working farmers and growers contribute the income required for a better New Zealand.

Performing with confidence

As the connections between productivity and sustainability are increasingly recognised, farmers, growers and their advisors need to co-operate ever closer to reduce long-term environmental impacts.

Products Ravensdown imports are essential to New Zealand's success and prosperity.

The co-operative ended the year in a healthy financial position. In the face of global pressure on supply and domestic incentives for environmental improvement, we leveraged long held and carefully nurtured relationships to minimise supply disruption, while continuing to invest in services that support farmers.

Even though nutrient prices rose considerably this year, high global demand maintained prices for the goods New Zealand's primary producers sell.

Strong profit before rebate and income tax of $95 million has enabled us to return $26 million to eligible shareholders as a rebate of $25 per tonne.

Such a solid financial result provides an important buffer against the market vagaries that farmers continually face.

By maintaining our capital strength and looking after the Ravensdown team through the challenges of Covid-19, we've underlined our credentials as the reliable, competitive source of nutrients that our customers depend on. We've also continued investing in our plant, our staff, market leading innovation, and environmental programmes that will all generate enduring future returns.

As a Board, and with confidence reinforced by our strong financial position, we've worked closely with our CEO and the leadership team to refresh our strategy. This draws on forward planning, a commitment to the environment, new products such as EcoPond, and analysis of regulatory trends to ensure our company and our shareholders are best placed to weather global uncertainty.

In a world facing multiple geopolitical challenges, food security is an increasing threat. Nutrients play a huge role in the capacity of New Zealand farmers and growers to feed our country and the world. They underpin the primary sector, enabling exports worth more than $52 billion.

Ravensdown Shipping Services, Remy Enterprise, docked at Port Lyttelton.

However, as environmental expectations increase, and as we all monitor farm inputs more precisely, in the medium term we expect nutrient sales will remain stable.

Reflecting that, our updated strategy assumes that innovation and services will increasingly drive the value proposition that Ravensdown offers our customers.

Although next year will be challenging, we need to continue our course: assisting primary producers to reduce the environmental impact of their land use, while maintaining productivity and increasing profitability.

The Board is confident we have the people, the vision, the strategy, and the financial strength to make that happen.

Performance score card /

- Positive trend compared to 20/21
- No change compared to 20/21
- Negative trend compared to 20/21

$95M

20/21 $52M
19/20 $69M

Profit before rebate, bonus shares and tax

Strong profit from continuing operations driven by recovering margin on higher commodity prices and the benefit from our shipping joint venture.

1.20M tCO_2e

20/21 1.28M
19/20 1.3M

Total GHG emissions

Our total scope 1,2 and 3 emissions inventory reduced again this year, largely due to product substitutions and reduced nitrogen volumes.

$609M

20/21 $492M
19/20 $474M

Equity

Significant increase in total equity this year from conserving some profits and fair-value improvements.

$6.4M

20/21 $5.8M
19/20 $5M

Investment in research and development

We continue to invest in research to develop smarter farming practices, and this year secured significant co-funding from government additional to our own investment above.

$36M

20/21 $36M
19/20 $33M

Capital investment

Our capital investment programme is important for sustaining compliant and increasingly more efficient manufacturing and distribution operations.

12%

Reduction in carbon emissions from fertiliser

Reduced nitrogen sales, continued sales of inhibited urea and substitution with non-nitrogen products have reduced the climate change impacts associated with product use.

1.07M ha

20/21 0.82 M ha
19/20 NR

Area captured by Rav proof of placement technology

Accurate and precise application of nutrients is an important principle of sustainable farming, therefore we aim to increase proof of placement year on year.

2.13 per 200,000hrs

20/21 3.56
19/20 2.20

Total recordable injury frequency rate

This TRIFR rate is well below the combined industry benchmark of 4.66 and we are proud of the focused effort on staff safety and wellbeing.

643

20/21 631
19/20 660

Full-time employees

Despite low unemployment and high inflation resulting in a tight labour market, we continue to attract high calibre candidates.

13,452 tCO_2e

20/21 13,713
19/20 14,793

GHG emissions Scope 1 and 2

As members of the Climate Leaders Coalition we have set targets for greenhouse gas emissions reduction and aim for reduced absolute emissions each year.

$26M

20/21 $33M
19/20 $68M

Value of Shareholder distributions including tax credits

In a volatile and uncertain market, we took the prudent approach of retaining more profit in 2022 while declaring $26m returns to shareholders.

How we create value in a dynamic external environment /

Material issues:

Climate change — Fresh water quality

Responsible sourcing — Safe, positive work environment — Food security — Geopolitical setting

Our resources

People — Skills, expertise, values and active engagement of our people

Relationships — Customers, long-standing supply partners, research partners, communities, iwi, regulators

Environment — Natural resources we impact and rely on

Infrastructure — Branch network, plant, equipment

Innovation — Science base, intellectual property, processes we possess and employ

Finances — Balance sheet enabling our progressive activities

What we do to create value

We connect productivity and sustainability

We innovate, collaborate, interrogate and integrate

We apply, at scale

Science
Technology
Precision
Expertise
Nutrients
Partnerships

Our outputs

Reliable supply of quality agri-products

Environmental advice

Research outputs

Innovative solutions

Leading technology, science and information

Economic returns

Engaged people with the right skills and knowledge

Our outcomes

Enhanced farm performance and intergenerational sustainability
SDGs 2/6/13/15

Enhanced stewardship and emissions reduction
SDGs 6/9/12/13/15

Strong financial position to enable ongoing investment
SDGs 3/6/8/9/13

Thriving communities
SDGs 3/6/11

Great culture and safe environment
SDGs 3/8

Our vision

Smarter farming for a better New Zealand

Active governance and risk management

Government policy — Intergenerational needs — Public perception — Te ao Māori

Stakeholder priorities:

Materiality /

About the report

This report applies to the financial year 1 June 2021 to 31 May 2022. It includes our strategy, governance, performance and outlook to describe how Ravensdown creates value for stakeholders over the short, medium and long term. It also signals new areas of focus and some changing strategic values and imperatives.

This report has been prepared for our key stakeholders: our shareholders, our people, funders, supply and industry partners, research collaborators and members of the communities where we are located.

We have followed the principles and content elements of the Integrated Reporting '<IR>' Framework to show that value is measured in more than just dollars.

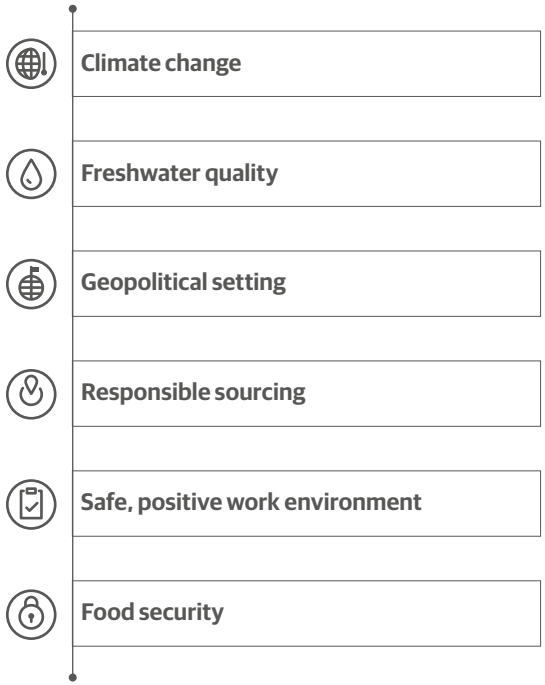
Our performance metrics are aligned with the United Nations Sustainable Development Goals (SDGs) of the United Nations, which are referenced throughout the report with their relevant UN indicator reference number. For more information: https://sdgs.un.org/goals

While not a formal reporting requirement for our co-operative, we are also preparing to respond to the need for climate and nature-related disclosures. Our carbon emissions (see on page 42) have been assured by EY.

This report illustrates how we are performing against our own expectations as well as against those of our key stakeholders.

In the coming year we will reassess the material issues relevant to stakeholders, considering how these might have changed due to recent national and international events.

Creating value through strong relationships; Agri Manager Eva Brakenrig and farmer Ruby Mulinder in Taupo.



Materiality

We have applied the principle of materiality in assessing what information should be included in our integrated report.

This report focuses particularly on these issues, opportunities and challenges that impact materially on our six capitals and Ravensdown's ability to consistently create value for stakeholders as described on page 61.

Aside from determining the content of the report, materiality informs strategic decision-making, such as setting strategy, short-and long-term goals and Key Performance Indicators (KPI's).

Our materiality process

Our materiality process identifies and prioritises the most important issues (which in turn create both risks and opportunities) from the perspective of the organisation and its key stakeholders.

The objectives of the process are to assess significant social and environmental topics, identify developing threats, identify commercial opportunities, prioritise resources for the issues that matter most, better manage important risks and identify where the company is creating or eroding value.

To identify our material matters we gathered input from all business units, undertook an assessment of risks and opportunities within our operating environment, and gathered feedback from industry groups as well as key stakeholders. This year we also piloted United Nations Environment Programme Finance Initiative corporate impact analysis tool. Stakeholder engagement activities and outcomes are summarised on page 61. Through these efforts, we continue to learn what issues are front of mind for our stakeholders.

Next year we will report the results of an independent materiality assessment. These one-to-one stakeholder interviews are intended to verify the issues outlined on page 13. We have selected a range of stakeholders to represent a wide range of viewpoints. In-depth interviews will enable us to gather insights into what they see as the most important issues facing Ravensdown, or which Ravensdown can contribute to:

- Engage with stakeholders and strengthen communication channels
- Identify what matters most to Ravensdown and its key stakeholders
- Canvas ideas, feedback and new perspectives through open discussions with stakeholders.

Interconnected ways of working

Farming requires complex, decisions that consider environment, livelihood and the law. Alongside increasing numbers of customers, we recognise that a focus on productivity compels an equal focus on sustainability. We endeavour to combine science, quality products, leading-edge technology and the capability of our people to maximise the value we provide our customers.

Our integrated approach regards agri production as a continually evolving system that supports people who aspire to leave their land in a better place for future generations. This is the basis for connecting productivity and sustainability, ensuring they work together to benefit people and the land. What we provide blends commitment, expertise, science, service, data, technology and products.

Ravensdown tests for, advises, buys, ships, manufactures, stores, spreads, measures and maps food-creating nutrients and fertiliser: multi-layered service to support farmers and growers. We meet our customers' needs across a wide spectrum, helping farmers and growers develop smarter ways of farming that are good for their land, good for their bottom line and better for New Zealand, and good for future generations.

Productivity meets sustainability

18

Productivity meets sustainability

Updates on how we are continuing to take an interconnected approach

Technology, science and collaboration

Continual technological improvement supports our customers to farm smarter. This year we improved a number of our tools significantly. New developments included enhancements to our soil and plant testing laboratory; a new contactless customer app within our stores; and adding environmental regulation functionality to our ground-breaking mapping tool.

Information on the ground

Our analytical lab ARL captures the on-the-ground information that helps our customers to farm smarter.

Employing state of the art instrumentation, a high degree of automation, and modern techniques, ARL analyses approximately 100,000 soil, plant, water, feed quality and fertiliser samples every year. Most of these samples are soil. Our agri managers then use the test results to support their nutrient recommendations.

Over the past 20 years, demand for testing has grown by approximately 2,000 soil samples per annum. Recently, ARL completed a $1.2 million four-year project to automate its soil sample preparation process, improving accuracy, efficiency and speed, while eliminating mundane repetitive tasks for our sample preparation teams.

Thanks to this automation, ARL has capacity to process approximately 1,200 samples per day, a 30% increase on the manual process. Shifting from analogue to digital will also

74,530

Soil tests completed by ARL have been impacted by Covid-19 lock-downs causing backlogs

2020 - 21 **89,262**
2019 - 20 **65,653**

2.4.1

15,020

Other diagnostic tests completed by ARL

2020 - 21 **14,126**
2019 - 20 **10,877**

2.4.1

enable future scalability, while enhancing sample traceability, ensuring we can respond to growth in demand for the foreseeable future.

Making progress from adversity

Our stores had already been planning a despatch app for customers, when Covid-19 arrived and the need intensified. Enabling contactless service became a key control measure for protecting our staff and customers.

Customers quickly adapted, phoning the store with an order number in advance of arriving onsite, knowing that the team would do their best to have the order waiting when they arrived.

Improved environmental monitoring

Developed by Ravensdown in collaboration with leading industry partners and researchers, and integrated with most of New Zealand's aerial and ground-spreading operators, HawkEye software provides farmers with decision support, data recording, and reporting to visualise and improve how they manage nutrient use on their land.

HawkEye users can:

- Track on-farm activities, and create and view detailed reports, including map-based monitoring.
- Order Ravensdown fertiliser directly and accurately from their farm maps, forward requests to their spreader, then monitor application against the farm's agronomy plan to ensure adherence to nutrient limits.
- Create and view a feed wedge, predict growth, make strategic feed decisions, and calculate nitrogen use efficiency.

This year, we've seen a significant increase in customers using HawkEye for self-ordering; integrating their orders with approved spreaders; and monitoring GPS data for improved proof of placement.

While it was originally established to optimise on-farm productivity, several new HawkEye features have been added this year to assist users to better meet environmental regulatory criteria. These include:

- Nitrogen monitoring tools, such as a paddock heat map and graphs.
- Nitrogen and sales reporting tools to satisfy annual reporting requirements for the National Environmental Standards for Freshwater legislation for dairy farms.
- Farm environment plan toolsets for integration of HawkEye data with the Tiaki digital Farm Environment Plan tool.
- Reconciliation tools to close off outstanding orders, which assists with nutrient monitoring.

More efficient and sustainable

Our subsidiary Aerowork is an aerial fertiliser applicator with a fleet of fixed-wing aircraft operating across much of the north and south islands.

In consultation with the Civil Aviation Authority, during the year under review Aerowork's engineering team achieved authorisation to extend servicing periods for its aircraft from 1,500 to 1,800 landings. This equates to one less maintenance input per aircraft per year. As well as the substantial associated engineering cost saving, the reduced aircraft downtime makes approximately 35 extra flying days available to our customers per year, generating extra revenue from that additional fleet availability.

Following the loss of an important supplier, the company has expanded its in-house manufacturing capacity and is now able to manufacture more than 200 aircraft parts. This too has markedly decreased the time planes are grounded.

We have budgeted to install a solar power array at the Whanganui Aerowork site. This is projected to pay itself off in six and a half years and will save 75 tonnes of carbon emissions annually.

5,666 ▲

Customers actively using HawkEye

2020 - 21 **4,370**
2019 - 20 **3,936**

6.3.2

6 ▲

Aircraft fitted with IntelliSpread technology

2020 - 21 **5**

6.3.2

Partnering for a sustainable future

Our largest-ever research and development investment N-Vision NZ™ focuses on reducing losses of nitrogen (N). It comprises partnerships with Lincoln University, Plant and Food Research and the Ministry of Primary Industry's Sustainable Food and Fibre Futures Fund (SFF Futures).

Scientific Officer William Talbot with Lincoln University's Professor Hong Di and Emeritus Professor Keith Cameron are excited for the outcomes of N-Vision NZ.

New Zealand farming faces two major environmental challenges: reducing greenhouse gas emissions, and reducing nutrient losses to water.

Agricultural emissions account for almost half the country's total national emissions, and are a current government focus to come under government regulation in the near future. Of these, ruminant methane and nitrous oxide are the major contributors.

Researcher, Anneke Kraal, collecting gas samples to measure the reductions in nitrous oxide emissions (a greenhouse gas).

Meanwhile, nitrogen can pass through the soil to groundwater, lakes, rivers and streams mainly from grazing animals' urine. This too needs to be mitigated to meet freshwater policies and standards. Three science-based tools, collectively known as N-Vision NZ, are being developed to address all three issues. They comprise:

- A test to help measure soil N and a decision support tool to help optimise on the N already in the soil
- A nitrification inhibitor, which will inhibit specific soil microbes that lead to nitrous oxide emission and N leaching
- Harnessing a naturally occurring soil fungi to boost the efficiency of N use in plants and improve drought resilience.

In the next seven years $22 million will be spent to bring the N-Vision NZ solutions to the point where they can be widely applied in farming systems. N-Vision NZ has also secured $7.3 million of government SFF Futures fund along with $10.7 million from Ravensdown and the remainder from in-kind investment.

By gaining better control over the N cycle, reducing N losses and keeping N in the soil, the goal is to help mitigate agriculture's environmental impact while enabling on pastoral farmers' productivity and profitability.

Watch video here

Science mitigates methane emissions

Ravensdown EcoPond Product Manager Carl Ahlfeld is overseeing a new system that will significantly reduce the environmental impact of dairy farming. Developed in co-operation with farmers, farming organisations and Lincoln University, EcoPond promises reductions in phosphate and E. coli, while almost completely removing methane emissions from farm dairy effluent ponds.

Carl Ahlfeld is monitoring the success of the EcoPond unit installed on Tony Dodunski's farm.

Tony and Clare Dodunski's 190 hectare farm, adjacent to Canterbury's Te Waihora Lake Ellesmere, is home to 650 cows and the first trial on a commercial dairy property of EcoPond.

Developed by Ravensdown in collaboration with Emeritus Professor Keith Cameron and Professor Hong Di of Lincoln University, EcoPond treats dairy shed effluent by adding iron sulphate, reducing both E. coli and phosphate by more than 90%.

EcoPond treats dairy shed effluent by adding iron sulphate to an effluent pond.

Effluent ponds are the second largest source of on-farm methane emissions, the critical greenhouse gas that the sector must reduce by 10% by 2030. EcoPond has the potential to mitigate over half of the sector's target through the reduction of methane emissions from dairy effluent ponds.

"We wanted to make our farming operation economically viable and environmentally sustainable. We could see EcoPond's potential and were willing to test its effectiveness," says Tony.

On the Dodunski's farm, installing EcoPond simply required dropping the unit in between the shed and the pond and diverting the effluent through mixing coil where the iron sulphate is added.

"So long as the iron sulphate storage tank is accessible for a tanker, installing EcoPond is straightforward. Although we will have our own portal to log on and check the system, ordering iron sulphate refills is automated. It is a plug and play system," says Tony, "giving us an easy solution to an otherwise fundamental problem."

The owners have been impressed by the differences EcoPond has made. "For wet farms like ours, and also in similar country in Southland, Taranaki and Waikato, EcoPond has the added benefit of dramatically reducing our potential dissolved reactive phosphate and E. coli leaching," says Tony. "Our sector cannot hide from methane."

Watch video here

Advice you can trust

A key part of offering farmers comprehensive support is making sure that everything ties together. Our products are market-leading, but what makes them even more valuable is the access to data, advice and other services that enable those working the land to have a bigger picture.

We are the trusted advisory and environmental partners of so many farmers and growers. Our agri managers are the main day to day nutrient contact for most of Ravensdown's customers. Our team of 74 regularly travel up farm drives to provide expert nutrient advice, with the aim of applying optimum, rather than maximum quantities of agri-nutrients: the right product, applied in the right place, at the right time and at the right rate.

Our environmental team also continues to respond to increasingly complex regulations. Standard services now include nutrient budgets, farm environmental plans, consents, and due diligence information for a farm sale or purchase.

We also deliver on bulk contracts with corporate farming groups, milk companies, irrigation companies and others.

As farmers adapt, our agri managers, agronomists and environmental team will be there to assist with compliance. Right now, we're getting ready to deliver Freshwater Farm Plans and to help farmers 'know their number' to better understand their total on-farm greenhouse gas emissions by the end of 2022.

It is no longer practical to look at issues in isolation. Providing trusted advice through cross-functional teams, supported by smart tools, is how our relationships drive our customers' businesses forward.

10,319

Published agronomy plans

2020 - 21 **10,025**
2019 - 20 **9,501**

2.4.1

164

New FEPs completed by Ravensdown

2020 - 21 **46**

2.4.1

6.3.2

14,878hrs

Ravensdown environmental consultancy hours helping farmers have declined as a result of employee turnover

2020 - 21 **16,588**
2019 - 20 **17,494**

2.4.1

61

Certified Nutrient Management Advisors

2020 - 21 **68**
2019 - 20 **68**

2.4.1

Allied for smarter farming +

Craigmore Farming owns and operates 22 south island dairy and dairy support farms, producing 88 million litres of milk per year from more than 17,500 cows. In 2021, Craigmore undertook a tender process to review its agri-nutrients and shifted the fertiliser business to Ravensdown.

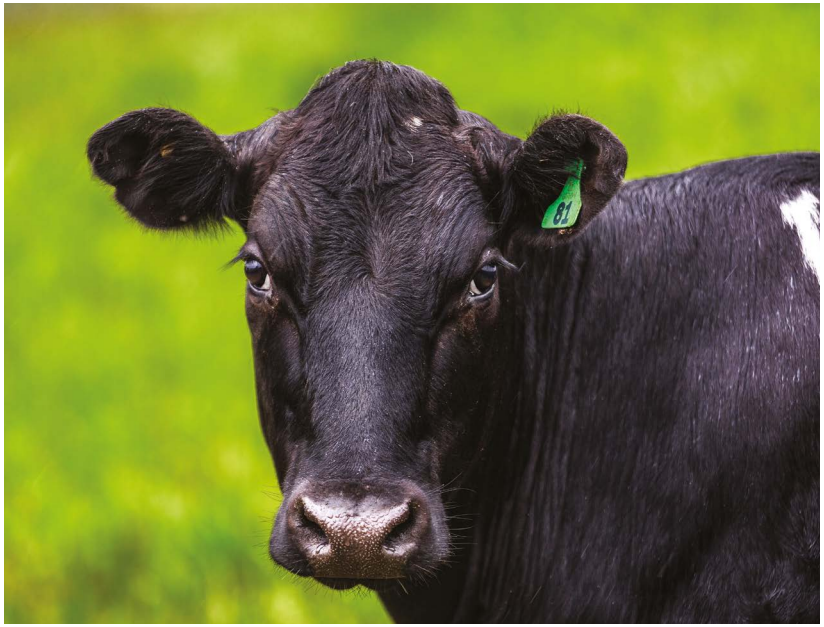
Craigmore Commercial Business Partner, Nikki Cameron at Caithness Dairy with Agri Manager Eilish Burrows.

"We realised the alignment of the two companies. Our shared vision for the future of farming made a deeper partnership the logical step. We are both driven by a desire to align optimal productivity with environmental sustainability,"

Nikki Cameron, commercial manager of Craigmore Farming.

"Craigmore seeks to lead the world in the way we farm, partnering with businesses that share our approach and values. Ravensdown presented with energy and a focus on supporting our farm leaders to achieve outcomes on soil health, enabling high quality feed production with optimal nutrient use.

"At farm level the skills of the Ravensdown agri managers and their engagement with our farm leaders are key to great outcomes for our environment, people, development and profitability," Nikki says.



Craigmore Farming owns and operates dairy farms across the south island.

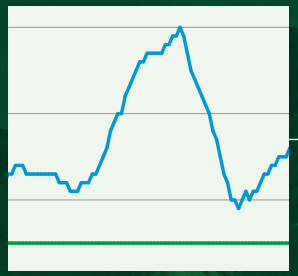
Nikki believes other opportunities will arise.

"Ravensdown is developing several innovative science-based tools and systems to reduce the primary sector's environmental impact. We are looking forward to putting those into action, and trialling them on Craigmore's commercial farms. We expect we will test systems that will ultimately also benefit other farmers and New Zealand agriculture in general," she says.

Craigmore's history with Ravensdown has an additional element: Craigmore was founded in 2009 by two prominent South Canterbury farming families, the Elworthys and the Coxes. In 1977, Peter Elworthy was instrumental in establishing Ravensdown, so the history of the two companies is intertwined, as well as the philosophy.

Underlining its position as a farming leader, Craigmore won the 2022 New Zealand Dairy Industry Fonterra Responsible Dairying Award. Judges noted the company is leading change to help create solutions that other farmers could use, including dung beetles, working on significant natural areas, a composting barn, boluses and solar-powered smart-cow collars.

Watch video here



$95m
Net profit before rebate, bonus shares and tax from continuing operations

Empowering the strategy

Protecting our people and customers

Covid-19 interrupted some culture and people initiatives this year as the safety and wellbeing of our people and business continuity for our customers took precedence. This approach brought us through challenging times strongly, with minimal operational disruption.

Enduring the pandemic

While protecting farming communities was the priority, our testing and vaccination policy provided options, meaning we did not put our customers at risk or lose key people. We protected remuneration for our people without the need to rely on wage subsidies. By moving our people around so that smaller sites could remain operational when individuals became ill and needed support, we protected business operations. Co-operation across the company saw agri-teams supporting stores when needed and manufacturing teams taking extreme care to implement protocols that protected critical roles.

Although long-term evaluation has not yet been undertaken, these measures appear to have largely succeeded.

Safety

Our Safety and Wellbeing Strategy focuses on:

- Critical Risk Management
- Visible Leadership
- Simplified Systems and Assurance.

We completed seven of 19 critical risk standards, with another seven in development.

Our people managers increased engagement in everyday risk assessment with a new 'stop and check' initiative.

Digital safety platform 'RavSafe' makes logging safety and wellbeing events easy.

Covid-19 platform 'RavResponse' tracks infection rates and impact, informing policy decisions, business continuity and safety protocols.

For the third year running we achieved tertiary status, the highest level in the Accredited Employee Programme audit for injury management.

Wellbeing

In its second year, our wellbeing programme, Thrive, focuses on all aspects of wellbeing, including mental health, assessing activities or situations that have the potential to cause psychological harm.

0.68 ▲

Lost-Time Injury Frequency Rate

2020 - 21 **1.78**
2019 - 20 **1.41**

8 DECENT WORK AND ECONOMIC GROWTH 8.8.1

2.13 ▲

Total Recordable Employee Injury Frequency Rate (per 200,000 hours)

2020 - 21 **3.56**
2019 - 20 **2.20**

8 DECENT WORK AND ECONOMIC GROWTH 8.8.1

As a result of the pandemic, cases of burnout have risen nationally. Mental health workshops and wellbeing champions continue to build awareness across the company. We are appointing a health and wellbeing business partner to provide dedicated support for injury management, health and exposure monitoring and to build on our wellbeing programme.

Workforce

Consistent with other industries, both in New Zealand and internationally, Ravensdown has experienced high employee turnover. Combined with low unemployment rates, this means the labour market is tight. To ensure we remain competitive in this challenging market we took the initiative to review and adjust the remuneration of our frontline operational roles, resulting in some significant increases.

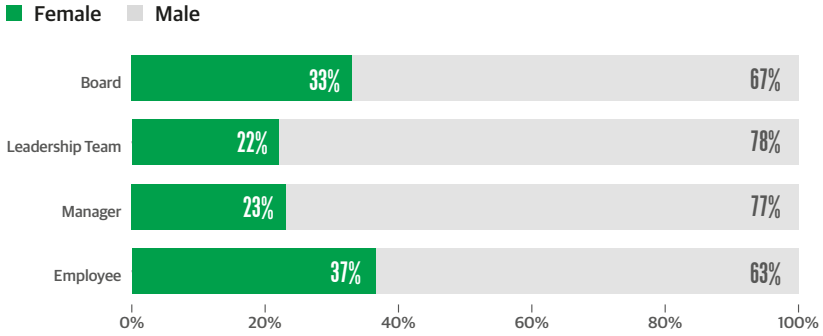
Learning and development

For the second year, uncertainty due to Covid-19 and alert levels changes prevented some planned face to face training. Despite this, we continue to develop our people in many areas.

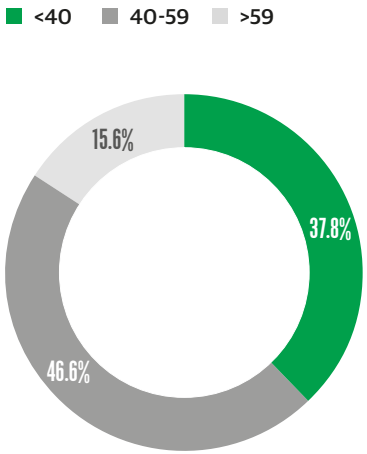
Exploring alternative ways to work and learn, we successfully ran eight online Change Leadership workshops this year.

Pay equity is a priority for Ravensdown and having completed a high-level assessment of our gender pay gap we are undertaking more detailed analysis to determine where, if any, action needs to be taken. Our focus in the next financial year will be on building a te ao Māori programme that aims to integrate a Māori worldview into our ways of working, communicating and decision making, supporting kiatiakitanga as we strive together for more sustainable ways forward.

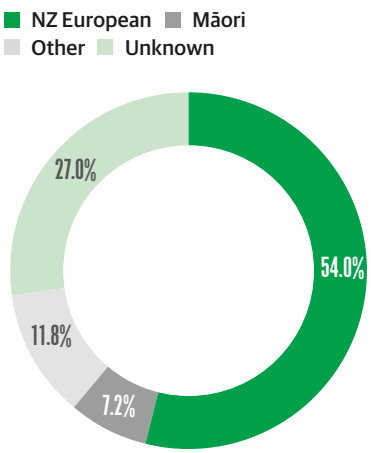
DIVERSITY BY GENDER



AGE RANGE



ETHNICITY



$0.92M ▼
Spend on learning & development
2020 - 21 **$0.95M**
2019 - 20 **$0.94M**
8.6.1

29% ▼
Internal appointments
2020 - 21 **33%**
2019 - 20 **47%**
8.6.1

8,611 ▲
Learning hours
2020 - 21 **4,582**
2019 - 20 **2,968**
8.6.2

19% ▼
Employee turnover
2020 - 21 **12%**
2019 - 20 **11%**
8.8.1

Agriculture's new generation

Established in 2015, Ravensdown's development programme is the ideal first step into an agriculture career. Graduates spend six months based in Christchurch as well as gaining hands-on experience elsewhere. Technical training, alongside people skills, such as how to have difficult conversations with farmers, are augmented with networking and mentorship, before the graduates head into the field.

Agri Manager Claire Verhaegh and Training Manager Gordon McCormick at New Zealand Young Farmer of the Year Grand Final 2022.

"This period of your life, becoming established in a career, is a short time, when you have everything to gain by being courageous, going hard and staying open-minded."

Claire Verhaegh

Claire Verhaegh grew up on her parents' Southland dairy farm. After graduating from Lincoln University with a Bachelor of Agricultural Science (Honours), Claire joined our development programme in February 2019.

"Agriculture was always my most likely career, no question really."

Two months into the programme, Claire was fast-tracked to fill a Pukekohe agri manager position, where she has flourished.

"I enjoy interacting with farmers: being a vessel of information. You take an active role aiding clients to increase productivity and reduce their environmental impact. Helping farmers gives me great satisfaction," she says.

Claire's territory is among Ravensdown's most diverse, extending from the Auckland Harbour Bridge to Huntly and including goat farmers, market gardeners, growers of plums, watermelons and macadamia trees, alongside dairy, sheep and beef farmers.

"With so much happening in the sector and so much on their plate, I try not to bombard clients. My job is to remove a little of their stress.

"Keeping them focused on the science can be challenging. Fortunately, Ravensdown has some highly respected scientists and introducing their expertise is usually the best way to set clients right.

Watch video here

"Using the four Rs is always good: the right product, in the right place, at the right rate, and the right time," she says.

Outside work, Claire enjoys exploring her new patch – the top half of New Zealand. She reckons Port Waikato is a secret gem, combining great surfing and coffee.

She thoroughly recommends the development programme: "This period of your life, becoming established in a career, is a short time, when you have everything to gain by being courageous, going hard and staying open-minded. The programme embodies that and has given me a fantastic way to start my own professional life."

Since its inception, the Ravensdown development programme has inducted 58 recruits. As for Claire Verhaegh, she's just been recognised as our 2022 Agri Manager of the Year.

Soil sampling is an important tool for using the right amount of nutrients.

Our people / **Meet the Board** /

Bruce Wills
Elected Director Area 4
B.COM (Ag) , CMIntD

Bruce farms sheep and cattle and grows grapes in Hawke's Bay, having previously spent 20 years in banking and investment. A past national president of Federated Farmers, he also holds a range of other governance positions.

David Biland
Appointed Director
B.Ag.Sci, Dip.Hort.Sci.

David is based in Auckland. He has held international management and governance roles in UK, Europe, United States, Scandinavia, Australia and New Zealand, including with New Zealand multinational Argenta and animal health multinational Merial.

Jason Dale
Appointed Director
B.Com

Jason is CFO of NZ Steel and chair of Crest Commercial Cleaning Limited. He has previously served as CFO for several large companies and chaired both LIC's and Taranaki Investments Management Limited's audit committees.

Mike Davey
Elected Director Area 5

Mike is a cropping farmer, an elected member of the Taranaki Regional Council, deputy chair of Taranaki Electricity Trust and was a member of the Taranaki District Health Board. He was a Ravensdown employee for more than 40 years.

Nicky Hyslop
Elected Director Area 2
B.Ag.Sci (Hons)

Nicky farms an intensive sheep, beef and arable property in South Canterbury. She was a farm management consultant for 15 years. She is an experienced governor including directorships with Opuha Water, Irrigation New Zealand and Beef+LambNZ.

Jane Montgomery
Elected Director Area 3
LLB (Hons)

Jane owns a North Canterbury farm. She is an intellectual property lawyer, previously an associate director with AgResearch and a former chair of the audit and risk committee for the JR McKenzie Trust.

Pete Moynihan
Elected Director Area 1
B.Ag.Sci.

Pete is an Invercargill-based dairy farmer and company director. He has directorships with The Power Company and PowerNet. Prior experience includes a role as a senior banker, as manager of the south island agri-business division of a large bank.

Dr Jacqueline Rowarth
Elected Director Area 6
B.Ag.Sci (Hons), PhD Soil Science, CNZM, HFNZIAHS

Jacqueline has an honours degree in Environmental Agriculture and a PhD in soil science. She is a director of DairyNZ and Deer Industry New Zealand, and holds the honorary position of Adjunct Professor with Lincoln University.

Our people / **Meet the leadership team** /

Garry Diack
Chief Executive Officer

Relationships are essential, in agriculture even more than elsewhere. Smarter farming grows from the connection between productivity and sustainability. Making the most of that connection will drive the success of New Zealand agriculture.

Katrina Benedetti Forastieri
GM Culture and People

Our smarter farming vision needs the right capability, operating safely to deliver innovative solutions and effective advice. This grows from a culture where our people are trusted, courageous, and inclusive, particularly relating to te ao Māori.

Gary Bowick
GM Sales and Marketing

Proven science, quality nutrients, smart technology and trusted expertise underpin our value proposition. By bringing productivity and sustainability together, we will become the chosen partner of New Zealand farmers.

Sean Connolly
Chief Financial Officer

We are a customer-owned co-operative, established to assist farmers to make their land productive. Financial health, derived from good production, provides scope for environmental sustainability, both for the company and for our shareholders.





Stephen Esposito
GM Operations

Optimising operational capability is essential: innovating to make smarter products. While investing to ensure security of supply, we also seek to improve safety and reliability, minimise air and water emissions, and reduce our carbon footprint.

Jennifer Goldsmith
General Counsel

We connect productivity and sustainability through advocacy for our shareholders as legislation and regulations are developed: supporting smarter solutions that ease the way for productive farmers to meet compliance requirements.

Mark McAtamney
Chief Information Officer

Productivity meets sustainability when we deliver relevant, efficient, productive technology for our business operations and our farmers. We provide our industry with digital leadership that is greater than the sum of its parts.

Mike Manning
GM Innovation and Strategy

We aim to improve farm production and profit, while also reducing the farm environmental footprint. Production is important for the country's export receipts, and farm profit ensures our farmers continue to adapt and invest.

Mike Whitty
GM Supply Chain

Ensuring quality products and service are always available to our customers is why the co-operative was formed. Fostering our long-term supplier relationships, built on trust and delivering value to all, is key to achieving this.

Playing to our strengths

Dependable supply and quality products remain a key focus. Granule compressive strength ensures that our fertiliser does not break down during handling and blending, therefore a quality product is delivered on farm.

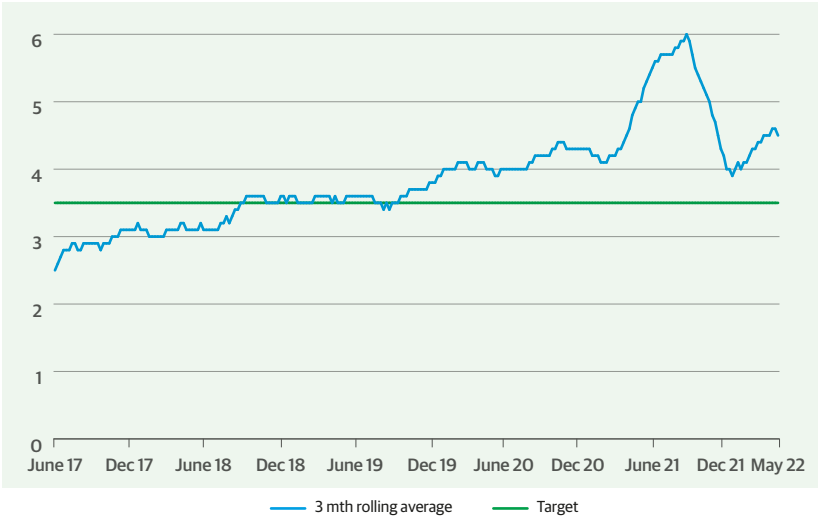
Our stated target for superphosphate granule compressive strength is 3.5kg force. We have been exceeding this on average across the three works sites since 2018 by sourcing quality rock and by making this a point of focus for our operational teams. The rock blends used in the second half of 2021 resulted in a steep increase in granule strength. Phosphate rock sourcing meant these blends could not be maintained. A hard granule means less breakdown so less dust in the final product. This year, over 99% of total orders were despatched without complaint. In the past 12 months, all superphosphate quality results have been within Fertmark standards.

Cadmium

Ravensdown operates to agreed industry standards in the manufacture of phosphate products to limit accumulation of cadmium in soil. All our lime quarries and major fertiliser products continue to be Fertmark registered.

All phosphatic products despatched were below the industry set limit of 280mg of cadmium/KgP.

SUPERPHOSPHATE COMPRESSIVE STRENGTH (KG FORCE)



95%

Of fertiliser sold that is Fertmark registered

Target: >95%

2020 - 21 **97%**
2019 - 20 **94%**

Achieved

Maximum cadmium in all phosphate products

Target: 280 mg Cd/kg P

2020 - 21 **Achieved**
2019 - 20 **Achieved**

3.9.1

Supply chain challenges

Covid-19, Russia's invasion of Ukraine and China's ongoing interruption of exports led to sanctions, export controls, energy price escalation, freight dislocation and currency fluctuations that all impacted our supply chain. We successfully overcame these challenges this year thanks to support from key partners, substitute materials from non-traditional sources, and our joint-venture shipping service.

K+S is our preferred supplier of both naturally mined and produced granular sulphate of potash (GSOP) and Kieserite. In 2010 they had acquired a new potash project in Bethune, Saskatchewan, Canada: a site that we had visited in 2016. We took our first shipment from there in October 2020, increasing our shipments as K+S increased capacity. In December 2021, K+S confirmed allocation to meet our 2022 granular potash requirements. Recently, they completed loading a bulk shipment of GSOP and Kieserite for us from Hamburg, helping mitigate ongoing container delays and escalating costs affecting freight from Europe.

Eurochem also supported us, offering two potash options when no others existed. This included granular potash shipped from Southeast Asia; and in August 2021, standard grade potash from their new Volgagrad plant.

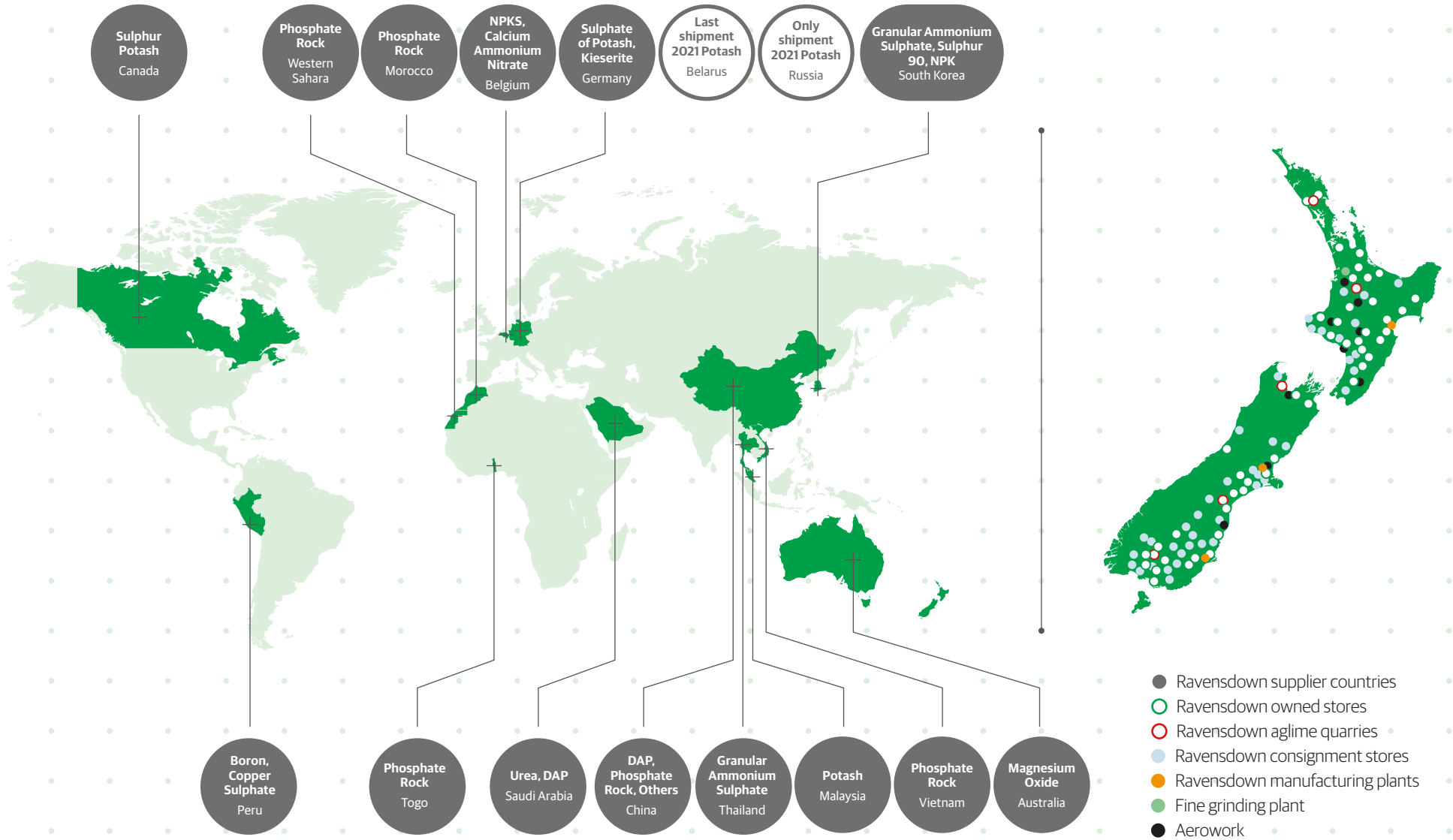
Eurochem is a large multinational organisation with assets in the EU, America and Russia. They are an important participant in the global food supply chain and a long-term supplier of high-quality nitrogen, phosphate and potassiums and calcium ammonium nitrate to Ravensdown from Belgium. Global events on 24 February 2022 and ensuing sanctions have meant there is at least a short-term interruption to accessing those premium products so we have sourced alternatives.

We also sourced a Korean NPK. This entered the market as Cropstart 14-6-12.

At the same time, while others struggled, not just with sourcing goods but then transporting them safely and effectively to their destination, we knew we could rely on our bulk shipping joint venture Ravensdown Shipping Services to provide timely, competitive and secure transport of our bulk shipping products.

Together, long-term reliable supply collaboration, combined with this control of our freight facility, gives us the flexibility, agility and workable solutions our customers are looking for, on time and at competitive prices.

Global supply chain /



Our approach to business and human rights +

Our industry is built on international sourcing – so we are extremely attuned to supply risk. The range of risk we consider and assess is both growing in scope and depth. Human rights risk is an increasingly important part of our consideration.

As a farmer owned co-operative, the industry is particularly alive to the fact that the inputs and fertiliser we supply are at the start of a long chain to the food that ultimately lands on the consumer plate. We are expecting that consumers over the next decade will increasingly consider any potential human risk in the same way as they now consider environmental risk. Increasingly we expect assessment of human rights risks to become core to our business. The signals are clear – legislation on modern slavery, a proposed EU directive on Environment, Social, Governance (ESG) and human rights. As a business we feel we are already well positioned. We are now taking steps to deepen our assessment of human rights risk as part of our wider assessment activities.

Our aim is to be ahead of the game.
We are conscious that there has been limited consideration of the United Nations Guiding Principles (UNGPs) in agricultural supply chains. We acknowledge that we are at an early stage of adopting the UNGPs within our business.

We started with an industry-wide commitment from the Fertiliser Association of New Zealand and Ravensdown has now adopted the UNGPs in its Code of Business Conduct. We are currently working on how we embed these approaches within our existing business practices. This process will not necessarily bring new processes and assessments within our business, but instead will extend and deepen existing practice.

100%

Direct spend with long-term supply partners

Target: >90%

2020 - 21 **91%**
2019 - 20 **94%**

97%

Bulk vessel fert imports met physical and chemical quality spec

Target: >95%

2020 - 21 **98%**
2019 - 20 **98%**

100%

International suppliers' performance is evaluated

Target: >90%

2020 - 21 **100%**
2019 - 20 **91%**

92%

Bulk vessel applied fertilisers imported as low biodiversity risk

Target: >95%

2020 - 21 **97%**
2019 - 20 **100%**

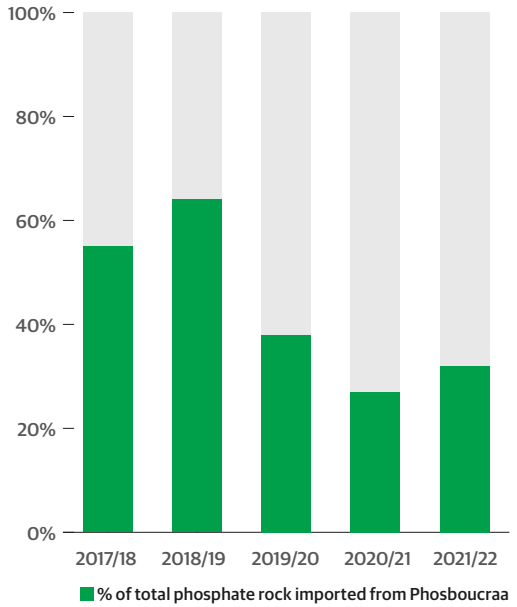
15.8.1

Having committed to adopting the UNGPs, we have already undertaken an assessment of one key supplier to New Zealand – the supply of phosphate rock from the OCP mine at Phosboucraa in Western Sahara. We have always been conscious of the potential risks associated with sourcing from Western Sahara, and have managed the risk by heightened managerial oversight – with regular visits to the region. We commissioned through our industry association a full human rights due diligence assessment by an independent third party. This risk assessment has been undertaken in accordance with the guidance set out in the UNGPs. The independent assessor's view is that OCP has demonstrated that it is taking clear responsibility in identifying and managing human rights risk within their company.

We have been conscious for many years that the political situation regarding the status of Western Sahara requires resolution at the international level. The relevant obligations under international law and with respect to United Nations' processes are complex and disputed. We are conscious that in terms of the UNGPs we are directly linked to the unresolved issue of self-determination in Western Sahara. This issue fundamentally underpins all consideration of human rights in Western Sahara.

We recognise that as a company we have limited influence on an intractable political situation. However we have been considering the role that we as a company can play and what we may seek to influence.

Implementing the UNGPs is an ongoing process and we will provide regular updates on progress.



Continuing our sustainability journey

Recognising that our planet faces massive economic, social and environmental challenges, we have defined sustainability priorities and aspirations for 2030. The United Nations has set 17 global Sustainable Development Goals (SDGs), each with indicators of progress. To show Ravensdown's contribution, you will note an SDG and indicator number listed next to each relevant performance metric. Here are some highlights from our current work.

$22M
Total value of new research project to minimise nitrogen losses
2 6 13

12.6M litres
Freshwater conserved by installed ClearTech effluent systems
6

94t
Packaging received back by Ravensdown stores and sent for recycling
12

73,606ha
Total sensitive area avoided by precise application technology
2 15

7.2ha
Native forest restoration
13 15

2,528
Safe Work Conversations recorded
8

20,486.8t
CO_2 equivalent emissions avoided by use of our inhibited urea products
2 13

61
Water monitoring sites
6 15

$1.5M
Investment in environmental infrastructure upgrades
6 11

20%
Carbon emissions removed annually by this year's internal carbon reduction projects
9 13

$243,000
Spent on rural communities through our sponsorship programme
11

EMISSIONS BY ACTIVITY (calculated by calendar year*)

Activity	2019	2020	2021	% change
Scope 1				
Aerial spreading	4,850	4,269	4,286	0%
Manufacturing startup	525	941	847	-10%
Mobile plant & light fleet	4,870	4,524	4,325	-4%
Lime drying	3,353	2,605	2,884	11%
Scope 2				
Net electricity	1,196	1,374	1,111	-19%
Scope 3				
International shipping	91,259	80,346	77,976	-3%
Domestic shipping	182	448	205	-54%
Truck distribution	29,365	29,416	21,808	-46%
Air travel	546	239	347	45%
Waste	196	238	359	51%
On-farm application	1,155,299	1,234,981	1,087,937	-12%
Transmission and line losses	154	154	139	-10%
Total GHG inventory	**1,291,795**	**1,359,533**	**1,202,224**	**-12%**

* Carbon footprint is calculated on a calendar year and undertaken in accordance with the GHG Protocol and assured by EY.

Please visit https://rav.link/ir2022 to view a copy.

Responding to climate change

Reducing our greenhouse gas (GHG) emissions is a critically important part of our business and we have made significant progress this year.

Broadly, we have focused on reducing three distinct sources of greenhouse gas emissions: from our processes; from our supply chain; and from the use of our products.

This year, we committed to several projects to eliminate coal from our south island lime manufacture. Our Dipton plant will convert to biomass fuelled process heat in 2023, and we approved storage construction at Geraldine Lime, negating the need for heat from coal to dry the lime produced and potentially halving its fuel requirement.

We established a programme to convert our diesel forklift fleet to electric by 2030. Four were purchased this year.

We also planted 7.2 hectares of native forest to sequester carbon and restore native habitat.

Mechanical Fitter Marlane Harmer operates a new electric forklift in Napier.

Optimising energy generation at our manufacturing plants continues to save us both cost and emissions. By pursuing optimal plant performance through turbine improvement projects, faster start up, less use of steam, and more time running independent of the grid, we've achieved close to a 20% reduction in 2021 electricity-related emissions compared to 2020.

Ravensdown's single biggest source of emissions is aerial spreading. Aerowork achieved improved efficiency this year, applying more tonnes with

lower emissions. Aerowork is also our first site to commit to roof-mounted solar energy generation, reducing reliance on the national grid and associated greenhouse gas emissions.

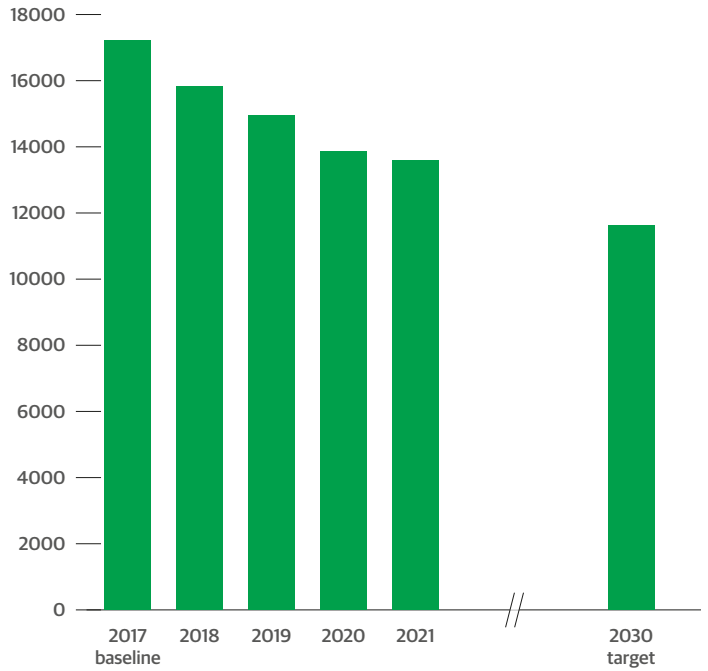
We are proud to say that collectively these projects reduce our total baseline operational GHG emissions by 20 per cent compared to baseline (2018) GHG emissions.

High prices and greater environmental focus have also reduced nitrogen demand, cutting nitrogen use over two years by 12% as well as reducing shipping and road transport.

We have continued to engage with government and industry to tackle ongoing environmental challenges collectively. This year, we assisted in seeking solutions for agricultural emissions; industry adaptation to climate change; the government's Emissions Reduction Plan; and changes to the Emissions Trading Scheme. Such engagement helped ensure a more robust Emissions Reduction Plan from government, and increased investment to research abatement of agricultural greenhouse gas emissions.

As a member of the Climate Leaders' Coalition, we are now discussing a target aimed to limit warming to 1.5°C across scopes 1, 2 and 3. Our research programme is delivering solutions to address GHG emissions from shareholder farms (scope 3), and we are undertaking scenario analysis in the year ahead to better understand, quantify and respond to climate- (and nature-) related risks and opportunities.

GHG EMISSIONS



Operational (scope 1+2) GHG emissions to date & reduction target – our 2030 reduction target is science-based and aligned to well below 2°C of warming. We are well on the way to achieving this early and are now looking at a 1.5°C climate response plan

13,452 tCO_2e

Carbon footprint (scope 1/2)

2030 Target: 11,625

2020 - 21 **13,712 tCO_2e**

2019 - 20 **14,793 tCO_2e**

13.2.1

1,188,772 tCO_2e

Carbon footprint (scope 3)

2020 - 21 **1,345,821 tCO_2e**

2019 - 20 **1,277,002 tCO_2e**

13.2.1

Improving our working environments

Napier drying tower replacement

The Napier Works 1975 brick-lined acid plant drying tower was replaced by a new alloy unit and accompanying infrastructure during the summer maintenance shut. This replacement enables our Napier Works to achieve a proper and clean air flow in the acid manufacturing process, avoiding the possibility of excessive gas discharges and reducing the risk of acid leaks.

Napier Works drying tower.

Stormwater protection

Two major sections of roading have been sealed at our Christchurch Works to prevent uncontrolled stormwater runoff into the ground. All road stormwater is now directed into our stormwater collection basins. Additional bunding protection was put in place around the manufacture scrubbers to further separate process areas from stormwater catchments.

The stormwater collection system at our Christchurch Works has now been operational for two years. Over this time, we have diverted over 18,000m^3 of stormwater into tradewaste treatment. This means any contaminants on site in those rainfall events do not end up in the local waterway or Heathcote River. In the past 12 months alone, there were 114 rain events recorded onsite of which only four were discharged to stormwater.

Christchurch Works stormwater planting before (top) and two years later (bottom).

Dust mitigation

All three manufacturing sites now have a site sweeper to respond quickly to product spills and help us keep our internal roadways clean.

We installed dust curtains to assist with dust control at our storage sheds when bringing in rock over our intake systems.

Noise mitigation

In response to a significant spike in noise complaints, our Dunedin Works is working to reduce noise impacts on our residential neighbours. We have yet to reach a level with which we are comfortable. Audible operator alarms from rock grinding and manufacturing have been reconfigured to run as a pager system, eliminating alarm noise from these operations. Silencers have been installed on the vents of two steam-driven pumps in the acid plant to minimise their noise when the pumps are in use. Acoustic specialists have also undertaken a comprehensive on-site noise measurement and modelling exercise to identify and prioritise noise mitigation options for the site, with some further recommendations planned for implementation during the 2022 mid-year maintenance shutdown period.

New sweepers for all three works sites.

Dust curtains at Napier Works.

Severn Street Store in Napier despatch before (top). and after (bottom).

82%

Asbestos Removal

Target: 100%

2020 - 21 **60%**

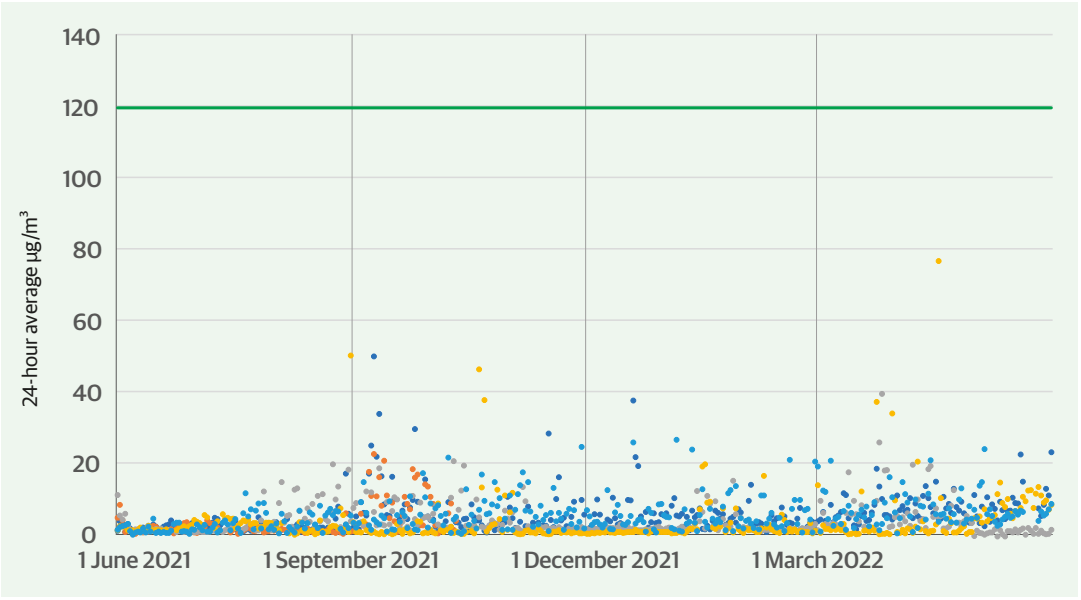
first year of reporting

$1,506,000

Investment in environmental improvements to property

New metric

DAILY AMBIENT SULPHUR DIOXIDE LEVEL- 3 WORKS



Air emissions from manufacturing

Our superphosphate manufacturing sites must manage air and water discharges. Each site has a number of consent limits for key parameters such as sulphur dioxide and fluoride in air. Our goal is not only to meet these limits but improve our discharges over time.

Air discharges are measured not only at discharge locations (i.e., at the stack) but also by ambient monitors. Ambient monitors are a measure of the air quality near our sites and can also be influenced by other discharges or even natural sources. Sulphur dioxide and fluoride in ambient air are both measured near our manufacturing sites.

Discharges to air can be compared with the Ministry for the Environment Ambient Air Quality Guidelines (2002) for human health (sulphur dioxide) and ecosystem protection (fluoride). All three sites have maintained 24-hour average ambient sulphur dioxide levels within the guideline of 120µg/m^3 for human health.

The MfE guideline for fluoride varies depending on the sensitivity of the surrounding land uses in the environment. Ambient fluoride levels are impacted by a range of factors, including the chemistry of the rock sources used in the manufacturing process, and the effectiveness of the scrubbing systems. Higher levels of fluoride caused by different rock sources used in 2021-22 required the manufacturing and process teams to make adjustments to the scrubbing systems to better manage fluoride emissions. Ambient fluoride monitoring results have at times been higher than previously reported. Consent limits for these parameters were generally complied with at all three manufacturing sites, and any exceedances were reported to the appropriate council. We are continuing investigations to find ways to reduce our discharges where necessary. The manufacturing configuration for each site is different and so the solution will be different for each manufacturing site.

3.9.1

Biomass reduces climate impact

Process heat accounts for more than a quarter of New Zealand's energy-related greenhouse gas emissions. As part of our commitment to reducing carbon emissions from the process heat needed to dry lime, we are converting our coal-fired drier to biomass – a move expected to reduce our total direct carbon footprint by almost 10%.

Quarries Engineering Manager Mark Campbell with Niagara Timber Sawmill Sales Manager Jaime Barton and National Quarries Manager Richard Millar.

Lime is an important input for many farmers, improving fertility by reducing soil acidity. Lime has been produced at the Dipton, Southland quarry since 1930. This process relies on coal to dry the lime, accounting for at least 1,100 tonnes of greenhouse gas emissions per year.

After a comprehensive search to identify alternative fuels that would suit this process and location, we chose a biomass combustor fuelled by woodchip from local company Niagara Wood Fuels. Canterbury-based Morrow Engineering is manufacturing the combustor, which is scheduled for installation in the middle of 2023.

National Quarries Manager Richard Millar says the conversion to biomass will also have positive local impact. "Sourcing the fuel from the surrounding area will help contribute to the local economy and enable reinvestment in community development. The heat source is an essential part of our production and must work reliably in all conditions. Knowing we can continue to meet farmers' needs while removing our biggest source of emissions at the quarry is a major step forward," he says.

Ravensdown is investing $500,000 to install the biomass combustor, matched by a contribution from the Government Investment in Decarbonising Industry fund.

Using biomass pellets to replace coal will cut GHG emissions.

We are committed to improving our environmental performance

Upgraded environmental management

This year we continued making improvements to our environmental management system with an upgrade of our environmental incident response system and a new compliance management system with improved audit, monitoring and corrective action functionality. Our system 'ravSafe' is now set up with improved escalation procedures, full audit and site services capability. Site environmental management plans and resource consent obligations are fully integrated into ravSafe services

Infringements

New Plymouth Store:

In April 2022 we received a letter from Taranaki Regional Council recognising our commitment to 'environmental and consent administrative performance' as 'high', so it was disappointing to receive an Abatement Notice in May 2022 relating to non-compliance with the discharge limits of our stormwater discharge. A long period of dry weather may have contributed to the higher levels of carbonaceous biochemical oxygen demand and oil and grease measured in the discharge. Our response includes increasing the frequency of monitoring to improve our understanding of variability in the discharge quality, and how additional stormwater management options will aid a more consistent discharge quality and reduce the nutrient load discharged to the Mangaone Stream.

Seadown Store:

In May 2022, Environment Canterbury issued an Abatement Notice relating to non-compliance with our stormwater discharge consent. Monitoring of down-gradient bores used for potable supply in March 2022 showed nitrate concentrations above the trigger limit in our consent. The consent requires that when trigger levels are exceeded that are attributable to our stormwater discharge, we must provide alternative potable water supplies to the affected households. The store is located in a well-documented High Nitrogen Concentration Area which requires additional efforts to improve groundwater nitrate concentrations. We have commenced a project to improve stormwater management on site, discharge more stormwater via irrigation onto adjacent farmland and reduce the need for soak holes, thereby reducing the impact of stormwater on local groundwater nitrate concentrations.

At both store sites, communication between Ravensdown and the councils is open and constructive. Addressing the details of the notices and ensuring consistent ongoing compliance with relevant consent conditions requires strong teamwork and also creates an opportunity to share lessons learned across the business.

4

Environmental infringements with
2 Abatement Notices
2 Infringement Notices

Target: 0

2020 - 21 **1**
2019 - 20 **1**

6.3.2

Community and environmental impact

We endeavour to play a positive part in all the communities that host our manufacturing facilities. Our involvement in the Awatoto wetland restoration, noted on page 51, is a prime example. Elsewhere, despite Covid-19 lockdowns deferring some meetings, our community and stakeholder engagements continued with face to face and electronic meetings, and written updates.

Ravensdown works with several catchment groups, comprising farmers, others in the community and regional councils. Our representatives bring the co-operative's expertise and commitment to these groups, which come together to formulate practical solutions to collectively act on and improve water quality, particularly redressing any negative effects from agricultural practices.

Through key partnerships with New Zealand Dairy Industry Awards, Agri-Women's Development Trust and New Zealand Young Farmer of the Year, we continue to support leadership, governance and professional development for the agricultural sector. We are also doing good in the community through initiatives like Otago Rescue Helicopter Trust bronze sponsorship and rural A&P Association feed competitions, farmer of the year events and educational initiatives like 'House of Science' kits for primary aged children.

AgriKids team at New Zealand Young Farmer of the Year regional event.

Shareholder hosting at National Fieldays® 2021 at Mystery Creek.

Garry Diack presenting a New Zealand Dairy Industry Award to West Coast Dairy Manager Robyn Mare.

New Zealand Young Farmer of the Year 2021 finalists with Ravensdown team.

Restoring Hawke's Bay biodiversity

Ravensdown's 16-hectare Napier premises at Awatoto is New Zealand's largest superphosphate manufacturing site, supplying essential nutrients to growers and farmers throughout the North Island. Works Manager Andrew Torrens is leading our $630,000 project to restore a natural wetland area in Hawkes Bay.

Andrew Torrens (left) continuing the korero, conversation, with (from left to right) Jenny Mauger, Chad Tareha, Aki Paipper and Margie McGuire.

Ravensdown Integrated Report 2022

In partnership with mana whenua, and alongside the wider community, we've committed to restoring a two-hectare wetland ecosystem in Waitangi Regional Park, the company's environmentally significant southern neighbour.

Covering an area of 300 hectares along five kilometres of coastline between Awatoto and Haumoana, Waitangi Regional Park links the Tukituki, Ngaruroro and Tūtaekurī rivers, the Karamū Stream-Clive rivers and coastal reserves. As an estuary, the park is habitat for white heron, royal spoonbill, godwits and gannets, plus numerous fish species.

Providing abundant recreational value, including fishing, whitebaiting, rowing, waka ama, kayaking, jet boating, jet skiing and kite surfing, the area is also significant culturally and historically as an early arrival site for both Māori and Pākehā. Its vibrant waka culture continues today, while its mahinga kai, or traditional food gathering resource, includes tuna (eels), pātiki (flounder), īnanga and kokopu (whitebait), mullet and kahawai.

Plans for the restoration will ensure the water is shallow enough to attract waterfowl and wading birds. Open sloping margins, low-lying mud banks and half-submerged logs will provide spots for birds to rest, while deterring rodents. Tall grass and low bushy shrubs will make good nesting sites and help inanga spawn.

Chairman of the Ngāti Pārau Hapū Trust Chad Tareha is excited about the restoration. "Waitangi estuary is massively significant to mana whenua. Native birds and fish are central to this natural taonga. This restoration project shows you are listening, and in for the long haul."

The restoration will begin in 2023 and the project will take a couple of years to complete.

Restoration of this two-hectare wetland will start in 2023.

Watch video here

Staying vigilant after a strong result

While our sector faced immense international uncertainty during 2021-22, we reaped excellent rewards from prudent past decisions, resulting in the company's best financial performance. Among the highlights:

- $95 million Profit before rebate and taxes
- $609 million Total equity
- $36 million Capital investments.

Our heartening result proved the importance of prudent financial and risk management, and means we are well positioned for any challenges ahead. Our sound financial position and enduring relationships with bankers enabled us to raise additional working capital. Although commodity prices elevated sharply, that working capital set up a strong stock position, enabling us to hold some prices and protect our customers through the initial stages of a complex and challenging global cycle. It means we have the confidence to fund key fertiliser prices despite the ongoing volatility and that our financial position is sufficiently strong to support these demands.

The increase in commodity prices saw us use more of our operating cash flow, -$60 million, as we funded those increases from debt.

At the same time, and despite the many challenges facing international logistics, Ravensdown Shipping Services, our bulk freight joint venture, had a strong overall profit.

Investment in physical infrastructure was similar to the previous year, with key projects being undertaken in our manufacturing sites and store network. Costs were marginally higher than the previous year as many of the activities that were slowed during the previous Covid-19 impacted year, restarted. Additionally, salary and wage costs rose slightly due to remuneration packages re-opening for review after being held through the prior year. Overall, we expect to continue to invest in projects and services that will ensure we meet our customers' needs of smarter farming.

Each year we revalue all our freehold land and buildings with any change in their value recognised mainly as a reserve in the Statement of Financial Position. This year we have seen increases of over $43 million net of tax included in our Statement of Financial Position's reserves. Key drivers for the increases were new independent valuers applying different valuation methodologies and assumptions, along with a higher inflationary environment.

Given our concern over challenging and uncertain times ahead, and some promising opportunities to invest in activities that will further reinforce our position and the service we provide our customers, we are retaining a larger proportion of our profit than might otherwise be the case. This year's rebate of $25 per tonne will return a total of $26 million to transacting shareholders from the co-operative. We will be retaining $58 million to ensure we manage though the immediate global and domestic uncertainty. Overall, the equity has increased to $609 million, when we combine the retained profits with increases in our revaluations. Although total equity increased, the higher cost of our stock purchases resulted in our equity ratio reducing to 62%.

We're confident that choosing this long-term approach will help embed the financial success achieved this year and represents a more prudent use of capital than distributing a larger pay-out now. Retaining these resources will also mean we are better prepared for the company's strategic refresh, set for implementation during the 2022-23 year.

$95m

Net profit before rebate, bonus shares and tax from continuing operations

2020 – 21 **$52m**

62%

Equity ratio

2020 – 21 **78%**

$(60)m

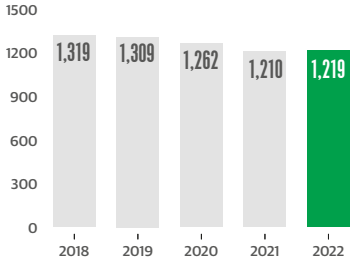
Operating cash flow

2020 – 21 **$37m**

Our results in more detail

View Ravensdown Limited 2022 Annual Report at https://rav.link/ar2022

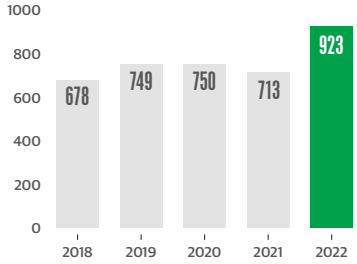
NEW ZEALAND FERTILISER SALES (thousand tonnes)



(includes lime used in mixes and animal health solids)

Fertiliser volumes were marginally up on last year. Holding superphosphate prices until May 2022 saw strong demand over autumn.

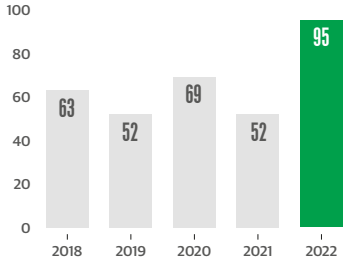
REVENUE ($M) (before rebates and bonus shares)



(including results from discontinued operations)

Revenue was up on prior years due to higher commodity prices.

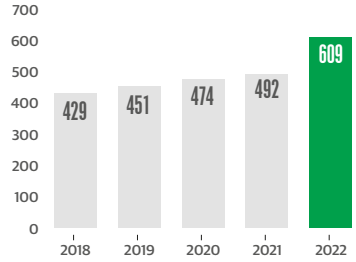
PROFIT FROM CONTINUING OPERATIONS BEFORE REBATE, BONUS SHARES & TAX ($M)



(from continuing operations)

Strong profit from continuing operations driven by recovering margin on higher commodity prices and the benefit from our shipping joint venture.

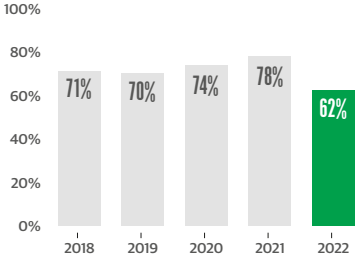
TOTAL EQUITY ($M)



Significant increase in total equity this year from retaining profits and fair value improvements.

EQUITY RATIO (%)

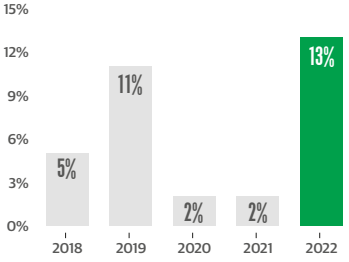
The ratio of equity to total assets compares the money creditors and banks contribute to the business with the money owners contribute



The equity ratio reflects the increased working capital requirements funded by creditors and banks.

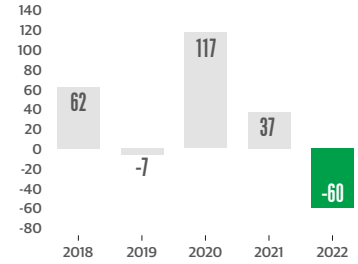
DEBT RATIO (%)

Bank debt divided by total tangible assets – illustrates how much bank debt is used to fund assets



Higher commodity prices required more bank support to fund working capital.

OPERATING CASH FLOW ($M)

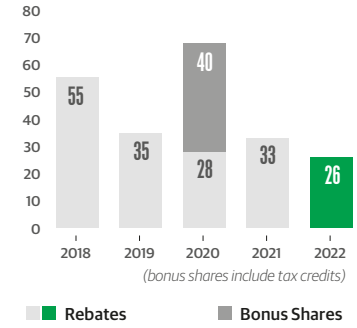


(after rebates to shareholders - 2018 to 2020 restated as rebates were previously classified as financing cash flows and are now included in operating cash flows.)

Operating cashflows reflect the higher cost of inventory being funded by increased debt levels and payables.

VALUE OF SHAREHOLDER DISTRIBUTIONS ($M)

Total dollar of distribution to shareholders comprising rebates and bonus shares

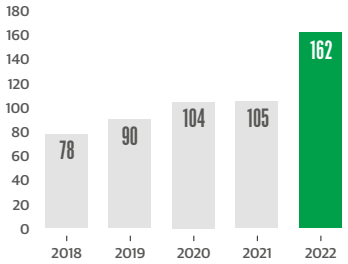


(bonus shares include tax credits)

In a volatile and uncertain market we took the prudent approach of retaining more profit in 2022 while declaring rebates of $26m back to shareholders.

WORKING CAPITAL ($M)

Current assets less current liabilities



Higher working capital in 2022 reflects the higher value of inventory relative to the increase in bank debt and creditors.

Governance

Risk governance at Ravensdown

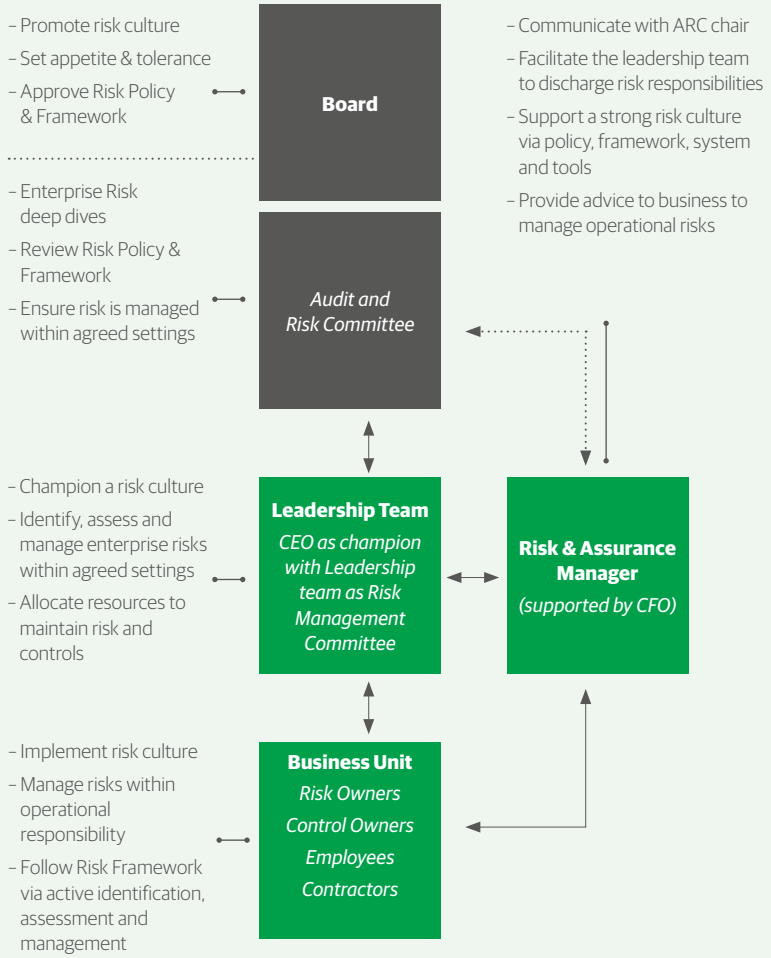
Our Board, Audit and Risk Committee (ARC) and Leadership Team are actively engaged in Risk Management. During the year, we reviewed and strengthened our risk foundations in light of a fast-paced risk environment, a strategy revision and changes to both the Board and leadership team. These changes included:

- The ARC charter was updated to refine risk roles and responsibilities between the Board, ARC and Management
- A Risk Management Policy revision was approved by the Board, summarising Ravensdown's commitment and approach to risk management
- The risk framework was refreshed to reflect these changes and increase practicality

The Board promotes a risk culture at Ravensdown, setting risk appetite and approving our risk policy and framework. The ARC meets at least four times a year to provide oversight and monitor top enterprise risks by performing regular deep dives and actively challenging management assertions. The Risk Management Committee, made up of our Leadership Team, meets regularly to assess and rate risks as well as review management activity.

The focus for the 2022-23 year will be to assess the impact of ongoing change, closely monitor the management of Ravensdown's top and emerging risks as well as monitor strategic execution and business continuity in a rapidly changing environment.

Summarised Risk Management Governance roles
(extract from risk management framework)



Top risks/opportunities at Ravensdown

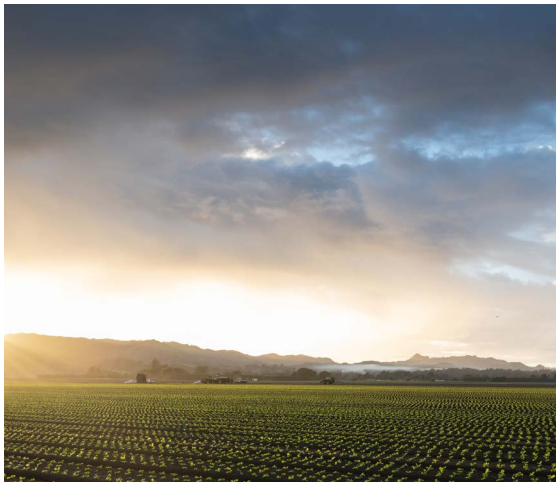
This year, a very stable operating environment became more dynamic due to multiple external factors. Covid-19, supply chain complexity and the war in the Ukraine have all required new risk thinking and agility in our responses. Consequently there are now eight risk themes in focus, with the risk drivers able to be altered as necessary to suit a more dynamic world.

Theme	Our Response (Risk, Opportunity)	Link to our resources
1. Interruption of Supply Supply chain risk continues to require active management due to continuing global challenges in fertiliser sourcing. This has been heightened recently due to international disruptors – Covid-19 impact on shipping networks, restrictions on ability to source from traditional suppliers (i.e. China), energy price escalations and the Ukrainian conflict with associated sanctions on Russia and Belarus.	*Short (1–5 years) – Medium term (5–10 years)* Enduring supplier relationships – utilising existing relationships to expand options for supply and obtain alternative product sources Contract container freight to support surety Ravensdown Shipping Services – provides agility to get product to the right place at the right time Sales and Operations planning forecasting and controls. Logistics agility and controls *Long term (10–20 years)* Opportunities sought in pursuit of alternate sources of supply and associated testing	Infrastructure Finances
2. Business Interruption (Operational and Cyber) Operational business interruption risk is under active management due to the interrelated risks of supply chain, Covid-19 disruptions and manufacturing pressures from operating at higher levels of capacity and plant maintenance requirements. Our IT systems remain stable and resilient with continuous investment and improvements to detect, prevent or recover from cybersecurity threats. The current international cybersecruity environment is evolving so requires constant reassessment against technology and geopolitical changes.	*Short term (1–5 years)* Pre-emptive controls (capital replacement, maintenance) Covid-19 business interruption risk mitigation activities Insurance that is comprehensive Detection and hard controls Management systems – standards, controls, permits and audits Raise cybersecurity awareness Protect access and sensitive data Build robust cybersecurity policy and protected network Protect access with efficient identity management – zero trust *Medium – long term (5–10; 10–20 years)* Replacement of assets and systems Cyber risk mitigation to be aligned with ISO27000	Finances People Infrastructure

Theme	Our Response (Risk, Opportunity)	Link to our resources
3. Financial Adequacy Ensuring the co-operative has access to sufficient debt and equity funds to support the business and its strategy in both stable and volatile environments. Ravensdown accesses its funding from co-operative shareholders and debt funders.	*Short term (1–5 years)* To ensure the co-operative can access debt when required, it focuses on its financial strength, maintaining strong financial ratios. With the significant increase in international commodity prices, we have been able to access debt to fund the increase in our working capital.	Finances
4. Employee or Customer Harm Human capital risk is impacted by a competitive labour market, and to a lesser extent Covid-19, due to successful management activities. The impact of future change initiatives will be carefully managed to ensure risk levels are not impacted. Safety and Wellbeing continues to receive significant focus and system investment.	*Short term (1–5 years)* Critical employee support systems Safety and wellbeing three key pillars – visible leadership, critical risk management and simplified systems and assurance Safety and Wellbeing key metrics in place to support visibility	People Relationships
5. Strategic Execution Pursuit of a defined strategic direction that effectively integrates an increasingly complex environment. Risk impacts are most likely to emerge from a dramatic change in customer purchasing behaviour, or a significant change in the regulatory regime that governs volume. There is also pressure arising from changing land use and an exotic disease threat to the national herd and agri-economy.	*Short term (1–5 years)* Agility in pricing policy Market segmentation and supply via loyalty programmes Active engagement with regulators Land use indicators and research Working provocatively with industry participants and MPI to actively manage any threats Review and strengthening of our controls to reduce any potential impacts	Innovation Relationships People Environmental

Theme	Our Response (Risk, Opportunity)	Link to our resources
6. Reputational Degradation This is the risk that Ravensdown is unable to achieve its business objectives because of a significant downgrade of its reputation with one or more key stakeholders. For this risk the two most significant drivers relate to the environment – how the products we sell might affect the environment and sourcing – the level of responsibility we take when we source our fertiliser inputs from offshore. Ravensdown also closely monitors the impact it has on local communities to ensure our operations do not pose a risk to health or safety.	*Short term (1–5 years)* Continued investment in R&D to promote research on environmental solutions relevant to our shareholders and nutrient use Commercialisation of research discoveries which have a positive effect on the environment, like ClearTech and EcoPond Ongoing advice with farm environment plans and environmental consultancy Continued development of placement tools like HawkEye to ensure all product application is accurate and documented Focus on human rights impact from our operations and in particular supplier due diligence in accordance with our code of business conduct/supplier code of conduct *Medium – long term (5–10; 10–20 years)* Continued research and commercialisation of products and solutions which enhance farm productivity while meeting and exceeding sustainability and emission reductions	Relationships Innovation Environmental
7. Environmental Incidents This risk covers environmental impacts caused by manufacturing processes, uncontrolled events, related parties and advice adequacy. In addition to the company's direct environmental influence, incidents are considered in the wider context of biosecurity and animal pandemics.	*Short term (1–5 years)* Environmental management system with regular and effective stakeholder engagement Monitoring systems and control mechanisms for emissions Scenario emergency management testing Comprehensive insurance Biosecurity protocol approved by MPI Technology use on spreaders and planes Quality protocols for agri managers and environmental consultants Use of HawkEye technology systems *Medium – long term (5–10; 10–20 years)* Greater use of technology in both function and adoption R+D processes	Environmental Finances Innovation Relationships

Theme	Our Response (Risk, Opportunity)	Link to our resources
8. Product Liability This risk relates to sub-optimal product mixes, nutrient strategy or unexpected contaminant levels in sourced inputs or products.	*Short term (1–5 years)* Quality control – warning systems and regular testing via ARL ARL laboratory protocols, automation and strict controls Third party inspection companies Shipment inspections Controls and checks on blend compatibility Strategy for sourcing rock Ag Chem product protocols and controls on purchasing, compliance, warehousing and freight, recommendations and technical support	Innovation Relationships



Emerging Climate Risks

This risk overlaps with many of the risks above:

Physical, acute climate change impacts risk, disrupting our logistics network and manufacturing operations. The climate impact of our products affects our public reputation, and transitional climate change impacts threaten the financial position of our business and our customers. As an opportunity, climate change is a key strategic driver and our smarter farming solutions are designed to improve efficiencies, seek more sustainable alternatives and reduce losses, all aimed at reducing GHG emissions.

Sustained monitoring of climate change risks, opportunities and scenarios, in line with the Taskforce on Climate-related Financial Disclosures.

Ongoing investment and investigation into opportunities for precision and technology solutions.

Climate resilience is a central part of our strategy, with two material areas of focus:

Operational emissions: Annual monitoring and reporting of scopes 1 and 2 GHG emissions; projects focused on progress towards our target (currently well below two degrees science-based target – 30%).

Customer emissions: Ensuring that national policy is appropriate, that solutions are sought and brought to market as quickly as possible, advising customers on emissions reductions policy and solutions.

Environmental
Finances
Infrastructure
Relationships

To meet the needs of the business, our stakeholders, and the commitments made to Climate Leaders Coalition, we are working towards full reporting against the recommendations of the Task Force on Climate-related Financial Disclosure. Scenario analysis will be underway in the coming year to formally and quantitatively understand the risks under more than one climate scenario.

Engaging with our stakeholders /

We work hard to understand what matters to our stakeholders and to respond to changing needs and expectations

Key Below what we would expect | Where we would expect | Above what we would expect

Customers and Shareholders

Goal

To put the customer at the centre of everything we do

How we engage

- In person through tailored advice of field-based team
- Accessible, personalised remote advice of customer service teams
- Annual customer satisfaction surveys
- Field days, shows and events showcasing new products and services
- Annual Meeting and Shareholder get together
- Magazines (Ground Effect), newsletters and direct communications
- Digital channels such as apps, website and social media.

Our People

Goal

To ensure a positive and safe work environment

How we engage

- Dedicated Culture & People team
- Yammer (internal social media) and Ravnet (intranet)
- Frequent employee engagement surveys
- Regular direct engagement with and by managers
- Social events
- Induction, training, safety focus and specialist workshops
- Leadership Team live virtual Q&A sessions and in-person roadshows or site visits plus video updates to all staff.

Supply and Research Partners

Goal

To develop long-term relationships based on integrity and trust

How we engage

- Dedicated procurement team
- Regular visits with and by our suppliers
- Collaborations with leaders at agri-science research institutions
- Collaboration on sustainability with suppliers
- Work on and support a wide range of research projects to enable smarter farming.

Communities

Goal

To lead in the field of sustainability: clearly positioned as a key player in solutions to environmental concerns and consistently extending our social licence to operate

How we engage

- Formal site-specific engagement with surrounding communities e.g. each manufacturing site has a community liaison group and stakeholder management plan
- Occasional site open days for transparent dialogue to discuss where we can improve
- 'Lend a Hand' day - one day a year for each staff member to volunteer in their communities
- Social media channels.

Regulators

How we engage

- Direct engagement with central and local government at multiple levels from Chief Executive to policy and compliance teams
- Participation in Council-led stakeholder groups sharing knowledge and influencing policy direction as it relates to farming and our own operations
- Submissions on new policy and guidance.

Customers and Shareholders	Our People	Supply and Research Partners	Communities	Regulators
				
Needs and expectations				
■ Consistent, timely delivery of quality products, services and experiences ■ Easy access to customised, up-to-date and informed farm solutions and services ■ Innovative tools, solutions and products for environmentally and financially sustainable farming ■ Trusted, long-term relationships.	■ Good health, safety and wellbeing support ■ Personalised training and career development ■ Strong positive culture and working environment ■ Diversity in the workplace ■ Good remuneration and conditions of employment ■ Smart tools to enable staff to perform their duties effectively and efficiently.	■ Long-term trusted relationships with mutual benefits ■ Robust and reliable supply chain ■ Values alignment ■ Foundation of research engagements is robust science ■ Honourable, committed customer.	■ Social development – employment, investment, development and learning opportunities ■ Respond to incidents and complaints quickly and responsibly ■ Respect for cultural views ■ Health, safety and environmentally conscious operations ■ Positive, transparent relationship ■ Transparency in reporting.	■ Effective management of legislative requirements especially health and safety, environmental and labour requirements ■ Farm compliance for nutrient traceability, nitrogen use and consent compliance while maintaining farm profitability ■ Positive and proactive relationship ■ Contribute to relevant calls for submissions ■ Publicly reported carbon footprint.
Response				
We offer a wide breadth of service and integration to farmers across all aspects of the farming operation. We regularly engage with our customers and shareholders to become the service and solutions provider of choice in the agri-sector.	We engage with our people to create an environment where smart passionate people can thrive and succeed while being safe and happy. Empowering people and keeping them safe is hardwired into our values as a co-operative.	We build long-term relationships based on integrity and mutual trust. This ensures that Ravensdown is provided with superior products and services as well as ongoing development of exclusive and innovative solutions for the benefit of New Zealand farmers.	We engage with communities, neighbours and iwi to understand our actual and potential impacts on interested parties. We value our licence to operate and continually seek ways to better care for and have a positive impact on the communities and environment while making a positive contribution to New Zealand.	We engage with national, regional and local levels of government and industry bodies regularly and meaningfully to ensure our operations are compliant, to work towards best practice, to contribute to new legislation and ensure compliant practices for all our stakeholders.

Ravensdown is committed to high standards of corporate governance.

Code of Business Conduct

Our recently published Code of Business Conduct outlines our commitment to keep our people safe, and to safeguard our culture, placing social and environmental governance at the core of our business. It explains our expectations of conduct within the business including our commitments to:

- human rights
- conducting business fairly
- upholding the principles of Te Tiriti o Waitangi
- community development
- environmental protection
- reducing climate change.

Ravensdown's protected disclosures policy encourages employees to report known or suspected incidents of wrongdoing within the company, and enables them to do so confidentially. Material breaches of the Code of Business Conduct are reported to the Board and follow-up actions monitored.

Board of Directors

Ravensdown's Board has six shareholder-elected Directors and two Board appointed Directors. The Board appointed Directors deepen the diversity of skills on the Board and the Constitution allows for up to three Directors to be appointed by the Board.

Elected by, and responsible to, the company's shareholders, the primary objective of Ravensdown's Board is to act in the best interests of the company by building long-term shareholder value.

The Board's role and responsibilities are set out in its charter.

Board committees

The Board has four standing committees:

Audit and risk committee

Comprising five to six directors, including the two Board-appointed Directors (one of whom is appointed as chair), the committee meets at least four times each year to assist the Board in relation to

- audit processes
- financial reporting
- financial systems and controls
- budgets and rebates
- risk management
- integrated thinking and reporting.

The Chief Executive Officer, Chief Financial Officer, external auditor, Risk and Assurance Manager and General Counsel also attend this committee's meetings.

Board appointments and remuneration committee

Comprising five directors, the committee meets to:

- review the remuneration and performance of the Chief Executive Officer and the remuneration of senior management
- make recommendations regarding Director remuneration
- make recommendations regarding appointed Directors.

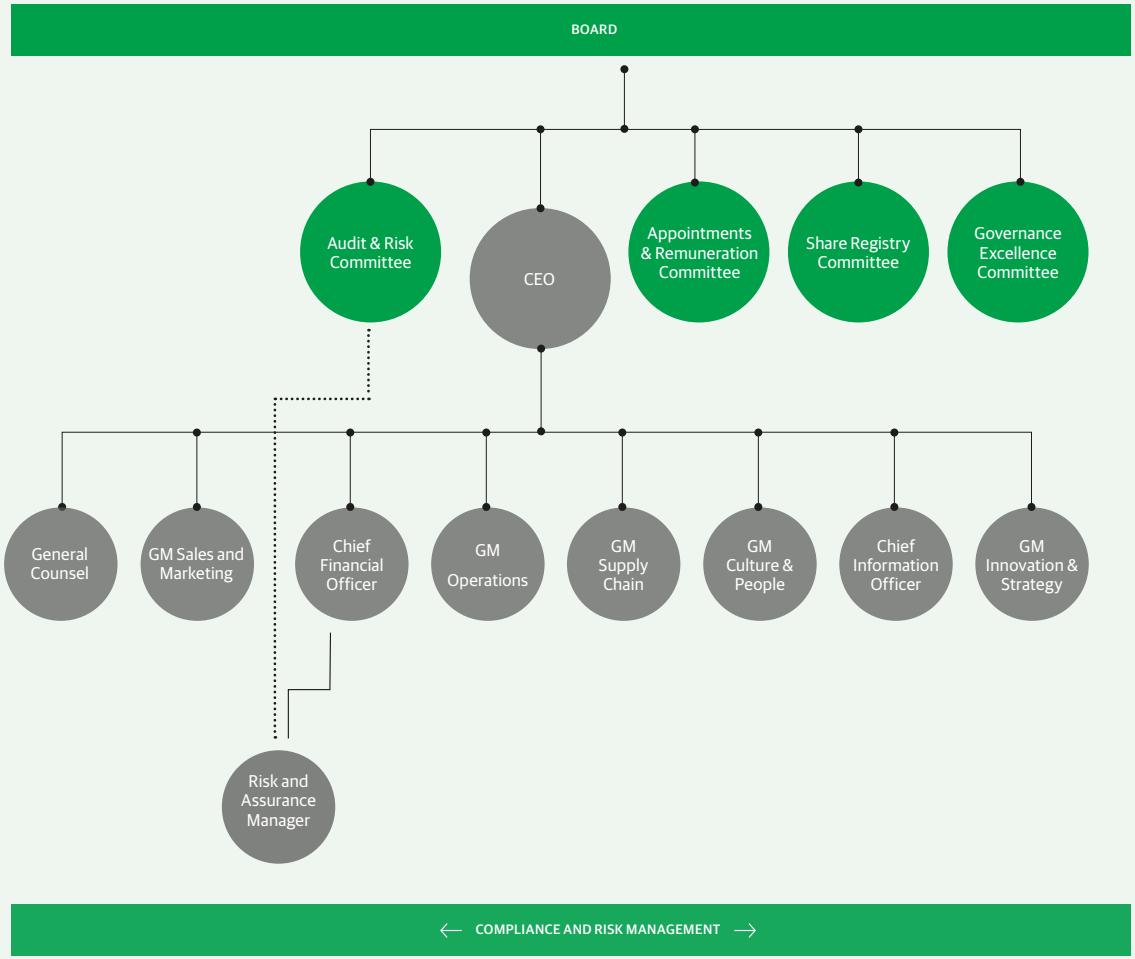
Share registry committee

Comprising three directors who meet prior to each Board meeting, this committee makes recommendations regarding share surrender, allotment and transfer applications from shareholders.

Governance excellence committee

Established in 2021, and comprising five directors, this committee will assist the Board to establish a training programme to promote governance skills and experience within the Ravensdown shareholder base for the benefit of New Zealand agriculture.

Special project committees are also formed by the Board when required.



Strategy

Annual Report

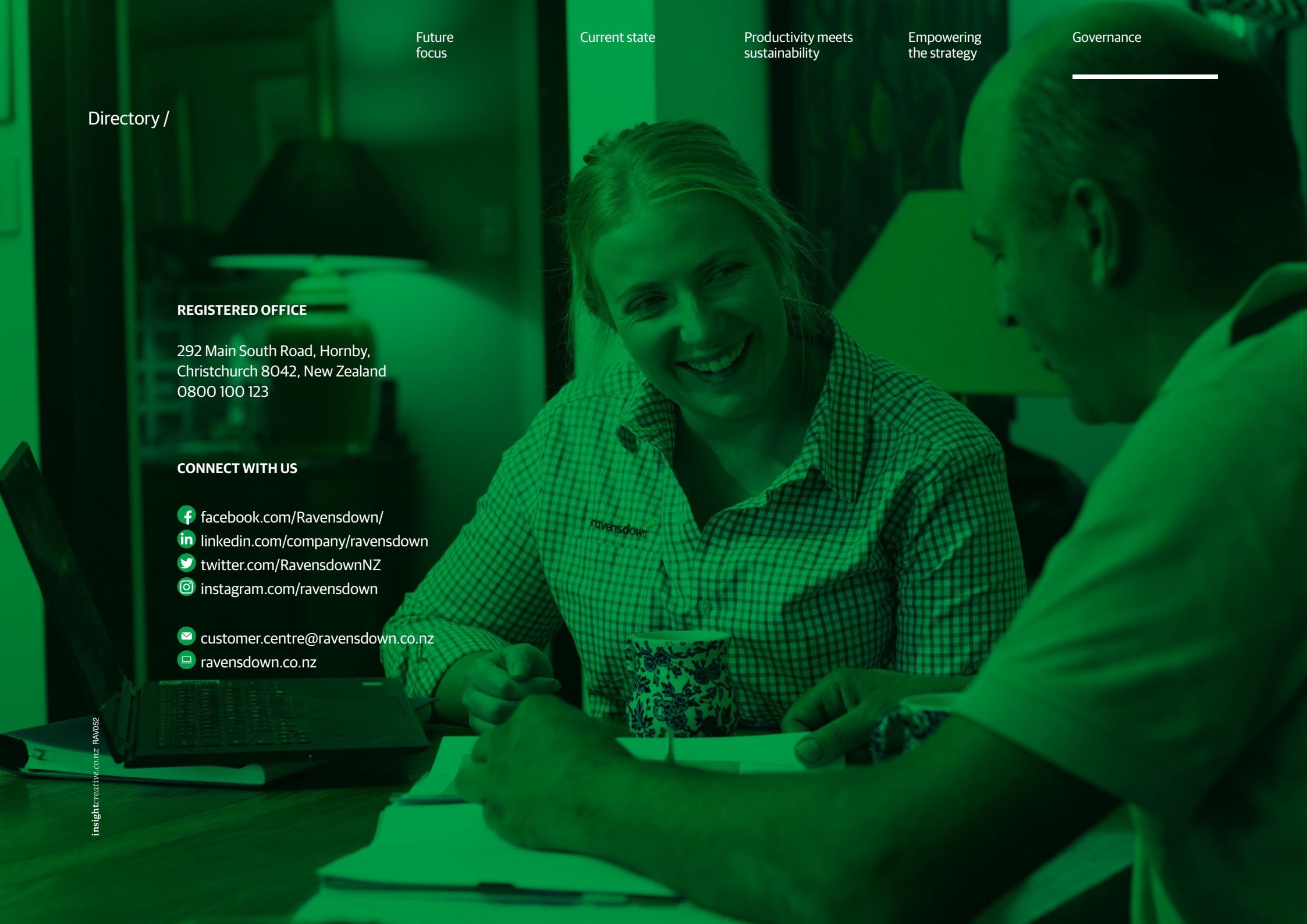
- Integrated Reporting
- Financial Reporting

Code of Business Conduct

- Supplier Code of Conduct
- Diversity, Inclusion and Belonging Policy
- Flexible Working Policy
- Harassment Prevention Policy
- Privacy Policies
- IT Acceptable Use Policy
- Safety and Wellbeing Policy
- Conflict of Interest Policy
- Voucher Policy
- Legislative Compliance Guidelines
- Fraud Management Policy
- Anti-Corruption Policy
- Protected Disclosure Policy

EXTERNAL STAKEHOLDERS / 6 CAPITALS / NON-FINANCIAL VALUE

Directory /



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