BRANZ
building with science

Annual Review 2025

This year, we're proud to collaborate with 206 organisations. Ngā mihi nui.

3R • Abodo • Aeroqual • Allen + Clarke • Alzheimers New Zealand • ANZ Bank • Aon New Zealand • Aqualinc • Ara Ake • Architecture Cubed • ASURNZ • Auckland Council | Te Kaunihera o Tāmaki Makaurau • Auckland University of Technology | Te Wānanga Aronui o Tāmaki Makaurau • Aurecon New Zealand • Axon Consulting • Ballance Agri-Nutrients • Bay of Plenty Regional Council • BCITO | Building and Construction Industry Training Organisation • Beacon Pathway • Beca • Bode Homes • BOINZ | Building Officials Institute of New Zealand • BSA Architect • Build Back Better Aotearoa New Zealand • Building Innovation Partnership • Building Institute Aotearoa • Building Metrics • Building Research Establishment UK • Buller District Council • Business Events Wellington • Callaghan Innovation • Cawthron Institute • Centre for Co-created Ageing Research • Cerema France • Christchurch City Council • CIL Masterspec • Classic Builders • Codify Asset Solutions • Community Housing Aotearoa | Ngā Whararau o Aotearoa • ConCOVE Tūhura • Concrete NZ • CORT Community Housing • Cotality • CRESA | Centre for Research, Evaluation and Social Assessment • Defence Technology Agency • Department of Energy, Environment and Climate Action Australia • DTCE Structural Engineers • Dunedin City Council | Kaunihera a-rohe o Ōtepoti • EBOSS • Eco Design Advisor • Electricity Authority • Emerge Aotearoa • EECA | Energy Efficiency and Conservation Authority | Te Tari Tiaki Pūngao • Engineering New Zealand | Te Ao Rangahau • Environmental Innovation Centre • Environmental Solutions Research Centre, Unitec • ESR | Institute of Environmental Science and Research • Field Studio of Architecture and Urbanism • Fire and Emergency New Zealand | Whakaratonga Iwi • Fire and Rescue New South Wales • Fire Protection Association of New Zealand • Firstgas • Fletcher Living • FLIP Homes • Frame and Truss Manufacturers' Association New Zealand • FrameCAD • Fraunhofer Institute for Building Physics Germany • GeoExchange NZ • Ghent University Belgium • GNS Science • Halliwell Fire Research • Hanga Aro Rau • Harvard University USA • He Pou a Rangi | Climate Change Commission • Hector Egger • Helfen • HERA | Heavy Engineering Research Association • Holmes Solutions • Home Performance Advisor • Hutt City Council | Te Awa Kairangi • Indoor Air Quality Research Centre New Zealand • Innovative Young Minds • Insulation Association of New Zealand • Insurance Council of New Zealand | Te Kāhui Inihua o Aotearoa • International Association of Building Physics • International Building Performance Simulation Association • Jennian Homes • Kāinga Ora – Homes and Communities • Kakariki Consulting • Keola • Kestrel Group • Land Information New Zealand • Lawrence Berkeley National Laboratory USA • Licensed Building Practitioners • Livingston & Associates • LT McGuiness • Māori Women's Welfare League • Marsh New Zealand • Massey University Joint Centre for Disaster Research • Massey University of New Zealand | Te Kunenga ki Pūrehuroa • Master Builders • Master Joiners • MATES in Construction • MBIE Building for Climate Change • MBIE Building System Performance • Metals NZ • Method Building Systems • Ministry for the Environment | Manatū Mō Te Taiao • Ministry of Business, Innovation and Employment | Hīkina Whakatutuki • Ministry of Education | Te Tāhuhu o te Mātauranga • Ministry of Housing and Urban Development | Te Tūāpapa Kura Kāinga • Mitre 10 • Mott MacDonald New Zealand • Motu • National Association of Steel Framed Housing • Natural Hazards Commission Toka Tū Ake • Naylor Love • New Plymouth District Council • New Zealand Certified Builders • New Zealand Construction Industry Council • New Zealand Green Building Council | Te Kaunihera Hanganga Tautaiao • New Zealand Institute of Architects | Te Kāhui Whaihanga • NZIER | New Zealand Institute of Economic Research • New Zealand Metal Roofing Manufacturers Association • New Zealand Society for Earthquake Engineering • New Zealand Stainless Steel Development Association • New Zealand Steel • New Zealand Structural Insulated Panels • New Zealand Timber Design Society • NIWA | Taihoro Nukurangi • New Zealand Timber Design Society • Objective Build • Offsite Design • OffsiteNZ • Oroqi Wellington • Pacifecon • Pāhāoa Marae • Passive Fire Inspection and Test Services Consultancy • Passive House Institute New Zealand | Te Tōpūtanga o te Whare Korou ki Aotearoa • Peak Projects International • PlaceMakers • Planalytics • Porirua City Council • Property Council New Zealand • Real Estate Institute of New Zealand • Realsure • Red Stag Timber • Residents of the Chatham Islands • Resilient Organisations • Rewiring Aotearoa • Rotorua Lakes Council | Te Kaunihera o ngā Roto o Rotorua • SaferMe • Scion • Seamless • SeismoCity • Signify • Simpli BCA • Social Good • Society of Fire Protection Engineers New Zealand Chapter • Solari Architects • Southbase • Standards New Zealand | Te Mana Tautikanga o Aotearoa • Stats NZ | Tatauranga Aotearoa • Structural Engineering Society of New Zealand • Superhome Movement • Sustainability Trust • Sustainable Business Network • Sustainable Engineering • Sustainable Steel Council • Synergia • Tauranga City Council • Te Hiranga Rū | QuakeCoRE • Te Kāuru – Ferrier Research Institute, Victoria University of Wellington • Te Pūkenga (Unitec) • Te Wānanga o Aotearoa • Tennent Brown Architects • Tether • The Urban Advisory • The Whiteboard Project • The Workshop • Third Bearing • Third Studio • Tonkin + Taylor • Tourism New Zealand • Transpower • TROW Group • University of Auckland | Waipapa Taumata Rau • University of British Columbia Canada • University of Canterbury | Te Whare Wānanga o Waitaha • University of Otago – Wellington School of Medicine • University of Otago | Ōtākou Whakaihu Waka • University of Southern Queensland • University of Waikato | Te Whare Wānanga o Waikato • Vector • Victoria University of Wellington | Te Herenga Waka • Waihunga Ara Rau • Waimakariri District Council • Warren and Mahoney • Water New Zealand • Wellington City Council | Me Heke Ki Pōneke • Wellington Regional Healthy Housing Group • WIDE | Wood Industry Development and Education Trust • Wood Processors and Manufacturers Association • WorkSafe • WSP New Zealand • Zero Waste Network New Zealand

Building with science

The Building Research Association of New Zealand (BRANZ) is a trusted, independent expert in building and construction.

We provide practical research, testing, quality assurance and expertise to help create more affordable, quality, resilient and sustainable buildings.

At our heart, we're a team of scientists, engineers and professionals committed to making a real difference for Aotearoa New Zealand.

- **Our research**
  We're the national research institution for building and construction. We work in collaboration with others to develop insights and tools that will create impact and improve lives.

- **Our testing and quality assurance**
  We provide independent testing and quality assurance services on a commercial basis. We don't approve products for use. Instead, our evidence-based accreditation gives the sector confidence that products and systems will meet legislation and building codes and stand the test of time in New Zealand's unique environment.

- **Our investment of the Building Research Levy**
  The Building Research Levy is set at 0.1% and is applied to all building consents that have building work valued at over $20,000. For every $1,000 over this threshold, BRANZ receives $1. We invest the Levy in research that lifts the performance of the entire building sector and creates better buildings for New Zealanders.

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BRANZ ANNUAL REVIEW 2025

What matters to the sector matters to BRANZ

Nigel Smith, BRANZ Chair

It's been a year of challenge and change for building and construction. We've felt the impacts of an economic downturn and seen significant change sweep across the sector and all New Zealand.

Yet the core challenges remain: housing affordability, skyrocketing costs, climate change, carbon targets and the health of our homes.

After 35 years in this industry, I know how real and complex these challenges are. BRANZ's priorities for the next decade – affordability, quality, resilience and sustainability – are tackling the very issues that those in the sector spend their days trying to balance.

Affordability is front and centre. New Zealand has some of the least affordable housing in the OECD. We need practical, science-based solutions that work on building sites and in our daily lives. And BRANZ is focused on delivering just that.

Our role is to keep one eye on the here and now and the other over the next horizon. This means setting smart, strategic priorities – but also staying flexible. As the world continues to change, we need to adapt so that BRANZ's work remains relevant and impactful.

A great example is our investment in cutting-edge research and testing labs. This year, we've opened our enormous fire lab, the first in Australasia capable of testing the impacts of fire on 3-storey buildings. It joins our new structural engineering lab where we can test buildings for strength, durability, weathertightness and resilience to earthquakes and extreme winds. These facilities are assets to New Zealand and gamechangers for the sector.

As Chair of the BRANZ Board, I've seen first-hand the dedication the BRANZ team brings to supporting the sector with solid, science-based evidence. BRANZ exists to help the sector help itself by providing the tools, insights and research needed to build smarter and better.

On behalf of the Board, I'd like to thank Claire Falck and the entire BRANZ whānau for their passion and commitment to creating more affordable, resilient, sustainable and quality buildings for Aotearoa New Zealand.

Ngā mihi nui

Nigel Smith
Board Chair

Tackling the affordability challenge – together

Claire Falck, BRANZ CEO

Many in the construction sector are doing it tough. Rising costs, complex builds, and constant pressure to deliver more with less are everyday realities. As Nigel said, these challenges aren't new – but they do call for fresh focus and collective action.

At BRANZ, we support new solutions and smarter processes to tackle these long-standing issues – and we believe science has a vital role to play. That's why our strategy for the decade ahead centres on four priorities: affordability, quality, resilience, and sustainability.

Affordability is our first priority, because we know it's one of Aotearoa New Zealand's most urgent issues. We're developing practical research and tools to streamline processes and get it right the first time. That means saving time, cutting costs, and putting money back into people's pockets.

In a changing economy, good data is essential for informed decision-making and future planning. Our Build Insights tool brings trusted construction data together in one place, helping people make smarter, more affordable choices.

But affordability must go hand-in-hand with quality. We believe quality assurance must be built into every stage – from design to construction to operation. Digital tools like our Artisan app are a simple way to support compliance, build confidence, and help people move into homes faster – without compromising quality.

Improving quality also means building for the future. This year's extreme flooding showed how vulnerable many homes and communities are. Our new initiative, Climate Resilience – Building Back Better, is designed to help communities recover quickly and rebuild stronger after severe weather events.

And with climate change driving more of these events, the sector has a role to play in reducing emissions. This year, we'll launch an open-source home design that uses 45–55% less carbon than a typical build. It's fully costed, designed for Kiwi lifestyles, and shows how we can deliver homes that are affordable, resilient, and sustainable – without costing the Earth.

That's just a snapshot of the research and tools you'll find within our Annual Review. BRANZ brings together builders, designers, regulators, scientists and communities to share knowledge, solve problems and create real impact. And through initiatives like ArchEngBuild, we're backing the next generation to collaborate and spark fresh ideas for the future.

To everyone we've worked with this year – thank you. Real change happens when we work together, and we're proud to be on this journey with you.

Ngā mihi nui

Claire Falck
CEO

The next decade of building with science

Our new 10-year strategy is shaped by the real challenges the sector is facing today.

At its heart are four clear priorities: **affordability, quality, resilience and sustainability**. These will guide everything we do – from research and investment, to testing and assurance, to collaborating across the sector – as we work to deliver better buildings for New Zealanders.

see these **priorities in action**

BRANZ ANNUAL REVIEW 2025

OUR ASPIRATION

Affordable, resilient, sustainable and quality buildings for Aotearoa New Zealand

OUR FOCUS

Affordability
Housing is affordable for people to build, maintain and live in

Resilience
Buildings protect people from earthquakes, fire, extreme weather and climate change

Sustainability
Buildings are environmentally designed, built, maintained and recycled

Quality
Buildings are safe, warm, dry and fit for future generations

WE WILL SUCCEED BY

Focusing on the **issues that matter**

Being an **independent, sought-after expert** with a clear vision for the future

Strengthening our revenue base to support long-term investment and impact

Empowering high-performing **people, systems and capabilities**

OUR FOUNDATIONS

Trusted expertise
We bring more than 50 years of independent knowledge and a focus on the future

Practical solutions
We develop accessible evidence-based solutions, testing and assurance to support better buildings

Collaboration
We work in partnership with others to create impact and improve lives

System-wide influence
From industry to decision makers to all New Zealanders, we work across the entire system to influence change

Te Tāhuhu o te Whare

Our strategic framework for connecting with te ao Māori

At BRANZ, we're committed to deepening our connection with te ao Māori (the Māori worldview). Based in Porirua, within the rohe (region) of Ngāti Toa Rangatira, we recognise the importance of building strong, reciprocal relationships with tangata whenua (the people of the land).

This journey has been shaped by the Building Better Homes, Towns and Cities National Science Challenge, hosted by BRANZ. Its commitment to te Tiriti o Waitangi through co-governance has helped build partnerships with Māori communities.

With the support of Te Rūnanga o Toa Rangatira, the iwi authority for Ngāti Toa Rangatira, we're continuing to learn, listen and grow to ensure our research and testing reflects and serves Māori communities.

Our guiding framework is Te Tāhuhu o te Whare (the ridgeline of the house). The tāhuhu is the ridgeline of a traditional marae (meeting house) and touches all elements of the meeting house.

This reflects our commitment to embedding te ao Māori into all aspects of BRANZ. Anchored by three pou (foundational posts), it aims to uplift our research, spark innovation and build genuine, lasting partnerships with Māori organisations and communities.

In 2025, we're putting this framework into action through uplifting our capacity, building a collaboration with Te Rūnanga o Toa Rangatira, stronger ties with Māori leaders in the building industry and a growing focus on kaupapa Māori research.

We are excited to continue progressing Te Tāhuhu o te Whare and our collaboration with Māori organisations and communities, including Te Rūnanga o Toa Rangatira.

Anahera Nin

Strategy and Partnerships Advisor, BRANZ

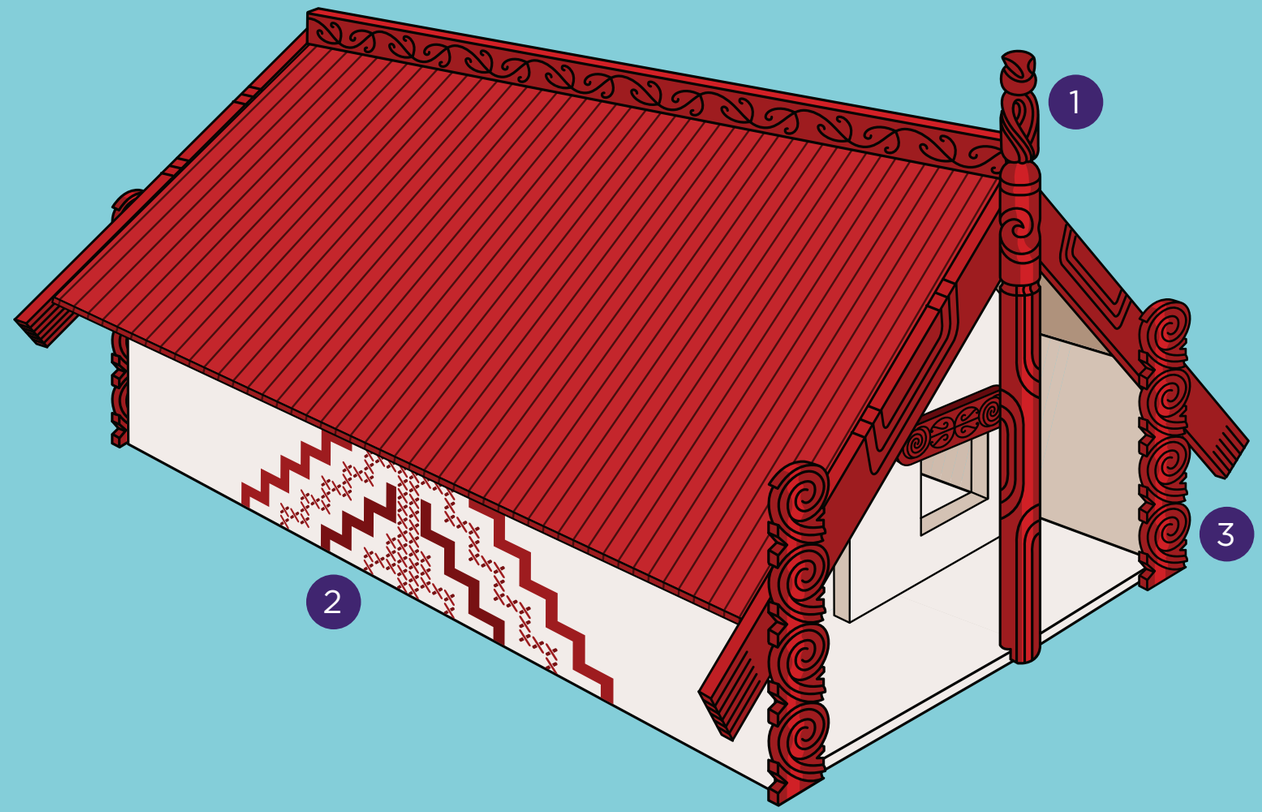
What's been involved in developing Te Tāhuhu o te Whare?
The framework began with the Building Better Homes, Towns and Cities National Science Challenge, whose mahi led BRANZ to develop a relationship with Te Rūnanga o Toa Rangatira. This connection sparked BRANZ's keenness for a strategic approach to te ao Māori.

Te Tāhuhu o te Whare has been developed from the ground up – through team workshops and working closely with Te Rūnanga o Toa Rangatira to shape a framework that reflects BRANZ and supports research impact. Ngāti Toa Rangatira's leadership in housing and infrastructure in Porirua has helped us reimagine what a genuinely Aotearoa-centric building research approach looks like.

Why is this journey important for BRANZ?
The future of building in Aotearoa is progressing. Māori communities, iwi and Māori developers, and mātauranga Māori are transforming the system. Te ao Māori gives BRANZ the chance to support building better by thinking differently – about people, place and purpose. Te Tāhuhu o te Whare supports BRANZ to deepen our impact, connect better with communities and deliver research that reflects our place and is fit for Aotearoa's future.

1 Pou Whakapakari

Building capability. Providing our people with opportunities to increase their knowledge and confidence to engage meaningfully with te ao Māori and Māori research. *Whakapakari* speaks to strengthening our cultural capability – supporting our team to grow in confidence, deepen understanding and build lasting, reciprocal relationships.



2 Pou Whakamaua

Weaving te ao Māori into BRANZ. Embedding te ao Māori as a core perspective across our policies, research and everyday practice. *Whakamaua* means to fix, fasten or attach, reflecting our commitment to anchoring Māori worldviews into the heart of how we work.

3 Pou Hononga

Strengthening partnerships and representation. Building genuine, reciprocal and enduring relationships with iwi, hapū and Māori organisations, with a focus on the Porirua rohe. *Hononga* speaks to connection and unity, guiding our commitment to shared decision making, respectful engagement and meaningful research partnerships.

Our year in highlights

Showcased our **four sector priorities** – affordability, quality, resilience and sustainability – to 200 industry leaders at Parliament

Invested in **27 new research projects** across our priority areas

Celebrated **50 years of BRANZ Appraisals**

Tested **building products for 151 organisations** across 305 projects

Provided **independent, evidence-based advice** on proposed sector reforms

Affordability

Launched **Build Insights**, a one-stop shop for trusted, reliable building data to help the industry make smarter planning decisions

Enabled virtual building inspections with **Artisan**, an app that helps cut costs, save time and improve quality

Developed **Next Homes**, a low-carbon home design that won't cost the Earth

Invested in research by Waipapa Taumata Rau University of Auckland that revealed up to **half a million days in productivity are lost each year** due to inefficient consenting

Quality

Secured hosting rights for the **2027 International Building Physics Conference**

Reinforced our **evidence-based support** for higher energy efficiency standards

Reimagined New Zealand roofs through our **warm roofs** research

Released new data on **energy use and living conditions** in Kiwi homes

Co-designed a resilient, healthy whare with the **Māori Women's Welfare League**

Resilience

Opened our new **fire lab**, a gamechanger for fire safety in New Zealand and globally

Led **Building Back Better** to help New Zealand prepare for a changing climate

Worked with the Chatham Islands community to combat **extreme corrosion**

Guided new building practices in a **geothermal hotspot**

Maintained **B-RISK**, New Zealand's most trusted fire modelling tool and third-most used internationally

Collaborated with the Natural Hazards Commission Toka Tū Ake (NHC), Ministry of Business, Innovation and Employment and the sector to develop **Design.Resilience.NZ**

Sustainability

Collaborated across the sector to reduce waste with our free **waste toolbox**

Partnered with CIL Masterspec on a **national carbon database** for construction materials

Built **zero-carbon construction skills** with practical tools and resources

Worked with ConCOVE Tūhura to lead a **UNESCO-UNEVOC panel on international construction trades training**

Future leaders

Kick-started collaboration for future industry leaders with **ArchEngBuild**

Reimagined BRANZ scholarships to invest in the next generation of building research

Showed **3,300 rangatahi in Porirua** what a career in science could look like

Supported **Innovative Young Minds** to inspire future female STEMM leaders

BRANZ ANNUAL REVIEW 2025

Launching the next decade of Building with Science

Thursday 6 March 2025, Parliament Banquet Hall

> By bringing together the different voices and perspectives around this room, we can tackle the complex challenges we face. Collaboration is our strength, and it's through this collective effort that we will drive meaningful progress.
>
> Claire Falck, BRANZ CEO

On 6 March, more than 200 leaders from across the building and construction sector convened at Parliament for an interactive briefing on the future of building research.

Co-hosted by Hon Chris Penk, Minister for Building and Construction, and BRANZ's CEO and Chair, the showcase unveiled the sector's research priorities for the next decade: affordability, quality, sustainability and resilience.

From new evidence to practical tools, sector leaders experienced real-world examples of how science and industry collaboration are tackling the sector's biggest challenges.

> We need solutions that are practical. I get it. And if there's one message I can leave you with today, it's that BRANZ gets it too.
>
> Nigel Smith, BRANZ Chair

Celebrating 50 years of BRANZ Appraisals

In 1974, BRANZ issued its first Appraisal for a basic building strap tensioner. Fifty years later, BRANZ Appraisals are the gold standard for independent, science-based evaluation of building products in Aotearoa New Zealand.

A BRANZ Appraisal is more than a tick of approval. It's a rigorous, in-depth assessment that provides assurance that a product or system meets the New Zealand or Australian Building Code.

BRANZ does not approve products for use. Our Appraisals are voluntary and they're highly valued because they give builders, regulators and homeowners confidence that a product should perform as promised in New Zealand's demanding conditions.

We can test how products perform in fires, earthquakes and extreme weather as well as testing their durability for decades to come. We also test products as part of building systems to see how they'll perform in real-world conditions. And with annual revalidations and 5-yearly reissues, BRANZ Appraisals offer ongoing assurance that products stay up to this standard.

After five decades, BRANZ Appraisals continue to support innovation, safety and trust in New Zealand's buildings

2024/25 at a glance

305 fire, materials and structural testing projects commissioned

151 organisations had products tested by BRANZ

388 cone calorimeter tests, which evaluate how materials ignite, burn and release heat – our most requested product test

> BRANZ Appraisals are essential to our business. They provide assurance to specifiers, builders and councils that our systems have undergone rigorous independent verification.
>
> Jason Wanden, Stoanz

Guide to BRANZ's testing and quality assurance services

BRANZ Appraised

BRANZ Appraisal

An independent, in-depth assessment to provide confidence that a product meets New Zealand or Australian Building Code requirements and performs reliably in real-world conditions.

CodeMark

A government-backed certification to show that a product performs as claimed. A CodeMark must be accepted by building consent authorities (BCAs) as evidence of compliance with the Building Code.

Bespoke testing and advice

Tailored testing and guidance from our building experts to support new product development, performance validation and compliance with New Zealand's unique building environment.

Affordability

Driving practical solutions for affordable buildings

watch

BRANZ ANNUAL REVIEW 2025: AFFORDABILITY

Delivering on affordability

Building affordability is one of Aotearoa New Zealand's most pressing social issues. We have some of the least affordable housing in the OECD.

For the past five decades, BRANZ has explored ways to boost productivity, support efficient decisions and ensure long-term cost-effectiveness during the build process. This has been delivered alongside our work to test and provide assurance that building materials will last the distance in our unique environment.

This year, we've prioritised this wide-ranging work into one concentrated focus: Making buildings more affordable for all New Zealanders to construct, maintain and live in.

We are working with the sector and decision makers to develop the data, insights, tools and practical solutions to deliver more affordable choices for building in Aotearoa New Zealand.

This year, we are prioritising:

- speeding up the consenting process
- exploring affordable housing models
- reducing building and operational costs.

at a glance Affordability

As at June 2025:

500,000 days productivity are lost per year due to inefficient consenting[1]

$201,000+ more to build a new home than buy an existing one[2]

6.6 times the average Kiwi income to buy a home[3]

176 m² average size of new stand-alone houses in 2024, down from 184 m² in 2023[4]

nearly **20% increase** in new-build costs since mid-2022[5]

BRANZ is investing in research to improve housing affordability:

$700k **new investment** in 2025/26

11 affordability projects completed or ongoing in 2024/25

[1] Hōete, A. (2024). *ModelDocs: Transforming building consenting behaviour for better housing* (BRANZ External Research Report ER91). BRANZ. branz.co.nz/pubs/research-reports/er91

[2] BRANZ. (2025, May). *Build Insights*. branz.co.nz/calculators-tools/buildinsights (Sources: CoreLogic, Stats NZ, REINZ and BRANZ)

[3] BRANZ. (2025, May). *Build Insights*. branz.co.nz/calculators-tools/buildinsights (Source: Infometrics)

[4] BRANZ. (2025, May). *Build Insights*. branz.co.nz/calculators-tools/buildinsights (Source: Stats NZ)

[5] BRANZ. (2025, May). *Build Insights*. branz.co.nz/calculators-tools/buildinsights (Sources: Stats NZ and BRANZ)

our people

Dr Chris Litten

General Manager Research, BRANZ

What is BRANZ's role in affordability?
Affordability is one of the biggest challenges in building today. Whether you're a homeowner, a builder or planning your future home, rising costs can feel overwhelming. At BRANZ, we get it. And we're here to help.

We're digging into what's driving costs and we're finding smart, practical ways to bring them down. One exciting project is **Next Homes**, a low-carbon, standardised home design that will be consent-ready and cost-effective. Coming later in 2025, it's designed to make building simpler and faster. We think of it as a blueprint for a better way to build.

We're also keeping a close eye on the materials and products going into buildings. The industry is changing fast with new, more sustainable options that last longer and cost less in the long run. That's a win for your wallet and the planet.

And we're tackling sector waste. For example, our guidance on using less timber in wall framing can cut timber costs by up to 10% and improve insulation performance. Little changes like this add up to big savings during construction.

What about consenting? Isn't that a major roadblock?
We hear it all the time: the consenting process can be slow, confusing and expensive. And that's not just frustrating – it's costly.

We invested in research by Waipapa Taumata Rau University of Auckland that found that inefficient consenting costs the sector half a million days of productivity each year. This was often due to incomplete or inconsistent information being sent to BCAs. So we're working on ways to make that process clearer and more efficient for everyone involved.

One of our most popular tools is ***Artisan***, an online inspection tool that speeds up the consenting process, ensures quality, and creates a reliable record for councils and builders. It's already saving people time, money and a whole lot of stress.

What practical support is BRANZ providing to tackle building costs?
We're focused on developing practical tools the sector can use today. For example, our free online tool **Build Insights** brings together building system data in one easy-to-use place. It helps uncover what really drives affordability, giving the sector better insights to make informed decisions.

At BRANZ, we believe that affordability is about building smarter and more sustainably, with people at the heart of every decision – because when homes are more affordable, everyone wins.

in their words

Ankit Sharma

Chief Executive, Master Builders

What can we do to move the needle on affordability?
Affordability has been a long-standing challenge for our sector, and while there's no silver bullet, there are practical steps we can take right now to make a real difference.

One of the most consistent issues our members raise is delay in the consenting process. Master Builders has welcomed the government's recent move to introduce inspection timeframes and move towards a risk-based consenting model for trusted builders. These steps should reduce cost and complexity for straightforward builds and allow councils to focus their attention where it's needed most.

At the same time, our sector is working hard to improve the speed, consistency and quality of delivery. That includes smarter procurement, simpler contracting and better sharing of risk. We believe that affordability isn't just about inputs - it's about how well the whole system performs.

What role do technology and evidence play in improving outcomes?
Technology also has a critical role to play. We've seen the benefits of tools like BRANZ's Artisan app in driving smarter decision making and improving efficiency across the system, and we look forward to seeing the potential of the Build Insights platform. Digital tools, data-driven insights and scalable home designs, like BRANZ's Next Homes concept, can all contribute to more affordable outcomes if we're bold enough to back them.

Independent research, data and insights from organisations such as BRANZ are essential in this equation. Whether it's helping to define affordability, exploring new building methods or highlighting the costs of inefficiency, it enables the sector to ask better questions and find better solutions.

How are Master Builders and BRANZ working together to drive change?
Master Builders and BRANZ share a commitment to lifting performance right across the sector. Whether it's improving the consenting process, supporting new building methods or creating tools that enhance productivity, we know that collaboration is the only way to tackle affordability in a meaningful way.

We continue to work closely with the team at BRANZ across our working groups, and as we have in previous years, will look to incorporate their expertise at our flagship events like Constructive to ensure practical solutions are getting through to Master Builders members.

We're proud to be helping to shape a sector that builds better and smarter for all New Zealanders. Addressing affordability requires leadership, collaboration and action, and we are committed to playing our part.

BRANZ buildinsights

Smarter insights for a stronger industry

Delivering smarter affordability data

The industry needs reliable, trusted data to make decisions. But for many years, it's been difficult to find, access and understand the wide range of data from across Aotearoa New Zealand's building and construction sector.

This year, BRANZ has developed Build Insights, a free online tool that brings together trusted economic data and insights in one place for the first time. It tracks key trends and signals in the sector, helping people 'connect the dots' and make smarter planning decisions. The tool was made available in May 2025.

"For many years, our sector partners have told us how hard it was to identify emerging opportunities and challenges. They want to better track the impact of changes and understand how different parts of the building sector interact with each other," says Claire Falck, BRANZ CEO

"Having all this data in one place means anyone can easily track building system trends and outcomes, which will help support industry best practice, decision making and analysis."

> Having all this data in one place means anyone can easily track building system trends and outcomes, which will help support industry best practice, decision making, and analysis.
>
> Claire Falck, BRANZ CEO

Build Insights is open to everyone – and can be used in a range of ways:

- For industry professionals, Build Insights signals future construction demand and workforce trends – helping build a pipeline of work and plan for needed people and resources.
- For people looking to build, buy or rent a home, the tool helps compare the affordability of those decisions.
- For researchers, Build Insights provides access to reliable, ready-to use data and information to assess the need for new areas of research.
- For central and local government, the tool makes it more efficient to respond to questions about sector data and trends, since the information is all in one place. You can also look at regional differences in sector indicators.

The tool presents data across seven key areas of the building system and includes:

- housing demand
- construction forecast pipeline
- workforce trends
- land availability and section prices
- predicted build delivery and consenting times across the country
- builder and trade performance indicators
- living conditions for New Zealanders
- trends and changes across the building sector
- uptake of innovation and resilience of the sector

find out more

in their **words**

Matt Duder

Managing Director, EBOSS

How does EBOSS contribute to Build Insights?
For nearly two decades, EBOSS has been a trusted resource for New Zealand's architectural community, with over 30,000 registered users and 70% of architects using the platform to research building materials. We simplify technical product info, promote product education and innovation, deliver in-practice training and conduct industry research.

In collaboration with BRANZ and New Zealand Certified Builders, EBOSS conducts an annual sentiment survey that tracks the current and projected workloads of builders and architects. The data informs the Build Insights platform and our quarterly report forecasting demand for residential and commercial construction.

This data goes beyond consents and models actual completions, offering a clearer view of industry progress. Ultimately, we provide reliable, evidence-based insights to support better decision making across the sector.

How do you see Build Insights helping the sector?
It's a significant development that consolidates trusted data from more than a dozen organisations into one intuitive platform. By presenting related datasets, it helps builders, architects and suppliers to anticipate market trends and make informed decisions. Unlike raw reports, Build Insights promotes data-driven decisions, offering accessible data that supports strategic planning in a fast-moving industry.

Who else could benefit from using Build Insights?
The tool will be useful for project financing. Banks and lenders can use it to quickly assess the viability of developments, especially for large-scale community and affordable housing projects. By showing market trends and development potential, Build Insights supports smarter investment decisions, enabling faster backing of projects that deliver affordable homes across social, developer-led and private markets.

What's next for the tool?
There's an opportunity for our industry to become more strategic and data-driven, and BRANZ is leading the way. With access to strong, reliable datasets, we can start making much smarter, more informed decisions.

There's untapped potential in connecting with universities – particularly in areas like property, planning and architecture. There's a wealth of theoretical research that could benefit the industry if we engage with it more. Build Insights feels like the beginning of a much bigger journey.

Speeding up the consenting process

Working closely with the sector, we consistently hear that consenting is one of the biggest challenges that contributes to delays and increased costs.

Over the past decade, within BRANZ and in collaboration with partners across the motu (country), we have developed research, evidence and tools to standardise consenting requirements, streamline consents and explore the potential of new technologies.

With major reform of the consenting process under way this year, BRANZ has a wealth of data, insights and industry-tested tools available to support more efficient consenting in Aotearoa New Zealand.

BRANZ Artisan: Boosting productivity, backing quality

*In a sector where time is money and quality is essential, BRANZ's **Artisan app** is a game-changer.*

Developed as a free, easy-to-use digital tool, Artisan is helping builders, Building Consent Authorities (BCAs), and homeowners streamline the building process: saving time, reducing costs, and improving build quality.

Smarter building, faster consenting

Artisan supports builders by providing remote virtual inspections, real-time documentation, and evidence-based compliance. This means fewer delays, faster approvals, and better communication between builders, councils, and clients. It's a practical solution that keeps projects moving while maintaining high standards of workmanship.

Quality you can prove

With Artisan, every stage of the build is documented and stored, creating a permanent, transparent record of compliance and quality. This not only supports better building practices but also reduces the risk of rework and liability. For BCAs, it means faster, more efficient inspections. For homeowners, it means peace of mind.

Backed by research, built for the sector

Consenting delays have long been a challenge for the sector – in fact, recent research by the University of Auckland, supported by BRANZ, revealed that inefficiencies in the consenting process cost the industry up to half a million days in lost productivity each year (page 28). With input and testing from across the sector, Artisan was developed in 2015 in direct response to these challenges – and is helping to close the gap between compliance and construction.

A win-win for everyone

Whether you're a builder looking to reduce delays, a council aiming to improve inspection efficiency, or a homeowner eager to move in sooner, Artisan delivers. It's free, it's proven, and it's making a real difference.

in their **words**

Jeff Fahrensohn

Manager Field Surveying, Auckland Council

How is Artisan making a difference to your work?

Our building inspection team does about 200,000 inspections every year. Sometimes in the peak periods, we do 1,000 a day across the city.

We've been using Artisan since the beginning, and there are great benefits. We noticed that, when builders started using it, a lot of them were learning to become inspectors themselves in terms of upskilling Building Code knowledge while they're doing the shot lists, and that helped quality almost overnight.

I want to advocate for the efficiency gain that you can get from using Artisan, and when you've got the ability to make those small refinements, whether it's in the regulatory part of it or the construction phase, that's only going to help affordability in the long run.

find out **more**

Aidan Jury

Sales and Franchise Director, Jennian Homes

Jennian Homes is moving rapidly into using Artisan. What's the ultimate benefit you see?

It's keeping our projects moving. We're seeing about 6 weeks of time saved on an average site.

If we can take time out of construction, we're speeding up build time, we're handing over houses faster, we're giving the regional authorities better records of work and we're providing enduring documentation around the quality of those homes over time.

It's just simple maths – a faster build is a more economical build for the client.

> It's just simple maths – a faster build is a more economical build for the client.
>
> Aidan Jury, Jennian Homes

Understanding delays in consenting

Inefficient consenting is estimated to cause half a million days of lost productivity per year.

That's a key finding of **ModelDocs: Transforming building consenting behaviour (complete)**, a research project led by Waipapa Taumata Rau University of Auckland with investment from the Building Research Levy.

Researchers analysed hundreds of consenting applications and thousands of requests for information (RFIs) to pinpoint areas causing delays and identify where additional tools and training are needed. They focused on applications in May 2023 at Auckland and Tauranga Building Consent Authorities (BCAs), which accounted for 46% of all consenting applications that year.

They found that information from submitters is often incomplete, which contributes to delays, and that 86% of RFIs related to submitter behaviour and 14% to receiver behaviour. Of the 86%, the main issue was missing and incorrect documents. Of the 14%, the main issue was that RFIs need not have been sent.

Another problem – regularly raised by the sector – is inconsistencies in how consents are handled across Aotearoa New Zealand. With more than 60 BCAs and over 1,200 building control officers (BCOs), there is a lot of variation.

More education for submitters would help reduce missing documentation and decrease RFIs, the report says. It also recommends that BCAs will benefit from guidelines on how to be consistent in their approach to RFIs.

The project was led by Waipapa Taumata Rau University of Auckland in collaboration with BRANZ, Auckland Council, Tauranga City Council, Ministry of Business, Innovation and Employment, Building Officials Institute of New Zealand, New Zealand Institute of Architects, Licensed Building Practitioners, Engineering New Zealand, Simpli, Objective Build, EBOSS, builders, manufacturers and suppliers.

find out more

Progress towards AI-assisted consenting

In the next few years, the New Zealand construction sector will see increased adoption of technologies.

One particular area where we are likely to see high impact is on digital consenting systems, which will become more reliant on processing large amounts of data.

Artificial intelligence (AI) is seen as a potential tool to enhance digital consenting systems, assisting with processing and automating parts of the process that currently require manual checks of vast amounts of documentation.

BRANZ is undertaking a research project **Can AI be helpful in the consenting process? (new)** to identify where AI could be used by building control officers (BCOs) to create efficiencies in the consenting process.

So far, the research suggests many of the issues BCOs experience are related to missing documentation or inaccurate information, triggering requests for information.

In interviews, BCOs across the country envisioned three ways AI could help alleviate these issues:

- Assisting with pre-submission checks, beyond the presence of documentation, to verify the completeness and accuracy of information provided.
- Understanding specifications and supporting evidence.
- Assisting with written communication during RFI processes.

The next steps for this project are to collect more possible AI use cases from BCOs; and talk to consent submitters to get their perspectives on the consent process and potential AI applications. Then the project will consider which of the use cases are feasible to trial and implement with building consent authorities.

As well as working with BCOs, the research team is working with industry partners and stakeholders, including universities, councils, the Fraunhofer Institute for Building Physics and Ministry of Business, Innovation and Employment.

find out more

Exploring affordable housing models

Aotearoa New Zealand has some of the least affordable housing in the OECD. In April 2025, the total average price for a house was $812,195 – about six times the average Kiwi income.

Housing affordability is a complex issue that touches many different sectors of New Zealand's economy. While there's no quick fix, there are many steps we can take now to help improve affordability in the future.

This year, BRANZ is taking an independent view of the drivers that impact affordability in New Zealand – from market forces to supply chain and how they relate to quality, resilient and sustainable homes.

Affordability is also influencing new ways of living in Aotearoa New Zealand. Using both international and local examples, BRANZ is exploring research to help rethink our rental housing market, multi-generational living and lower socio-economic housing solutions.

Defining affordability in housing and construction

New Zealanders need housing that is affordable to build and buy, maintain and live in. Access to housing is one of the most significant and enduring issues facing Aotearoa New Zealand.

But *how* to solve this issue is hotly debated – in part, because affordability means different things to different people. To find solutions, we need a common language.

Defining affordability in housing and construction (new) aims to support an independent view of housing affordability in Aotearoa New Zealand to inform the next decade of research into real-world building solutions. Ultimately, it is a step towards improving access to affordable housing for all New Zealanders.

By outlining the main factors that directly relate to building and construction, this work will form the basis for a shared understanding with the sector on what affordable housing really means in Aotearoa New Zealand.

Future-proofing new-build homes

Most new-build homes are only as durable as the New Zealand Building Code requires.

Few go beyond, despite increasing support and guidance, according to BRANZ 2023 research into the sustainability of homes built in 2020.

Assessing the affordability and impact of building New Zealand housing (new), led by NZIER, aims to provide economic evidence to show the benefits of building homes that last longer and adapt better to future changes.

This research looks to inform future Code requirements, government and council policies and building practices. Ultimately, these insights aim to support affordable, healthier, energy-efficient, lower-carbon and durable homes – enhancing the resilience and sustainability of the country's housing.

The role of the private rental market in affordability

The private rental market is crucial for low to moderate-income households in Aotearoa New Zealand.

From 1986 to 2018, rental homes owned by private investors increased by 191%. However, the total number of rental homes increased by only 53%.

Affordability of rentals has also changed dramatically. In 1988, 19% of renter households spent over a third of their income on rent. By 2022, this rose to 46% of renters spending more than a third of their income on rent.

Affordable private rental supply and demand in New Zealand (new), research led by Livingston and Associates, builds on earlier research by BRANZ and aims to analyse the private rental market's performance since the reforms of the early 1990s.

The research will assess whether rental property supply is affordable for low and moderate-income households and aims to influence policy discussions.

Can alternative housing tenures provide affordable pathway to home ownership?

In Aotearoa New Zealand, stepping onto the home ownership ladder is becoming increasingly difficult.

Fewer people are living in homes they own, leading to a growing population of lifelong renters. Alternative housing tenure models offer a promising pathway into home ownership for low to medium-income households.

Led by Te Kunenga ki Pūrehuroa Massey University, **Affordable alternative housing pathways (ongoing)** is looking at models offered by community housing providers and iwi and Māori organisations. It explores what we can learn about potential pathways to home ownership that are culturally appropriate, sustainable and accessible to a range of households.

This year, researchers completed a review of emerging trends and future directions for affordable alternative housing tenures. They are now collecting household-level interview data to build a wide evidence base on these alternative tenure models.

The study aims to enhance the capacity of non-governmental housing providers, foster innovation and develop best practices. Ultimately, it works to support access to greater housing security and home ownership for low to medium-income households.

Ngā mihi to the research advisory group, which includes members from Community Housing Aotearoa Ngā Wharerau o Aotearoa and Ministry of Housing and Urban Development Te Tūāpapa Kura Kāinga.

Assessing the size of the low to moderate-income housing market

Many lower-income households in Aotearoa New Zealand struggle with insecure and unsuitable housing because they don't qualify for public housing.

About 194,000 renter households spend over 30% of their income on housing, and 84,000 spend over 50%. One in four low income and one in ten moderate income renters are paying more than half their gross household income in rent.

Housing solutions for low to moderate-income families with low equity (ongoing) aims to find new solutions by learning from other countries' housing models. Led by Livingston and Associates, the early findings show that existing housing solutions such as shared equity and rental options are often not affordable for these groups in Aotearoa New Zealand. The main issue is that these households don't earn enough to cover the costs needed to create returns on affordable housing investment for private suppliers. While the government offers support through the Accommodation Supplement, research findings show that this hasn't effectively improved affordability.

The research is now exploring how to limit housing costs to 30% of household income. Potential solutions being tested include addressing access to affordable capital, resource management reform, local government planning and broader government policies.

find out more

Reducing building and operational costs

In June 2025, it cost $201,000+ more to build a new house than to buy an existing house.

For many years, BRANZ has invested in research that provides practical steps to reduce costs in the building process.

An important new tool this year is a low-carbon, open-source and affordable design for a three-bedroom home. We have also published new guidance on timber framing ratios, which will reduce costs and improve build quality.

Low-carbon homes that won't cost the Earth

A low-carbon home design that won't cost the Earth will soon be in reach for many New Zealanders.

Next Homes is BRANZ's first open-source and consent-ready design for a good-quality, three-bedroom home.

The fully costed drawings have been designed to work with people's lifestyles and budgets, but with about 50% less carbon than a standard house.

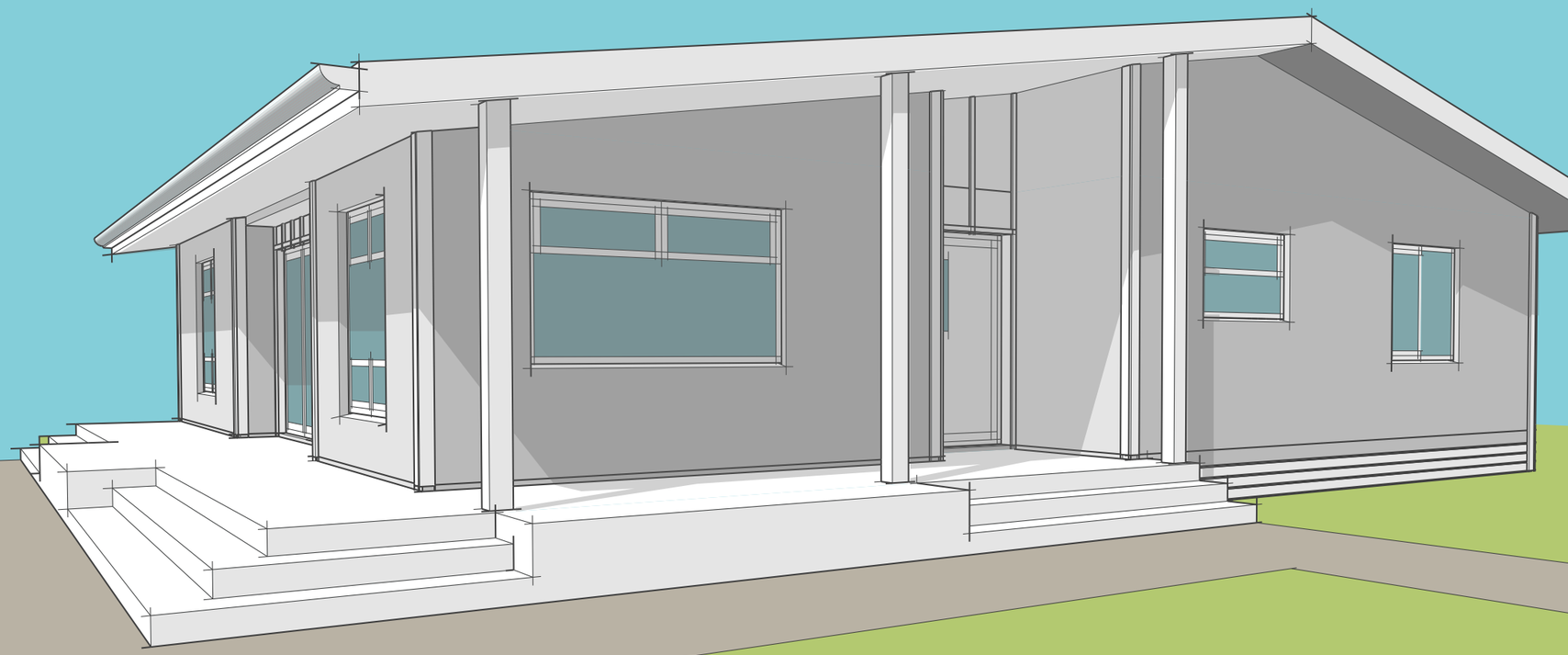
In partnership with Ministry of Business, Innovation and Employment, the design will also have MultiProof approval, meaning that it meets the Building Code, which speeds up consenting and reduces construction costs.

BRANZ architects, building physicists and environmental scientists have worked with industry partners to make sure the design is fit for purpose, comfortable, durable, resilient and practical to build.

The design is also flexible to work with different lifestyles and will come with sustainable design guides and advice, backed by BRANZ research.

> Our goal is to make it easier for everyone in the building and construction sector to build more sustainably – for their clients, for the environment and for future generations.
>
> Dr Casimir MacGregor, Principal Behavioural Scientist, BRANZ

> Next Homes is a practical, flexible, open-source design for more sustainable and quality housing, which will cost less in the long run. It has the potential to shift the way we build in Aotearoa New Zealand.
>
> Bruce Sedcole, Lead Architect, BRANZ



Cutting costs by rethinking framing ratios

BRANZ continually looks for simple, practical ways the sector can save on costs while building to a high standard.

This year, our scientists have developed new guidance for timber framing ratios, which uses fewer dwangs (horizontal bracing between wall studs to add rigidity to the wall frame) and increases stud space to 600 mm centres (up from 400 mm). Less framing also means less heat loss and gain.

BRANZ and Beacon Pathway research has shown timber framing in walls averages around 34% of the total wall area – much higher than the minimum values allowed for in clause H1 *Energy efficiency* Acceptable Solution H1/AS1. As most new builds incorporate prenailed frames (prefabricated frames that reduce the amount of carpentry work needed on site), there is an opportunity for designers to work with frame manufacturers to review or reduce framing in external walls. These simple changes meet quality requirements, reduce timber costs by 5–10% and improve insulation performance by 10–15% – all without any extra work.

find out more

Quality

Ensuring buildings are safe, healthy and fit for the future

watch

Delivering on quality

In Aotearoa New Zealand, quality isn't a luxury – it's a necessity. In our unique environment, buildings must be durable, well designed and built right the first time.

At BRANZ, we provide research, testing and guidance to lift quality at every stage of the building cycle to help to ensure materials, methods and standards are fit for purpose.

This year, we've strengthened the evidence base for better decision making and supported the sector to adapt to change. Working with builders and homeowners, we're helping to improve building practices so that quality construction is built into every project.

This year, we are prioritising:

- championing energy-efficient buildings
- backing healthier homes for New Zealanders
- lifting quality across the sector.

at a glance Quality

$141 million in annual public sector costs linked to substandard housing[6]

$4,000+ in health and energy savings for every **$1,000** spent on insulation and heating retrofits[7]

50%+ of homes have inadequate roof insulation[8]

6–10% increase in indoor summer temperatures over the past 20 years[9]

BRANZ is creating practical solutions to improve quality:

50+ years of expertise in quality research

More than **20 standards** contributed to in the past year

34 quality projects completed or ongoing in 2024/25

$2 million new investment for research starting in 2025/26

[6] Riggs, L., Keall, M., Howden-Chapman, P., & Baker, M. G. (2021). Environmental burden of disease from unsafe and substandard housing, New Zealand, 2010–2017. *Bulletin of the World Health Organization*, 99(4), 259–274. doi.org/10.2471/BLT.20.263285

[7] Grimes, A., & Preval, N. (2020). *Warmer Kiwi Homes Evaluation 2020: Phase 1*. Energy Efficiency and Conservation Authority. eeca.govt.nz/assets/EECA-Resources/Research-papers-guides/warmer-kiwi-homes-evaluation-phase-1-motu.pdf

[8] White, V. (2020). *Assessing the condition of New Zealand housing: Survey methods and findings* (BRANZ Study Report SR456). BRANZ Ltd. branz.co.nz/pubs/research-reports/sr456-assessing-condition-new-zealand-housing-survey-methods-and-findings

[9] BRANZ. (2025). *HEEP2 – Energy use & living conditions in New Zealand homes*. branz.co.nz/healthy-homes-research/heep2-energy-use-living-conditions-in-nz-homes

our people

Steve McNeil

Senior Building Physicist, BRANZ

Why is independent scientific evidence so important in the building sector?
Independent research gives decision makers and the sector a clear picture of what's really happening in our homes – from moisture and ventilation to durability and energy use.

I've been working at BRANZ for the last 25 years, helping to build a solid evidence base to help improve how we design and build in Aotearoa. We then translate that science into practical advice.

How does BRANZ help improve the quality of New Zealand buildings?
We're involved at every stage of the building system. That includes testing materials, supporting innovative new building methods and providing guidance to lift performance across the sector. We think beyond the minimum standard. We want every New Zealander to live in a home that supports their health, wellbeing and productivity.

What role does BRANZ play in New Zealand's building standards?
We actively contribute independent advice to the development of New Zealand's building standards – this year alone, we've been involved in over 20 building standards.

Our independence and reliance on evidence brings an important perspective to progressing the documents that underpin the building sector. As more is demanded of our buildings, it's important we can bring the right pieces of the puzzle to the table to help the industry deliver.

We also help the sector apply new standards. When the clause H1 *Energy efficiency* changes came in, we developed tools, ran seminars and launched the H1 Hub to make the transition easier.

Why is it important to stay on top of new innovations in buildings, especially for New Zealand?
Our regulatory environment and housing stock are unique, so we can't always copy and paste overseas solutions. We also need to manage some of the challenges presented by the natural hazards in New Zealand. We work with research organisations internationally to keep up to date with the science, leveraging off the work of our peers.

This allows us to test how international innovations will perform in local conditions to see what really works here, like our work on warm roofs. Everything we do is grounded in evidence, so we can be confident it will deliver long-term benefits for Kiwi buildings.

Independent evidence to inform New Zealand building standards

At BRANZ, we play a key role in strengthening New Zealand's building standards by providing trusted, independent advice grounded in robust data and research.

Our experts work closely with building standards committees and industry groups to ensure that the rules shaping our built environment are practical, up to date, evidence based and suited to New Zealand's unique conditions.

Over the past year, our scientists have contributed to more than 20 building standards – including NZS 3604, which underpins the design of light timber-framed buildings used for around 90% of New Zealand homes.

Beyond supporting standards, we also help the sector understand and apply regulatory changes. For example, in response to updates to clause H1, BRANZ provided detailed modelling and cost analysis to support both Ministry of Business, Innovation and Employment and the wider industry (see page 48 for more detail).

When building standards are informed by data, research and independent expertise, they lead to safer, smarter and more sustainable buildings for all New Zealanders.

> Our independence and reliance on evidence brings an important perspective to progressing the documents that underpin the building sector.
>
> Steve McNeil, BRANZ Senior Building Physicist

Championing energy-efficient buildings

Energy-efficient buildings are more comfortable to live in and cheaper to run. In Aotearoa New Zealand, where heating and cooling needs vary widely, smart design and construction can significantly reduce long-term energy costs.

At BRANZ, we've been researching real-world energy use in Kiwi homes for decades. Our work supports better decisions on insulation, ventilation and building systems, helping New Zealanders avoid energy waste and improve comfort.

Improving energy performance isn't always simple, but with the right mix of design, regulation and practical advice, we can build homes that are better for people, the planet and the pocket.

BRANZ's landmark study into home energy use and indoor conditions

To improve the health and energy efficiency of New Zealand homes, we need reliable, up-to-date data on how people live and use energy.

BRANZ's Household Energy End-use Project 2 (HEEP2) study builds on research from the early 2000s, which provided critical evidence on conditions in New Zealand homes, helping shape key initiatives like Warm Up NZ and Warmer Kiwi Homes.

Since then, energy use has changed, with the rapid uptake of heat pumps, more electric vehicles, a push to cut carbon emissions and growing pressure on the power grid. HEEP2 gives us the evidence to guide better housing policy and smarter design and guidance to support healthier, energy-efficient homes.

The study includes

- monitoring **330 homes** across Aotearoa for at least 12 months
- surveys with **750+ households**, including interviews and site visits with 425 households
- access to **metered energy data** from electricity retailers.

BRANZ teamed up with Tatauranga Aotearoa Stats NZ to recruit households and gather data. The study is funded by the Building Research Levy, with support from Ministry of Business, Innovation and Employment and the New Zealand Green Building Council.

The full data collection finished in **April 2025**. BRANZ is now processing the data, analysing results and sharing key findings.

our advice

To stay comfortable and energy-efficient all year, especially as summers get warmer, we need to think about the home as a whole, not just parts.

Good design is essential for this. Key elements such as which direction the house faces, window placement, shading, insulation, heating, cooling and ventilation must work together. When designed as a system, they create healthier, more comfortable living environments.

20 years on: Data shows Kiwi homes are hotter in summer, warmer in winter

Our preliminary summer and winter HEEP2 reports draws on survey data from 425 households, with detailed temperature analysis from around 150 homes.

What we found during winter 2023:

- Indoor winter temperatures have increased by 2.1–3.1˚C (12–23%) over the past 20 years.
- Evening temperatures in living rooms averaged 19.9˚C, while overnight bedroom temperatures averaged 16.1˚C. The World Health Organization minimum recommended temperature is 18˚C.
- Only 25% of bedrooms were above 18˚C overnight.
- Almost half of householders felt their home was colder than they would like in winter at least some of the time.
- Heat pumps were used to heat living areas in over 60% of households.

What we found during summer 2023/2024:

- Indoor summer temperatures have increased by 6–10% (1.3–2.1˚C) over the past 20 years. Outdoor temperatures have risen by 4–8% in the same period (NIWA).
- Average evening temperatures in living rooms and bedrooms exceeded 24˚C.
- 36% of 310 bedrooms were classified as overheating using an industry-standard method.
- 70% of people felt their home was too warm in summer at least some of the time.
- More people felt too hot in summer than too cold in winter.

find out more

our people

Vicki White

Senior Research Scientist and Project Manager for HEEP2, BRANZ

Tell us about HEEP2?
HEEP2 is a national study of energy use and conditions in New Zealand homes. It was initiated to update the findings of the original HEEP study, which was undertaken in the early 2000s. It provided valuable insights into how cold New Zealand homes were and how energy was used, and it is still referenced in policy and in tools such as Powerswitch. HEEP2 aims to update this data to help inform new tools and policy.

Over 750 households took part in the study in some capacity. Data collection includes combinations of surveys, building and appliance audits and the installation of custom-built monitoring equipment to record indoor conditions and electricity use over 12 months.

Who was involved in the project?
The project relied on a multi-disciplinary team from across BRANZ with a wide range of expertise – from IT and communications to research – as well as many people completing the fieldwork.

The study could not have succeeded without willing householders taking part and allowing equipment to be installed in their homes for a year – we are very grateful to them! Many people were motivated by their own experiences with cold or damp homes and wanted to help improve housing in New Zealand. At the end of the data collection, these households were given personalised reports on their home's indoor conditions along with practical tips for improvement.

What has the data shown so far?
Early findings show homes are generally warmer than 20 years ago, especially in living areas in winter, likely due in part to increased use of heat pumps. However, many bedrooms remain too cold overnight, and some homes are too warm in summer. Overheated homes are uncomfortable and can exacerbate health issues and impact sleep.

What's next for the data?
We'll continue to analyse the data into 2026. The data will have a wide range of applications and use, supporting future research and policy, and we'll continue to work with our collaborators and key users.

in their words

Malcolm Fleming

Chief Executive, New Zealand Certified Builders

How important is data in reviewing building regulations?
Data is essential. During the H1 update, there were many anecdotal claims – such as homes overheating or rising costs – but policy must be based on facts. BRANZ played a key role by providing scientific evidence and cost analysis to support the commentary from industry voices such as New Zealand Certified Builders (NZCB) and New Zealand Green Building Council. This contribution from BRANZ was important and helped shift the conversation from speculation to informed decision making.

What tools help builders with H1 compliance?
Simple, accessible tools are vital. Builders and designers use online calculators and resources from the BRANZ H1 Hub, developed with Ministry of Business, Innovation and Employment and the New Zealand Construction Industry Council, to assess insulation and energy performance. These tools make it easier to meet new standards without needing deep technical expertise.

Should builders involve homeowners in these decisions?
Yes, especially in retrofit projects where there may be no architect or designer. Builders often guide homeowners through insulation and energy efficiency options, explaining cost-benefit trade-offs and long-term savings. The more data and tools they have, the better they can support informed decisions.

Why are healthy, dry homes important?
They're critical for health, comfort and affordability. Healthy, dry homes reduce illness and lower energy bills. H1 supports this by setting clear standards for insulation and energy efficiency in both new builds and retrofits, improving living conditions across New Zealand.

How can we better balance affordability and quality in housing?
By rethinking how we build. Moving towards modular construction, interchangeable components and automation like robotics can reduce costs, speed up construction and maintain quality, helping address both affordability and housing supply challenges. NZCB's immediate contribution in this space is our new NZCB Studio, providing set designs from a leading firm of architects, which are documented within weeks and priced at a level that makes quality design accessible to Kiwis.

What's the big take-away from the H1 experience?
The H1 update highlighted the power of collaboration. Builders, regulators and researchers worked together to support the roll-out. Tools, education and data-driven insights helped unify the industry, offering a model for tackling future challenges. The biggest take-away from the H1 discussion that played out in mid-2024 is that homeowners care deeply about having warm, dry and energy-efficient homes.

Adapting to energy efficiency standards

Technical tools and guidance for achieving H1 compliance

BRANZ research is helping the industry adapt to smarter insulation and ventilation solutions for more energy-efficient, comfortable homes.

In 2023, key updates to Building Code clause H1 raised thermal performance standards for new homes – requiring more insulation to improve comfort, reduce energy use and lower carbon emissions, aligning with international best practice and homeowner expectations.

To help adapt to these changes, BRANZ has worked with the sector to deliver:

- an easy-to-use **calculation method guide**
- the **H1 Hub** – an online platform with interactive tools and expert advice
- seminars, webinars and e-learning reaching over 10,000 participants
- updated resources like the *House Insulation Guide* (6th edition), *Build* articles and BRANZ bulletins
- direct support via the BRANZ 0800 helpline.

find out **more**

Investigating cost-effective delivery of H1

In late 2024, as part of its review of the standards, Ministry of Business, Innovation and Employment asked BRANZ to assess the cost and benefits of H1 compliance methods. Our findings showed that:

- **using the calculation and modelling methods** can reduce upfront costs, compared to the schedule method, as they often require less insulation to meet compliance
- **advanced modelling** offers more design flexibility and helps address overheating risks.

We're working with the sector to encourage a shift towards more advanced computer modelling, which offers greater design flexibility and helps address overheating risks.

Timeline

- November 2023: Government introduces H1 changes. BRANZ launches H1 Hub and national workshops to support sector.
- July 2024: Government announces review of H1. BRANZ publishes its support for the existing standards.
- November 2024: MBIE commissions BRANZ to conduct cost-benefit analysis, included in its public consultation.
- February 2025: BRANZ submits formal feedback on H1 review. Public consultation closes. Outcomes due later in 2025.

Reinforcing our support for energy efficiency standards

In 2024, the government announced a review of the H1 updates to investigate concerns about cost, affordability and overheating. BRANZ responded with independent evidence, outlining five key reasons to maintain the standards:

- **Standards are based on scientific evidence.** They reflect the latest science for thermal performance across climates and building types.
- **Insulation does not cause overheating.** It stabilises indoor temperatures year round, reducing both heat loss and heat gain.
- **Design matters.** Overheating is usually caused by poor design, not insulation. Orientation, windows, shading and ventilation all matter.
- **Avoiding the costs of reversing the changes.** Energy-efficient homes save money over time. Reversing the standards would waste years of investment in research, tools and training by government and industry.
- **Supporting climate goals.** The building sector plays a major role in reducing emissions, and these standards help move us in the right direction.

our opinion

H1 compliance should encourage better understanding of how design choices affect real-world performance. By focusing on flexibility and results across the whole building, we can create homes that stay comfortable all year.

see our **submissions**

Informing smarter energy decisions

Better home energy advice for New Zealanders

Improving home performance in New Zealand isn't always easy. It often requires households to make choices and trade-offs that can be complex and hard to navigate.

Understanding the home energy advice landscape in Aotearoa (new) will explore how personalised Home energy advice can better support household decision making. As demand grows for warmer, healthier and more energy-efficient homes, the advice sector has expanded – but without clear standards, training or long-term funding.

Led by Beacon Pathway, in partnership with Allen + Clarke, the research will map the current state of the sector, identify gaps and explore future needs. It will also look at what skills and support advisors need to deliver trusted, effective guidance.

This work aims to strengthen the home energy advice sector so that more New Zealanders can access reliable advice and make confident, informed choices for healthier, lower-carbon homes.

Understanding the impacts of energy efficiency in community housing

Can smarter energy design improve the lives of people in community housing?

A study is exploring the impacts of Te Kī a Alasdair, a purpose-built apartment block in Wellington for residents with disabilities and complex needs. Opened in 2023, the building uses solar energy for heating and hot water, aiming to reduce energy costs and carbon emissions.

Using this real-world example, **Evaluation of the innovative energy design of Te Kī a Alasdair (new)** will first assess its energy use, including the reduction in grid energy reliance and carbon emissions. The analysis will focus on the hot-water pump system used for tap water and space heating. Potential future research may explore how the building's design affects the lives of residents.

Led by University of Canterbury, this Building Innovation Partnership project will show how thoughtful design can support both sustainability and quality of life in community housing.

Te Kī a Alasdair was created by Maurice and Kaye Clark, founders of Kirva Trust, in memory of their son Alasdair, and developed in partnership with Emerge Aotearoa, Homes of Choice and Ministry of Housing and Urban Development.

Making retrofit solutions effective and practical

Housing plays a big role in our country's overall energy consumption and carbon emissions, yet extensive renovations or demolitions can add significantly to the cost and carbon footprint of a home.

To tackle this challenge, a new research project – **Impact of retrofit strategies** – will explore the energy performance, moisture control and thermal comfort of retrofit strategies for freestanding New Zealand homes.

With scholarship funding from BRANZ and using data from the Beacon Pathway database, PhD student Masi Shiran of Victoria University of Wellington Te Herenga Waka will model different retrofit combinations. These simulations will help assess how each strategy performs in real-world conditions.

The study will also conduct a life cycle assessment to quantify both embodied and operational carbon emissions, meaning the environmental impact of retrofitting is fully understood – from the materials used to the energy consumed over time.

The goal is to identify retrofit solutions that are effective, practical and aligned with standards. The research aims to provide insights for policy makers, building professionals and homeowners – guiding future updates to the New Zealand Building Code and informing sustainable building practices.

BRANZ ANNUAL REVIEW 2025: QUALITY

Backing healthier homes for New Zealanders

Creating healthier homes and communities starts with practical, evidence-based solutions. BRANZ research supports New Zealanders with real-world advice to improve building quality, reduce health risks and design spaces that work for everyone.

From tackling dampness and mould to exploring smarter ventilation and materials, we're helping people make informed choices that lead to more comfortable, drier and safer homes.

Our work also looks beyond the home into public spaces, school zones and housing design so that buildings support wellbeing, inclusion and accessibility for all – because better buildings mean better quality of life for New Zealanders, now and for future generations.

Co-designing a resilient, healthy whare with the Māori Women's Welfare League

The headquarters of Te Rōpū Wāhine Māori Toko i te Ora Māori Women's Welfare League were cold and outdated. It wanted a space that reflected its mana, held it taonga and welcomed its members and visitors in a spirit of manaakitanga.

The league joined forces with us to draw on our evidence-based expertise in creating resilient, high-performing spaces that support wellbeing and community. The relationship began with listening and kōrero, developing shared values anchored in people, relationships, working together and self-determination.

A team of BRANZ building scientists, researchers and architects collaborated with the League to co-design a major renovation of the whare combining aesthetics with warmth, natural light, ventilation and cultural expression – a place that enables hui, rest, celebration and the safekeeping of taonga.

The results of this mahi are two concept designs for the League's headquarters that honour tradition and innovation – reflecting te ao Māori alongside the benefits of a modern, resilient building. The League is now seeking funding to turn the plans into reality.

It's the start of a growing relationship between the League and BRANZ, with the signing of a formal partnership. Together, we're now developing **Project Rangatahi** – a social media campaign to share practical housing tips with whānau.

Young leaders from the League will team up with BRANZ to deliver easy-to-follow housing advice on social media in both English and te reo Māori. The tips will cover everything from reducing moisture to improving insulation and cutting energy costs. It's about empowering whānau with trusted housing expertise, shared in ways that are simple, relatable and grounded in science.

BRANZ and the League acknowledge the support of Te Wānanga o Aotearoa, Field Studio of Architecture and Urbanism and Third Studio in creating the concept designs for the League's headquarters.

Warm roofs: A smarter way to insulate Kiwi homes

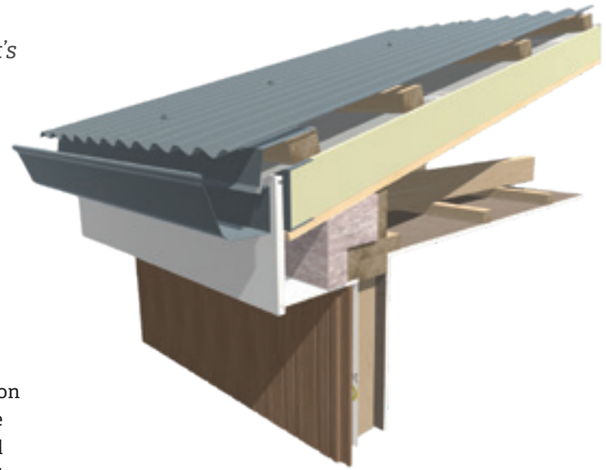
We know warm roof systems work, and it's time more Kiwis got the benefits.

For decades, New Zealand homes have used the same roof insulation method – laying insulation across the ceiling lining. This traps the roof structure outside the insulation layer, where temperatures swing dramatically between day and night, often leading to indoor moisture accumulating and causing problems like condensation and mould growth.

But there's a smarter way. In the UK, Europe and North America, warm roofs are becoming common practice. This system places insulation above the roof structure, with a plywood air barrier topped with rigid insulation under standard roofing. This creates a continuous thermal barrier, bringing the roof space into the home's thermal envelope and reducing temperature changes, heat loss and moisture risk.

Our early tests have shown clear benefits for New Zealand homes:

- **Proven performance:** Warm roofs can boost heat recovery system efficiency to more than 70%, compared to 40% in standard roofs.
- **Better energy efficiency:** Homes stay warmer in winter and cooler in summer thanks to the low thermal bridging.
- **Lower running costs:** Heating and cooling systems work more efficiently.
- **Improved durability:** Timber and roof structures are better protected from moisture and mould.



We've partnered with the building sector to develop evidence-based guidance for adopting warm roofs in New Zealand. BRANZ is leading this work to ensure these benefits are accessible, affordable and ready to use.

find out more

in their words

Karen Ritchie

Architectural Manager, Bode Homes

What does high performing mean to you?
To us, high performing means creating healthy homes, which starts with a strong thermal envelope. By using warm roof solutions, we can reduce air changes, improve temperature control and keep moisture out, resulting in a more comfortable and healthier living environment.

Why does Bode Homes design with warm roofs?
Warm roofs align with our ethos at Bode: delivering high-performing, affordable homes. They're easy to build using our pre-manufactured panels, which go together like Lego. Warm roofs help keep moisture out and improve air quality, and we've found they significantly reduce energy use by between 50% and 70%.

What kind of feedback have you received from homeowners?
Homeowners have reported a noticeable improvement in their indoor environment. They experience better air quality, more consistent temperatures and less moisture – making their homes more enjoyable and healthier to live in.

How can we help more homeowners get these benefits?
BRANZ plays a role in that with trusted, industry-recognised data. Its ability to communicate technical information clearly helps clients understand the real benefits of warm roofs. With BRANZ support, we can help shift the industry towards making warm roofs the standard.

Designing out dampness and mould

Improving how we assess moisture in New Zealand homes

Many New Zealand homes struggle with dampness and mould – even in new houses built to Code. A BRANZ-funded scholarship, **Internal moisture from thermal bridges (complete)** by Griffin Cherrill of Victoria University of Wellington Te Herenga Waka, set out to understand why and how we can do better.

The study focused on thermal bridges – areas where heat escapes more easily, like timber studs – which can lower surface temperatures and increase the risk of condensation and mould. The current deemed-to-comply method for meeting the Building Code, which requires a minimum construction R-value of R 1.5, doesn't reliably eliminate the risk of internal moisture.

Griffin compared a range of assessment tools, from simple hand calculations to advanced 3D simulations, to identify which would provide a reliable assessment with minimum time, experience and information needed.

He found that a whole-building simulation is a more reliable tool for moisture risk assessment. These tools model the building's geometry and construction materials and also how it's used, including heating, ventilation and moisture generation from people, which all impact the internal climate and therefore the risk.

By shifting to whole-building modelling, the industry can better assess and mitigate moisture risk, improve energy efficiency and create healthier, more comfortable homes. This could help homes move beyond minimum requirements at a potentially lower cost and deliver better outcomes for New Zealanders. Griffin is now part of the BRANZ team helping to make this a reality.

find out more

Reducing mould through better ventilation habits

How people ventilate their homes can make a big difference to mould levels.

A University of Otago study, **Natural ventilation in damp homes – a quantitative exploration of behaviours and interventions for change (complete)**, analysed existing data to identify standard ventilation habits that lead to lower humidity and mould. Researchers also interviewed housing assessors and whānau living in damp homes to explore what helps or hinders good ventilation practices.

The study also looked at whether giving people written advice on how to deal with mould and dampness during the colder months would help. Eight weeks after receiving the advice, there wasn't a large reduction in the amount of mould found in bedrooms. Another small study tested affordable indoor air monitors that sent alerts when a home got too cold or too damp or didn't have enough fresh air.

The findings suggest that general advice isn't always effective. People need practical, personalised guidance that fits their real-life situations to improve home ventilation and reduce mould in Aotearoa New Zealand. BRANZ is investing in research and initiatives to support this approach – including our partnership with Te Rōpū Wāhine Māori Toko i te Ora Māori Women's Welfare League (see page 53).

find out more

BRANZ ANNUAL REVIEW 2025: QUALITY

Indoor air quality and timber products

The BRANZ-led research project **Preservative treated timber outgassing (complete)** sought to better understand how some building materials – especially timber-based products – might release gases or chemicals into the air, a process known as outgassing (or offgassing). Volatile organic compounds (VOCs) are one group of chemicals that affect indoor air quality and can impact health.

The study looked at VOC emissions from small samples of common construction materials, including glued laminated timber (glulam), plywood, laminated veneer lumber, and structural insulated panels, which are newer alternatives to traditional materials. It also tested different types of treated and untreated timber.

The results showed that different materials release different types and amounts of VOCs. Some of these chemicals can be harmful to health, especially under certain conditions. In addition to potential health concerns, outgassing can damage nearby materials – for example, by causing corrosion or weakening of materials that aren't compatible.

To fully understand the risks, this testing needs to take place on a larger scale, testing materials behind typical wall linings and measuring how much of each VOC is released. This would help determine how serious the health or durability risks might be in real-world homes and buildings.

A hidden risk – investigating fungal contamination in plasterboard

Plasterboard is a common building material in New Zealand, but its sensitivity to moisture makes it vulnerable to mould, which can affect building durability and people's health. While fungal growth is usually linked to water damage after installation, new research shows the problem may start much earlier.

Pre-contamination of wallboard with fungi (complete) by PhD scholar Ting Yen Khor of Waipapa Taumata Rau University of Auckland tested two common plasterboard brands, one local and one imported, under high humidity for 70 days to simulate conditions inside a flooded wall cavity.

The imported board consistently grew fungi, while the local board only did when left uncleaned, suggesting surface-level contamination. This implies that imported boards may already contain fungi embedded deeper within the material.

The fungi identified in the imported boards were not the same as those typically found in water-damaged New Zealand buildings. For instance, one of the common fungi found, *Neosartorya*, is known for surviving tough conditions such as drying and shipping. This suggests contamination may occur earlier in the supply chain, during manufacturing or transport, rather than after installation.

These findings raise important questions about building material hygiene and the impact on indoor air quality. It highlights the need for better quality control and further investigation into how and when contamination occurs.

Buildings that work for all New Zealanders

Lighting up homes for people with dementia

Good lighting does more than brighten a room – it can transform the lives of people living with dementia. In Aotearoa New Zealand, most dementia-friendly housing research focuses on accessibility, but new research is shining a light on another crucial factor: how daylight affects wellbeing for people affected by dementia.

Dementia-friendly housing: Improving design and retrofit guidance of daylit environment for older people living with dementia ageing in place (ongoing) is a collaborative project led by Waipapa Taumata Rau University of Auckland in partnership with BRANZ, dementia organisations and design experts. It's exploring how natural light can support people with dementia to live safely and comfortably at home. With around 70,000 New Zealanders affected by dementia, the need for better housing solutions is growing.

The research considers how homes feel and function for those with changing sensory and spatial awareness. It's identifying practical design features like glare-free windows, soft colour palettes and familiar, calming environments that reduce confusion and stress.

Importantly, the project is also helping shape future building guidance and retrofit solutions, supporting the public and private sectors to create homes that truly support ageing in place. As people with dementia face a much higher risk of falls, better lighting isn't just a design choice – it's a matter of safety and dignity.

find out more

Public toilets falling short for many New Zealanders

A new BRANZ-commissioned study by WSP Research reveals that many public and commercial bathrooms in New Zealand – such as in libraries, sports centres, museums, transport hubs, education facilities and eateries – aren't meeting the needs of diverse users.

Over 3,000 people took part in the nationwide loo review. Key findings include:

- one in five said public bathrooms don't meet their needs
- nearly 50% of disabled respondents said facilities are often inadequate
- one in three often face long waits – especially women, parents and disabled users
- one in six reported feeling unsafe using public toilets.

The study **Accessibility to commercial buildings' sanitary facilities (complete)** highlights widespread issues with accessibility, safety and cultural inclusivity. Common problems include poor layouts, missing features like grab rails and baby-changing stations and a lack of gender-neutral or culturally appropriate options.

The report calls for urgent updates to Building Code Acceptable Solution G1/AS1 to ensure our public toilets are inclusive, safe, and flexible for all.

find out more

Rethinking school zones, housing and inequality

A new scholarship study by Tim Boyle of University of Otago has revealed how school enrolment zones, especially around high-demand schools, can drive up housing prices and deepen social and spatial inequalities.

Sought-after schools and spatial injustice: a new school approach to urban intensification (complete) explores how these zones shape where people can afford to live, often reinforcing socio-economic divides. While this issue is well known internationally, it remains largely overlooked in New Zealand's residential planning systems.

The research highlights the complex relationship between school access, housing availability and urban development. With new legislation encouraging higher-density housing, there are growing concerns that, without careful planning, existing inequalities could worsen.

The study calls for a shift in how we plan our cities – urging policy makers, educators and communities to work together for a more equitable urban future where access to opportunities isn't defined by where you live.

Lifting quality across the sector

Raising quality across the building sector is key to delivering buildings that are durable and efficient and meet the needs of New Zealanders. BRANZ plays a key role in supporting this through independent research, testing and practical guidance.

From contributing expertise to national standards to improving building methods and exploring new technologies, our work helps reduce risk and lift performance across the entire building cycle. We also track how the sector is performing for homeowners – helping to ensure that quality is embedded from design to delivery.

New Zealand to host world's top building science experts in 2027

This year, BRANZ was chosen as host of the 2027 International Building Physics Conference (IBPC27) in Wellington – the first time this respected event will be held in the southern hemisphere.

Set for April 2027 at Tākina Wellington Convention and Exhibition Centre, the conference will bring together more than 400 global building science experts to advance knowledge in healthy, high-performing buildings.

BRANZ General Manager Research Dr Chris Litten accepted the hosting role at IBPC24 in Toronto. He promises a dynamic programme of talks, workshops, and site visits – including BRANZ's own research and testing labs.

The event is expected to increase international collaboration and deliver long-term benefits for New Zealand's building sector. It will also provide a boost to the local tourism economy during autumn.

Tourism New Zealand, Business Events Wellington, and Conferences & Events Limited are key partners in bringing the conference to life.

> Hosting IBPC27 highlights our leadership in research and innovation and BRANZ's strong reputation within the building physics world.
>
> It will bring hundreds of scientists to New Zealand to connect and advance new ideas – ultimately helping to develop more affordable, sustainable, resilient and quality housing globally.
>
> Dr Chris Litten,
> BRANZ General Manager Research

find out more

in their **words**

Sanjesh Lal

Managing Director, Keola

What's the most important part of building a home?
Over the years, I've come to see my work not just as building houses but as helping people solve a personal and often stressful challenge – finding a home that fits their life. I focus on understanding each client's needs and being upfront from the start to avoid issues like budget blowouts or unfinished projects.

A home is more than just shelter. It's where we live, work and relax. That's why good design matters. It's about creating spaces that support how people live now and into the future, reducing stress through thoughtful, functional design.

Why do quality and performance matter?
Designing a good home means making it warm, dry, healthy and sustainable. That starts with smart orientation for sunlight, proper insulation and good air quality. Technology helps us model sun and airflow, and sensors can track indoor air quality. Choosing efficient, low-maintenance materials and designing to reduce waste also supports long-term sustainability.

BRANZ plays a key role here. Its testing and modelling tools help ensure homes perform well from the start. Having seen its facilities first-hand, I've been impressed by the talent and innovation it brings. We need to tap in to that expertise more across both the public and private sectors.

How did you get started in building and construction?
I began in civil engineering with a passion for the environment, which was reignited when Keola got involved in a sustainability pilot with the New Zealand Green Building Council some years ago. We had the opportunity to expand on our sustainability work recently on an eight-unit project with CORT Community Housing in Auckland.

Working in partnership with our clients Unitec and Auckland Council, we reduced construction waste by 80% through reuse, recycling and smarter packaging. That experience showed me the real impact of construction waste and the need for manufacturers to also take responsibility for what they produce.

in their **words**

Pamela Bell

CEO, Building Institute Aotearoa

How do the Building Institute and BRANZ complement each other in driving improvement in building practices?
The Building Institute Aotearoa (formerly the New Zealand Institute of Building) is a professional association representing 1,500 individuals working in commercial and multi-residential construction. We focus on the people behind complex construction projects. We support careers through innovation, inclusion and encouragement of the next generation.

I fully support BRANZ's four priorities – affordability, quality, resilience and sustainability – to bridge research with industry. Research can't happen in a silo, and BRANZ's increased engagement and industry outreach is a great step to ensure research is more accessible and actionable.

What opportunities are you seeing in construction materials and methods?
There's strong potential for New Zealand to grow its expertise in mass timber – an area where we already excel because of our timber-growing capabilities. Research from BRANZ and international insights from countries like Germany and Austria are helping drive local innovation in cross-laminated timber, for example.

The new BRANZ fire lab will also help to prove mass timber's strong fire performance. This growth supports regional development, employment for young people, and housing affordability – showing how interconnected these opportunities are for New Zealand's future.

What do you see as the key opportunities for innovation in the sector?
Innovation in construction shouldn't just focus on new technologies or products - it needs to address foundational systems like regulation, finance and insurance. True progress comes from involving these sectors alongside construction to create a more integrated value chain. By taking a long-term, multi-generational view of our building stock, we can deliver greater benefits for people and ensure more sustainable, resilient development.

Like many developed countries, New Zealand faces big housing and construction challenges but without the scale of larger markets. That means we need to be smarter about how we finance, plan and build. There's real potential in alternative models like community land trusts, co-housing and progressive home ownership. On the commercial side, better collaboration, especially early on in projects, is key.

At the heart of it all is how we work together. Strong people skills such as relationships, trust building and good communication are just as important as technical skills.

Insights from new house owners in Aotearoa

Since 2011, **BRANZ's New House Owners' Satisfaction Survey (NHOSS)** has offered a window into the experiences of people moving in to newly built homes across Aotearoa New Zealand. It's one of the few tools that captures homeowners' voices, helping the building sector improve and adapt to changing expectations.

Key insights from the annual survey are freely available through BRANZ's Build Insights (see page 22), which brings together trusted economic data from across the building and construction sector.

These are some key insights from NHOSS 2024, which surveyed homeowners whose houses were completed in 2023:

- 75% of new house owners were satisfied with how long their build took.
- Over 80% said they were happy with the overall quality of their new home.
- However, 86% called back their builder or another trade to fix defects.
- Over 60% would recommend their builder to others.

BRANZ Senior Economist Matt Curtis says: "This shows people are happy with the final product, there are just some processes that need to improve. And that's achieved through effective two-way communication between the homeowner and builder, especially those homeowners who want to be actively involved in the build process."

The NHOSS is one of the few consistent measures of perceived home quality in the country, covering a wide range of topics including builder type (such as franchise), the contractor selection process, satisfaction levels, design input, contract details, defects and follow-up service.

The NHOSS is more than a monitoring tool. It's about making data meaningful and accessible. As a resource for education, transparency and industry improvement, it helps to drive quality in new-build homes.

> One of the survey's biggest strengths is its legacy – we've got more than 10 years of data. It's a rare, consistent source of insight into how new house owners perceive their builders and homes. That long-term view is powerful.
>
> Amy Knight, BRANZ Behavioural Scientist

Real-world advice for higher-quality homes

Supporting bank customers to build more comfortable and efficient homes

A BRANZ-funded research project by Beacon Pathway, ANZ Bank and Victoria University of Wellington has shown how banks can play a key role in helping New Zealanders build better homes.

The researchers recognised that building a new home – especially one focused on comfort and efficiency – is complex, and personalised advice can help people navigate the process. Research shows a clear performance gap between homes built with thoughtful early design and informed trade-offs and those built to standard practices. To address this, the project partners co-designed and tested an approach that connected ANZ home loan customers with new-build performance advisors.

The project revealed that aligning the building and lending journey creates valuable opportunities for both banks and customers. Banks could identify potential home builders and engage with them early about performance-focused design, upskill bank staff to discuss these benefits and create an interactive journey map, showing key roles and milestones to support their customers' decision making. This approach supports better housing outcomes and aligns with banks' environmental and social responsibilities, including climate reporting obligations.

Project participants saw the bank as a trusted, neutral party, well positioned to connect customers to expert new-build advice. They often felt unprepared for their building journey, and the personalised advice they received in this project helped to fill a gap in their understanding.

While the study focused on new builds, the researchers see even greater potential in the existing home market. Banks could integrate performance advice into conversations with customers renovating or buying older homes.

However, Aotearoa New Zealand's advice sector isn't well established enough to meet the requirements of banks keen to take up this opportunity. Beacon Pathway is doing more research into the advice sector, including what's needed to respond to future demand.

New insights into long-lasting homes

Durable homes can have significant cost benefits, but while energy efficiency gets a lot of attention, the cost savings of building for durability has been largely overlooked.

A new BRANZ review – **The cost benefit of durable construction (complete)** – tackled this gap. The project reviewed both international and New Zealand studies on the costs and benefits of using durable building methods and materials. While earlier research focused on specific cost or carbon savings, this study takes a broader, whole-of-house approach.

Key insights:

- **Short-term material choices** based solely on budget or availability often mean more repairs, maintenance and even rebuilds.
- **Focusing on whole-of-home performance** and using systems that work together is important. For example, ensuring the building can be effectively heated and ventilated is vital for long-term durability.
- **Durable materials** may cost more upfront but save money and carbon over time.
- **Longer-lasting homes** are better for the environment, economy and communities.

This research lays the groundwork for smarter, more sustainable building in New Zealand – cutting waste, saving resources and reducing long-term costs.

Lifting quality management in home building

Recently published research reveals proactive quality management in home building is often limited by time, training and a focus on short-term costs over long-term value.

The study, **Proactive quality management in the residential construction sector (ongoing)**, proposes a new framework based on right first time (RFT) principles. Led by Te Kunenga Ki Pūrehuroa Massey University with University of Southern Queensland, and in collaboration with architects, builders, suppliers and tech experts, it's designed to operate across industry, organisations and projects. It encourages builders and organisations to see quality not as a cost but as a key to long-term resilience and performance.

The result is a practical guide to overcoming cultural, technical and knowledge barriers to better building outcomes. By shifting the mindset around quality, the industry can build smarter and more efficiently and get it right the first time.

Driving smarter, safer tech confidence in construction

Reducing risk for tech adoption in construction

New technologies could transform how we build in Aotearoa New Zealand – addressing skills shortages and productivity challenges. A new study shows that the financial risk remains the biggest hurdle for small and medium-sized construction businesses in making the most of tech innovations.

De-risking the uptake of new technologies for effective change management (complete), led by Waipapa Taumata University of Auckland with Victoria University of Wellington Te Herenga Waka and Callaghan Innovation, explores how SMEs in architecture, engineering and construction can embrace innovation more effectively.

The research found that budgets and digital data flow across project stages are major barriers to progress. To overcome this, the report calls for more targeted R&D funding towards emerging tech like AI, as well as simplified regulations, better training and stronger leadership in tech adoption.

It also recommends scaling up pilot projects and improving collaboration between industry and researchers to drive smarter, more coordinated innovation across the sector.

find out **more**

Building smarter through better simulation

A new BRANZ research project is helping grow New Zealand's capability in building simulation, especially energy modelling, to support better-performing, more sustainable buildings.

Right now, simulation isn't widely used due to time and technical and workforce challenges. Where it is used, inconsistent practices make it hard to compare results.

Better building performance through simulation (new) will identify skill gaps, standardise practices and support the industry to use simulation more effectively. It responds to growing pressures such as climate change, overheating, moisture issues and the need for outcome-based performance standards.

By improving how we model buildings, the research will help the industry design buildings that are healthier, more energy-efficient and aligned with New Zealand's zero-carbon goals.

BRANZ ANNUAL REVIEW 2025: QUALITY

How automation could shape the future of prefab housing

Modern building methods can help deliver fast, affordable, and sustainable homes. BRANZ scholarship recipient Lucy Lee of Victoria University of Wellington Te Herenga Waka, explored how automation could help create change for prefabricated housing.

A systematic way of thinking in architecture (complete) focused on using digital tools to streamline prefab housing design with laminated veneer lumber (LVL). Partnering with Hector Egger | Holzbau NZ and Nelson Pine LVL, Lucy created a fully automated design-to-fabrication system using visual programming within 3D modelling software.

Tested on three housing types – a cabin, house and townhouse – the system:

- simplified early design stages
- reduced errors
- cut material use and carbon
- improved cost-efficiencywithout sacrificing design quality.

A full-scale wall panel was even built directly from the algorithm, proving it works in the real world.

While there are still challenges, such as software limitations and standard panel sizes, this research shows how automation can make prefab smarter, faster and more sustainable.

Resilience

Future-proofing Aotearoa New Zealand's buildings through research and testing

watch

Delivering on resilience

New Zealanders need buildings that will stand the test of time.

Natural hazards are a reality we need to plan for in Aotearoa New Zealand. Our buildings must protect people from extreme weather, earthquakes, fire and volcanic activity as well as withstanding some of the highest UV and corrosion rates in the world.

As leaders in building resilience, BRANZ's science unpacks the issues, provides evidence and develops practical solutions to improve New Zealand buildings.

By working with government, industry and communities, we help create more resilient buildings and public spaces. We also support communities to prepare for, respond to, and recover from emergencies such as Cyclone Gabrielle and the Kaikōura earthquake.

To do this, we have some of the most advanced testing facilities in Australasia. Our high-tech labs can simulate fire, earthquakes and extreme weather – providing critical insights into improving the performance of building products and systems under extreme conditions and for long-term durability.

This year, we are prioritising:

- building resilience for a changing climate
- protecting people from fires
- strengthening earthquake safety.

at a glance Resilience

In Aotearoa New Zealand:

440,000+ homes are in flood-prone areas[10]

$302 million of landslide insurance claims since Auckland Anniversary flooding[11]

20,000 earthquakes per year located by GeoNet[12]

2–3x more extreme high temperatures than expected were experienced in the last decade[13]

3,799 building fires in 2022/23[14]

BRANZ is creating practical solutions to improve resilience:

$5.4 million new investment in 2025/26

50+ years of expertise in resilience research

19 resilience projects completed or ongoing in 2024/25

[10] Paulik, R., Zorn, C., Wotherspoon, L., & Sturman, J. (2023). Modelling national residential building exposure to flooding hazards. *International Journal of Disaster Risk Reduction*, 94, 103826. doi.org/10.1016/j.ijdrr.2023.103826

[11] Libatique, R. (2024, December 20). *Landslide insurance claims soar in New Zealand – NHC.* www.insurancebusinessmag.com/nz/news/catastrophe/landslide-insurance-claims-soar-in-new-zealand--nhc-518920.aspx

[12] GeoNet. (20204, February 21). *Why do we get earthquakes in New Zealand?* www.geonet.org.nz/news/7E7oMzwloRmtwzAfVrz0Fv

[13] NIWA. (2022, January 4). *New Zealand experiencing 5x more temperature extremes than expected.* niwa.co.nz/news/new-zealand-experiencing-5x-more-temperature-extremes-expected

[14] New Zealand Fire statistics 2024 and preceding editions, Fire and Emergency New Zealand, Wellington (obtained via OIA).

Building resilience for a changing climate

Over the past few years, we've seen unprecedented flooding and weather events around Aotearoa. It's stark evidence of what our climate can and is increasingly likely to deliver.

We believe New Zealand can be better prepared to respond to these risks. That's why our people work with government, industry, scientists, iwi, insurers and financial institutions as well as communities directly impacted by flooding and climate events.

At BRANZ, when we talk about building durability, we go beyond structure. We test how materials hold up in New Zealand's unique and changing conditions, so our homes and buildings are ready for whatever the future holds.

Built to last with our materials lab

Research and testing for Aotearoa New Zealand's unique conditions.

To meet the New Zealand Building Code, many parts of a building – such as floors, walls and fixings – must be proven to stand the test of time.

BRANZ's material lab helps our researchers, collaborators and clients fast-forward time to see how materials will last over decades.

Our materials lab can test for New Zealand conditions:

- **UV exposure:** New Zealand buildings are exposed to surprisingly high UV levels given our latitude. Our 10 UV chambers predict how harsh sunlight affects materials long term.
- **Corrosion:** Coastal and geothermic environments are tough on materials, particularly paints and metals. We use salt spray chambers to test how well buildings can resist rust and wear.
- **Weathertightness:** We simulate real weather, including high winds and heavy rain, to test how claddings and materials stand up to the elements.
- **Insulation:** We test insulation to make sure it meets New Zealand's unique standards and to help Kiwi homes stay warm and energy-efficient.

view **our labs**

Testing materials in the real world

More than 25 outdoor exposure sites across Aotearoa New Zealand.

At BRANZ, we don't just test in the lab. We take it outside too. From Northland to Invercargill to the Chatham Islands and even Hawai'i, we see how building materials really hold up in our toughest environments.

Our testing sites give us real-world data on how materials age, corrode and perform over time. We've been collecting this data since 1973 to understand how materials will withstand the elements for generations to come.

We test in places with:

- **salt-laden coastal winds** to see how metals handle corrosion
- **geothermal emissions** to help building materials to beat sulphur and heat
- **extreme UV and weather conditions** that are unique to New Zealand
- **volcanic gas emissions** and ash, which is the focus of our Hawai'i site and Rotorua Geothermal Field collaboration with Te Kunenga Ki Pūrehuroa Massey University.

Preparing for a changing climate

Over the past 2 years, extreme events like Cyclone Gabrielle and the Auckland Anniversary flooding are real evidence of what our climate can – and is increasingly likely to – deliver.

More than 440,000 houses in New Zealand are built in areas known to be at risk of flooding,[10] and the estimated replacement value of these home is $218 billion. Following the 2023 Auckland floods, landslide-related claims have totalled $302 million – more than four times the combined cost of all other natural hazards.[11]

The direct risk to lives and livelihoods combined with the insurance risk signals a clear need for practical guidance that directs effective action around climate resilience.

Climate resilience – building back better (ongoing) is a collaborative research project led by BRANZ. It will deliver practical guidance for building affordable homes that can better withstand extreme weather and natural hazards.

After a disaster, one of the biggest challenges is knowing what effective actions to take. This research will also help people reduce the costs of recovery and get back on with their lives as quickly as possible. By designing and renovating with resilience in mind, homes can be built or upgraded in ways that reduce long-term repair costs, making them not only safer but more affordable over their lifetime.

Our materials scientists are working with central government, universities, insurance companies and consultants as well as communities and people directly impacted by flooding and extreme weather.

The project is focused on two key areas:

- Options for immediate recovery and response including a review of local and international guidance and updating or adapting that guidance as needed.
- How we can better classify buildings for rebuild, demolition or relocation after a major event.

This year, the project will publish practical guidance to help assess whether construction sites are at risk of natural hazards such as flooding or landslides as well as understand the risks to existing properties to help prepare for the potential impacts of future events.

our people

Catherine Nicholson

Senior Materials Scientist, BRANZ

What do material scientists focus on, especially in this changing climate?
Materials scientists need to balance resilience, quality, sustainability and affordability. It's a big challenge as climate change and extreme weather continue to put pressure on our buildings.

A lot of my work has looked at how new materials and building components hold up over time, especially those not widely used in New Zealand yet. It's all about making sure innovative products meet our expectations of durability and reliability.

You're leading BRANZ's major climate resilience project – what's it all about?
In early 2023, extreme weather and flooding across the North Island were a stark reminder of why we need clear, practical, evidence-based guidance to help people prepare for and recover from major events. That's what kick-started our *Climate resilience – building back better* project. We want to help New Zealand build back smarter and reduce the risks from natural hazards and climate change.

> We want to help New Zealand build back better and reduce the risks from natural hazards and climate change.

What will the project deliver?
First, we'll update existing guidance and create new guidance that's tailored to different audiences. We're also looking to support better decisions about whether to rebuild, demolish or relocate and identify where we need to fill knowledge gaps.

What excites you most about your work?
The most rewarding aspect of my role is seeing my work picked up and used to make a real difference in people's lives – having that practical guidance available so it can bring about a speedier recovery after significant events.

Examining housing resilience factors in flood-prone areas

What makes a house more resilient to flooding? After recent flooding, conversations with councils revealed just how complex housing resilience really is.

Led by Waipapa Taumata Rau University of Auckland, **A multi-faceted approach towards housing resilience in New Zealand (new)** aims to develop a comprehensive approach for post-disaster recovery.

This study will map out all the elements that influence how well homes in flood-prone areas can withstand and recover from disasters. It aims to identify barriers and build a clearer path to stronger, more resilient housing.

The team is also developing a practical tool and framework to help councils assess and improve housing resilience in their communities.

Supporting better insurance processes for disaster recovery

Effective insurance claim settlement processes leading to quality housing repairs is crucial for disaster recovery, particularly as extreme weather events become more frequent.

The impact of insurance claims settlement and residential repair (new) will evaluate the effectiveness of these processes.

By comparing experiences from recent extreme weather events with previous earthquake recovery research, the project will identify key challenges and opportunities for improvement.

The project, led by ResOrgs, will enhance an insurance settlement and residential recovery framework and create policy briefs for relevant government agencies and building consent authorities. Together, these outputs will support key stakeholders to strengthen settlement and repair processes to improve recovery outcomes.

Creating climate-ready buildings

A new study led by WSP New Zealand has taken a close look at how prepared New Zealand buildings are for climate change and where the biggest knowledge gaps still lie.

Climate change adaptation of buildings in New Zealand – research prioritisation assessment (complete) found that we need clearer answers on what specific design, material and structural changes are needed for buildings, how much they'll cost and how to apply them in real-world settings.

Some of the opportunities to explore include:

- how buildings should adapt to sea-level rise, higher temperatures, heavier rainfall and increased fire risk
- a lack of localised data to guide design decisions
- who's responsible for making these changes and how to communicate the need for action.

Stakeholders also said it's hard to plan for climate-resilient buildings without better tools, clearer roles and more public awareness of the specific risks communities face.

The study builds on earlier BRANZ research that looked at how stronger winds could affect new light timber-framed homes. To drive change, future research must look closely at where climate change will impact buildings, why people don't act to reduce climate risks and should develop effective ways to communicate risk and motivate response.

find out more

BRANZ ANNUAL REVIEW 2025: RESILIENCE

Where the wind never sleeps: Life on the edge in the Chatham Islands

Out in the lonely reaches of the South Pacific, 800 kilometres east of mainland Aotearoa New Zealand, the Chatham Islands endure a raw and unforgiving climate.

With no surrounding landmass to soften the blow, the islands are battered by salt-laden winds, heavy rain and sudden temperature swings. For the 600 residents, resilience isn't optional – it's essential.

Despite their remoteness, the islanders' battle against the elements – especially the corrosive impacts on their buildings – is nationally relevant. As climate change intensifies, what's happening there could be a prelude to what's to come elsewhere in New Zealand.

The Chatham Islands had long been classified as zone D under New Zealand's building standard for corrosion, but there was no hard data to back it up. In 2021, BRANZ joined forces with researchers from the Joint Centre for Disaster Research at Te Kunenga Ki Pūrehuroa Massey University to investigate.

The first round of testing across four sites showed that corrosion levels were off the charts. "If you use materials approved for zone D corrosivity in the Chatham Islands, you will have premature material failure," BRANZ Senior Scientist Zhengwei Li says.

The community, already familiar with rusted-out woolsheds and other failing materials, requested more research after they heard the results of the first study. Seven new test sites were added. The results were even more extreme.

"In some cases, solid steel samples 1 mm thick were nearly disintegrated after just 1 year," says BRANZ Lead Architect Bruce Sedcole.

A community of learning

The project is as much about strengthening community as it is a scientific venture, Bruce says.

The researchers connected with the local schools, landowners, elders, builders and Chatham Islands Council. They also had discussions with the Chatham Islands Renewable Energy Project team, who are planning wind turbines. Using the wrong materials here could mean early failure – and wasted investment.

The research team is working to create the first-ever corrosivity map for the islands, guiding future building and infrastructure decisions.

Ngā mihi to the people of the Chatham Islands and the late Distinguished Professor David Johnston, Associate Professor Carol Stewart and Kelvin Tapuke of the Joint Centre for Disaster Research, Massey University.

We honour the legacy of the late Distinguished Professor David Johnston of Massey University, whose pioneering research on Rēkohu Chatham Islands laid the foundation for this work.

Leith Weitzel

Chatham Islands Builder

What makes building on the Chatham Islands unique?
Building here isn't just about putting up walls and roofs. You have to understand the land, the air and the sea. The environment is tough – there's salt in the air, peat in the soil and constant wind, and parts of buildings that don't get rainwashed or maintained can deteriorate quickly.

You need to choose the right materials. That's not always easy – people often bring in kitset buildings or products that work fine on the mainland but aren't suited to island conditions.

We need better awareness – among builders, homeowners, and suppliers – about what materials are truly durable in these conditions. The corrosion research is a great step. It'll help build the evidence we need to make better choices here and across New Zealand.

Denis Prendeville (Ngāti Mutunga)

Port Worker, Tour Guide and sixth-generation Chatham Islander

How long do typical building materials last in this environment?
Rust is a constant issue here. Anything steel that isn't galvanised will show rust in 6 months. Iron roofing only lasts about 25 years.

We use number 8 wire for fencing along the coast – 4 mm thick – because it resists rust better. Inland, thinner high-tensile wire can last over 25 years, but on the coast, it might only last 10. The wind causes the wire to rub against the staples, creating rust spots. In peat swamps, wire on the ground can rust through in just a year, so we often skip the bottom wires – we put in six rows of wire instead of eight.

We have to invest in better materials – double-coated roofing iron, zinc-coated products – because cheaper options just don't last. In the end, it's the salt, wind, peat water and road dust that do the most damage.

New building guidance for geothermal hotspot

Aotearoa New Zealand is home to some of the world's most active volcanoes, and in places like Rotorua, geothermal activity isn't just a natural wonder, it's a serious challenge for buildings.

BRANZ scientists have long known that geothermal gases can be highly corrosive, speeding up the deterioration of common building materials like metal, timber and concrete. For example, in Rotorua's Sulphur Point, wooden handrails and other structures often need replacing far more often than expected.

With limited specific guidance in the New Zealand Building Code and little international research, BRANZ launched a long-term study in 2015. Researchers set up exposure sites across Rotorua and at Hell's Gate geothermal park, attaching samples of different building materials to frames and leaving them to weather naturally.

The results were eye-opening. "At the most active sites, all metallic materials including zinc-aluminium coatings showed rust within 2–3 years, despite typically lasting more than 15 years in coastal and inland areas. Zinc coatings also corroded at more than three times the rate seen in the harshest marine areas," says BRANZ Senior Scientist Zhengwei Li.

"Treated timber also discoloured rapidly and began splitting within just a few years – far short of the 50-year lifespan it can achieve when properly maintained."

Based on these findings, Zhengwei recommended extending the NZS 3604:2011 specific engineering design boundary for geothermal hotspots from 50 metres to 500 metres.

The study outcomes supported the work of Rotorua Lakes District Council when it updated its building guidance. Now, designers, builders, and homeowners are encouraged to consider material durability in general – not just up to 500 metres from geothermal features.

This long-term study is part of BRANZ's broader work on corrosivity mapping across Aotearoa. The updated New Zealand atmospheric corrosivity map has been added to NZS 4299:2024, helping guide material choices in areas affected by geothermal activity.

The bottom line is that, if you're building near geothermal zones, material choice matters more than ever – for durability, safety and long-term maintenance.

find out **more**

in their **words**

Kim Smith

Senior Policy Planner,
Rotorua Lakes Council

What are the key challenges when building in geothermal areas?
One of the biggest issues is durability. Common building components often don't last as long in geothermal environments. Corrosion is a major concern. Even outside the most active geothermal zones, buildings can still be affected.

Another serious challenge is heat and poisonous gases. Some buildings get dangerously hot, and gases can build up both inside and outside. In some tragic cases, these gases have even led to fatalities.

What prompted the council to develop new geothermal building guidelines?
For a long time, we had no formal guidance for identifying and designing for geothermal hazards, which made it hard to communicate requirements. What really pushed us to act was a district plan change allowing more intensive development in geothermal areas.

What do the new rules and guidelines include?
We introduced a district plan rule requiring geothermal hazards to be identified and mitigated at the time of building. The guidelines, released in June 2024, support this by outlining what to consider – such as site investigations, testing for heat and gas and considering relevant parts of the Building Code.

The guidelines don't prescribe exact solutions but introduce mitigation concepts like raising buildings or using protective membranes. The idea is to get people thinking early and working with designers to find the right approach.

Who helped develop the guidance?
We worked with a range of experts, including BRANZ, who provided valuable scientific references on durability and corrosion. We also consulted regional council geothermal scientists, who were pleased to see this knowledge finally written down.

What's the take away for someone planning to build in a geothermal area?
Read the guidance. That's what it's there for. It gives you a starting point – what to consider, what experts you might need and how to test for heat and gas. It's about making sure your home is safe, durable and built to last.

find out **more**

Protecting people from fires

In the past decade, devastating fires – such as Grenfell Tower, Loafers Lodge and Port Hills – have shown just how serious fire risks can be. And with climate change bringing hotter, drier conditions, the threat of fires in Aotearoa New Zealand is predicted to grow.

In 2025, we opened our new purpose-built fire lab – the largest in Australasia – capable of testing the impacts of fire on buildings up to three storeys high. It's a gamechanger for Aotearoa New Zealand's fire safety.

We're also funding projects that will improve how buildings can withstand fire – strengthening fire risk modelling, designing fire-resistant detailing and exploring how AI can support fire engineering.

New fire lab opened in 2025

Built to understand fire, designed to save lives.

As Aotearoa New Zealand builds more densely, fire safety is more critical than ever.

Our new fire lab means that BRANZ and our collaborators and clients can run advanced tests to analyse how fire, smoke and carbon monoxide spread in modern, high-density buildings.

With a massive 2,310 m² footprint – the size of five netball courts – and a 22.5 m high roof, the new lab is big enough to test full-scale, multi-storey fire scenarios and run multiple tests at the same time.

This helps shape smarter, safer building decisions to help prevent future fire tragedies.

Our new fire lab can:

- test how fire affects multi-storey buildings
- simulate and measure how fire spreads
- analyse smoke, carbon monoxide and carbon dioxide levels
- create realistic testing conditions to replicate high-density housing.

Fire lab features:

- **A 10 MW open burn hood and fire calorimetry** system to measure heat release and gas emissions such as carbon monoxide and carbon dioxide.
- **Two full-scale cube furnaces and one pilot-scale cube furnace** for testing flat and vertical materials, meaning faster, larger-scale testing.
- **Façade fire testing** to measure how fire spreads up the outside of multi-storey buildings.
- **Wet scrubber,** which turns exhaust emissions into clean steam, reducing the environmental impact of fire testing.
- **Smart data systems** with real-time monitoring of how building systems respond to fire, aligned with the New Zealand Building Code as well as international codes and regulations.
- **A climate control room** to simulate real-world conditions for accurate testing.

watch

our people

Peter Whiting

Senior Fire Engineer and
Fire Testing Team Leader, BRANZ

You have a long career in fire engineering and you've been with BRANZ for three decades. What are the biggest changes you've seen?
Probably the biggest changes relate to housing densification. We're seeing a lot more structures being built closer to site boundaries and a lot more multi-level and multi-unit homes being built using lightweight construction materials. We're seeing many of our long-time clients innovating and testing new solutions as these trends have emerged.

BRANZ has built a new fire lab. What's special about it?
The new lab is a world-class facility for standardised testing and non-standard research and exploratory work.

On the commercial side, we now have much better facilities to serve multiple clients at the same time and maintain confidentiality. We can build multiple test specimens at the same time. We can test to exact standards or go beyond. By testing larger specimens, we can, by assessment, determine the fire performance of specimens that are larger still. We can also conduct more exacting loadbearing tests, including beam tests, than we could before.

You received an Outstanding Engineering Achievement award recently. Tell us more about that.
I was blown away. The Fire NZ conference committee represents the fire industry in Aotearoa New Zealand, so it was a big honour. The award recognised my contributions to research and testing that have helped improve the understanding of fire hazards and mitigations. It also acknowledged my part in steering the BRANZ fire lab development.

I'm also proud of my involvement with standards over the years, working with others to refine and improve fire standards that ultimately help to keep people and property safe. It's gratifying and humbling that one of my research papers is referenced in the Building Code, relating to the development of a test method for fire spread on external claddings.

in their words

Ben Campbell

Head of Innovation, Abodo

Why is fire testing important for developing new building products?
The Grenfell Tower tragedy was a turning point globally. It brought intense scrutiny to building materials and raised awareness about the importance of fire safety. On top of that, climate change and the rise in bushfires have made it even more important to design buildings that are resilient to fire.

Why do you choose to fire test your cladding products?
As homes are built closer together and buildings go higher, the need for fire-rated timber products has grown. Architects have been asking for a natural, durable timber cladding that also meets fire safety standards – and we've responded to that demand. Cladding is the first line of defence in a fire, so it's critical that it performs well.

It's all about assurance. We want people living in these buildings to feel safe and confident in the materials used. Testing helps us back up our claims and ensures we're delivering on performance and safety.

Why do you test with BRANZ?
BRANZ is a trusted name in New Zealand's construction industry. Testing with BRANZ gives our customers confidence in our products. Its facilities are excellent, and the BRANZ team helps us navigate the complexities of the Building Code – something we don't always have the in-house expertise for. We've been working with BRANZ for nearly 5 years.

> We want people living in these buildings to feel safe and confident in the materials used. Testing helps us back up our claims and ensures we're delivering on performance and safety.

Why is safety such a big part of Abodo's approach?
Our business is built on values and trust. We go the extra mile with testing because we believe in creating products that are not only beautiful and durable but also safe. Beautiful, fire-retardant timber cladding that performs well is part of our commitment to building better, healthier homes.

Smarter fire safety through technology solutions

B-RISK: Powering the future of fire engineering

B-RISK is New Zealand's leading fire simulation software, developed by BRANZ and University of Canterbury. It's trusted by fire engineers here and around the world – ranking as the **third most-used fire modelling tool globally**.

B-RISK is a powerful fire simulation tool that can show how fires might behave in real-world scenarios. It helps fire engineers design safer, more cost-effective and sustainable buildings.

B-RISK can model:

- **realistic fire scenarios** to simulate how fires spread, grow and move d, based on how building contents are placed in a room
- **risk-based results** using probability to show a range of possible outcomes - helping fire engineers understand the risks and prepare for an unpredictable future
- **sprinkler system modelling** to test how sprinklers respond, evaluating effectiveness and responsiveness
- **smart building features** to model how doors, vents and smoke systems react during a fire
- **smoke and heat movement** through a building, helping with evacuation and safety planning
- **modes tailored to the New Zealand Building Code** (C/VM2), making compliance simpler
- **visual results**, working with the software tool Smokeview to help see fire and smooth behaviour in 3D.

The **B-RISK (fire simulation tool) future development roadmap (complete)** project charted a path for the software's future, delivered key insights and highlighted the value of this software.

These insights are now shaping the B-RISK Support 2025–28 initiative, which will keep the software technically supported and explore new ways to develop and use the tool. Ultimately, it aims to ensure that B-RISK stays relevant and effective for the fire engineering community.

Exploring how AI can support fire engineering

AI is starting to play a bigger role in fire engineering, with fire engineers and researchers exploring its potential. But without a clear understanding of its risks and benefits, there's a chance that we could misuse it or miss out on opportunities.

With strong fire industry connections and independence, BRANZ is leading a project to explore and use AI for impact.

AI applications to fire engineering – environmental scan (new) will analyse how AI tools such as machine learning, artificial neural networks and large language models are being used in the fire industry. It will include a literature review, industry engagement and a scan of AI applications to help guide how BRANZ can use this technology in its own fire research and to share with the wider sector.

find out more

Managing the rise and risk of lithium-ion technology in homes

Lithium-ion batteries continue to show up in more homes than ever – powering EVs, e-bikes and solar storage systems. As the demand for cleaner energy grows, so does the need to safely fit these technologies into residential buildings.

But with this rise comes a growing fire risk. These batteries can fail – especially when damaged or improperly charged – and when they do, they can ignite quickly and release toxic gases that pose serious health dangers, particularly in densely built areas.

In response to these risks, BRANZ led the project **Lithium-ion batteries: Fire risks associated with buildings (complete)**, which provided a 'technology watch' drawing on international research to track and assess emerging hazards.

To deepen this work, BRANZ researcher George Hare has been seconded to Fire and Rescue New South Wales as part of the Safety of Alternative and Renewable Energy Technologies project. This collaboration reflects the growing trans-Tasman urgency around managing these risks, particularly following recent battery-related incidents in both countries, including fatal residential fires and EV-related blazes.

Closer to home, BRANZ researchers also investigated the risks around the storage and use of lithium batteries in and near residential buildings. This includes where an energy storage system is fixed to combustible cladding (such as timber weatherboards) and where an electric vehicle is charged in a residential garage.

The findings will support regulators and homeowners to make informed decisions about the risks around these new technologies.

find out more

Does earthquake-safe also mean fire-safe for steel joinery?

New Zealand buildings are often designed to focus on earthquake risk. Steel beam-column joints are designed to flex and fail in a controlled way during an earthquake. This means the weakest parts of the building are designed to fail gradually, while stronger parts avoid sudden failure.

It's often believed that seismically compatible joint detailing also helps structural performance in fires. University of Canterbury PhD student Gordon Chen set out to test this theory in his project **Steel beam-column connections in fire (complete)**.

Using computer simulations, the study tested how these joints perform under both earthquake and fire conditions and found that the impacts of fires are very different to earthquakes. In fact, Aotearoa New Zealand's earthquake-ready joints didn't perform any better in fires than British designs, and in some cases, they performed worse.

The research highlights the need for further investigation into how bolts and plate connections can better withstand both fire and earthquakes and offers recommendations from overseas to help improve performance in New Zealand buildings.

find out more

Strengthening earthquake safety

Here in the Shaky Isles, earthquakes are an ever-present risk. BRANZ has a long history of research to make our buildings more resilient to prepare for the next ‘big one’.

This year, we’ve invested in research to improve the seismic resilience of light timber-framed homes, assess the seismic demands on building components and explore alternatives to the percentage of new building standard.

And in our structural engineering lab, we test multi-storey buildings and simulate extreme conditions, including replicating the strength and speed of major earthquakes like those in Canterbury and Kaikōura.

Our structural engineering lab

Shaking, smashing and bending buildings for long-term resilience

Opened in 2023, our new structural engineering lab can test buildings up to three storeys high, putting them through stronger earthquakes and more extreme winds than ever before.

Our researchers, collaborators and clients can simulate real events like the Canterbury and Kaikōura earthquakes to see how buildings and their parts hold up under pressure, improving safety and performance across the board.

With a 500 m² footprint and 13.5 m high roof, the lab can also test the impacts of snow and gravity, as well as wear and tear from everyday use.

It’s all about making sure today’s buildings are ready for whatever tomorrow brings.

Our structural engineering lab can:

- simulate earthquakes, snow, wind, gravity and everyday use to see how buildings respond
- test non-structural parts like ceilings, claddings, partitions and mechanical systems
- run multiple tests at once for faster, large-scale results.

Structural engineering lab features:

- **An enormous strong wall** 8 m tall with 700 mm thick reinforced concrete. This lets us simulate forces from multiple directions and test large, complex structures under earthquake conditions.
- **A powerful hydraulic system**, with rams that can apply up to 50 tonnes of force and move materials by up to 500 mm, replicating major earthquakes.
- **Extreme wind testing** with a pressure chamber to test how roof and wall claddings hold up against wind speeds of over 200 km/h (differential air pressure of up to 7 kPa).
- **Smart data systems** with real-time monitoring of how building systems respond to earthquakes and wind, aligned with the New Zealand Building Code.

watch

our people

Dr David Carradine

Structures Team Leader, BRANZ

How does BRANZ support more resilient buildings in Aotearoa New Zealand?
As housing density increases, we need to ensure that structures are safe and resilient. BRANZ invests in research to make sure medium-density and high-density buildings can handle New Zealand's unique conditions – including our extreme weather, corrosion and harsh sun.

As a result of testing and research, we provide everything from structural guidance for buildings up to six storeys to practical guides on topics such as fixing claddings and providing enough room for insulation between light timber-framed walls and studs.

Light timber framing (LTF) is common in New Zealand buildings. Why is it so important?
Timber's important to our building system. It's low carbon and readily available, and it's well understood throughout the industry – in fact, around 90% of houses include LTF.

Over the years, BRANZ has done extensive research into LTF buildings – including performance, weathertightness, constructability, and durability. Those research findings have been used in different codes and standards as well as by industry using our guidance in construction.

What about BRANZ's testing and assurance services – how do those make a difference?
Aotearoa New Zealand's conditions are unique – our UV and corrosion rates are extreme, and we also have the ever-present risk of earthquakes and geothermal activity. As new and innovative products come into the market, we need to make sure they will last the distance in our homes and buildings.

Our testing and quality assurance services evaluate building products and systems so New Zealanders have confidence that they're robust, durable and ready for the future. We have state-of-the-art facilities that can test a range of different loading conditions – like fire, earthquakes and other natural hazards.

Our independent accreditation gives everyone – product suppliers, builders, regulators and homeowners – confidence that new building products and systems will perform to the required legislation and building codes.

in their words

Dr Jo Horrocks

Chief Resilience and Research Officer,
Natural Hazards Commission Toka Tū Ake (NHC)

What tools are available to help reduce earthquake risks in buildings?
BRANZ and NHC both aim to make buildings safer and more resilient to natural hazards, and we work together a lot. Most recently, we've collaborated on a series of practical tools for builders to help clients with reducing earthquake risk such as how to spot vulnerabilities in their building like weak foundations or chimneys and then the steps they can take to address them.

How are we changing the way we design new buildings?
We've worked with BRANZ on some easy-to-use guidance on designing homes for earthquake resilience. This really helps designers, architects and builders improve safety for New Zealanders.

This includes building on slopes, which was a key vulnerability identified in the Christchurch earthquakes. We also looked at the structural integrity of structural insulated panels – another key vulnerability identified in Christchurch's damaged properties.

Why is this work important?
It's important that we develop practical guidance that's easy to follow so that builders, engineers, designers, architects and homeowners can follow these simple steps and we can make a difference in our buildings.

What's next for earthquake resilience work in Aotearoa New Zealand?
I'm optimistic about the future of seismic resilience in this country. There's a growing momentum with more collaboration and partnerships going on across the sector – and that can only be a good thing for improving safety for all New Zealanders.

Strengthening building parts against seismic stresses

Assessing seismic demands on flooring

To build truly earthquake-resilient buildings, we need to understand how different parts of a building respond to shaking. The 2013 Cook Strait and 2016 Kaikōura earthquakes showed that we still have gaps in this knowledge – especially when it comes to how floors behave during an earthquake.

SeismoCity is leading a new research project, **Seismological investigation into floor response acceleration prediction (new)**. It supports the 2013 updates to the New Zealand Building Code (NZS 1170.5), which now require engineers to assess how seismic forces affect the design of building components to handle extreme conditions (such as earthquakes), not just everyday use.

This collaborative effort brings together postgraduate students, seismologists, engineers and researchers to compare different ways of predicting floor movement. Using a range of new approaches, the project will improve understanding of seismic demands to support resilient design, better assessment procedures and safer buildings across Aotearoa New Zealand.

New guidance on non-structural elements boosts earthquake resilience

Most earthquake research has focused on structural building parts such as foundations, subfloors, roofs and walls. However, the Canterbury and Kaikōura earthquakes showed that non-structural elements (NSEs) – like plumbing, drainage and electrical systems – can also cause a lot of damage.

A BRANZ-funded project led by University of Canterbury's Building Innovation Partnership, in collaboration with WSP New Zealand and Beca, has created a seismic qualification framework and tools for NSEs. This provides clear guidance on how to choose, design and install NSEs to make buildings safer during earthquakes and improve compliance with the Building Code.

The code of practice supports better procurement, design and construction practices across the building sector. It also considers quality assurance to meet regulatory and insurance needs.

By developing consistent procedures for the performance-based design and selection of NSEs, this work will help ensure better resilience and safety for people, helping communities and businesses reduce the economic impacts of damage from an earthquake.

find out more

BRANZ ANNUAL REVIEW 2025: RESILIENCE

New hub empowers architects and engineers to build above Code

An online hub – Design.Resilience.NZ – is making it easier to build more resilient homes and buildings, to help communities bounce back from natural hazard events sooner.

This is a collaboration between the Natural Hazards Commission Toka Tū Ake (NHC), BRANZ, Ministry of Business, Innovation and Employment and the sector's technical societies. It provides guidance for architects, engineers and construction professionals on building sustainable homes that exceed the basic requirements of the New Zealand Building Code.

The Building Code ensures life safety, meaning buildings are unlikely to collapse or cause injury during an earthquake. However, research funded by NHC indicates that New Zealanders expect their buildings to allow them to shelter in place and access critical services like hospitals after an earthquake.

One challenge in building above Code has been the lack of centralised guidance. The online hub aims to address this by providing a comprehensive, easy-to-access repository. The hub continuously updates with new documents reviewed by an expert panel, ensuring the information is current and reliable.

find out more

Sustainability

Collaborating to develop cost-effective sustainable building solutions

watch

Delivering on sustainability

Sustainability is a priority for the sector, making it a priority for BRANZ.

For more than two decades, we've been committed to researching and testing the sustainability of building materials and advocating for a more circular economy, where materials are reused and repurposed. This has provided us with a deep understanding of the whole-of-life environmental impacts of buildings and a clear vision of what is needed for the future.

We support the sector with research and tools to minimise carbon and waste at every stage of building design, construction, renovation and demolition.

We advocate for sustainable practices and play an active role in educating New Zealanders about maintaining and living in buildings with sustainability in mind.

Our focus on sustainability has been guided by feedback from across the sector. We are committed to supporting industry and government and educating the public so that, by 2050, the sector is delivering buildings that don't cost the Earth.

This year, we are prioritising:

- collaborating to reduce waste
- supporting smarter carbon decisions
- building sustainability skills across the sector.

at a glance Sustainability

Aotearoa New Zealand's building and construction sector creates:

Up to 20% of our national carbon footprint[15]

More than 60% of waste in New Zealand[16]

A typical stand-alone house creates:

$31,000 of materials wasted during construction[17]

138 tonnes of greenhouse gas emissions over its lifetime[18]

BRANZ is creating practical solutions to improve sustainability:

$3.4 million new investment in 2025/26

20+ years of expertise in sustainability research

25 sustainability projects completed or ongoing in 2024/25

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our people

Dr Casimir MacGregor

Principal Behavioural Scientist, BRANZ

How would you describe BRANZ's role in sustainability in Aotearoa New Zealand?
We bring together diverse stakeholders across industry, government and the science sector to tackle big challenges facing the building and construction industry.

How is BRANZ is supporting the zero-carbon goal?
Evidence is our bedrock. We carry out research, we collaborate with other researchers and we fund research to make sure the sector has guidance, education and practical tools to reduce the impact on the environment.

What are BRANZ's research credentials in this area?
BRANZ has led sustainability research in Aotearoa New Zealand for more than 25 years. Through collaboration, partnerships and investment in more than 68 projects, we've dug deep into topics such as water and energy consumption and low-carbon home design. We also share the New Zealand experience internationally such as the work we're doing with UNESCO-UNEVOC on zero-carbon skills and training.

Making the research relevant to such a diverse building sector must be a challenge. How does BRANZ navigate that?
The secret is that we don't work in isolation. We collaborate all the time with the sector and key government agencies – including Ministry for the Environment, Ministry of Business, Innovation and Employment and Ministry of Education – to integrate sustainable construction practices. We co-design our research with key stakeholders, focusing on what the issues are for them, and we prioritise our work around those themes.

We've also partnered with many large organisations – including Kāinga Ora, Superhomes Movement, Naylor Love and Mitre 10 – to make sure our research is backed by real-world insights and can be used easily by the industry.

What are some of the practical tools developed through the sustainability research?
Knowing where to take waste is a big concern for the industry. We collaborated across the industry and local government to create a searchable map to help people find construction recycling centres.

Another example is our national carbon database. It will transform the sector's ability to reduce its carbon footprint by providing carbon data on hundreds of construction materials and products. BRANZ is teaming up with CIL Masterspec to deliver this carbon database to enable sustainable design decisions.

Collaborating to reduce waste

With building and construction responsible for more than 60% of all landfill and cleanfill waste in Aotearoa New Zealand, BRANZ is making it easier for industry to minimise waste.

A circular economy – where materials are reused and repurposed – is better for the planet and better for the bottom line. We're working towards a more circular building sector by supporting industry decision making and creating resources to minimise waste. We're also investing in new research to reduce waste and recover different building materials, including timber, plastic and structural steel.

in their **words**

Holly Miller

Project Design Coordinator, Naylor Love

Tell us about Naylor Love's approach to being environmentally sustainable?
Naylor Love has a goal of diverting at least 70% of waste away from landfill. An important aspect is choosing products that balance cost-effectiveness with environmental impact.

What tools do you use to minimise construction waste?
There are a lot of steps we take – and BRANZ's free building waste toolbox helps us make decisions along the way.

First, we create environmental and waste management plans to determine what products we can reuse or recycle for every site. There's a big range of products that can be recycled – cardboard, concrete, gib, glass, plastic, timber, scrap metal – so we make sure we've planned out these waste streams.

Once we're on the construction site, we put these plans into place using forms from the REBRI toolbox. These help us track and report on our data so we can monitor whether we're meeting our targets.

Because we work right across the country, we use BRANZ's interactive map of recycling centres to find ones closest to our sites. The map is a big help – it's regularly updated so we can maximise the amount of construction waste being kept out of landfill.

Naylor Love had a hand in developing the waste minimisation plan – can you tell us about that?
We collected a dataset of about 250 entries of waste weights of materials from our construction sites in New Zealand. This helped us find the average cubic metre weight of the different materials. Our results were used to create the new REBRI form. We use the REBRI form to help track the waste leaving site.

From a worksite culture point of view, how do you get everyone engaged in waste minimisation?
We engage our contractors in sustainable processes right from the start of the job using toolbox talks and induction materials. We help them understand our targets, processes and how we monitor progress so everyone on site knows what's happening and where to recycle waste.

What's your top tip for builders who are keen to minimise waste?
Planning ahead is a big one. Look at your products and determine what you can and can't reuse or recycle, then get a process around your waste streams. I recommend checking out BRANZ's free waste toolbox. It will make your journey much easier and help to set you up for success.

New toolbox targets building site waste

Free, practical tools to help builders manage and minimise construction waste.

BRANZ and Ministry for the Environment Manatū Mō Te Taiao are working together to minimise waste, recycle materials and build more sustainably in the construction sector.

This year, we launched a free online toolbox as part of our reducing building material waste programme (REBRI). It features a range of 30 tools, including these:

- BRANZ Resource Recovery Map – an interactive search tool showing more than 500 building waste recycling centres around the country.
- Guides and templates for resource recovery and waste reduction through every stage of decision making – from project planning to construction.
- A 'sorting made simple' guide, with downloadable signage for sorting recyclable materials. It includes signage in te reo Māori, Tongan, Samoan, Tagalog and traditional and simplified Chinese – recognising many construction workers have English as a second language.

This partnership originated from the Waste Action Group, which brought together government, industry and researchers to promote better waste minimisation practices.

NGĀ MIHI TO OUR WASTE COLLABORATORS:

- All territorial authorities in Aotearoa New Zealand
- Kāinga Ora – Homes and Communities
- LT McGuinness
- Ministry for the Environment | Manatū Mō Te Taiao
- Mitre 10
- Naylor Love
- Seamless
- Tonkin + Taylor

find out more

in their words

Julie Roberts

Head of Sustainability, Mitre 10

Mitre 10 has worked with BRANZ and 3R to develop its Sustainability On-Site tools and guidance. Why is this work important?
We all want to do the right thing but often businesses don't know where to start. The construction and demolition industry needs practical solutions that make it simple to build better.

The sector is responsible for around half of Aotearoa's annual waste to landfill so there's huge opportunity to recover valuable resources, reduce emissions and lower environmental impact. Many of our small and medium-sized customers want to operate sustainably, but they lack the time and resources.

Sustainability On-Site is a great set of online tools that make sustainable practices accessible and easy for our tradies. It includes info and videos that help people understand key waste management processes such as creating waste management plans. We also provide practical and pragmatic advice around sustainability before breaking ground as well as on the job site, plus equipment such as waste sorting bins and reusable timber pack covers.

How was BRANZ's research helpful to you?
While it's important to have practical solutions, you need to make sure you have the research to cement the practices. Having the BRANZ research and evidence enabled us to ground our tools and guidance in science.

How have your customers responded to the sustainability tools and guidance?
Customers love the fact that the tools are really practical. They're easy to use and they can be used on site or in the office. Sustainability On-Site has everything construction businesses need to get started diverting waste from landfill, understanding carbon emissions and being more sustainable in their practices.

Research tackles timber and plastic waste

Timber accounts for 31% of construction waste sent to landfill and contributes significantly to methane emissions.

To help reduce timber waste, through **Timber construction and demolition waste research (complete)**, Tonkin + Taylor analysed construction and demolition waste at sites in Wellington and Christchurch. They found that:

- more than 80% of all timber waste was treated sawn timber (with treated H1.2 being most common)
- framing work was the most wasteful, generating 45% of timber waste
- 95% of all timber waste were 'like new' pieces, usually timber off-cuts.

It also uncovered key reasons for high timber waste, including overordering, lack of recovery options and a 'throw it away' mentality.

These insights along with evidence-based data will provide the basis for the sector to explore affordable options for treated timber recovery and adopt better waste management practices on site.

The next step is to develop better understanding of how much material is brought to a site versus how much waste is generated, which could help improve accuracy of timber orders and save material costs for construction firms.

Project partners

- Waipapa Taumata Rau Auckland Council
- Classic Builders
- Environmental Solutions Research Centre, Unitec
- FLIP Homes
- Kāinga Ora – Homes and Communities
- Naylor Love
- Tonkin + Taylor (lead researchers)
- TROW Group
- University of Auckland

Meanwhile, research continues into construction plastics that end up in landfill. **Understanding and redirecting plastic waste in residential construction (ongoing)** is monitoring construction sites to understand barriers and assess the types and quantities of plastic waste going to landfill. The researchers are exploring practical alternative solutions for construction companies that will help reduce plastics in landfill.

find out more

Materials passport for steel reuse

A new research project – the first of its kind in Australasia – will develop a steel circularity passport for the recovery and reuse of structural steel.

This is significant for the steel industry because structural steel is comparatively simple to reuse and can be recycled infinitely.

Material passports are sets of data that give materials values for recovery and reuse. A steel circularity passport is a set of information that helps to recycle and reuse it. It includes details like where the steel came from and how it was used before.

This makes it easier for the sector to find reusable steel parts and reduce waste. The main goal is to lessen the environmental impact of steel production and support sustainable building practices. In short, nothing is lost and everything is reused.

Reusing structural elements in new construction is rare globally. **Development of a digital steel circularity passport (new)** will devise the first material passport of its kind in the Australasian construction sector. It will lead the way for the development of material passport capability in other building components and materials.

Led by HERA (Heavy Engineering Research Association) and supported by the Building Research Levy, the passport aims to reduce steel waste and lead to fewer new resources being needed.

The passport – which will be developed as a prototype – will be tested with the construction sector.

Supporting smarter carbon decisions

Over their entire life cycles, buildings have significant effects on the environment, people and the economy. For example, a typical stand-alone house emits 138 tonnes of greenhouse gases in its lifetime – equivalent to around 880 road trips between Auckland and Wellington in a standard petrol car. The design of neighbourhoods, including transport routes and infrastructure, also has a significant impact on emissions.

BRANZ research, collaboration and investment is contributing to shifting the sector towards delivering solutions to mitigate negative effects on the environment.

Cutting carbon with smart design

Innovative design halves carbon emissions

Regulatory changes are requiring an increased focus on carbon reductions across the full life cycle of buildings. However, there's confusion across the industry about how to calculate embodied carbon to include the different stages of a building's life.

Circular design for a changing environment: a design framework to reduce waste (complete) was led by HERA (Heavy Engineering Research Association) in collaboration with Aurecon and WSP, with funding from BRANZ.

A template for creating low-carbon, circular design guidelines in construction can be used for any material or building type and focuses on reducing carbon emissions and promoting circularity.

Comprehensive low-carbon design guidance for low-rise buildings using steel and steel-hybrid construction offers case studies and actionable insights into low-carbon design principles and strategies. The researchers identified and published research gaps to advancing carbon reduction strategies in building design and ensuring future design guidance remains applicable to new materials and technologies.

Each step of creating buildings and public spaces has the potential for greater decarbonisation, including urban planning, materials manufacture and selection, building design, innovating products and technologies and decommissioning.

When it comes to reducing emissions in construction materials, BRANZ has a long track record of investment in this research.

find out **more**

Low carbon concrete a transformation opportunity

Concrete contributes about 2% of the national greenhouse gas emissions of Aotearoa New Zealand. This is significant, considering that New Zealand's concrete industry has a goal of producing net-zero carbon concrete by 2050.

Understanding the barriers to low carbon concrete (new) will research the opportunities to scale the production and use of low-carbon concrete to transform concrete's contribution to lower emissions.

The project is a collaboration between BRANZ, University of Canterbury and Concrete NZ. It builds on a roadmap developed by industry collaborators, BRANZ and the Building Innovation Partnership in 2023 to achieve net-zero carbon concrete.

University of Canterbury research lead Greg Preston says the basic science of low-carbon concrete is already well understood, thanks partly to BRANZ's previous research investments. What's less understood is the behaviour change and ways we can encourage the sector towards using low-carbon concrete.

Tim Kleier, Concrete NZ Sustainability and Policy Director, says, "The roadmap helped us gather the whole industry around the purpose of reducing concrete emissions. This new research will help continue the momentum towards delivering low-carbon concrete as an accepted and sought-after material."

So far, the research has identified opportunities to improve low-carbon concrete uptake, including increasing the availability of raw materials, the ability to adapt the standards, improving infrastructure needed to support uptake and raising awareness of the product and its benefits.

in their **words**

Ewan Brown

Director, Tennent Brown Architects

Tell us about Tennent Brown's sustainability journey
We're a small firm of 15 people, and we've been in business 22 years, working on architecture projects across the motu. For the past decade, we've been involved with the Living Building Challenge, which is the highest sustainability rating system in the world.

How influential are architects in carbon reduction in buildings?
Architects drive projects early on. Every architect needs to understand carbon – we have to educate ourselves, our consultants, and then show clients. That's where BRANZ comes in with the tools and the data. We already use BRANZ LCAQuick a lot. It's a good, quick tool that helps you make design decisions to improve carbon outcomes.

BRANZ is collaborating with CIL Masterspec to bring a carbon database to the industry this year. How will you use it?
The carbon database will be really useful. There are similar databases internationally, but we can't use them because we have different products and a different environment here.

I've been advocating for a while that we need one source of truth for carbon data. It's great that BRANZ is working with CIL Masterspec to own that data and to be the source of truth in New Zealand. If you can easily use the data, it will drive the market to make better carbon decisions.

With the BRANZ carbon database, we'll be able to look at different products, think about durability and cost and then see if they have a carbon difference. If something is durable and similar in cost, why would you not go for the better carbon solution?

Why is BRANZ's carbon data so important to you?
One of the issues with all the different tools available is they often have different datasets. Carbon data changes through time, so it's important that somebody is maintaining that database.

BRANZ has been collecting carbon data for 12 years, and they've got people who understand the materials we've got in this market. That helps with my confidence. I know that it's BRANZ data and it will be more accurate.

The length of time they've been collecting data will help for the future because we need them to continue to collect it. It's all about assessing new products for the evolution of this database, not so much a slice in time. It's evolving and improving. The fact BRANZ does that already bodes well for the use of it and the trust people will put in it.

And finally, why is low carbon important to you?
Globally, greenhouse gas emissions are 39% for buildings – operational and embodied – which is a huge amount. So it's important that every practice and consultant does the right work, because we've all got to get to carbon neutrality together. We've all got a responsibility – it doesn't matter how big or small. You want to be able to look your kids in the eye and say you tried to improve the world.

Partnership to revolutionise carbon footprint reduction

A free, authoritative online database will help design out carbon emissions in buildings in Aotearoa New Zealand.

Buildings contribute up to 20% of the national carbon footprint. Being able to check your designs through a carbon footprint calculator makes it easier for designers to identify opportunities to use less carbon. BRANZ scientists estimate that this can halve the carbon footprint of a building.

Driven by industry demand, the database will use BRANZ's 12 years of carbon data to create a freely accessible resource, covering hundreds of construction products and materials. It will empower designers to make environmentally responsible decisions about building designs and material selections.

BRANZ has partnered with CIL Masterspec on this initiative, with BRANZ providing ongoing trusted science underpinning the data and CIL Masterspec updating the database and distributing it. The resource will be freely available to the construction sector and the general public.

When fully developed, the database will include data for an extensive range of construction products and materials that will support decarbonisation across the whole construction life cycle.

The database will be able to interface with other analytical tools such as BRANZ's LCAQuick, helping architects, designers and structural engineers to make sustainable design decisions.

> This database, when used with the range of analytics tools available, will make it easy to design out carbon emissions.
>
> Jarred Butler, Building Environmental Scientist, BRANZ

BRANZ Building Environmental Scientist Jarred Butler is leading the carbon database development and says: "This is important work and very timely. It's currently difficult for people to assess carbon footprint and apply the outcomes consistently. This database, when used with the range of analytics tools available, will make it easy to design out carbon emissions."

The database, which replaces BRANZ's CO_2NSTRUCT tool, comes in response to industry demand and with endorsement from Ministry of Business, Innovation and Employment.

NGĀ MIHI TO OUR PROJECT COLLABORATORS:

- CIL Masterspec
- Master Builders
- Te Kāhui Whaihanga New Zealand Institute of Architects

A whole-of-life approach to carbon reduction

Mapping tool supports net-zero carbon neighbourhood design

A new online mapping tool that supports the design of net-zero carbon neighbourhoods is helping planners and decision makers visualise transport patterns and emissions.

The tool currently provides data for Auckland, Hamilton, Wellington, Christchurch, Oamaru and Queenstown. It enables people to calculate impacts on carbon emissions if there are more electric and hybrid vehicles on the roads. It also helps people understand travel trends of those going to and from work.

This will lead to better urban development decisions through integrated land use and transport planning because the potential impacts of different design options are better understood. The tool is supported by case studies, lessons learned for Aotearoa New Zealand and 'building up versus building out' scenarios.

Developed as part of the research project **Best-practice urban form for emissions reduction (complete)**, the tool allows people to explore the real-world impacts of new policies and changes to support community engagement and local decision making.

Hosted on the Carbon Neutral Neighbourhoods map platform, the tool was designed by an interdisciplinary team at Te Whare Wānanga o Waitaha | University of Canterbury.

To inform their work, the researchers explored international examples of well-functioning cities, towns and neighbourhoods with low greenhouse gas emissions and compared these with high-performing local examples.

One senior urban designer observed in feedback: "The graphic format of the tool is enticing, and we will quickly be able to translate it into reporting for our clients."

find out more

Exploring the potential of geothermal energy in homes

A new research project is developing a model to help select affordable and low-carbon replacements for heating, cooling and hot water.

Development of a methodology to assess embodied carbon implications (new) will identify heating and cooling applications in Aotearoa New Zealand that can use geoheat, including in homes and commercial buildings. Geoheat is a reliable, low-carbon energy source derived from geothermal energy in the Earth's crust.

Led by GNS Science and GeoExchange NZ, the project will investigate the use of geoheat to reduce electricity use, heating costs and carbon emissions. This will help Aotearoa New Zealand meet its 2050 carbon reduction goals while reducing costs for homeowners and energy users.

The research will provide a tool for making low-carbon heating and cooling decisions, benefiting property owners, financiers and nearly all existing and new buildings in Aotearoa New Zealand.

Reducing the cost and carbon of household water heating (new)

Residential water heating accounts for 30% of household energy use. New technologies can save energy and costs in large households, but smaller households often don't see enough savings.

This research will test innovative water heating methods to reduce grid-energy use, costs and carbon emissions in homes. It aims to develop a calculator or tool to help households choose cost-effective water heating solutions, reducing energy bills and alleviating energy poverty, especially for low-income families.

The project is co-designed with EECA and Ara Ake, who will help fund field trials.

Building sustainability skills across the sector

BRANZ provides practical education, materials and tools to support the sector to build more sustainably and to help New Zealanders to make informed decisions.

Learning pathways for better zero-carbon construction

A key focus this year was defining zero-carbon skills and competencies for those working in the construction trades, architecture and design.

The future of work: Accelerate skills development for zero-carbon construction (ongoing) is a collaboration between the sector and government. Researchers are co-creating and prototyping a series of zero-carbon mentoring and upskilling initiatives alongside practical guidance, resources and toolkits.

This year, new job competency profiles have been developed and published to help inform skill standards across the sector. The profiles specify the key competencies and skills required to make effective contributions to zero-carbon initiatives for those entering the design and architecture professions.

The profiles are freely available for the industry to download and use to upskill their teams.

The project is a partnership between BRANZ, ConCOVE Tūhura, Waihunga Ara Rau and BCITO. It aims to support the industry to upskill for zero-carbon construction.

find out more

Upskilling for action on circular construction

With construction responsible for more than 60% of national waste, a critical challenge for the sector is to reduce the vast amount of waste generated during building projects.

BRANZ is central to driving change to support action on construction waste. Part of the solution is to make a big leap towards a circular approach to construction.

Building capability for action on circular construction (new) aims to make the construction industry more sustainable by reusing materials and reducing waste. It will help create practical strategies for a circular economy, where materials are repurposed instead of discarded. The project will also provide tools and training to support these changes, benefiting both the environment and the economy in New Zealand.

BRANZ has been instrumental in reducing construction waste, collaborating with government bodies like Ministry of Education and Ministry for the Environment. BRANZ will continue to coordinate efforts in the sector and build capabilities, representing the industry's perspectives to stakeholders, especially as the Construction Sector Accord is scaled back.

NGĀ MIHI TO THE CONSTRUCTION SECTOR AND PROJECT COLLABORATORS:

- Auckland University of Technology
- BCITO
- Building Research Establishment
- ConCOVE Tūhura
- Hanga Aro Rau
- Ministry for the Environment | Manatū Mō Te Taiao
- Sustainable Business Network
- Waihunga Ara Rau
- Zero Waste Network

Future of trades: collaboration continues

BRANZ continues to build its partnership with ConCOVE Tūhura in leading an international UNESCO-UNEVOC panel on the future of construction trades education.

The Bridging Innovation and Learning in Technical and Vocational Education and Training (BILT) Expert Group is creating practical recommendations and learning materials to shape the future of building and construction education.

We are working closely with ConCOVE Tūhura on the greening education focus area, drawing on our extensive research into building sustainability and zero-carbon construction.

BRANZ will participate in an upcoming gathering of BILT's Asia-Pacific cohort to share insights and innovations across construction and infrastructure vocational education.

The BILT project is implemented by UNESCO-UNEVOC with the support of the Federal Institute for Vocational Education and Training and sponsored by Germany's Federal Ministry of Education and Research.

Future leaders

Backing the next generation of sector and science talent

To tackle the challenges of tomorrow, we need curious minds thinking about careers in building, construction, science and research. At BRANZ, we're proud to play a role in that journey through mentoring, encouraging and investing in the next generation of innovators and industry leaders.

Whether it's through hands-on learning, national competitions or community outreach, we're committed to helping young people see the possibilities in shaping better buildings for Aotearoa New Zealand.

BRANZ ANNUAL REVIEW 2025

> I'm incredibly proud of how BRANZ is showing up for our community and helping young people. It's rewarding work to help inspire the scientists of tomorrow.
> Claire Falck, CEO BRANZ

Investing in research leaders of tomorrow **BRANZ's scholarship programme**

In 2025, BRANZ is launching a refreshed scholarship programme designed to grow research capability and deliver real impact for Aotearoa New Zealand's building and construction sector.

With increased funding and a sharper focus on BRANZ's sector priorities – affordability, sustainability, resilience and quality – the new programme provides tailored support for master's and PhD students to tackle the big challenges facing our built environment.

Our reimagined scholarships focus:

- **Backing future leaders:** Supporting talented researchers to build skills that benefit the sector.
- **Driving meaningful research:** Funding high-quality research in areas that matter most to the building and construction sector.
- **Boosting sector impact:** Sharing trusted, independent research to deliver practical solutions that help shape better buildings and communities.
- **Building lasting connections:** Creating a strong pipeline of researchers and ongoing collaboration across the sector.

find out **more**

Every year, BRANZ will award up to five new research scholarships:

- **Two PhD scholarships:** Three-year research projects, each valued at up to $40,000 per year.
- **Two master's scholarships:** 1-year research projects, each valued at up to $22,000 per year.
- **BRANZ Building with Science Scholarship:** A flagship 3-year research project, valued at up to $50,000 per year. Awarded when an exceptional proposal is received, typically every 1-3 years.

At its core, the reimagined programme strengthens the link between research and real-world change. It reflects BRANZ's role as a forward-thinking investor in the people and ideas shaping tomorrow's buildings.

New!

BRANZ Building with Science Scholarship

We are proud to introduce the BRANZ Building with Science Scholarship. This 3-year PhD funding is valued at up to $50,000 per year and will be awarded to research proposals that demonstrate exceptional quality and robust scientific merit.

Rising talent designs sustainable, resilient housing

ArchEngBuild 2024

Now in its 11th year, ArchEngBuild sparks collaboration between New Zealand's future architects, engineers and construction managers.

In July 2024, 30 students from across the country gathered in Ōtautahi Christchurch for a fast-paced 72-hour challenge. Strangers at first, they were grouped into teams of three – each representing architecture, engineering and construction – and tasked with designing a future-ready inner-city development.

The brief was to create a mixed-use space that blends housing, retail, work and community areas. It had to be earthquake-resilient, environmentally friendly, adaptable to life's changing stages and, crucially, affordable for everyday New Zealanders.

This event is more than a competition – it's a launchpad. By working together early in their careers, these students gain real-world insight into collaboration, setting the stage for a stronger, more connected building sector.

The winners were announced by Hon Chris Penk, Minister for Building and Construction, at a prizegiving held at Christchurch Art Gallery Te Puna o Waiwhetū.

> Finding more efficient ways to build houses that are affordable but also warm, durable and safe from natural hazards should be the key motivators for the building and construction industry. These students are the future of the industry. Minister for Building and Construction Hon Chris Penk

2024 ArchEngBuild winning team:

- **Douglas Goncalves** – Structural Engineering, University of Auckland
- **Ella Knapton** – Architecture, Victoria University of Wellington Te Herenga Waka
- **Francis Orendain** – Construction Management, Western Institute of Technology

Ngā mihi nui to our judging panel:

- **Cass Goodwin**, Batchelar McDougall Consulting
- **Bernadette Muir**, NZIA Fellow and Ara Institute of Canterbury
- **Victoria Threadwell**, Ministry of Business, Innovation and Employment
- **James Woods**, Image Construction & Image Projects

ArchEngBuild is proudly sponsored by Concrete NZ, Metals NZ, WIDE, New Zealand Timber Design Society and Southbase with support from Te Kāhui Whaihanga NZIA, Engineering New Zealand and the Building Institute Aotearoa.

find out more

in their words

Francis Orendain, Douglas Goncalves and Ella Knapton

ArchEngBuild 2024 winning team

What motivated you to enter ArchEngBuild, and what's been the most important thing you've learned?

Ella: At university, the sky's the limit, you can design whatever you want. But here, you're grounded by structural engineers, budgets and boundaries. That's been the biggest learning curve.

Francis: The biggest thing I've learned is the art of collaboration. In real life, compromise isn't easy, but you've got to do it. I'd highly encourage people to enter the competition. You'll meet new friends and you'll be open to a lot of ideas that you won't learn at university.

Douglas: I love a challenge and testing my knowledge – especially when it's connected to real-world practice. It's a great chance to meet new people and learn from industry leaders.

Why is it important to design affordable, earthquake-safe buildings?

Douglas: Safety and stability are top priorities. The challenge is delivering structures that are both earthquake-safe and affordable. Many clients, often first homeowners, have tight budgets. Meeting their needs without compromising safety is what sets great engineers apart.

Ella: Because the Earth doesn't check your bank account before it shakes. Everyone deserves a building that won't fall down on them.

Francis: Buildings must be affordable because everyone deserves a decent, safe, healthy and sustainable shelter.

How has ArchEngBuild impacted the way you work now?

Francis: It's definitely impacted how I work. I consider how my work impacts the world and how other professionals can help me do better work and vice versa.

Ella: Honestly, I think of what we achieved in such a short time whenever I'm under the pump and think "I can get it done." Since then, I've worked on bids for design competitions, which I love! ArchEngBuild helped prepare me for that.

Douglas: It's changed how I approach collaboration in the design stage. I've learned that good communication and a positive, relaxed environment go a long way towards better outcomes.

> Our industry can be tough – but these students are hitting the real world with the right attitude and focus on collaboration and communication.
> ArchEngBuild judging panel

Bringing science to life for local rangatahi

In 2025, BRANZ brought our research, testing and innovation to the Porirua Careers Expo, engaging with over 3,300 college students from across the Wellington region.

Our team ran hands-on experiments, including the crowd-favourite hydraulic press, where students tested the strength of different materials. BRANZ was proud to share our work, answer questions and encourage young people to imagine a future in science and engineering.

Powering innovative young minds

This year, we proudly supported Innovative Young Minds, a programme empowering female future leaders in science, technology, engineering, maths and high-tech manufacturing (STEMM).

Our team of scientists helped design an online innovation challenge for 47 Year 11–12 students from across Aotearoa. Over 1 week, these students worked together to design creative solutions for healthier, more comfortable homes.

The top award went to a stand-out example of practical innovation: a hydro-powered robo-dehumidifier. We're excited to see where the creativity and future focus of these inspiring young wāhine takes them next.

> It was a really great experience to listen to amazing people from different STEMM careers. I will look into a wider range of possible careers. It has made me want to work harder at school so I can achieve my goals.
>
> Zoe, Year 12

A summer of building science at BRANZ

Over summer, BRANZ hosted seven university students, giving them hands-on experience in building research.

From exploring housing affordability and energy use to testing indoor mould and managing carbon data to sharing our science, our interns contributed to real-world projects that make a difference.

Kia ora to our 2024/25 summer students: Zoe Atsalis, Forrest Carter, Hannah Causer, Jessica Chen, Mia Litten, Emily Polz and Nan Zhang.

> Over summer at BRANZ, I learned how to work with new equipment in the labs. I also learned how to read and understand data from different software, which is a great technique that I'll be able to keep honing and applying to other areas of research.
>
> Zoe, Bachelor of Science, majoring in chemistry and biotechnology

Full portfolio of research

BRANZ ANNUAL REVIEW 2025

Summary table of research projects

Includes all 2024/25 active projects plus those newly approved starting in 2025/26 (**in bold**). Information is correct as at 31 March 2025 and is subject to change.

Affordability

Project title	Lead organisation	Project budget	Status	Page for more info
Accelerating acceptance: Reducing regulatory barriers to adopting material and product innovations	Third Bearing	$76,975	Complete	
Affordable alternative housing pathways	Massey University	$174,590	Ongoing	33
Affordable private rental supply and demand in New Zealand	**Livingston & Associates**	**$247,150**	**New**	**32**
Assessing the affordability and impact of building New Zealand housing	**NZIER**	**$148,325**	**New**	**31**
Can AI be helpful in the consenting process?	**BRANZ**	**$322,000**	**New**	**29**
Defining affordability in housing and construction	BRANZ	$297,200	Ongoing	31
Housing solutions for low to moderate-income families with low equity	Livingston & Associates	$265,700	Ongoing	69
Housing typology outcomes, demographic drivers and housing market constraints in Greater Christchurch	Livingston & Associates	$243,800	Ongoing	34
Improving cost estimation of construction projects	Massey University	$190,000	Ongoing	
Improving performance and collaboration for offsite construction	University of Auckland	$200,000	Ongoing	
Industry sentiment research 2024	EBOSS	$15,000	Complete	
Industry sentiment survey 2025	EBOSS	$30,000	Ongoing	
ModelDocs: Transforming building consenting behaviour	University of Auckland	$219,000	Complete	28
Understanding barriers to the delivery of multi-generational housing	The Urban Advisory	$200,037	Ongoing	

Quality

Project title	Lead organisation	Project budget	Status	Page for more info
Accessibility to commercial buildings' sanitary facilities	WSP New Zealand	$196,500	Complete	61
Addressing climate change-induced building element moisture risks	**Building Metrics**	**$150,000**	**New**	
Better building performance through simulation	**BRANZ**	**$907,000**	**New**	**69**
Building for wellbeing	BRANZ	$837,000	Ongoing	
Cold-formed steel framing: Calibrating and modelling for energy efficiency	National Association of Steel Framed Housing (NASH)	$98,300	Complete	
De-risking the uptake of new technologies for effective change management	University of Auckland	$200,000	Complete	69
Energy use and conditions in New Zealand homes: Insights from HEEP2 (Home Energy End-use Project) data	BRANZ	$3,247,000	Ongoing	
Evaluation of an intervention to enable bank customers to achieve better building performance in new-build homes	Beacon Pathway	$262,000	Complete	67
Evaluation of the innovative energy design of Te Kī a Alasdair	**University of Canterbury**	**$192,802**	**New**	
Framework reducing impact future of climate on building performance	BRANZ	$3,420,000	Ongoing	
Healthy homes: Communication action research	Sustainability Trust	$226,883	Ongoing	
High-performance buildings narrative shift	The Workshop	$350,000	Ongoing	
Higher-performing buildings	BRANZ	$2,335,000	Ongoing	
Household Energy End-use Project 2 (HEEP2): Energy insights from our homes	BRANZ	$6,530,100	Ongoing	45
Indoor air/environmental quality (IAQ/IEQ) Research	BRANZ	$2,257,000	Ongoing	
International Building Physics Conference 2027 – Hosting	BRANZ	$235,000	Ongoing	63
Low-pitched and metal roof colour to manage condensation and mould	Helfen	$354,550	Ongoing	
Making New Zealand's built environment inclusive and accessible for everyone	Massey University	$187,930	Complete	
Mould: Finding the invisible – phase 1 investigation	BRANZ	$309,397	Ongoing	
Natural ventilation in damp homes – a qualitative exploration of behaviours and interventions for change	University of Otago	$203,988	Complete	57
New House Owners' Satisfaction Survey 2021–28	**BRANZ**	**$618,855**	**Ongoing**	**66**
Pilot investigation into energy performance certificates	BRANZ	$125,000	Ongoing	
Potential unintended consequences of high-performance construction	BRANZ	$1,069,000	Ongoing	
Preservative treated timber outgassing	BRANZ	$700,000	Complete	58
Proactive quality management in the residential construction sector	Massey University	$149,345	Ongoing	68
Programme leadership – Warmer, drier, healthier buildings	BRANZ	$1,020,000	Ongoing	
Scholarship: Griffin Cherrill - Internal moisture from thermal bridges	Victoria University of Wellington	$50,000	Complete	56

Quality

Project title	Lead organisation	Project budget	Status	Page for more info
Scholarship: Lucy Lee – A systematic way of thinking in architecture	Victoria University of Wellington	$20,000	Complete	70
Scholarship: Masi Shiran – Impact of retrofit strategies	Victoria University of Wellington	$75,000	Ongoing	51
Scholarship: Ting Yen Khor - Pre-contamination of wallboard with fungi	University of Auckland	$20,000	Complete	59
Simulation-based multi-objective optimisation of school building energy retrofit	University of Canterbury	$200,000	Ongoing	
The cost benefit of durable construction – literature review	BRANZ	$78,900	Complete	68
Towards durable timber structures – phase 2	BRANZ	$1,214,589	Ongoing	
Understanding the home energy advice landscape in Aotearoa	**Beacon Pathway**	**$206,300**	**New**	**50**
Usage and uptake of engineered wood products in New Zealand	Red Stag Timber	$68,000	Ongoing	
Changing evacuation behaviour to meet densified housing needs	University of Canterbury	$361,698	Ongoing	
Dementia-friendly housing: Improving design and retrofit guidance of daylit environment for older people living with dementia ageing in place	University of Auckland	$200,000	Ongoing	60
Materials and Characteristics Survey 2021–24	BRANZ	$668,000	Ongoing	
Scholarship: Tim Boyle – Densification in our biggest cities	University of Otago	$22,125	Complete	61

Resilience

Project title	Lead organisation	Project budget	Status	Page for more info
AI applications to fire engineering – environmental scan	**BRANZ**	**$186,000**	**New**	**88**
Multi-hazard building strengthening of Aotearoa New Zealand's dwellings	**Massey University**	**$200,000**	**New**	
A multi-faceted approach towards housing resilience in New Zealand	**University of Auckland**	**$231,919**	**New**	**78**
Assessment and reduction of the seismic vulnerability for three-storey timber framed houses	**University of Canterbury**	**$160,016**	**New**	
B-RISK future development roadmap project	BRANZ	$320,000	Complete	88
B-RISK (fire simulation tool) support 2021-24	BRANZ	$351,000	Ongoing	
B-RISK support 2025–28 and future opportunities	**BRANZ**	**$518,000**	**New**	
Building an industry good business case for strategic collection of groundwater data – stage 1	University of Canterbury	$177,000	Complete	
Climate change adaptation of buildings in New Zealand – research prioritisation assessment	WSP New Zealand	$86,670	Complete	79
Climate resilience – building back better	BRANZ	$2,140,700	Ongoing	76
Code of practice for the seismic performance of non-structural elements	**University of Canterbury**	**$302,396**	**New**	**95**

Resilience

Project title	Lead organisation	Project budget	Status	Page for more info
Dashboard for assessing the functionality of residential neighbourhoods before and after a disaster event	University of Waikato	$199,000	Ongoing	
Development of a seismic qualification framework for non-structural elements in New Zealand	University of Canterbury	$170,000	Complete	
Fire resistance of mass timber and steel hybrid floor systems	**University of Canterbury**	**$481,529**	**New**	
Fire safety quality processes in the New Zealand built environment	BRANZ	$407,000	Ongoing	
Flood resilience of light timber-framed wall envelope system	University of Canterbury	$200,000	Ongoing	
Lithium-ion batteries: Fire risks associated with buildings	BRANZ	$178,690	Complete	89
Navigating marae relocation: Exploring building relocation strategies	Build Back Better Aotearoa New Zealand	$238,000	Ongoing	
Replacing percentage of new building standard: stress testing alternatives to %NBS	**Resilient Organisations**	**$212,484**	**New**	
Scholarship: Gordon Chen – Steel beam-column connections in fire	University of Canterbury	$75,000	Complete	89
Scholarship: Kirill Panov – Metallic materials in geothermal environments	University of Auckland	$76,200	Ongoing	
Scholarship: Luke de Schot – Human behaviour in fire	University of Canterbury	$42,000	Ongoing	
Scholarship: Mohamed Mostafa – Precast floors and torsion	University of Auckland	$75,000	Ongoing	
Seismic design and retrofit of hillside houses	BRANZ	$986,600	Ongoing	
Seismic design of low-rise and mid-rise hybrid residential buildings	BRANZ	$1,102,300	Ongoing	
Seismic resilience of light timber-framed houses	**BRANZ**	**$3,010,000**	**New**	
Seismic risk communication: Moving from understanding to behaviour change	Resilient Organisations	$169,400	Complete	
Seismological investigation into floor response acceleration prediction	**SeismoCity**	**$80,000**	**New**	**94**
The impact of insurance claims settlement and residential repair	**Resilient Organisations**	**$91,000**	**New**	**78**
The future of evaluating building fire performance	BRANZ	$2,392,200	Ongoing	

Sustainability

Project title	Lead organisation	Project budget	Status	Page for more info
Best-practice urban form for emissions reduction	University of Canterbury	$139,649	Complete	110
Building capability for action on circular construction	**BRANZ**	**$1,062,320**	**New**	**114**
Building capability to help the construction industry transition to zero carbon	Massey University – Auckland	$327,000	Ongoing	
Circular design for a changing environment: a design framework to reduce waste	HERA	$150,500	Complete	107

Sustainability

Project title	Lead organisation	Project budget	Status	Page for more info
Climate impacts of medium density-housing (MDH): Expanding the MDH assessment tool	Beacon Pathway	$153,475	Complete	
Continuing keeping carbon current	BRANZ	$786,000	Ongoing	
Developing aspirational change – better kitchen joinery outcomes for all	Victoria University of Wellington	$201,859	Ongoing	
Development of a methodology to assess embodied carbon implications	**GNS Science**	**$289,825**	**New**	**111**
Development of a digital steel circularity passport	**HERA**	**$75,000**	**New**	**105**
Durability in circular construction – Balancing carbon and cost	**BRANZ**	**$1,298,000**	**New**	
Fostering the new good: biomaterials for a radically lower carbon built environment	Victoria University of Wellington	$78,860	Ongoing	
Materials under the changing climate	BRANZ	$3,115,050	Ongoing	
Metal corrosion rate prediction in climate change scenarios using machine learning and big data analysis	University of Auckland	$200,000	Ongoing	
Non-traditional construction systems	BRANZ	$627,747	Ongoing	
Pathways to net-zero carbon buildings in communities	University of Canterbury	$181,640	Ongoing	
Plastic waste on construction sites: A co-operative approach	Environmental Innovation Centre	$262,975	Ongoing	104
Prediction tool for long-term contaminant release from building surfaces	University of Canterbury	$203,750	Ongoing	
Reducing the cost and carbon of household water heating	**BRANZ**	**$763,388**	**New**	**111**
Roadmap to net zero carbon steel in construction	Sustainable Steel Council	$80,000	Ongoing	
Scholarship: Danielle Smith – Sustainable whenua (land) development for Māori housing and hauora (health)	University of Waikato	$75,000	Ongoing	
Scholarship: Gerasimos Christoforatos – Materials flow and life cycle analysis	University of Waikato	$75,000	Ongoing	
Scholarship: Kevin Manalo – Capturing the carbon footprint of open-cut pipeline excavations	Massey University	$20,000	Complete	
Supporting industry action on waste	BRANZ	$510,500	Complete	
The carbon curve of seismic strengthening	University of Auckland	$197,538	Ongoing	
The future of work: Accelerate skills development for zero-carbon construction	BRANZ	$1,923,500	Ongoing	113
Timber construction and demolition waste research	Tonkin + Taylor	$239,500	Complete	104
Transition to zero carbon programme: Leadership 2019–24	BRANZ	$797,200	Ongoing	
Transition to zero-carbon programme communication and dissemination 2023–25	BRANZ	$668,000	Ongoing	
Understanding the barriers to low-carbon concrete	**University of Canterbury**	**$217,000**	**New**	**107**
Validation of carbon footprinting tools	BRANZ	$201,000	Ongoing	109

Future leaders

Project title	Lead organisation	Project budget	Status	Page for more info
ArchEngBuild Challenge 2024	Concrete NZ	$125,000	Complete	118
ArchEngBuild Challenge 2025	**Concrete NZ**	**$100,000**	**New**	
Psychologically safer workspaces	MATES in Construction	$191,638	Ongoing	
Roadmap for engaging with Māori in New Zealand housing research	**Kakariki Consulting**	**$100,000**	**New**	
Women's experiences in construction	**Axon Consulting**	**$243,125**	**New**	

Sector resources

Project title	Lead organisation	Project budget	Status
BRANZ bulletins 2022–25	BRANZ	$452,000	Ongoing
BRANZ Levy forecast 2021–24	BRANZ	$924,000	Ongoing
Build magazine 2021–24	BRANZ	$6,472,021	Ongoing
Building Controls 2021–24	BRANZ	$2,290,000	Ongoing
Digital knowledge transfer	BRANZ	$1,248,000	Ongoing
Library information management 2024–27	BRANZ	$672,000	Ongoing
Advisory services 2024–27	BRANZ	$1,266,000	Ongoing
Education 2024	BRANZ	$684,000	Ongoing
Guideline 2024	BRANZ	$56,500	Ongoing

Investing the Building Research Levy

BRANZ invests the Building Research Levy (the Levy) in research that lifts the performance of the entire building sector and creates better buildings for New Zealanders.

The Levy is set at 0.1% and is applied to all building consents that have building work valued at over $20,000. For every $1,000 over this threshold, BRANZ receives $1 to invest in building research.

PLANNING FOR IMPACT: A LONG-TERM VISION FOR RESEARCH INVESTMENT

BRANZ's new 10-year strategy is shaped by the real challenges the sector is facing today – affordability, quality, resilience and sustainability.

Aligned with the direction, we're developing a bold new 10-year Research Investment Strategy. This strategy will guide future-focused, transparent and balanced funding decisions that drive change across sector priorities.

With clear investment outcomes, measures of success and robust governance, our aim is simple: to fund research that delivers real, lasting benefits for the building sector and all New Zealanders.

Our research investment approach

BRANZ makes research investment decisions based on feedback from across the sector about priorities and key challenges. To shape each year's investment signals, we carry out a range of systems-scanning activities and consult with industry sectors, government agencies and researchers.

We publish our investment signals in the **Investment Priorities Statement**, our annual guide to funding decisions.

To ensure high-quality research outcomes, all proposals go through a rigorous review by expert panels representing industry and research. Projects from BRANZ researchers and collaborators around Aotearoa New Zealand are assessed at the same time. Our intention is to integrate BRANZ and collaborator research to boost collaboration and alignment across our investments.

Outside of this annual round, BRANZ Inc. also considers out-of-cycle proposals from all research providers that respond to critical industry needs.

find out more

Backing the next generation of research leaders

The **BRANZ scholarship programme** supports innovative research and the next generation of research talent. BRANZ Inc. awards funding to outstanding postgraduate scholars in tertiary institutions. In 2024, we supported 12 scholarship projects.

To continue to deliver the best outcomes for the future, in 2024 we reviewed our scholarship programme. In 2025, we're relaunching the programme as part of our new Levy investment round – with increased funding, stronger alignment to sector priorities and a renewed focused on building research capability across the sector.

The reimagined programme will build a strong talent pipeline for our future research leaders and deliver lasting impact for the building and construction sector.

Investing in national research and testing facilities

BRANZ uses Levy funding to grow and maintain vital building research facilities, which are important national assets for innovation, testing and research. We take a long-term, strategic approach to capital investment, regularly assessing future sector needs to guide improvements.

Our recently built fire lab and structural engineering lab will bring new research and testing capabilities to support Aotearoa New Zealand's building sector.

Leading BRANZ

Our decarbonisation journey – 2024 update

We continue to take steps to decarbonise our operations and go above and beyond the mandatory requirements of the Toitū Net Carbon Zero Programme. We're committed to becoming a net-zero emissions business by 2035 – if not before.

Toitū Net Carbon Zero certification achieved for a fourth year

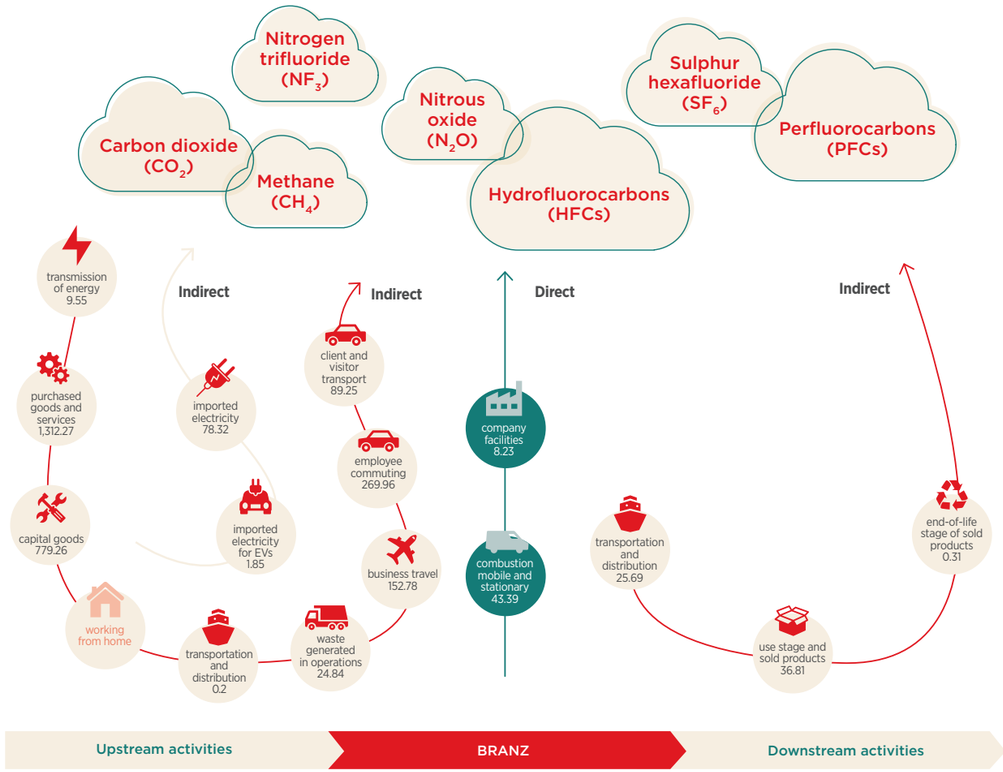
Once again, BRANZ has successfully achieved Toitū Net Carbon Zero certification, which is recognised in 60 countries and verified annually. Achieving this certification means that BRANZ verified its greenhouse gas (GHG) inventory or footprint against international environmental standard ISO 14064-1 and an approved emissions reduction plan. The Toitū Net Carbon Zero certification is accredited by the Joint Accreditation System of Australia and New Zealand.

Raising the bar on our carbon reporting

This is BRANZ's second emissions report covering the full value chain, with data from 2018 to 2024. While full value chain reporting is encouraged but not required under the Toitū Net Carbon Zero programmme, we've chosen to include both direct and indirect emissions. This voluntary approach strengthens our understanding of BRANZ's total impact and reflects our commitment to environmental leadership and continuous improvement beyond regulation.

BRANZ GHG emissions 2024

Our gross emissions total for the 2024 calendar year was 2,832.70 tonnes of carbon dioxide equivalent (tCO_2e). For Categories 1 and 2 combined, our absolute emissions, the total was down 25% on the 2018 base year.



Notes:

- **Direct GHG emissions (Category 1):** from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Category 2):** from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Categories 3–5):** includes transportation services, other products and services used by the organisation and use of products sold by the organisation.

Emissions over the past 7 years

Every year since 2017, our carbon footprint has been independently verified and we have purchased carbon credits to offset emissions from mandatory sources.

The table below shows 7 years of BRANZ emissions information.

Direct emissions

Emissions (tCO_2e)	2018	2019	2020	2021	2022	2023	2024
Toitū total direct emissions (Category 1)	108.87	105.43	23.21	46.22	30.70	40.36	51.62
Toitū total indirect emissions (Categories 2–5)	2,792.45	3,089.88	2,397.52	2,408.20	5,454.06	6,476.75	2,781.08
Toitū total gross emissions	2,901.32	3,195.31	2,420.72	2,454.42	5,484.75	6,517.11	2,832.70
Toitū purchased carbon credits (mandatory offsets required for Toitū programme certification)	-779.70	-802.92	-477.47	-542.63	-510.88	-313.15	-335.46
Total net emissions	3,681.02	3,998.23	2,898.19	2,997.05	5,995.63	6,830.26	3,168.16

Category 1 direct emissions in 2024 were generated by combustion (mobile/stationary), company facilities and refrigerants. Following our continued efforts to minimise direct emissions, it is pleasing to see that, in 2024, they remained at a lower level compared with the 2018 base year – 51.62 tCO_2e versus 108.87 tCO_2e, around 2% of gross emissions. This was above 2020–22 levels. However, emissions during this period were unusually low due to the global pandemic.

Indirect emissions

The indirect emissions from products used by the organisation in Category 4 was 2,125.91 tCO_2e, around 75% of gross emissions. This included our largest single source of emissions in 2024, from purchased goods and services (1,307.89 tCO_2e), which includes, but is not limited to, business services like bank charges, professional services, external research, software licensing, publishing, printing and reproductive services and air conditioning maintenance. Our second-largest source was 779.26 tCO_2e and covers items such as capital goods (non-residential construction and scientific equipment) for our new lab facilities (see below).

Category 3 was 537.88 tCO_2e, around 19% of gross emissions. This includes business travel (planes, trains/automobiles and accommodation), freight, employee commuting and client and visitor transport. The largest single category source of emissions was staff commuting (269.69 tCO_2e), around 50% of category emissions. This relates to commuting to and from our campus. Employee commuting is a significant challenge given our semi-rural location, not served by public transport, and it is an ongoing focus in our Toitū Emissions Management and Reduction Plan (see key actions on the opposite page).

Category 2 was 80.17 tCO_2e for imported electricity, and Category 5 was 37.12 tCO_2e, around 4% of gross emissions.

Carbon impact of our research and testing facility upgrades

The new lab facilities will provide opportunity for enhanced research and testing and increased revenue generation for BRANZ. The construction project, which is now nearing its end, was our most significant source of carbon emissions in 2023 and will continue to be so for the next couple of years.

In addition, the operation and maintenance of the facilities, including electricity use, will also contribute to ongoing indirect emissions in future.

To minimise the environmental footprint of construction, considerable consideration was given to the design, material and equipment selection. This included opting for lower-emissions concrete, more environmentally friendly air conditioning technologies and refrigerant choice (HFC-32). Other features chosen include modern meeting room communications, rain gardens, a wet scrubber for the furnace and a wooden on-site emergency water storage tower for half a million litres of water. In addition, the new fire lab will be capable of using gases other than LPG.

To offset emissions from the construction of our new lab facilities, in 2022, BRANZ purchased 3,271 credits from the Amayo Phase II Wind Power Project.

Once the facilities are fully up and running, a new baselining exercise will likely need to be undertaken for the 2025 or 2026 reporting periods.

Key actions taken in 2024 to reduce our carbon footprint

Our aim is to decarbonise BRANZ activities wherever possible while remaining operationally effective.

In our fourth year of implementing our Emissions Management and Reduction Plan, these are some achievement highlights:

- Took steps to better understand renewable energy potential of solar at our campus.
- Concluded that *Build* magazine evolves to a digital offering.
- First full year operating EV charging facilities for 10 vehicles. Eight chargers are already available, free of charge, for customers, suppliers and staff to use. An additional two are available for overflow and in support of the replacement of two diesel vehicles in our vehicle fleet.
- Vehicle business case and investment priority established, with vehicle selection and purchasing our next steps.
- Completed a replacement and upgrade strategy of electrical assets on the east side of the campus.

In 2025, we plan to take steps to better understand our use case descriptions for hydrogen, progress solar on site and schedule an upgrade of our building management software and related systems to support energy management. We will replace the campus switchboard and continue efforts to decarbonize our *Build* magazine and vehicle fleet and settle on a method for measuring and monitoring the movement of gigabytes of our data. We look forward to piloting the use of new electronic tools to capture information related to employee commuting.

Our wider sustainability initiatives

Broader steps we are taking to address sustainability include:

- maintaining our certifications with Telarc and Toitū
- making recycling or reuse options available
- continuing to reduce the use of non-renewable, non-recyclable and non-reusable materials
- using environmentally friendly products wherever possible
- introducing more recyclable packaging options in our operations
- ongoing monitoring of our electricity consumption
- focusing on transparency of our sustainability activity, plans and performance in our reporting and on our website at branz.co.nz
- maintaining membership of sustainability-focused organisations The Aotearoa Circle and the Sustainable Business Council.

Low-carbon research is a key area in our research investment portfolio and includes the **Transition to a zero-carbon built environment** programme. Through this programme, we will continue to provide sustainability leadership to the building and construction sector by providing resources, science, experience and networks.

BRANZ is committed to supporting industry players to make positive change and contribute to the building and construction industry's and Aotearoa New Zealand's carbon reduction goals.

BRANZ ANNUAL REVIEW 2025

Meet our Directors

BRANZ Incorporated (Inc.) and BRANZ Limited (Ltd) are governed by directors with extensive building and construction, science, business and public sector expertise.

Five directors are elected by the Building Research Advisory Council. These elected board members can appoint up to three independent directors.

As at 31 March 2025, there were six directors.

Nigel Smith – Chair

Nigel Smith has over 30 years' experience in the Aotearoa New Zealand construction industry, qualifying as an architectural draughtsman, and has extensive technical knowledge of the industry especially related to residential design and building methodology. Nigel holds positions on various boards, including as a director of several Canterbury-based building companies, and is the current National Chair of Master Builders. He was a founding trustee of Construction Health and Safety New Zealand and is a member of the New Zealand Institute of Directors. Nigel joined the BRANZ Board in 2019.

Mike Sang – Deputy Chair

Mike Sang has 25 years' experience working with and on boards as a non-executive director. He has also been a chief executive and chief financial officer across multiple sectors, including 7 years as Chief Executive of Ngāi Tahu Holdings. Mike is on the boards of Orion New Zealand, Comvita and the Government Superannuation Fund Authority. Mike joined the BRANZ Board in August 2021.

Dr Lisbeth Jacobs

Dr Lisbeth Jacobs has over 25 years' global business leadership and corporate strategy experience and a deep knowledge of engineering, innovation and research. Lisbeth holds a PhD in materials engineering. She is currently CEO of Gallagher Animal Management, and prior to that, she was General Manager, Innovation and Sustainability at Fletcher Building. Lisbeth is a non-executive director of Goodnature Ltd since November 2022 and Honorary Consul of Belgium to New Zealand since 2013. Lisbeth joined the BRANZ Board in 2020.

Alister Lawrence

Alister Lawrence is a Chartered Fellow of the Institute of Directors New Zealand and a director on several boards. With a background in building materials manufacturing, engineering and international project management, Alister holds an honours degree in civil engineering and a postgraduate diploma in business administration. Alister is a director and shareholder of Plazrok International with insight into the technical development of building materials and their commercialisation and has great respect for the environment. Alister joined the BRANZ Board in 2022.

Ian McCormick

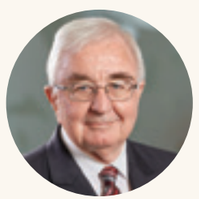
Ian McCormick brings considerable experience in the sector, with a particular focus on the regulatory area. He is General Manager of Building Consents at Auckland Council, overseeing Australasia's largest building consent authority. He is a former Vice President of the Building Officials Institute of New Zealand (BOINZ) and currently chairs the Metro Sector Group. Ian has held leadership roles on the Building Research Advisory Council and the Building Advisory Panel and is a member of the Institute of Directors. He holds a Bachelor of Science, a Master of Business Studies, and a Diploma of Business Administration and is pursuing a Master of Management. Ian joined the BRANZ Board in September 2024.

Erica Seville

Erica Seville has many years of experience in the research sector, including leading major research programmes in disaster management and reconstruction, economic and business recovery, and resilience of the built environment. Erica has a Bachelor of Engineering (Civil/Environmental) and a PhD in risk management. Erica co-founded Resilient Organisations, a social enterprise delivering public-good research and consulting to improve resilience, and is currently a Commissioner with Natural Hazards Commission | Toka Tū Ake. Erica joined the BRANZ Board in mid-2022.

Farewell and thank you

We take this opportunity to farewell and thank Alan Bickers, MNZM, JP, for the insights, energy and passion that he has brought to the Board over 9 years. In particular, we thank him for the prominent role he has played in the transformation of BRANZ's campus at Judgeford. Alan completed his last 3-year term on 31 August 2024. We wish Alan all the very best in his future endeavours.



Alan Bickers brought many years of experience in civil engineering, building regulatory functions, consulting management and governance. He is a Distinguished Fellow of the Institute of Directors New Zealand and a Distinguished Fellow of Engineering New Zealand. He has previously held roles as the formative Chair of the Building Practitioners Board, Chair of the Plumbers, Gasfitters and Drainlayers Board and Chair of the Ministry for Primary Industries Partnership Programme for Engineered Timber Buildings.

Register of interests

Disclosure of significant shareholdings only, not shares held by family trusts, as at 31 March 2025.

Director	Directorships
Nigel Smith	Ashborn Management Ltd
	Milestone Homes Canterbury Ltd
	Milestone Homes National Ltd
	NSR Investments Ltd
	Site Safe
Mike Sang	Comvita
	Government Superannuation Fund Authority
	Orion NZ
Lisbeth Jacobs	Goodnature New Zealand
	Other relevant interests
	Honorary Consul of Belgium
	CEO – Animal Management, Gallagher Group Ltd
Alister Lawrence	AJ Lawrence Ltd t/a Miro Partners
	Plazrok International Holdings Ltd
	Plazrok International Ltd
	Procare Charitable Foundation
	Procare Networks Ltd
	United Supply Co Ltd
Ian McCormick	Auckland Council
	Other relevant interests
	Former Vice President of BOINZ, with ongoing involvement in the Technical Subcommittee
	Forum Chair of the Metro Sector Group Forum
	Father of the business owner of Dynamic Solutions and Smith and Sons North Shore
Erica Seville	*Other relevant interests*
	Commissioner, Natural Hazards Commission | Toka Tū Ake
	Independent Chair of Steering Group, Seismic Risk Management for Existing Buildings legislative review
	Spouse to a senior manager/shareholder of Holmes
	Trustee, Seville Trust

Standard disclosure statement affirmed at the beginning of every Board meeting:

It is recognised that some members of the BRANZ Board represent companies or organisations or interests that are, or may be, in competition with those of other Board members. Meetings of the BRANZ Board and communications between members of the Board will not be used as a forum for unlawful collusion or anti-competitive conduct.

Remuneration

Directors' remuneration for the BRANZ Group is reviewed biennially. The Board seeks independent advice to help with this process. A proposal to increase fees paid to the Chair from $56,700 to $58,320 and directors from $30,000 to $32,400 was outlined at the BRANZ Inc. Annual General Meeting on 3 August 2023. At its subsequent meeting on 28 August 2023, the Board confirmed this proposal.

Board role	Directors' fees per annum
Chair	$58,320
Deputy Chair	$32,400
Director	$32,400
Committee Chair	$6,550
Representative on external board	$6,550

Meet our Executive Leadership Team

BRANZ is led by Chief Executive Officer Claire Falck with a leadership team of six members. They guide the organisation to achieve its efforts to create lasting improvements in the building system – setting the direction, guiding research, fostering collaboration and providing sector leadership.

Claire Falck, Chief Executive Officer

Claire Falck is passionate about collaboration, which is at the heart of all BRANZ's work. She is committed to a future where all New Zealanders can live in safe, healthy and low-carbon homes.

Claire has enjoyed a wide-ranging career in both the public and private sectors, specialising in system design and complex transformation assignments. She has held senior roles with New Zealand Police | Ngā Pirihimana o Aotearoa, Ministry of Social Development | Te Manatū Whakahiato Ora and the former Housing New Zealand Corporation. She was also practice lead at MartinJenkins.

She joined BRANZ as General Manager System Transformation in February 2021 and was appointed CEO in August 2023. Claire has a Bachelor of Commerce and Administration from Victoria University of Wellington.

Team members

Karla Falloon	General Manager System Transformation and Office of the Chief Executive
Dr Chris Litten	General Manager Research
Martin Gordon	General Manager Consultancy Services
Janet Geritzlehner	General Manager People and Capability
Rhys Hurd	General Manager Communications, Engagement and Channels
Peter Searle	General Manager Corporate Services/Chief Financial Officer
Linda Vekula	Personal Assistant to Chief Executive Officer/Company Secretary

Building Research Advisory Council

The Building Research Advisory Council (BRAC) plays a vital role in ensuring BRANZ's accountability and responsiveness to the Aotearoa New Zealand building and construction industry. It has 18 members representing 13 nominating bodies from the industry and trades, the business sector, consumers and government.

BRAC advises on industry issues for BRANZ's consideration and elects the BRANZ Board of Directors. BRAC meets twice a year.

In 2024/25, BRAC welcomed one new member:

- Ankit Sharma representing Master Builders

The following member completed their term on BRAC in 2024/25:

- Kieren Mallon representing Master Builders

BRAC role	Honorarium per meeting
Chair	$2,980
Member	$1,300

Members (as at 31 March 2025)

Name	Nominee of
Rick Osborne (Chair)	Business New Zealand
Andy Garvie	Business New Zealand
John Gardiner	Building Industry Federation
James Le Page	Consumer New Zealand
Cameron Lornie	Civil Contractors New Zealand
Carol Caldwell	Engineering New Zealand
Paul Campbell	Engineering New Zealand
Andrea Duncan	Kāinga Ora
Jeff Fahrensohn (Deputy Chair)	Local Government New Zealand
Richard Arkinstall	New Zealand Specialist Trade Contractors Federation
Wayne Carson	New Zealand Specialist Trade Contractors Federation
Ewan Brown	New Zealand Institute of Architects
Karl Wipatene	New Zealand Institute of Architects
Garry Nott	New Zealand Certified Builders
David Hall	Ministry of Business Innovation and Employment
Gavin Read	Property Council New Zealand
Sanjesh Lal	Master Builders
Ankit Sharma	Master Builders

Our financial statements and service performance information

Our financial performance

BRANZ continues to position itself to be able to adjust its investment plans and traverse a variety of economic conditions.

Throughout the year, we carefully progressed our work and development of a new strategy to adapt to the ever-changing economic and operating environment.

BRANZ gets its research income from Building Research Levy receipts, which are directly linked to the levels and values of building consents. This means Levy income is subject to the same economic cycles as the industry.

Over the past 10 years, BRANZ has positioned itself to be able to invest in and support industry research through economic cycles in a careful, transparent and considered way. BRANZ does this through its Long-Term Levy Utilisation Policy, which helps manage these ups and downs in Levy income. It uses a long-term model to create a stable, sustainable platform for BRANZ to invest the Building Research Levy effectively.

In practice, this means that, when Levy income increases, BRANZ is prudent around expanding its investment. Then when Levy income decreases, BRANZ does not have to make unnecessary or drastic cuts.

This enables BRANZ to adjust its plans and pace of investment while still maintaining its core commitment to a high-performing industry. By taking a careful and considered financial approach, BRANZ made moderate adjustments to research investment in the year to maintain financial stability despite the current economic environment.

Long-Term Levy Utilisation Policy

The policy sets out how BRANZ will effectively manage the Levy by:

- determining an investment sum using the long-term model to incorporate into the annual BRANZ Group budget for investment in Levy-funded activities
- investing in research activities (operating and capital expenditure) in both internal and external capability
- investing the Levy in an open, transparent and contestable way, ensuring that any investment in core internal capability is linked to BRANZ's long-term strategic priorities
- investing through robust mechanisms to help ensure that quality investments are made and to avoid unnecessary duplication of capability and facilities across New Zealand
- ensuring availability of funding for maintenance and investment in property, plant and equipment.

The Long-Term Levy Utilisation Policy is reviewed every 3–4 years and was last reviewed in 2021.

Our 2024/25 financial performance

The BRANZ Group derives its total income from a combination of the Building Research Levy and commercial services.

Total income for 2024/25 was $33.59 million, consisting of:

- $24.39 million from the Building Research Levy to fund industry research and knowledge transfer
- $8.69 million from commercial services
- $0.52 million of other income.

This compares with $37.23 million for the previous year. The decrease in income in 2024/25 was due to lower Building Research Levy receipts with reduced consenting activity after being at elevated levels from 2021–24.

Expenditure directly managed for 2024/25 was $35.86 million. This was used to operate the business, directly deliver research outcomes and testing services, inform the industry and invest with other research providers.

Specific investment in research with BRANZ Ltd and other research providers amounted to $18.02 million, which is an increase on the previous year amount of $16.84 million. Expenditure in the previous year amounted to $34.35 million.

In 2019/20, as host of National Science Challenge 11 (NSC 11): Building Better Homes, Towns and Cities, BRANZ was contracted for a further 5 years with associated funding of $24.3 million. NSC 11 Challenge finished during 2024.

A breakdown of the BRANZ Group financial results can be viewed on subsequent pages.

Cash reserves

The BRANZ Group has investment in cash reserves of $8.71 million as at 31 March 2025, down from $14.08 million as at 31 March 2024. The prior-year balance included $0.49 million of NSC 11 funding that had yet to be spent.

The BRANZ Group Treasury Policy recognises that, as a result of the investment in the campus redevelopment at Judgeford, BRANZ will move from being wholly 'cash in funds' to a mixed profile of 'cash in funds' and 'debt'. The policy states how BRANZ will manage its treasury activities and protect cash flows within an environment of control and compliance, within approved limits and according to stated objectives.

All funds and the level of cash reserves are held in accordance with the BRANZ Group Treasury Policy.

Funding for investment in property, plant and equipment

BRANZ funds the maintenance and development of facilities at Judgeford and elsewhere in New Zealand. The Campus and Asset Management Plan was refreshed and adopted by the Board in February 2020 and ensures that our facilities meet industry research and testing needs for the future.

The plan identified over 15 projects that are required to retire, replace or refurbish ageing property, plant and equipment with an estimated investment of $50–55 million over 5 years. The most significant element of this plan is completing the campus redevelopment at Judgeford.

The investment case for the construction stage of the campus redevelopment project was approved by the Board in July 2021. The investment case included the provision of access to a funding facility of up to $25 million from Westpac New Zealand Limited, which is secured on the assets of the Group. At 31 March 2025, $1 million has been drawn down from the facility in accordance with the BRANZ Group Treasury Policy.

During the year, $6.55 million (2023/24: $22.77 million) was invested in campus redevelopment projects.

Building Research Association of New Zealand Inc.

Summary statement of comprehensive revenue and expenses

For the year ended 31 March 2025

	Group	
	2025 $	2024 $
Operating income		
Revenue from non-exchange transactions		
Building Research Levy Act levies	24,386,618	26,506,541
Revenue from exchange transactions		
Commercial work fees	8,687,298	9,390,370
	33,073,916	35,896,911
Other income		
Interest received	511,923	1,327,906
Gain on disposal of assets	3,103	7,409
	515,026	1,335,315
Total income	**33,588,942**	**37,232,226**
Expenditure		
Personnel costs	16,344,237	15,687,790
Other operating costs	19,519,941	18,659,134
Total expenditure	**35,864,178**	**34,346,924**
Surplus/(deficit) before income tax	**(2,275,236)**	**2,885,302**
Income tax benefit	121,990	89,715
Surplus/(deficit) for the year	**(2,153,246)**	**2,975,017**
Total comprehensive revenue and expenses for the year	**(2,153,246)**	**2,975,017**

Building Research Association of New Zealand Inc.

Summary statement of changes in net assets/equity

For the year ended 31 March 2025

	Group		
	Foreign currency translation reserve $	Retained earnings $	Total equity $
Balance at 1 April 2023	17,716	75,835,973	75,853,689
Movement for year	2,083	2,975,017	2,977,100
Balance at 31 March 2024	**19,799**	**78,810,990**	**78,830,789**
Movement for year	1,172	(2,153,246)	(2,152,074)
Balance at 31 March 2025	**20,971**	**76,657,744**	**76,678,715**

Building Research Association of New Zealand Inc.

Summary statement of financial position

As at 31 March 2025

	Group	
	2025 $	2024 $
Assets		
Current assets		
Cash and cash equivalents	3,711,676	4,581,961
Term deposits	5,000,000	9,494,921
Other current assets	5,804,793	7,265,126
Total current assets	**14,516,469**	**21,342,008**
Non-current assets		
Property, plant and equipment	67,106,113	62,779,277
Intangible assets	610,428	626,382
Deferred tax assets	16,121	0
Total non-current assets	**67,732,662**	**63,405,659**
Total assets	**82,249,131**	**84,747,667**
Liabilities		
Current liabilities		
Trade and other payables	2,749,612	3,553,427
Term loan	1,000,000	0
Other current liabilities	1,644,254	2,201,249
Total current liabilities	**5,393,866**	**5,754,676**
Non-current liabilities		
Deferred tax liability	0	19,909
Other non-current liabilities	176,550	142,293
Total non-current liabilities	**176,550**	**162,202**
Total liabilities	**5,570,416**	**5,916,878**
Equity		
Total equity	**76,678,715**	**78,830,789**
Total equity and liabilities	**82,249,131**	**84,747,667**

Building Research Association of New Zealand Inc.

Summary statement of cash flows

For the year ended 31 March 2025

	Group	
	2025 $	2024 $
Net cash from/(used in) operating activities	583,625	2,098,141
Net cash from/(used in) investing activities	(2,372,382)	(4,112,637)
(Decrease)/increase in cash and cash equivalents	(788,757)	(2,014,496)
Unrealised gains/(losses) on foreign currency accounts	(81,528)	669
Cash and cash equivalents at 1 April	4,581,961	6,595,788
Cash and cash equivalents at 31 March	**3,711,676**	**4,581,961**

Building Research Association of New Zealand Inc.

Notes to the summary financial statements

For the year ended 31 March 2025

1. REPORTING ENTITY

Building Research Association of New Zealand Incorporated (Inc.), "the Parent", is an incorporated society registered under the Incorporated Societies Act 1922 and domiciled in New Zealand. The address of the Parent's registered office is 1222 Moonshine Road, Judgeford, Porirua.

The consolidated summary financial statements of Building Research Association of New Zealand Inc. as at and for the year ended 31 March 2025 are presented and comprise the Parent and its subsidiaries (together referred to as the 'Group').

Building Research Association of New Zealand Inc.'s primary purpose is promoting scientific or industrial research for the building and construction industry.

These summary financial statements and the full financial statements were authorised for issue by the Board of Directors on 27 June 2025.

2. BASIS OF PREPARATION

Statement of compliance

The summary financial statements are an abridged version of the full financial statements. Their purpose is to provide an overview and as such do not provide an understanding as complete as the full financial statements. The disclosures included in these summary financial statements have been extracted from the full financial statements.

The full financial statements have been prepared in accordance with generally accepted accounting practice in New Zealand ("NZ GAAP"). As the primary objective of the Parent and the Group is to promote scientific or industrial research for the building and construction industry rather than making a financial return, the Parent and the Group are public benefit entities for the purpose of complying with NZ GAAP. The financial statements of the Group comply with Public Benefit Entity Standards.

Basis of measurement

The summary financial statements are prepared on a historical cost basis. The accounts are prepared on a going concern basis.

Presentation currency

These summary financial statements are presented in New Zealand dollars ($), which is the functional currency of the Parent and BRANZ Limited. BRANZ Pty Limited's functional currency is Australian dollars.

Prior period restatement

Where necessary, comparative figures have been restated to facilitate comparison and to comply with current year classifications.

3. CONTINGENCIES

The Group had no contingent liabilities as at 31 March 2025 (2024: nil).

4. FUNDING FACILITY

In 2022 BRANZ entered into a funding agreement with Westpac New Zealand Limited. Under this wholesale development facility, which is secured on the assets of the Group, BRANZ can access credit of up to $25 million to fund the redevelopment of the Judgeford campus. At 31 March 2025, $1 million had been drawdown from the facility.

5. PROPERTY, PLANT AND EQUIPMENT

Group

Cost

	Plant and equipment	Vehicles	Land	Permanent buildings	Siteworks	Assets under development	Total
	$	$	$	$	$	$	$
Balance as at 1 April 2023	13,172,791	142,298	23,240	20,947,692	2,223,412	25,113,626	61,623,059
Additions	2,666,038	0	0	2,354,473	1,497,472	16,548,481	23,066,464
Transfers between classes	449,871	0	0	(1,216,355)	766,484	0	0
Disposals	(2,568)	0	0	0	0	0	(2,568)
Balance as at 31 March 2024	**16,286,132**	**142,298**	**23,240**	**22,085,810**	**4,487,368**	**41,662,107**	**84,686,955**
Balance as at 1 April 2024	16,286,132	142,298	23,240	22,085,810	4,487,368	41,662,107	84,686,955
Additions	611,438	0	0	17,119	0	6,544,254	7,172,811
Transfers between classes	4,418,897	0	0	1,765,588	178,492	(6,362,977)	0
Disposals	(58,678)	0	0	0	0	0	(58,678)
Balance as at 31 March 2025	**21,257,789**	**142,298**	**23,240**	**23,868,517**	**4,665,860**	**41,843,384**	**91,801,088**

Accumulated depreciation and impairment losses

	Plant and equipment	Vehicles	Land	Permanent buildings	Siteworks	Assets under development	Total
	$	$	$	$	$	$	$
Balance as at 1 April 2023	9,524,248	124,530	0	9,531,165	809,007	0	19,988,950
Depreciation for the year	947,395	9,012	0	835,749	129,140	0	1,921,296
Disposal	(2,568)	0	0	0	0	0	(2,568)
Balance as at 31 March 2024	**10,469,075**	**133,542**	**0**	**10,366,914**	**938,147**	**0**	**21,907,678**
Balance as at 1 April 2024	10,469,075	133,542	0	10,366,914	938,147	0	21,907,678
Depreciation for the year	1,931,234	2,963	0	710,393	163,776	0	2,808,366
Disposal	(21,069)	0	0	0	0	0	(21,069)
Balance as at 31 March 2025	**12,379,240**	**136,505**	**0**	**11,077,307**	**1,101,923**	**0**	**24,694,975**

Carrying amounts

	Plant and equipment	Vehicles	Land	Permanent buildings	Siteworks	Assets under development	Total
	$	$	$	$	$	$	$
At 1 April 2023	3,648,543	17,768	23,240	11,416,527	1,414,405	25,113,626	41,634,109
At 31 March 2024	5,817,057	8,756	23,240	11,718,896	3,549,221	41,662,107	62,779,277
At 1 April 2024	5,817,057	8,756	23,240	11,718,896	3,549,221	41,662,107	62,779,277
At 31 March 2025	8,878,549	5,793	23,240	12,791,210	3,563,937	41,843,384	67,106,113

Total assets under development at the reporting date totalled $41,843,384 (2024: $41,662,107), which relates to the redevelopment of the Judgeford campus.

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses.

During the year, equipment and IT equipment were disposed of with nil book value, resulting in a gain on sale of $3,103.

Depreciation is charged on a straight-line basis over the useful life of the asset (for all property, plant and equipment other than land). All depreciation is charged to the statement of comprehensive revenue and expenses. Depreciation is charged at rates calculated to allocate the cost of the asset less any estimated residual value over its remaining useful life:

Plant and equipment	1–50 years
Motor vehicles	5–12 years
Permanent buildings	9–50 years
Site works	3–67 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each financial year end.

The Group assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's fair value less cost of disposal and its value in use. When the carrying amount of an asset exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

6. RELATED PARTIES

Group entities	Country of incorporation	Ownership interest 2025 %	Ownership interest 2024 %
BRANZ Ltd	New Zealand	100	100
BRANZ Pty Ltd	Australia	100	100

Building Research Association of NZ Inc. charges rent to BRANZ Ltd for the use of property, plant and equipment as well as for its share of the Group CEO remuneration costs and other advisory services provided. In 2025, this amounted to $2,012,100 (2024: $1,907,292).

BRANZ Ltd charges fees for research work and administration services carried out for Building Research Association of New Zealand Inc. BRANZ Ltd also charges Building Research Association of NZ Inc. for its share of the Group Executive Management Team costs, provision of accounting, IT, support, health and safety and quality services, and its share of insurance and marketing costs. In 2025 the fees for research work and share of management services amounted to $16,946,803 (2024: $16,324,395). In the Group accounts these charges are eliminated on consolidation.

All charges are reviewed and approved by the Board on an annual basis.

BRANZ contracts with construction and research organisations to which BRANZ directors are either related or are also directors. Transactions undertaken with these organisations are entered into on an arm's length basis. Where the director has proximity to the transaction, disclosure is made below.

During the year, BRANZ Inc. provided external research funding of $138,399 (2024: $76,228) to Resilient Organisations Ltd of which Erica Seville is a former director and shareholder. As at 31 March 2025, $90,242 was payable.

Movement in funds received in advance is as follows:

	Group 2025 $	Group 2024 $
As at 1 April	491,946	2,073,118
Funding received during the year	1,170,942	4,859,999
Funding applied during the year to:		
- Governance group meetings	(27,375)	(109,500)
- NSC 11 cost of undertaking research	(1,591,455)	(6,331,671)
- Remaining funds returned to MBIE	(44,058)	
As at 31 March	**0**	**491,946**

7. SUBSEQUENT EVENTS

No significant subsequent events have occurred after balance date.

These summary financial statements are approved for and on behalf of the Board of Directors on 27 June 2025 by:

Nigel Smith
Board Chair

Mike Sang
Chair Audit and Risk Management Committee

BRANZ ANNUAL REVIEW 2025

Our service performance information

About this section

BRANZ prepares service performance information in conjunction with its annual financial statements, which are both audited. The service performance information is prepared in accordance with the accounting standard issued by the External Reporting Board PBE FRS 48 *Service Performance Reporting*.

Per the standard: "Service performance information is information about what the entity has done during the reporting period in working towards its broader aims and objectives, together with supporting contextual information."

BRANZ has taken the approach of framing the service performance information reported in the context of the Building Research Levy Act 1969. The measures selected are intended to demonstrate the breadth and depth of BRANZ's role within the system supporting the building and construction industry.

Other publications and information that provide more detailed understanding of BRANZ's work include the Investment Priorities Statement and branz.co.nz.

Who we are and why we exist

BRANZ is a multi-faceted, science-led organisation. We use independent research, systems knowledge and our broad networks to identify practical solutions that improve Aotearoa New Zealand's building system performance.

BRANZ is driven by the knowledge that, to thrive as a society, New Zealanders need a built environment that is safe and healthy and performs well.

What we are working to achieve

Objective One: The Building Research Levy is invested in a high-quality, relevant portfolio of research that leads to accessible, actionable insights.

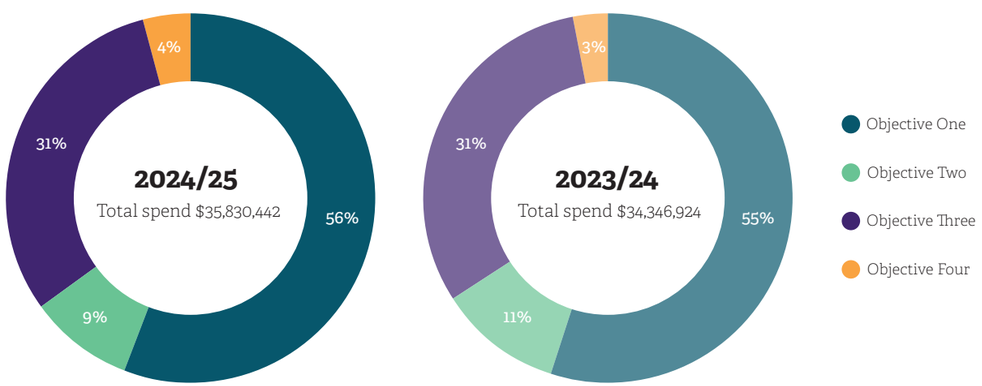
Objective Two: Our insights are used and valued by policy makers, industry and other system players.

Objective Three: We support industry to understand and demonstrate product performance.

Objective Four: Our environmental, social and governance practices demonstrate, through the way we operate, that we care for our people and the planet.

Expenditure across these four key objectives

Expenditure across the four objectives for 2024/25 $35,830,442 (2023/24: $34,346,924)



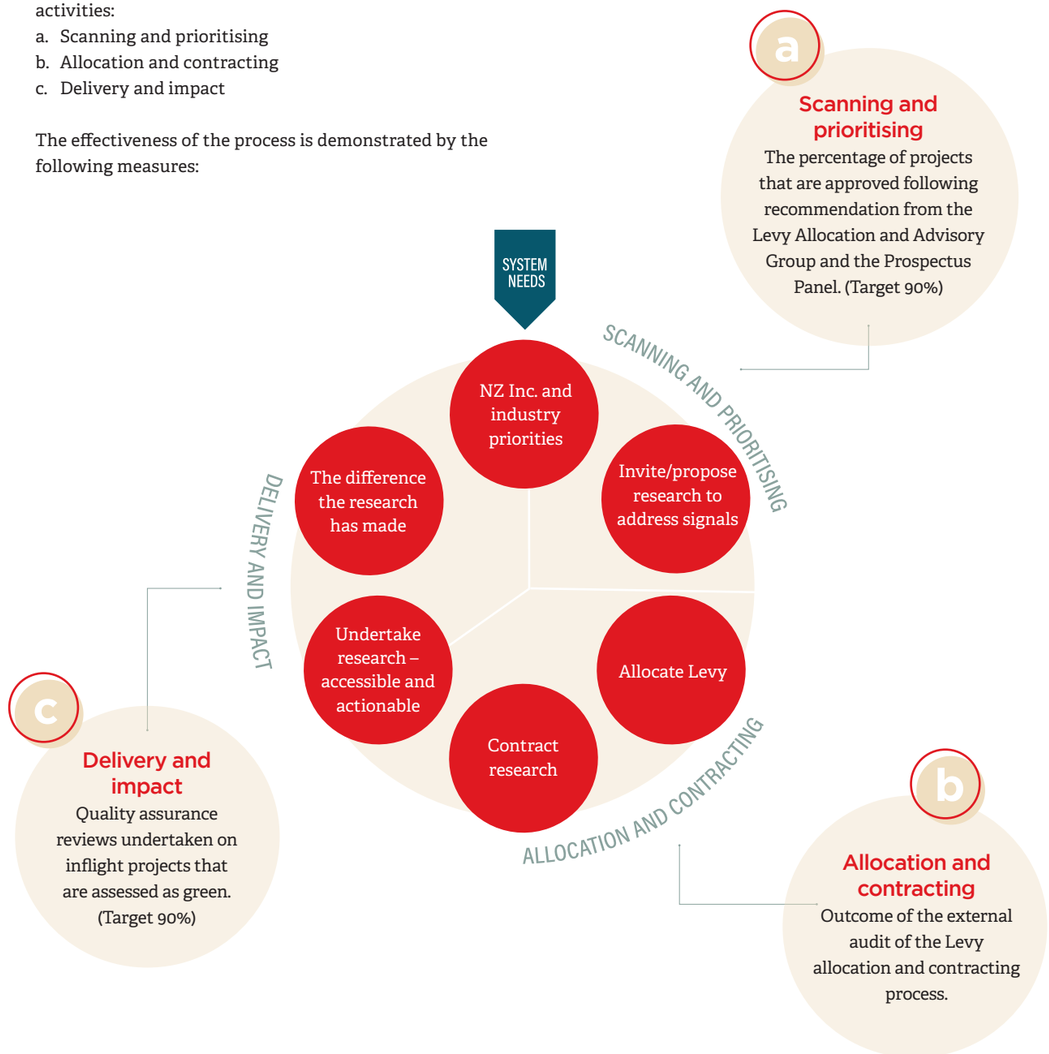
Objective One: The Building Research Levy is invested in a high-quality, relevant portfolio of research that leads to accessible, actionable insights.

Measure One: A robust process is followed when investing the Building Research Levy

The Building Research Levy is invested in an open, transparent and contestable way using robust mechanisms to help ensure quality investments are made. The process has three key activities:

a. Scanning and prioritising
b. Allocation and contracting
c. Delivery and impact

The effectiveness of the process is demonstrated by the following measures:



a

The percentage of projects that are approved following recommendation from the Levy Allocation and Advisory Group and the Prospectus Panel. (Target 90%)

BRANZ Inc. has two panels to assess and provide targeted advice to BRANZ on research funding proposals. Each panel has terms of reference approved by the Board that specify the role, composition and required skill sets:

- The Levy Allocation Advisory Group (LAAG) is an independent panel comprised of industry and government representatives with a broad range of experience. Its key function is to assess research proposals developed by BRANZ Ltd and provide a recommendation to the BRANZ Inc. Board on the merits of the work and the approaches proposed.
- The Prospectus Panel provides advice to the BRANZ CEO and Executive Leadership Team on research proposals submitted by external research providers in response to an issued prospectus.

Each panel provides a recommendation regarding the investment in research projects in line with the prioritised research investment signals, which are published annually in the Building Research Levy Investment Portfolio Statement. The percentage of projects that are approved following a panel's recommendation reflects alignment to our research investment priorities.

2025: 100%	**2024:** 100%

b

Outcome of the external audit of the Levy allocation and contracting process.

Independent auditors are engaged biennially by the Board to provide an opinion on the Building Research Levy investment as part of BRANZ's commitment to transparency and accountability associated with Levy stewardship. The auditors, in forming their opinion, consider:

- the extent to which the Levy investment has been used to deliver on the agreed work and outputs
- the success of projects in delivering the planned knowledge transfer or emerging knowledge transfer opportunities
- the approach taken with respect to engagement with key stakeholders and expected project participants.

A traffic light system is used to rate overall performance.

Green All projects are following established processes, no significant issues to address.

Amber Most projects follow established processes, evidence that issues are being managed.

Red Several projects are not following established processes, significant issues have been identified and need management attention.

In the year that the audit does not occur, an interim audit is carried out to review progress made implementing any actions arising from the recommendations identified in the biennial audit.

	2025	2024
Biennial audit	n/a	Green
Interim audit	Interim audit deferred (completed in April 2025)	n/a

c

Quality assurance reviews undertaken on inflight projects that are assessed as green. (Target 90%)

The BRANZ Research Investment team undertakes reviews throughout the year of the health of the research portfolio against a set of criteria, which ensures all projects are reviewed at least once. A report is provided to the Board annually. Where a project is assessed as amber or red, it signals the need for greater oversight to ensure the outcomes required for the Levy investment are met. This may result in an increase in monitoring point meetings to resolve issues and/or a variation to the project.

A traffic light system is used to rate each project.

Gold Exceeding: The project is exceeding expectations.

Green On track: The project is on time and scope, no issues to address.

Amber On track – issues being managed: The project is progressing but has encountered issues (due to internal or external factors), and these are being managed.

Red Off track: The project is significantly delayed or there are concerns that it may not deliver expected outputs/outcomes – the project is in need of management attention.

The table below shows the status of the current and previous year's research portfolio against traffic light criteria. Excluded are scholarships, knowledge transfer (such as *Build*), enabling activities (such as the monitoring network) and strategic projects.

Portfolio performance 2025 (2024 numbers in brackets)

	BRANZ Ltd projects	External projects	Total
Exceeding initial scope: gold	1 (0)	0 (0)	1 (0)
On track: green	41 (38)	50 (42)	91 (80)
On track – issues being managed: amber	0 (4)	0 (0)	0 (4)
Off track: red	0 (1)	0 (0)	0 (1)
Total	**42 (43)**	**50 (42)**	**92 (85)**

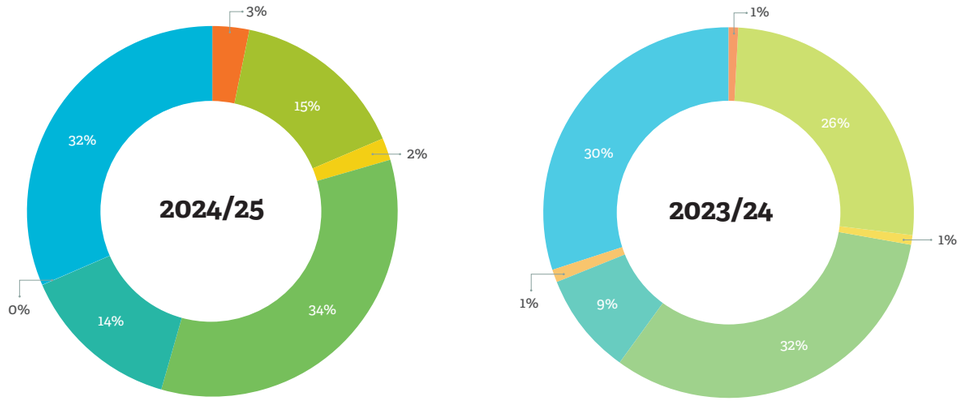
2025: Achieved 100% of projects are rated gold or green	**2024: Achieved** 94% of projects are rated gold or green

Measure Two: Building Research Levy investments

A key driver of the Levy investment is ensuring that all research is designed with the needs of the industry and ultimately all New Zealanders in mind. BRANZ maintains strong relationships with a wide range of system players active within New Zealand's built environment. By developing and nurturing connections with industry and government, BRANZ makes sure Levy-funded research is relevant and effective.

Our Long-Term Levy Utilisation Policy includes robust mechanisms to ensure that quality investments are made and to avoid unnecessary duplication of capability and facilities across New Zealand.

Portfolio investment by research focus area



Measure Three: Science recognition

BRANZ is committed to an enduring collaborative effort across a range of system players. Our research exploring new ideas and finding practical frontline solutions is increasingly co-created alongside key users who have the ability to implement the research findings into their work.

The number of times researchers are formally recognised by external peers as collaborating and contributing to their success in advancing science demonstrates the value of our work. Advancing science includes co-authoring academic papers or articles, being a reviewer or committee member or mentoring or supervision of a PhD/master's student.

	2024/25	2023/24
Number of formal recognitions by external peers	36	38

Objective Two: Our insights are used and valued by policy makers, industry and other system players.

Measure Four: *Build* magazine reach, value and quality

Build is BRANZ's flagship magazine and New Zealand's premier building industry magazine and information resource. It is published four times a year in hardcopy with an online version updated regularly to reach a wide audience and provide information and insights in a way people value.

	2024/25	2023/24
Average distribution of *Build* per issue (hardcopy)	30,418	32,400
Number of visits to *Build online*	92,827	438,036
Net promoter score for *Build**	+43	N/A every 2–3 years

Measure Five: Seminar/webinar reach, value and quality

BRANZ provides seminars/webinars where gaps in the technical information available have been identified. Seminars/webinars are targeted at various sectors of the industry. This is to ensure that the information covered is specifically relevant and of sufficient depth to produce the best learning experience possible for attendees.

	2024/25	2023/24
Seminars/webinars held	4	8
Number of registered attendees	2,057	4,218
Net promoter score for webinars*	+36	+42

* A net promoter score measures how likely someone is to recommend a service or product. As a rule of thumb, a net promoter score of 20 or above is favourable, above 50 is excellent and above 80 is world class.

Objective Three: We support industry to understand and demonstrate product performance.

Measure Six: Active certificates

BRANZ provides evidence-based advice at all phases of the product life cycle from preliminary R&D through to verifying end-use product proficiency. A BRANZ assessment provides assurance that the products should do what they say they will do. BRANZ CodeMark, Appraisal and product certificates are searchable and available via the BRANZ website branz.co.nz.

	At 31 March 2025	At 31 March 2024
CodeMark	23	19
Appraisal	490	514
Reports	443	421
Environmental product disclosures	6	0
Total	**962**	**954**

CodeMark is a voluntary product certification scheme. It provides an easily understood and robust way to show a building product, design or method meets the requirements of the New Zealand Building Code or the Building Code of Australia.

A BRANZ Appraisal is a robust, indepth and independent evaluation of a building product or system to assess whether it is fit for purpose and meets Building Code performance requirements.

Reports include type tests and technical opinions, which are products that don't require the full rigour of a BRANZ Appraisal or CodeMark. They can be used to demonstrate compliance with a specific standard or requirement of the New Zealand Building Code.

Environmental product disclosures (EPDs) provide a robust, science-based communication method for demonstrating the environmental credentials of products and services. While they are primarily aimed at business-to-business communication, EPDs can also be useful for business-to-consumer communication. EPDs were first offered in the year ending March 2025.

Measure Seven: Customer satisfaction

Customer satisfaction surveys are conducted each year and reported to the Board. The customer satisfaction surveys are a useful touchpoint that enables BRANZ to better understand our organisational performance, obtain trends and insights and ensure that we continue to improve our service levels. The surveys are comprised of projects for which we receive commercial income for consultancy work and *Build* and *Build online* magazine.

	Target: "Were your expectations met or exceeded?"	2024/25	2023/24
Consultancy work	80%	94%	91%
Build magazine (hardcopy)	90%	93%	n/a
Build online	90%	80%	n/a

Note: The *Build* readers' survey is only undertaken every 2 years so no result for 2023/2024.

Objective Four: Our environmental, social and governance practices demonstrate, through the way we operate, that we care for our people, our country and the planet.

Measure Eight: Investing in our people

At its heart, BRANZ is a team of scientists, engineers and professionals passionately committed to ensuring the built environment is the best it can be. Supporting professional development and building skills to communicate, collaborate and co-create is a key investment in our people.

All staff participate in our communication and collaboration development programme.

Total investment in developing the skills of our people was $1,625 per FTE (2023/24: $1,938 per FTE).

Measure Nine: Health, safety and wellbeing

A health, safety and wellbeing (HS&W) survey is carried out annually and open to all staff and key contractors. The survey is one of several touchpoints with staff to help understand the health of our HS&W culture and practices and whether changes to the HS&W programme may be needed.

Willingness to participate with our HS&W culture is important for measuring engagement and developing the HS&W maturity of BRANZ.

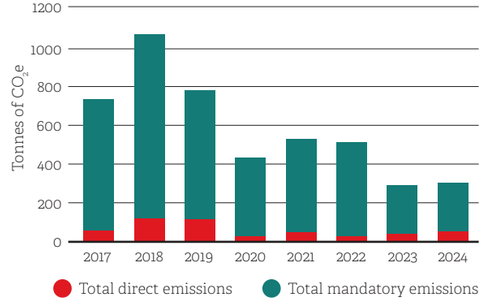
	2024/25	2023/24
Participation rate in survey	93%	93%

Comments collected in the survey indicate strong and open discussions are occurring about HS&W in teams and individual responsibility for HS&W is high.

Measure Ten: Environmental

BRANZ's aim is to become a net-zero emissions business by 2035 – if not before. We continue to take actions to reduce our carbon footprint. In April 2022, we achieved Toitū Net Carbon Zero certification, which meets and exceeds international environment management best practice (ISO 14064-1). We measure our carbon footprint – total greenhouse gas emissions by scope – and offset our emissions through the purchase of verified carbon credits to achieve a net-zero balance.

More detail on our emissions and reduction plan can be found on pages 132–135.



Note: Emissions are calculated for the period 1 January – 31 December.

Judgements

In determining the costs associated with the objectives, judgement has been used using a cost allocation methodology. Direct costs are charged directly to the activities that fall within the objective. Indirect costs are allocated to activities that fall within the objective based on cost drivers and related activity or usage information. Depreciation and amortisation are allocated on the basis of asset utilisation.

Independent auditor's report to the Members of Building Research Association of New Zealand Incorporated

Opinion

The summary financial statements which comprise the summary statements of financial position as at 31 March 2025, the summary statements of comprehensive revenue and expenses, summary statements of changes in net assets/equity, summary statements of cash flows, and summary service performance information for the year then ended, and related notes, are derived from the audited consolidated financial statements of Building Research Association of New Zealand Incorporated (the "Incorporated Society" or the "Group") for the year ended 31 March 2025.

In our opinion, the accompanying summary financial statements are consistent, in all material respects, with the audited financial statements, in accordance with PBE FRS-43: *Summary Financial Statements* issued by the New Zealand Accounting Standards Board.

Summary Financial Statements

The summary financial statements do not contain all the disclosures required for full financial statements under generally accepted accounting practice in New Zealand. Reading the summary financial statements and the auditor's report thereon, therefore, is not a substitute for reading the audited full financial statements and the auditor's report thereon.

The Audited Financial Statements and Our Report Thereon

We expressed an unmodified audit opinion on the audited financial statements in our report dated 27 June 2025.

Those Charged with Governance Responsibilities for the Summary Financial Statements

Those charged with governance are responsible on behalf of the Group for the preparation of the summary financial statements in accordance with PBE FRS-43: *Summary Financial Statements.*

Auditor's Responsibilities

Our responsibility is to express an opinion on whether the summary financial statements are consistent, in all material respects, with the audited financial statements based on our procedures, which were conducted in accordance with International Standard on Auditing (New Zealand) (ISA (NZ)) 810 (Revised): *Engagements to Report on Summary Financial Statements.*

Other than in our capacity as auditor we have no relationship with, or interest in, the Incorporated Society or any of its subsidiaries. Partners and employees of our firm may deal with the Incorporated Society on normal terms within the ordinary course of trading activities of the business of the Incorporated Society.

Chartered Accountants
Wellington
27 June 2025

A member firm of Ernst & Young Global Limited

Ngā mihi to our contributors

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Abodo

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Ewan Brown
Director
Tennent Brown Architects

Minimising the environmental footprint of this Annual Review

- BRANZ is Net Carbon Zero and Enviromark Diamond certified by Toitū and Telarc for Quality and Environmental Management Systems.
- We have taken a digital first approach to publication and distribution, with a small print run to minimise paper, ink and postage.
- Printed publications are produced on environmentally responsible paper, manufactured using FSC® certified mixed-source pulp from responsible sources.
- Our printer Bluestar has the following certifications (see bluestar.co.nz/sustainability):
  - Toitū Carbon Reduce and Enviromark Diamond Certification, actively managing their impact on the environment.
  - Chain of Custody Certification, including Forest Stewardship Council® (FSC®) and Program for the Endorsement of Forest Certification (PEFC).

FSC www.fsc.org MIX Paper from responsible sources FSC®

Ngā mihi nui and thank you

So many people have contributed to the great mahi you'll see on these pages.

I'd like to thank everyone involved – from our directors providing governance and counsel to our Building Research Advisory Council members for their valuable insights and the many organisations we've worked with throughout the year.

A special thanks to the BRANZ team. Your energy, passion and commitment to creating more affordable, quality, resilient and sustainable buildings for all New Zealanders is inspiring.

It's a privilege to work alongside you.

Ehara koe i a ia!

Claire Falck
CEO

BRANZ team, May 2025

BRANZ Inc.

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» **branz.co.nz**