

Annual report

NEW ZEALAND STANDARDS EXECUTIVE

JULY 2022 TO JUNE 2023

Hydrogen

H₂



Ministry of Business, Innovation and Employment (MBIE) Hīkina Whakatutuki – Lifting to make successful

MBIE develops and delivers policy, services, advice and regulation to support economic growth and the prosperity and wellbeing of New Zealanders.

MORE INFORMATION

Information, examples and answers to your questions about the topics covered here can be found on our website: www.standards.govt.nz or by calling us free on: **0800 782 632**.

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Our vision

Prosperity and protection through trusted standards.

Our mission

Bringing leading experts together to develop high-quality, accessible standards to support New Zealand's economic growth and keep New Zealanders safe.

Our functions

Standards New Zealand is the national standards body for New Zealand. It is governed by the Standards and Accreditation Act (2015), the Public Finance Act (1989) and the Public Service Act (2020).

As New Zealand's national standards body, we represent New Zealand on the international stage, develop and review standards (adopting international standards where appropriate) and sell standards. For a full list of our statutory functions, please go to www.legislation.govt.nz.

Our principles

International first // We don't reinvent the wheel, but instead look to international standards first to help ensure global connection, compatibility, consistency, and market access.

Consensus // We get agreement across industry and government, resulting in better buy-in, support and adoption of solutions.

Consultation // We consult far and wide.

Representation // We make sure everyone's views are captured and heard. Everyone is represented and has a voice.

Partnership and collaboration // We work with commissioning organisations, industry, government regulators, consumer groups and international standards bodies to deliver our products and services.

Integrity // We are independent and transparent. We follow international good practices.

Our goals

- To improve the sustainability and growth of our business through our strategic priority initiatives that focus on our services and products, operating model, partnerships and business efficiencies.
- To make an active and valuable contribution to New Zealand efforts to address climate change issues and reduce our carbon footprint as a nation.
- To make an active and valuable contribution to New Zealand's evolving digital economy by helping define good practice, performance and protection requirements.
- To develop our people, including committee members, so that we have the right skills, capabilities, diversity, and cultural awareness to serve the needs of our customers, industry, the public sector, and consumers and meet the government's priorities.

Our values

Māia – Bold & brave

Pae kahurangi – Build our future

Mahi tahi – Better together

Pono me te tika – Own it

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About Standards New Zealand

Standards New Zealand (Standards NZ) is New Zealand's internationally recognised national standards body, responsible for managing the development and publication of standards and standards-related products and solutions. We also publish and sell New Zealand, joint Australian/New Zealand and international standards.

Established in 1932, Standards NZ has been a business unit within the Ministry of Business, Innovation and Employment (MBIE) since 2016, pursuant to the Standards and Accreditation Act 2015.

As a part of MBIE, Standards New Zealand is well placed to engage with a wide range of government agencies and provide new opportunities for standards to be adopted as a means for supporting existing and planned government regulations.

Our extensive experience also means that our products and services¹ carry a reputation for being trusted, authoritative, accurate, credible and influential. Over the years, we have forged and maintained strong working relationships with a wide range of government organisations, industry groups and international standards bodies and organisations.

As New Zealand's country representative for the International Organization for Standardization (ISO) and, via a New Zealand National Committee, the International Electrotechnical Commission (IEC), we ensure New Zealand has a voice in the international standards community by participating in international standards development activities, forums, workshops, and meetings.

Our international connections have ensured that we keep up to date with the latest standards innovations, and that we are strongly aligned to international good practice for standards development, with New Zealand standards being recognised internationally.

For a brief overview of Standards NZ, visit our YouTube channel www.youtube.com/@standardsnewzealand7344/videos.

¹ Examples include New Zealand standards, joint Australian/New Zealand standards, publicly available specifications, technical specifications, reviews and reports, and adoptions of international standards.

New Zealand Standards Executive's foreword

Standards NZ was born from the devastation of the 1931 Napier earthquake and its history charts decades of international engagement, progress, partnership and growth. Since the first New Zealand standard for Number 8 wire, standards have become the backbone of regulatory change and trusted good practice.

Standards NZ's work adds considerable value to our economy and way of life, helping industries and markets thrive, supporting access to international markets for Aotearoa New Zealand businesses and products, and providing assurance and trust to New Zealanders about the quality of goods and services that they consume.

This past year, work has extended into initiatives that will help form how New Zealand grows over the coming decades, particularly regarding renewable energy adoption, expanding electric vehicle (EV) infrastructure, adopting hydrogen energy and creating more robust energy-efficient buildings and appliances.

Without standards and the ability to integrate subject matter expertise into all we do, the challenges for our society would be far more significant. Challenges abound, but together we can find solutions based on tried and tested good practice and innovation.



Sanjai Raj

New Zealand Standards Executive

General Manager Market Integrity

Ministry of Business, Innovation and Employment

National Manager Standards New Zealand's foreword

New Zealand needs standards

One of our most precious commodities is time. Standards are not just outcomes that give guidance, they are also the manifestation of time given by many subject matter experts to impart their knowledge and expertise for the world to benefit.

When I look at the time given this past year by the hundred-plus volunteer committee members, the New Zealand Standards Approval Board and Standards NZ's staff and see what has been achieved, I feel heartened. That time has been invested in developing solutions that will result in better ways to build, manufacture, run businesses, farm, transit, reduce waste, and live in a rapidly changing world. Standards are the hidden tools that help us meet national and international obligations, including the reduction of carbon emissions.

Our ongoing partnerships with regulators, especially building, energy safety and energy efficiency regulators, will help those industries integrate new technologies and practices for safety, efficiency and sustainability. Standards remain effective tools for regulatory systems, and we have sponsorship agreements in place for pre-funded access to support users to do the right thing.

Challenges and opportunities

Our new five-year strategic plan, developed this past year, reflects the challenges and opportunities of our changing climate, the shifting operating landscape and customer needs. This past year we celebrated our 90th year, but there is no time for complacency. We'll need to evolve and further mature for financial sustainability, to ensure standards are digitally accessible to meet the needs of users, to ensure standards are recognised and utilised as an effective solution in terms of climate change and economic growth, and to provide exceptional customer service.

The value in having an independent national standards body and participation in international standards is unquestionable. However, our funding model and the economic climate we operate in do pose a challenge for our future sustainability and adaptability to provide a competitive, modern service.

For a small nation, Aotearoa New Zealand has a big impact on the world stage. There is also much we can offer to our Pacific Island neighbours, who are seeking support to build their standards and conformance systems, infrastructure, and capability. Inroads have already been established and we are pursuing inter-agency funding support to help share our knowledge and expertise.

Despite the challenges, we remain focused on growth and improvement. Internally, 2023 saw some loss of critical staff and institutional knowledge, enticed by tight labour market opportunities and limitations competing with this. On a positive note, we built internal capability in new areas, including business development, quality management systems and quality assurance, and business systems and commercial services.

Standards NZ exists in a unique position as both a unit within a government organisation (MBIE) and an independent, commercially focused, cost-recovery business. We need to remain competitive in a market where access to subject matter experts' time is hard pressed, where standards remain largely optional, or where 'standards' might be developed independently without integrity, representation, or consensus, or with bias and undue vested commercial interests. With standards necessary for trade, meeting national objectives and consumer protection, these are challenges we must face. We will face them with a dedicated, committed, passionate and capable team at Standards NZ.



Malcolm MacMillan

National Manager, Standards New Zealand

Ministry of Business, Innovation and Employment

Hydrogen report guiding the way for hydrogen integration across New Zealand

New Zealand benefits by integrating a new and renewable alternative to fossil fuel

A major project came to fruition this year with the publication of the Hydrogen Standards Review report. Commissioned by WorkSafe – Energy Safety and developed with a Technical Advisory Group consisting of 18 New Zealand companies and agencies, this is the culmination of a three-year review into technical standards governing the production, distribution, and utilisation of hydrogen. ‘Green’ hydrogen made through electrolysis that is powered by renewable energy offers emissions-reduction potential as a fuel of the future, both domestically and as a future export earner.

The report contains a standards development implementation strategy looking at 10 key application-specific areas requiring direct adoption and modification of appropriate international standards and modification of Joint Australian/New Zealand standards.

This work is laid out over a multi-year prioritisation plan to enable the scaling of safe integration of hydrogen across New Zealand’s energy landscape. The revision and adoption of standards to develop the framework is planned to happen across three phases: centralised stationary production and storage of hydrogen (the built facilities to store hydrogen), mobile applications of hydrogen (use in transportation and refuelling) and large-scale decentralised distribution to scale access across the country.



Executive summary

An enduring responsibility

As the national standards body, Standards NZ adds considerable value to our economy and way of life. We have a unique responsibility in providing a means for industry and regulators to develop and access fair and independent good-practice solutions to the needs of today and tomorrow. We are kaitiaki, or guardians, protecting the legitimacy and national value of standards. We provide a gateway to representation in international standards development for industry and government to keep abreast of shifting trends and offer our own ingenuity to shared issues.

Together, our committee members, commissioning organisations and sponsors, the team at Standards New Zealand, and the Standards Approval Board contribute the guidance, standards and compliance tools that make businesses, services, and products safe, efficient, reliable, innovative and robust. This benefits all New Zealanders.

Reflecting the macro context

We do not exist in isolation. Through our important international engagement, we know that many of the issues we see here in the South Pacific are part of a greater macro context reflected in the focus of standards bodies across the globe: climate change and a need for resilience and adaptability, a need for better accessibility through digitisation of products and services, the growing threats to data and the need for privacy controls, and economic pressures on business sustainability, standards development and funding.

While pressures are felt domestically, we must also look to our neighbours in the Pacific region, many of whom lack quality infrastructure, systems and specialist expertise. They look to us for support, which we provide (for example, through attendance at regional and global forums and the provision of standards for their use also).

Our work is helping to shape Aotearoa New Zealand. This past year, standards have been created that lead to safe healthy homes, support energy efficiency, help build our national EV infrastructure, protect digital identity, and help set the path for future hydrogen adoption and integration.

The shifting economic and environmental context encourages adaptability. We have built collaborative partnerships and ensure continuous review and improvement, so we walk the talk. We've spoken to customers, commissioners and committee members and implemented a quality assurance and management improvement project.

A time for change

We know what works well for New Zealanders using our products and services: sponsorship that breaks down the cost barrier to ensure people have the right information to do the right thing, investment in digitisation for better accessibility, and making access to standards easier with collections tailored to solve needs in, among other things, environmental management and quality management.

With standards for diverse sectors accessed hundreds of thousands of times and over 150 new standards developed and published just this year, there's a clear need for the guidance and performance information they provide. Our new strategic priorities, developed after six years within MBIE and outlined in this report, show how we are adapting to the challenges ahead to ensure standards remain a credible and trusted solution. This year, Standards New Zealand celebrated its 90-year anniversary and change will be critical to ensure we continue to provide value for New Zealanders over the next 90 years.

A snapshot of the past year in review

Produced a Hydrogen standards review report



We reviewed and reported on the standards needed to support the safe and effective integration of hydrogen energy into New Zealand’s energy landscape.

Produced two publicly available specifications on EV charging

These guidelines support both residential and commercial installation of EV charging infrastructure.



Participated and contributed on the international stage

- IEC general meeting, Egypt
- Asia Pacific Cooperation Forum (APCF)
- ISO general assembly, UAE
- ISO Asia-Pacific monthly meetings
- IEC NZ National Committee meetings
- IEC Asia-Pacific new revenue group meetings
- Pacific Islands Standards Committee (PISC) meeting, New Caledonia
- Pacific Area Standards Congress (PASC) 45th forum, New Caledonia

Standards NZ turned 90



Participated and contributed to international standards development

Facilitated and managed the identification, appointment and membership of New Zealand representatives on 83 different international standards development committees, helping to influence international standards important to our economy.

Enabled access and use of standards

Our standards and other publications were accessed via our e-commerce platform 347,758 times.

Built internal capability and resource this past year in:

- Quality Management Systems and Assurance
- ICT and Business Systems
- Pricing & Commercial Services
- Copyright and Licensing capability



A snapshot of the past year in review continued

Developed and published 159 new standards

- **122** international adoptions or modifications
- **31** jointly developed with Standards Australia
- **6** New Zealand standards, publicly available specifications and technical specifications

Provided secretariat function for

3 joint Australasian standards development committees

Established new and maintained existing multi-year partnership agreements

with **EECA**, **WorkSafe NZ** and **MBIE Building System Performance** organisations to develop standards to support their sectors and regulatory systems.

New Standards Approval Board

Supported the recruitment, appointment and transition of 5 new board members, including a new chair, into their role as the NZ Standards Approval Board.

Implemented a new public consultation tool

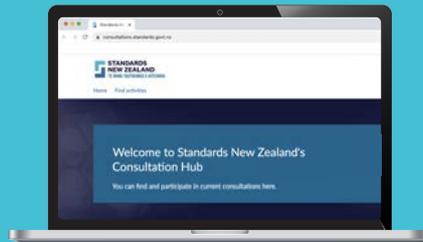
This makes obtaining public feedback, analysing those submissions, and reporting back to committees more effective and efficient.

Developed a new strategic plan

Priorities include climate change, the digital economy, business sustainability and customer service.



**STANDARDS
APPROVAL
BOARD**



Provided secretariat function for

8 IEC National Committee meetings and workshops

Customer enquiries

We responded to approximately **3,700** customer inquiries and **resolved 98%** of these within our 5-day KPI target.

Initiated a quality assurance and risk management review

working towards **ISO 9001 accreditation** for quality management

International participation

As the national standards body of Aotearoa New Zealand, Standards NZ contributes internationally by:

- facilitating committee membership representation for standards development committees. Standards NZ manages the participation of technical experts on 83 international committees annually, representing about 9 per cent of total international ISO standards committees. Standards NZ targets ISO international committees based on priority sectors and topics important to NZ Inc.
- holding the secretariat for three international committees in electrical safety
- participating in international meetings and general assemblies with other national and international standards bodies to observe global trends, inform strategic direction and work on shared solutions.

This work is important in enabling Aotearoa New Zealand to understand and influence the development of international standards that will have an impact on national interests – for example, in the areas of international trade and interoperability of professional services.

We have seen consistent themes in standards development work emerging from our ISO and IEC international forums. These include renewable energies, carbon emissions reduction, energy efficiency, transport, consumer protection and digital technology. In particular, governments and industry increasingly use national standards bodies to help support climate change action.



As a member of PASC (Pacific Area Standards Congress) and PISC (Pacific Islands Standards Committee), Standards NZ has a focus on supporting specific development initiatives for the benefit of Aotearoa New Zealand’s Pacific neighbours. In the longer term, as Standards NZ achieves its aspirations to increase its access to technical resources and funding, Standards NZ will look to increase the scope of its international participation activities and influence in the Pacific region.

This past year, Standards NZ facilitated participation in and observation of 208 ISO and 125 IEC committees.

Standards NZ also participated in several international standards forums and activities including:

- the International Electrotechnical Committee general meeting, which included a regional lobby group, the Asia-Pacific Cooperation Forum (APCF), and the ISO general assembly
- the Pacific Area Standards Congress (PASC), a regional lobby group to promote the interests of Pacific-area standards bodies within ISO and IEC.
- eight ISO Asia-Pacific monthly meetings, which provided updates from ISO’s central office
- eight IEC National Committee secretary-related meetings, which included updates and workshops from IEC’s central office

- two IEC Asia-Pacific new revenue group meetings, which focused on identifying potential new revenue streams for IEC National Committees
- the Pacific Islands Standards Committee (PISC).
- the Pacific Area Standards Congress (PASC) 45th forum.

By participating in these international meetings and activities, Standards NZ is contributing to the development of global standards and promoting New Zealand's profile in the global standardisation community.

New Zealand contributing to global smart farming initiative

New Zealand benefits by having a finger on the pulse of the latest innovations and technology in farming

This year saw the publication of a 170-page scoping report from New Zealand's Strategic Advisory Group on Smart Farming (ISO SAG-SF) to ISO (International Organization for Standardization), which is looking to develop global standards in 'smart farming'.

With agriculture a considerable contributor to New Zealand's economy, and agritech so widely employed, New Zealand was invited by ISO to be a participant with 23 other participating countries. This gives us equal and direct influence over international standards development that can influence the growth of this key sector.

Smart farming uses automated Farm Management Decision Systems and remote access to real-time facts and applies a macro-scale 'planet-wide' view of impacts that interactions on the farm may have. This in turn can support changes needed to farming practice in response to climate change and increase efficiency.

During scoping, the committee came up with around 300 different elements that needed to be considered within smart farming standards. With the initial scoping work done, ISO will form a technical committee to develop recommended standards over the next couple of years. Future participation means we as a country can have first-mover advantage, helping support the profitable, sustainable growth of agriculture across the 45,000 farms in New Zealand.

When ISO anticipates the imminent arrival of revolutionary change, that being the emergence of transformative external forces, they form a SAG. It's indicative of how standards have the power to influence change, and here they recognise that modern-day agricultural technology is moving to the third generation and that New Zealand can contribute to shaping good practice.



What are our customers telling us?

In June, Standards NZ conducted a survey to gather feedback on how users access, store and use sponsored (pre-funded) building and construction standards.

The results said

The most common reason for accessing sponsored building standards is to show that new building design and construction work undertaken is, or will be, building code compliant.

The survey results indicate that sponsored standards have a positive impact on users and the industry by removing cost barriers to accessing standards, meaning that more users are willing to access the standard and find it easier to comply with regulation. Since the building regulator commenced sponsoring (pre-funding access to) building and construction standards they cite in regulations and the building code, the uptake and use of these standards has increased 20-fold.

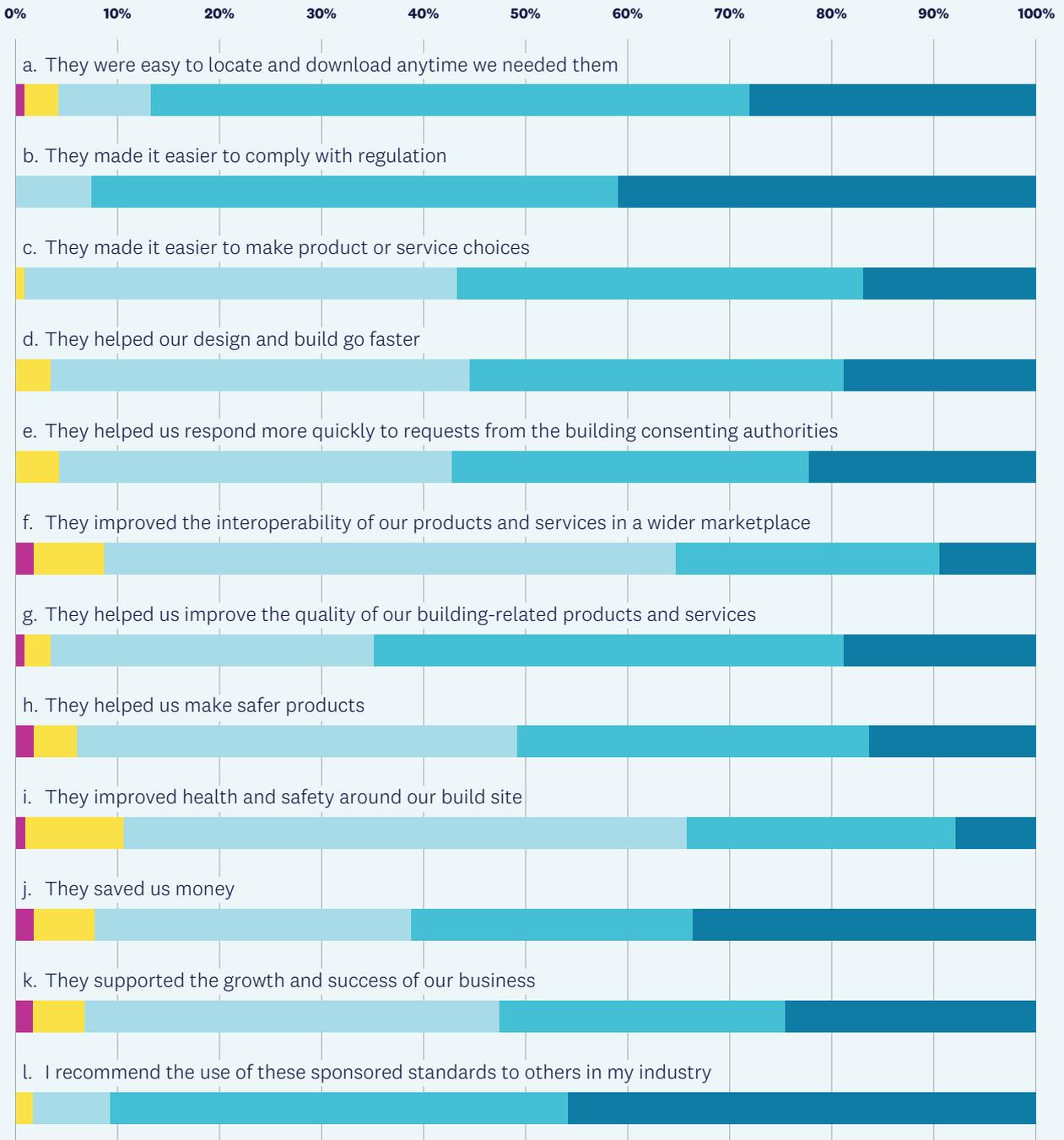
Respondents also advised that:

- the relevant building standards are easy to locate on Standards NZ website, making it easier to comply with regulations and achieve building code compliance
- they recommend the use of sponsored standards to others within their industry, which assists with promoting good practice and compliance outcomes
- they would rarely, or not at all, access a building and construction standard if it was not sponsored (free to access)
- they are interested in digital formats and more sophisticated product features for sponsored standards. This was especially true of the architectural and engineering fraternity, whose work today is digital (for example, using Computer Aided Design [CAD] and Building Information Management [BIM] software)
- other benefits of using sponsored standards included achieving improved quality of building products and services, faster response times to building consent authorities' information needs, and cost savings for design and construction activities.

Figure 1 – Survey findings on using sponsored building standards

Based upon your experience using sponsored building standards, please tell us how much you agree or disagree with each of the following statements:

Strongly disagree Disagree Neutral Agree Strongly agree



Standardisation underpins trusted robust construction contracts

New Zealand benefits by having robust and clear contracts behind construction projects

With contracts underpinning the detail of multi-billion-dollar construction, engineering and infrastructure projects, standardisation plays a crucial role in ensuring clarity in establishing well understood contractual arrangements. NZS 3910 *Conditions of contract for building and civil engineering construction* has proven to be one of our most hotly anticipated standard reviews under way (its first revision in 10 years) and is due for publication in late 2023.

The Construction Sector Accord (through the Ministry of Business, Innovation and Employment Hikina Whakatutuki) and the New Zealand Infrastructure Commission, Te Waihanga, jointly commissioned Standards NZ to lead the revision. The committee of 25 industry representatives covers the needs of the construction sector, client, consultant and contractor. An interim set of special conditions was published in late 2022 and considered four topics (collaboration, pandemic clause, liability caps and legislative changes) that could be used in conjunction with the existing NZS 3910. This provided up-to-date good practice to help address some of the pressing needs of the sector as it awaits the final revised standard.



Achievements and Opportunities

Achievements

Standards development

This past year has seen Standards NZ develop and publish 159 new standards. Of these, 122 (77 per cent) were direct or modified adoptions of international standards – an efficient approach that directly draws on international good practice to apply standards where they are a good fit for local application.² Another 31 standards were jointly developed with Standards Australia, strengthening cross-Tasman trade, market access efficiency and economic relations.

Supporting New Zealand’s climate change action

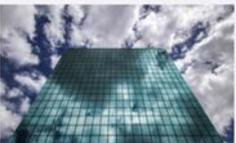
Standards NZ made a significant contribution this past year in the areas of renewable energies and energy efficiency by developing and publishing various publicly available specifications, standards and reports relating to EV technology, future national hydrogen integration, energy efficiency of electrical appliances and residential housing.

International participation

Standards NZ participated in and contributed to international standards and conformance systems and activities, representing New Zealand and our interests on several occasions at various international forums and general assemblies, including the ISO general assembly in Abu Dhabi in September 2022, the IEC general meeting in San Francisco in October 2022, and the Pacific Area Standards Congress and Pacific Islands Standards Committee meetings in May and June 2023.

Collections

In collaboration with industry, Standards NZ has packaged sets of standards for subscription, aligned to professions and sectors. This will help users find standards more efficiently and promote standards that are relevant to many different types of businesses. These include, but are not limited to, quality management, environmental management, building and construction, workplace health and safety, structural engineering, and plumbing.

 <p>IT essentials Protect business data with information security management systems and international good practice.</p>	 <p>Quality Management Essentials Support your business practice with robust systems underpinned by quality management standards.</p>	 <p>Environmental Management Essentials Benefit your business and improve your impact on the environment. Suitable for any business type.</p>	 <p>Ultimate Building and Construction Collection Over 700 New Zealand standards and joint AS/NZS construction-related standards.</p>	 <p>Engineering Essentials Supporting a range of structural design needs, developed with Engineering New Zealand.</p>
 <p>Plumbers Essentials The basics every plumber, gasfitter and drainlayer needs.</p>	 <p>Gasfitters Essentials Covers installation and equipment, audits, detection and safety.</p>	 <p>Workplace Health and Safety Essentials A safe workplace starts with occupational H&S and risk management standards.</p>	 <p>Structural design series (1170) Covering everything thrown at modern buildings to keep them safe, solid and sound.</p>	 <p>Full Catalogue (NZS & AS/NZS) Catering for diverse sectors with nearly 3,500 current New Zealand Standards and joint AS/NZS standards</p>

² Standards and Accreditation Act 2015: Section 13. In undertaking its functions under section 12(1)(d), (e), and (f), the Board must have regard to whether the proposed standard or modification is based (in whole or in part) on any other national or international standard or any draft standard; and whether the proposed standard is, or the standard as amended by the modification would be, compatible with other national or international standards. The board must ensure that New Zealand standards do not unnecessarily duplicate the standards development work of other national or international standards organisations; and where a proposed New Zealand standard is based on an international standard, there are good reasons for any differences between the New Zealand standard and the international standard.

90th anniversary

Standards NZ celebrated its 90th birthday in July 2022, providing an opportunity to raise our profile and industry’s awareness and understanding of our products and services and their value.

Stakeholder engagement, business development and sector support

Standards NZ actively engaged with key industry stakeholders in priority sectors to identify business opportunities and raise industry awareness and understanding of Standards NZ, the work we do, and the value it can add. This included:

- a range of sector conferences in the areas of digital technology and building and construction
- participating in online professional development e-learning webinars for aspiring young professionals in the standards and conformance area
- contributing material to a range of industry and sector publications, including our own bi-monthly publication
- engaging with and maintaining supportive working relationships with professional bodies, occupational registration bodies, industry associations and other industry organisations, such as Business NZ.



Opportunities

Despite the engagement and profile raising, there remains limited public knowledge or awareness of the importance of standards for New Zealanders. As the national standards body, Standards NZ plays a key role in New Zealand’s quality infrastructure and standards and conformance regulatory system and there remains an ongoing need to promote this. Standards have high intrinsic value for New Zealand, helping to assure the quality and safety of New Zealand products and services used both domestically and overseas. Use of standards by New Zealand businesses can improve their efficiency and quality management practices and support trade and economic market access and national prosperity.

Standards are solutions developed by subject matter experts directly involved in their use and agreed by representative consensus. Thus, they can and should be developed and used as solutions to national needs and priorities. Two such priorities where standards can add real value and make a difference to people’s lives are the topical and evolving areas of climate change and the digital economy. The New Zealand government, the public, and industry face significant challenges and uncertainty in these areas – a situation which seems likely to continue for the foreseeable future. By leveraging its role as New Zealand’s national standards body, Standards NZ can create more certainty and confidence for all New Zealanders through its climate change and digital economy-related strategic priorities, products and services.

For example, climate change presents an opportunity for Standards NZ to demonstrate how it can help the government and industry develop or adopt renewable energies, decarbonise industries, minimise waste and improve climate resilience.

In the area of the digital economy, Standards NZ work can directly support efforts by government and industry to adopt these new technologies, in a safe and secure manner, while encouraging innovation and remaining competitive.

Further, Standards NZ could increase customer satisfaction and uptake of its products by digitising its catalogue of standards and reducing price barriers by securing increased sponsorship (pre-funding) by government regulators which use these standards in their regulatory systems for compliance outcomes.

Smart home guidelines to help consumers be energy efficient

New Zealand benefits by reduced emissions and cost savings for consumers

As the number of electric vehicles and related infrastructure grows, there will be even greater demand for energy at peak times. Homes that integrate smart technology can help reduce energy use and emissions and take pressure off our national electricity grid. A publicly available specification (PAS), SNZ PAS 6012:2022 *Smart home guidelines*, is one of a suite of documents sponsored for free access by the Energy Efficiency and Conservation Authority (EECA) as part of its Energy Efficient Homes Strategy.

The guide provides consumers, suppliers and retailers with general smart home information and introduces the concept of ‘demand flexibility’ and an overview of what smart home technology and a home energy management system (HEMS) is. With the system doing the thinking for us to accommodate our daily energy using behaviours, it can reduce energy when not needed and save on subsequent emissions for a better New Zealand, reduced energy bills and peak energy demand times managed more efficiently.

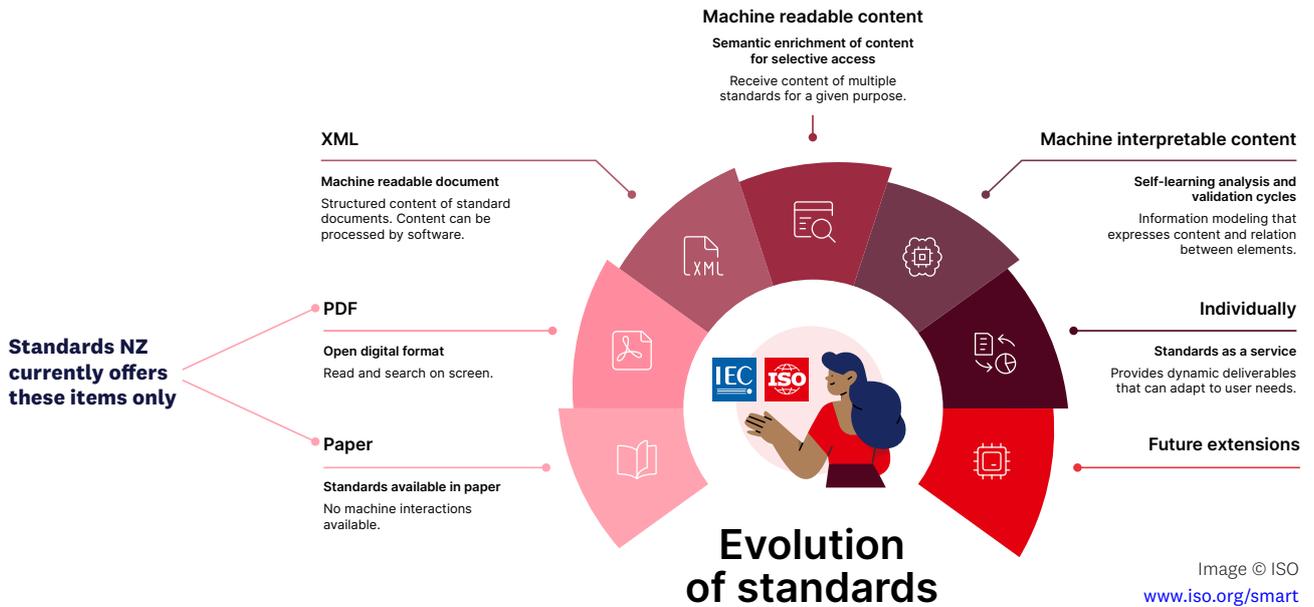


The case for digitisation of standards

With digitalised delivery in more accessible formats, New Zealand standards will be easier to use, more effectively meeting customer needs. As a result, standards use may also increase, improving both good standards practice in New Zealand, regulatory compliance across a range of sectors and increased levels of customer satisfaction with Standards NZ.

Over several years, we have developed a clear plan to digitising our standards. We are now ready to operationalise the plan, but it comes with a funding challenge.

The international standards landscape is increasingly taking advantage of the benefits of digital workflows and outputs.



Currently, the Standards NZ website sells hard copies and PDFs. To meet customer needs, we want to be able to sell access to browser-based digital editions (web editions). Web editions can be read on more device types and are particularly well suited to being read on smart phones and tablets (devices less suited to PDFs). They are also more accessible generally, working with screen readers for the visually impaired and making it easy for readers to enlarge text and zoom into the details of images, as well as make digital notes. Having standards as code also helps digital providers create helpful tools for standards users (for example, apps incorporating standards content) and interoperability with software products like CAD and BIM. Customers, industry associations, government regulators and, notably, commissioners of standards development are now asking for digital editions.

Being now clear on both what we want and the market appetite for it, we are engaging with industry and government agencies that would benefit from digitised standards to source the required investment. Enquiry, proposals and discussions are ongoing.

New strategic plan



Customer service



Climate change



Digital economy



Business sustainability

Standards NZ's previous strategy was developed and implemented in 2016. Since then, the standards landscape and operating environment have changed considerably. This presents new challenges, new customer needs, and new opportunities, all of which necessitate a new strategy to take account of these changes.

This past year, Standards NZ has developed a new strategic plan. It tells the story of where Standards NZ is going over the next five years, how we intend to get there, and importantly why. It will provide the direction needed to help adapt to changing environmental and economic conditions. Business sustainability will be enhanced through modernisation and diversification of our products, services and infrastructure and delivering on the government's Te Tiriti o Waitangi obligations.

This strategy focuses on delivering against four priority areas: *climate change*, the *digital economy*, *customer services* and the ongoing *sustainability* of our business model to ensure we can continue providing value to New Zealand.

Engagement with other international and national standards bodies has shown that the priority areas identified by Standards NZ are shared by others across the globe. There is a worldwide focus on climate change, which knows no boundaries, and the digital economy, which exists in a global market. Through participation in international standards committees, we offer New Zealanders the opportunity to engage with a global pool of experts with high levels of specialist knowledge that can be drawn upon to enhance New Zealand's standards, and subsequent policy and practice, in these areas.

Our strategic priorities are designed to be regularly reviewed and adjusted, when needed, to respond to any changes in our external environment.

The objectives and deliverables associated with these strategic priorities will help us determine the progress we are making towards achieving our vision. They will also help demonstrate to our stakeholders how, as a cost recovery organisation, we are delivering against our core purpose of harnessing the power of standards to facilitate New Zealand's trade and keep New Zealanders safe.

Standards to help address climate change

The threats posed by climate change are significant, both domestically and internationally. Our products and services can add real value to efforts by the government and industry to address some of the effects. We can help reshape our energy landscape, improve climate change resilience and support the decarbonising of our key sectors through the use of standards that underpin the adoption of renewable energies and the use of new and energy-efficient technologies.

Standards to support the digital economy

Every aspect of our economy is reliant on rapidly evolving digital technologies and data information and management. Standards can help Aotearoa New Zealand keep pace with developments in international markets, ensuring that industry and government have safeguards and protections in place and can operate smoothly and effectively in an increasingly connected world.

Standards New Zealand needs to evolve

Just as industry and governments need to evolve, so too must Standards NZ. We operate a fully cost recoverable user-pays model to cover our costs. The current operating environment presents challenges to this model, especially with industry's financial means having been impacted by recent global and domestic events and economic conditions. As an organisation, we need to respond to this challenge by growing and investing in our offerings to provide competitively priced and accessible standards which meet users' needs.

To this end, we plan to continue working closely with our industry and government partners to understand and respond to their changing needs and those of standards users. Collaboration is at the heart of what we do and, with agreement from all, standards provide the right solutions, adding value for all users and benefitting New Zealand.

Charging New Zealand's EV network

New Zealand benefits through reduced emissions and a bigger, more robust electric vehicle (EV) infrastructure

Following the success of 2021's publicly available specifications (PAS) regarding EV chargers for commercial applications and residential applications, both PAS are now undergoing a review. This reflects the rapid nature of change that EV charging is undergoing and the subsequent responsiveness of the PAS-style of publication to support change initiatives.

With more than 4,500 downloads, the PAS are going through their first public consultation as part of the review (at time of writing). Designed to help both consumers and installers meet energy efficiency and interoperability needs of charging devices, the guidelines have garnered the interest of the Australian market, which is seeking to turn them into joint standards.

Complementary to the two standards under review is the development of a further EV-related PAS focusing on 'chargers for on-journey public charging'. This has wide-reaching potential to help grow New Zealand's nationwide EV charging infrastructure and could address 'charging anxiety' that may act as a barrier to EV adoption while ensuring any equipment installed offers efficiency and interoperability.



Standards development work programme 2023/24

Standards development

Standards NZ will continue to develop and update standards for various sectors, including *building and construction, gas, primary industries, consumer protection and product safety, electrical safety and energy, and renewable energy and energy efficiency*. Standards NZ is contributing to the safety, efficiency, and effectiveness of these industries. We anticipate publishing about 170 to 200 standards in the coming year.

Some key standards development projects for the coming year

External stakeholder engagement, communications and business development

Standards NZ is focusing on three key initiatives to maximise the impact of standards on the wider New Zealand economy and grow its revenue.

- **Engaging with key stakeholders:** Standards NZ is proactively engaging with key stakeholders in priority sectors to identify opportunities to provide viable standards solutions. This sector engagement will help increase awareness of standards and their value and help try to grow the use of standards in New Zealand. Examples include participation in targeted industry forums and conferences, participating in sector professional development and learning webinars, and contributing material to a range of industry and sector publications.
- **Raising awareness of Standards New Zealand's work:** Standards NZ is actively showcasing its value and services through a range of channels to encourage more industry bodies and government agencies to use and commission standards, increase committee participation, and grow the use of standards across their sectors.
- **Delivering access/sales solutions:** Standards NZ is delivering access solutions to new customers, including traditional access products like online library subscriptions, and sponsorship arrangements. This will help to widen the reach and use of standards, while also contributing to our revenue needs. We anticipate about 350,000 individual downloads of standards this coming year.

NZS 4297 *Engineering design of earth buildings*

A key resource for building consent authorities, designers, builders, and owner-builders to help them determine compliance with the New Zealand Building Code. Used in New Zealand and around the world to support the successful construction of earth walled buildings.

Revision of NZS 8100 *Dairy herd testing*

This revision will align the standard with international practices and technological advancements. The standard supports an industry contributing more than \$20 billion in export value and employing more than 50,000 people.

Development of SNZ TS 1170.5 *Structural design actions – Part 5: Earthquake actions*

This is a significant piece of work, helping to define requirements for earthquake engineering design in buildings. It looks to address and incorporate recently published changes to the National Seismic Hazards Model and various learnings from recent earthquakes in New Zealand.

Hydrogen standards suite

Fifteen direct adoptions of international standards are set to form the first tranche in a suite of hydrogen standards. They will include standards on hydrogen gas infrastructure, refuelling stations, transportation, and storage.

Revision of NZS 5442 Specification for reticulated natural gas

This standard is a resource to enable the blending of biomethane into the gas network.

Revision of SNZ PAS 5210 High-temperature heat pumps

This PAS focuses on the energy efficiency and safety requirements of high-temperature heat pumps.

Revision of NZS 3604 Timber-framed buildings

This is effectively the 'bible' for building residential housing in New Zealand. Its revision includes an expanded scope to help support intensification of housing in New Zealand, including higher stories and medium-density housing design.

Revision of NZS 3910 Conditions of contract for building and civil engineering construction

This document provides a standard form of general conditions into building and civil engineering construction contract documents, ensuring they are suited to New Zealand's industry and legislative environment. This standard has significant interest from the legal profession, insurance sector, government agencies with large capital works and building programmes, and building and construction companies of all sizes throughout New Zealand.

Revision of NZS 3404 Steel structures standard

Building System Performance commissioned a robust review of NZS 3404:1997 (Parts 1 and 2) in December 2021. This standard is considered a primary reference used in the New Zealand Building Code. It supports the design and construction of steel buildings in New Zealand. It sets out the minimum requirements for the selection of materials, corrosion-protection systems, and the fabrication, erection and construction of steel structures including buildings; crane support girders; highway, railway and pedestrian bridges; and composite steel and concrete beams and columns.

SNZ PAS 6013 On-journey electric vehicle (EV) public charging

This EV public charging publicly available specification (PAS) supports emissions reduction.

PAS provide a pathway outlined by Waka Kotahi and the Energy Efficiency and Conservation Authority (EECA) for rollout of EV public charging infrastructure, while at the same time providing guidance to suppliers, and installers of associated EV public charging equipment around their compliance obligations.

Joint standards with Australia

About 50 standards are expected to be developed across electrical safety, energy, gas, plumbing, building and construction in the next 12 months.

International engagement

We will:

- participate in ISO's general assembly in Australia
- participate in the International Electrotechnical Commission (IEC) general meeting in Egypt
- in conjunction with Air New Zealand, host an ISO sub-committee meeting related to aerospace electrical requirements
- host the IEC's Secretary General
- participate in IEC National Committee webinars and meetings
- participate in ISO Asia-Pacific monthly meetings
- participate in the Pacific Islands Standards Committee (PISC) meeting
- participate in the Pacific Area Standards Congress (PASC) forum
- work with Standards Australia on a range of matters including: joint standards development, EV technology, international standards adoption and modification for Australasia, various IP and copyright matters.

Current and emerging trends and priorities in standards

Many national standards bodies in other countries are focusing their efforts on similar strategic priorities comparable to those identified in our new strategy, in particular in the areas of climate change and digital technology. For a snapshot of other standards bodies and their associated priorities, please see Appendix H.

These common priorities offer the best opportunity for cross-country collaboration, potentially enabling Standards NZ to achieve its strategic goals more readily.

Other national standards bodies advise that they also face a number of challenges to their operations. The following themes arose during the ISO general assembly in 2022:

- **Relevance** – Suitable standards are available from non-standards bodies (e.g. private organisations and industry bodies), which are perceived as being able to produce standards more nimbly than national standards bodies. The ‘classic’ standards development approach may be regarded by parts of the sector as very ‘old world’ and not always fit for purpose for today’s needs. Other obstacles noted relate to the technical nature of standards, which are not always easily understood by lay people.
- **Speed to market** – The market demands speed, but national standards bodies take time to develop consensus-based standards. The area of digital technology and its associated rapid pace of change pose a particular challenge for standards bodies.
- **Relationships with governments** – Standard bodies that are not part of government struggle to forge effective working relationships with governments, and many regard working with government as a new frontier. Standards NZ is ahead of the game in this respect, as it is now part of government.
- **Diversity and inclusiveness** – It is challenging to get better representation on standards committees so that they, and the standards produced, better reflect the wider societies that they operate within.

Although challenging, this information provides a high level of reassurance that many of the issues faced internationally are comparable to those faced by Standards NZ, and the priorities identified overseas and in New Zealand are well aligned.

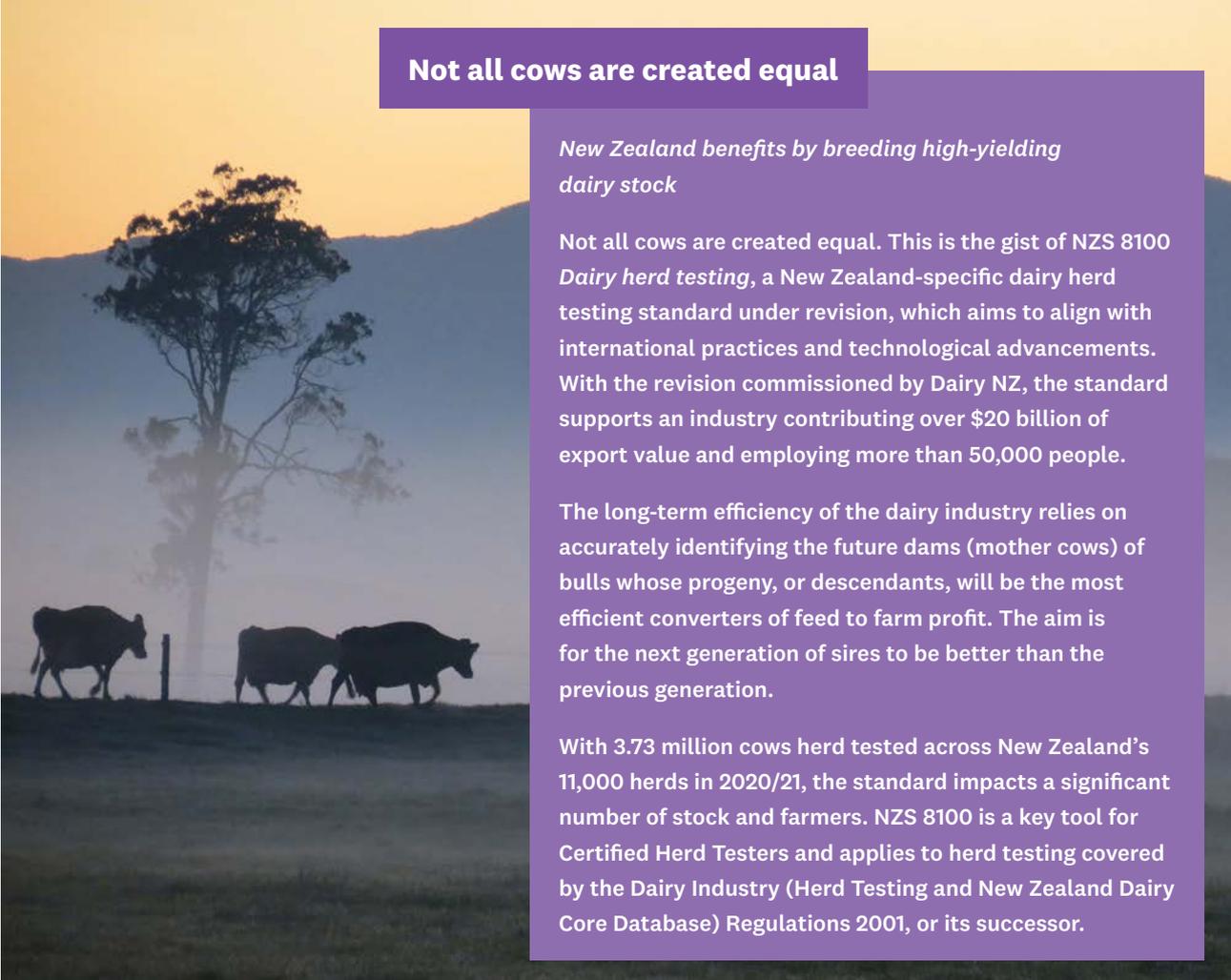
Conclusion

Our new strategic plan should help set Standards NZ on a path towards addressing some of the most commonly shared needs that cut across multiple industries. Standards by themselves will not solve global warming. Standards by themselves will not create a safe or prosperous digital economy. However, what they will do is provide a degree of assurance, performance expectations, guided practice or protection to ensure activities in those spaces follow agreed good practice by those working in related fields. Therefore, they are a key part of any solutions developed.

Interoperability, safety, protection, trade, market access, business efficiency and quality assurance remain key objectives of standardisation. There are two key avenues that standards add value. One is through supporting conformance with regulation by giving prescribed performance measures or requirements. The second is by providing voluntary good practice guidance for businesses to do better.

Standards NZ is in a phase of evolution as it adapts to meet the ever-changing market needs and operating environment. Standards solutions now, and into the future, will help to reduce energy use and fossil fuel dependence and support bringing down associated carbon emissions. Participation on a global stage ensures we continue to have an influential voice at the table of international standards development. By not passively accepting standards that impact our industries, we can instead ensure that considerations for local applications and our own national knowledge and expertise are contributed.

The work we do adds value to Aotearoa New Zealand's economy and society. Everybody is a standards user, whether that's through choice, compliance, or as a consumer safely using something they've bought. The work ahead must continue so that this always remains the case. For quality, for safety and for prosperity.



Not all cows are created equal

New Zealand benefits by breeding high-yielding dairy stock

Not all cows are created equal. This is the gist of NZS 8100 *Dairy herd testing*, a New Zealand-specific dairy herd testing standard under revision, which aims to align with international practices and technological advancements. With the revision commissioned by Dairy NZ, the standard supports an industry contributing over \$20 billion of export value and employing more than 50,000 people.

The long-term efficiency of the dairy industry relies on accurately identifying the future dams (mother cows) of bulls whose progeny, or descendants, will be the most efficient converters of feed to farm profit. The aim is for the next generation of sires to be better than the previous generation.

With 3.73 million cows herd tested across New Zealand's 11,000 herds in 2020/21, the standard impacts a significant number of stock and farmers. NZS 8100 is a key tool for Certified Herd Testers and applies to herd testing covered by the Dairy Industry (Herd Testing and New Zealand Dairy Core Database) Regulations 2001, or its successor.

Appendix A – Our publications and how they are accessed

Figure 4 – Total current publications on our webshop 2,909 (18% cited in regulation)

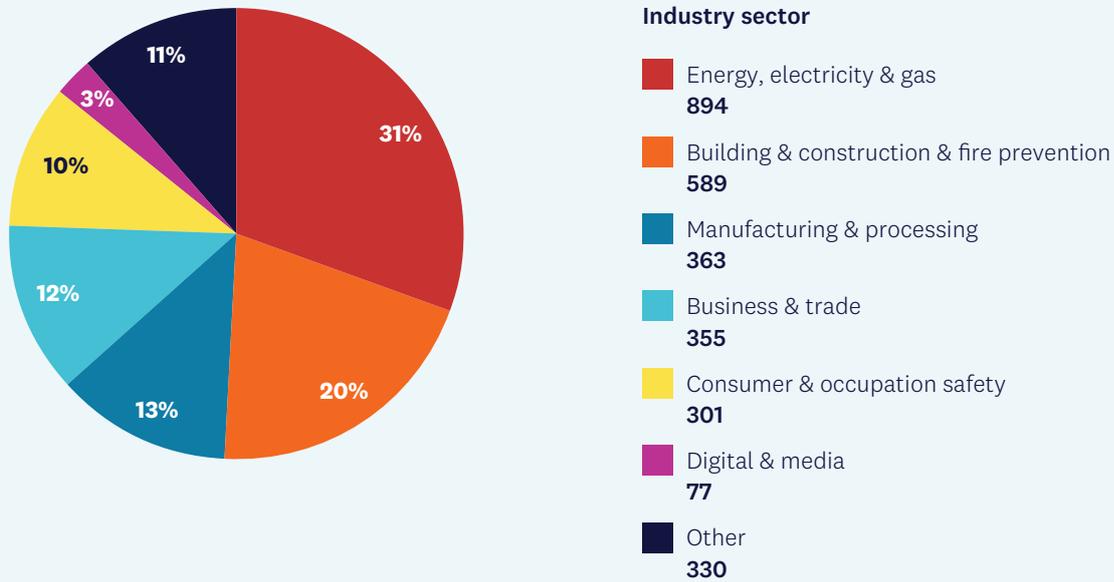


Figure 5 – Number of publications accessed each month in FY 2022/23

Standards and standards-related publications were accessed through the following means:

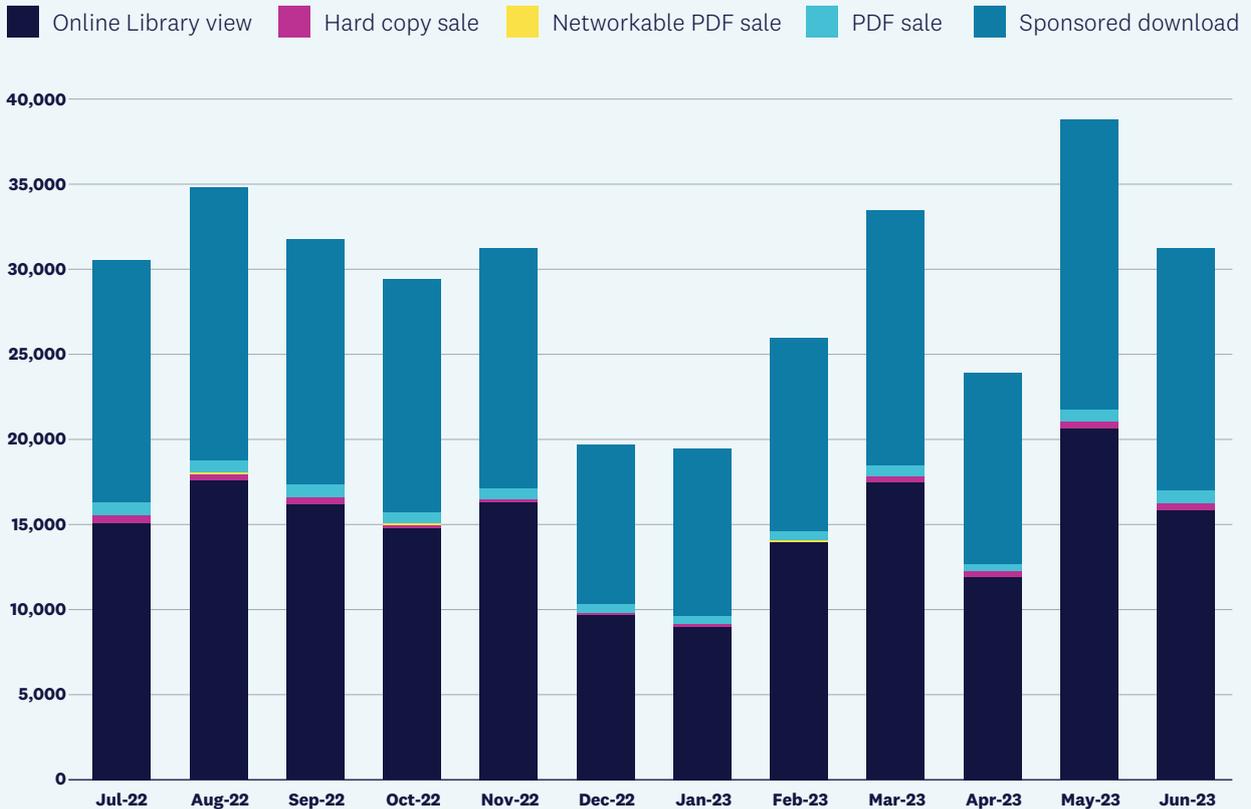


Figure 6 – Total current publications

Our webshop has 2,909 current publications, 14% of which are international adoptions.

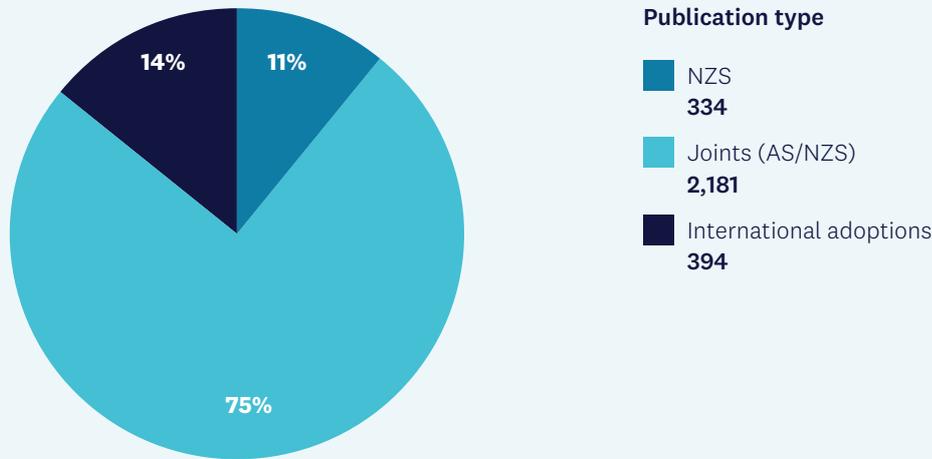


Figure 7 – Our current publications by sector

These publications help businesses reduce barriers to trade, improve product compatibility, quality and safety.

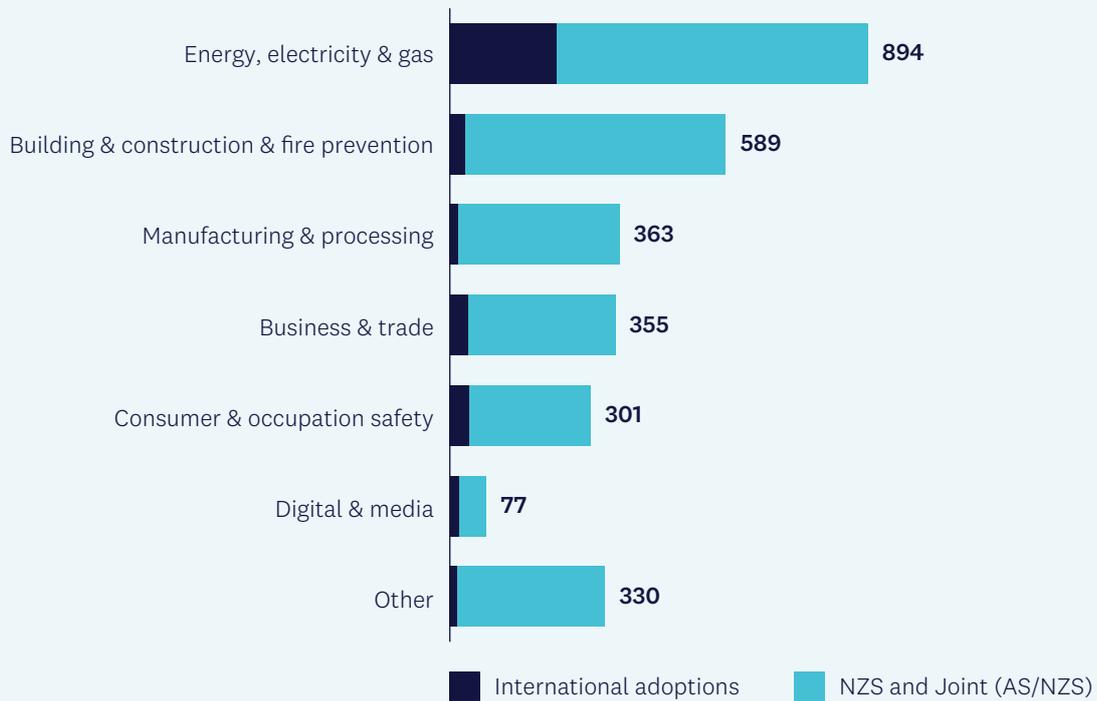
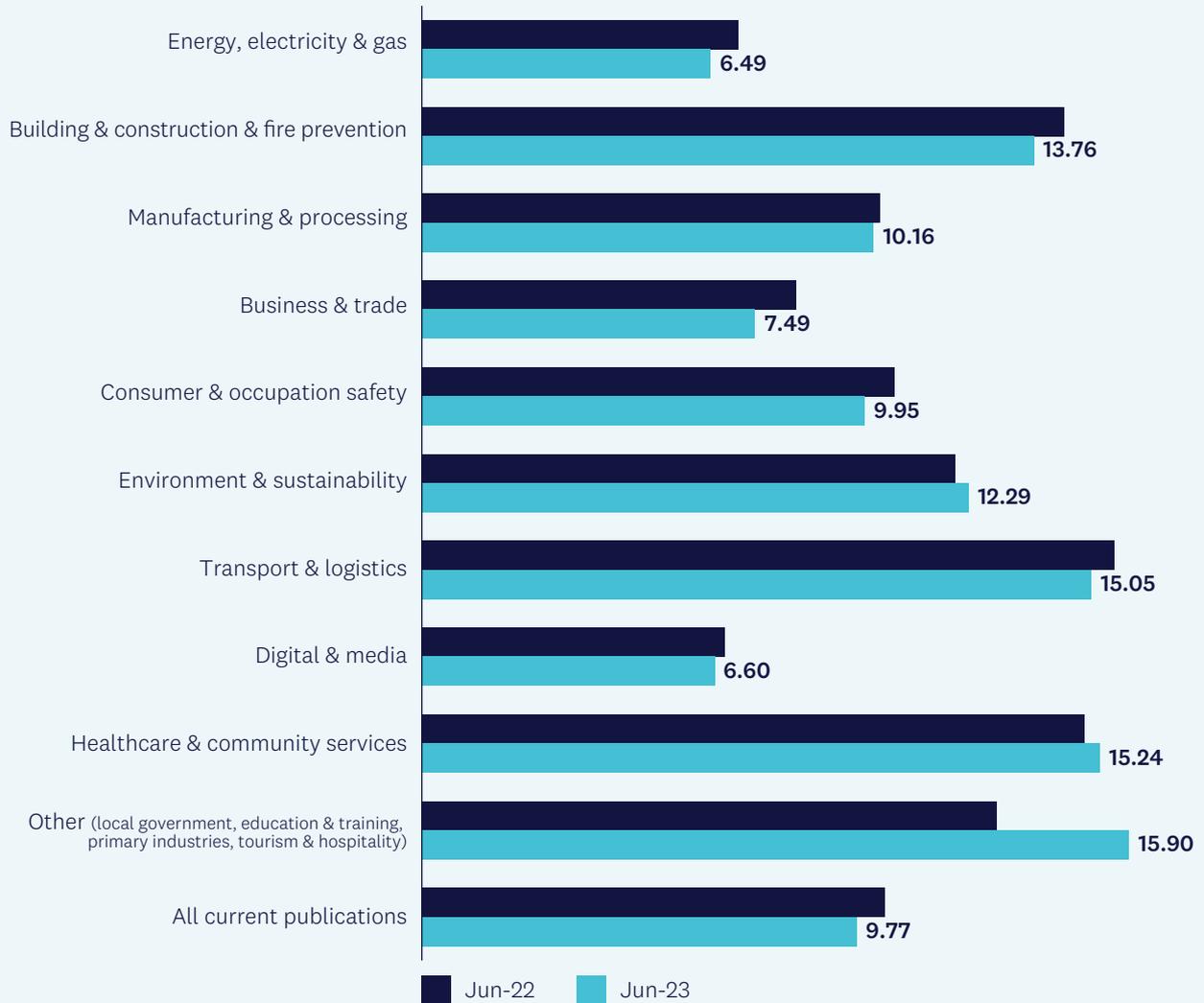
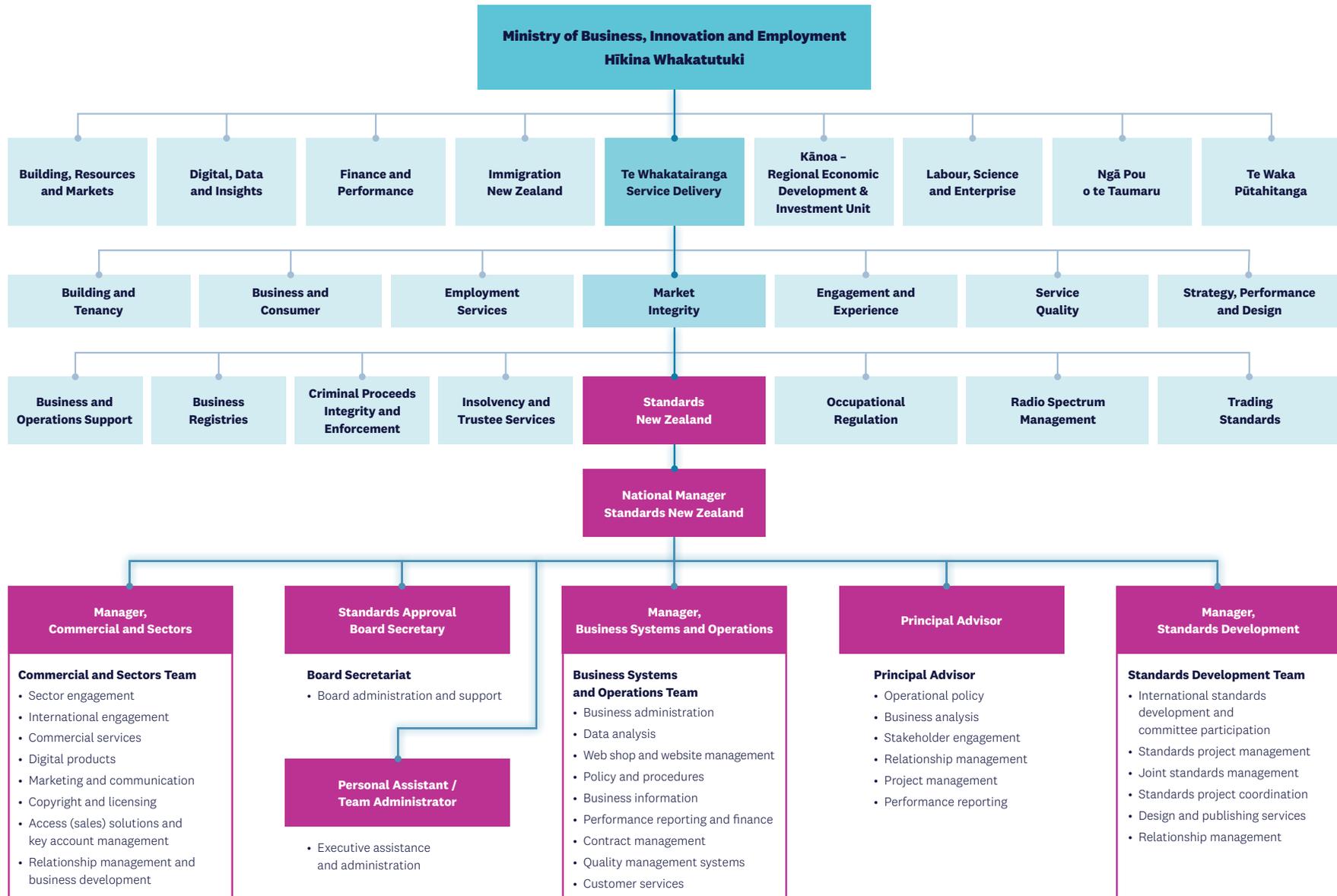


Figure 8 – Average age (in years) of our current publications

To keep our products relevant and fit for purpose, we are working with our stakeholders to lower the average age of all our current publications to 7 years.



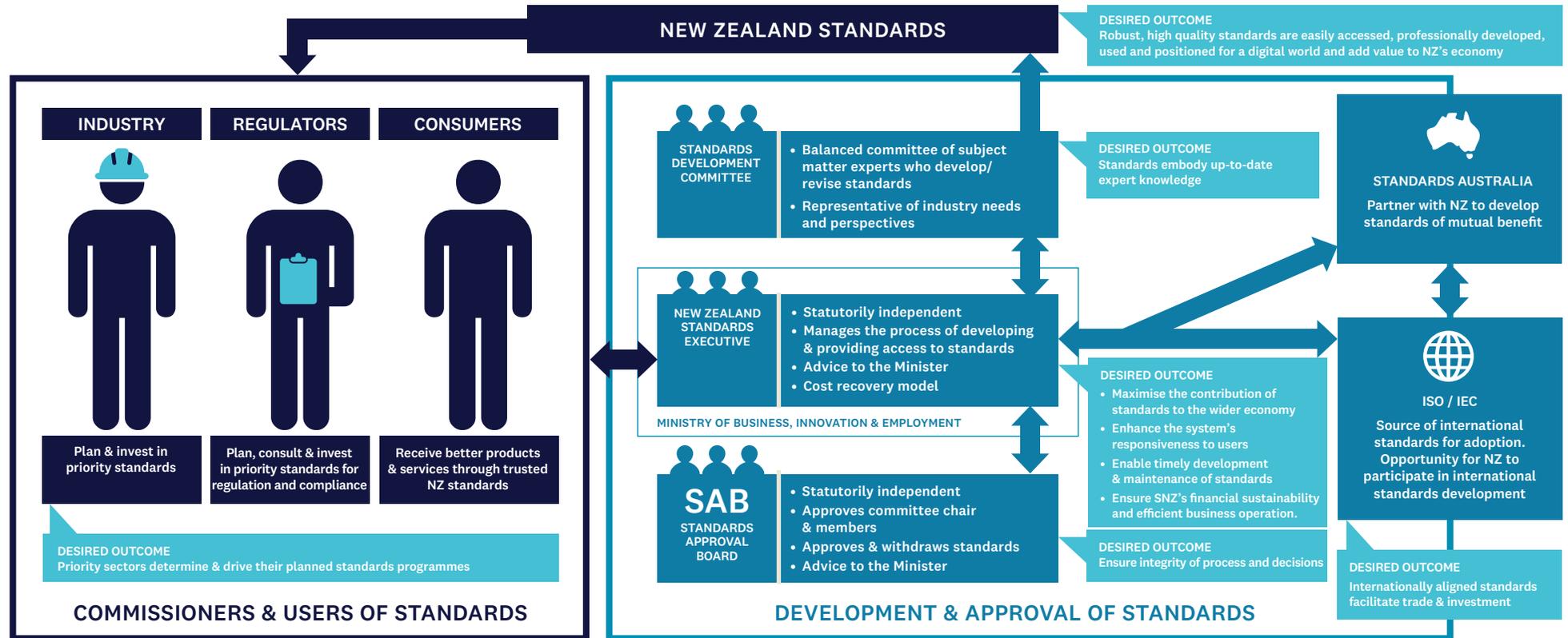
Appendix B – Organisation chart



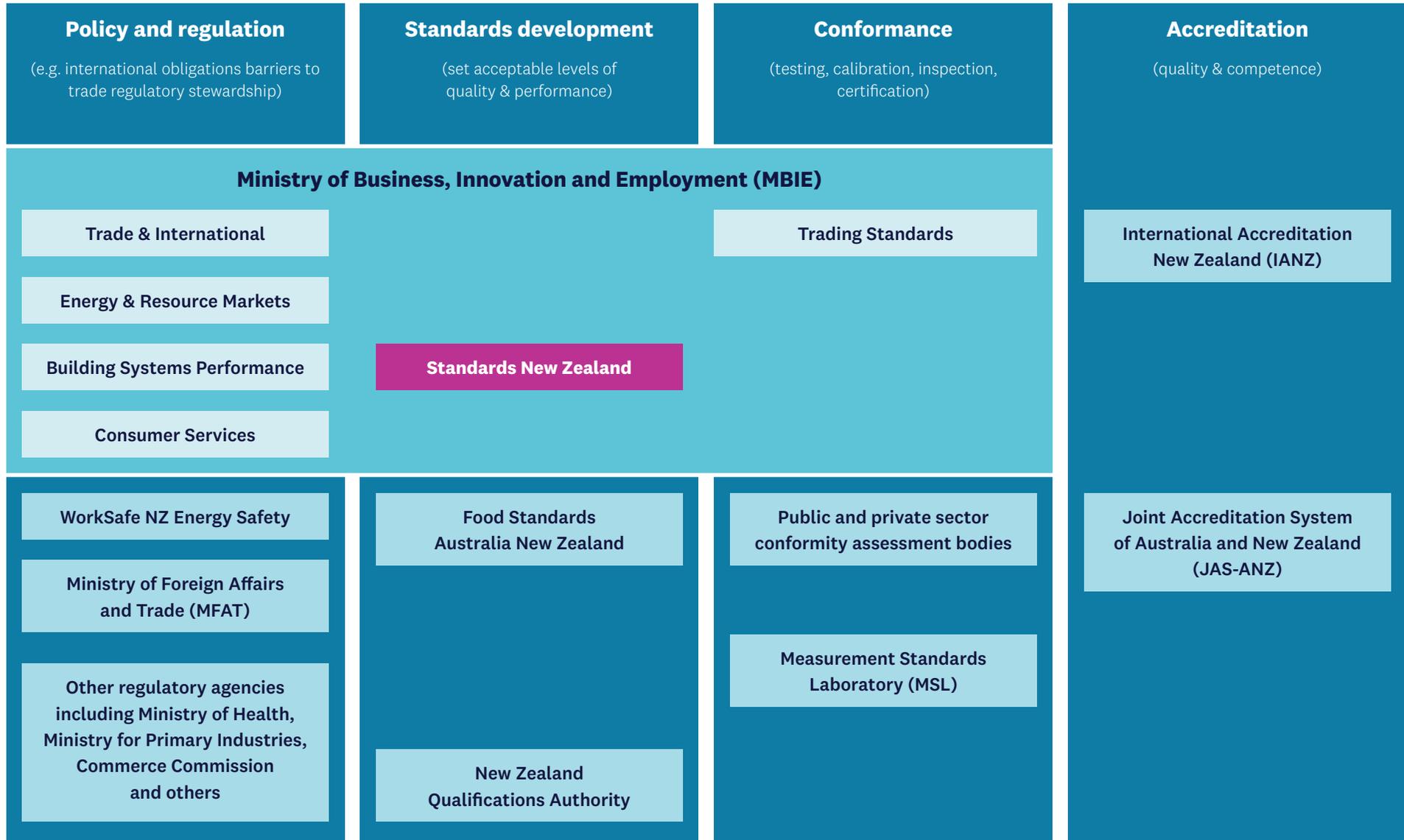
Appendix C – Alignment to organisational and Government priorities



Appendix D – New Zealand standards operational ecosystem



Appendix E - New Zealand's standards and conformance regulatory system



Appendix F - The standard development process



Appendix G – The Standards Approval Board

The New Zealand Standards Approval Board has seven members with a mix of skills and expertise drawn from the technology, science, engineering, design, health, construction, building and gas sectors.

The Board is an independent statutory decision-making body, appointed by the Minister for Commerce and Consumer Affairs, with administration and secretariat support provided by Standards NZ. It is not a Crown entity and does not have a governance role.

The Board's main functions are to:

- approve or decline proposed New Zealand standards, joint New Zealand and Australian standards, chairmanship and membership of standard development committee
- adopt or decline other standards organisations' standards as New Zealand standards, for example ISO and IEC international standards
- approve or decline modifications to New Zealand standards
- revoke and archive New Zealand standards
- advise the Minister on any matter referred to the Board by the Minister
- advise the Minister on the currency of New Zealand standards, and on priority areas for the development and review of New Zealand standards.

In addition to its statutory functions, the Board engages with key stakeholders including industry bodies to support the value of Standards New Zealand's products and services.

Board members 2023



Victoria MacLennan – *Chair*

Victoria MacLennan is a technology entrepreneur and champion of New Zealand digital innovation and growth and has been a ministerial advisor. An experienced CEO, managing director and chair, she has been actively involved in community engagement, supporting start-ups and chairing the charity Digital Future Aotearoa which provide free digital education with a focus on rural, Māori and Pacifica.

Victoria is passionate about growing great companies, raising digital literacy, growing New Zealand's economy, and brings an equity and inclusion lens championing equality for women. She has won numerous awards including a lifetime achievement award for her contribution to business and technology.

Victoria's professional vision is to help change the face of the digital industry to collectively embrace manaakitanga, focus on diversity, create new pathways into the workforce, support reskilling and upskilling and help the digital technology industry solve large complex challenges like equity, sustainability and climate change.

Brian Watson – *Member*



Brian is an experienced business leader having held CEO and other senior leadership roles in New Zealand, Australia and Asia over the last 30 years. His science and management qualifications together with more than 40 years of experience in the science sector (including the global 'Testing, Inspection and Certification (TIC)' sector) give him an excellent understanding of the benefits and needs of standardisation.

He is an experienced company director and board chair and graduate director of the Australian Institute of Company Directors and Member of the Institute of Directors in New Zealand who has had extensive Board interactions and held more than 12 directorships in Australia, NZ and Singapore.

Brian has a pragmatic and consultative approach which together with his knowledge and experience with science and technology has enabled him to find win-win solutions to complex business challenges and value diversity of thought. He is now a professional consultant, mentor and company director.



Susan Iversen – Member

Susan Iversen is the ex-director of Karo Data Management and has over 30 years of experience in digital health and data analytics. This included participation in the development of several health information standards. Earlier in her career Susan trained as a civil engineer and worked in roles related to workplace health and safety.

Her board experience includes Age Concern Wellington Region (member and past president) and Hutt Union and Community Health Service and a representative of Healthcare Aotearoa on PHO Services Agreement Amendment Protocol.



Fa'asalele Simona Malo – Member

Fa'asalele Malo is of Samoan heritage and grew up in the community of Cannons Creek in Porirua, Wellington, which fostered his passion for providing culturally appropriate quality architecture.

He is a registered architect with 20 years' experience practising in Wellington, nationally and in the Pacific including Samoa, Fiji and Vanuatu. He is a co-director and co-owner of Malo Architecture Ltd, an architecture, design, project management, construction, and cultural consultancy based in Wellington, where he lives with his family.

Fa'asalele has public sector, construction and building compliance and quality assurance experience. He sits on a number of boards and leadership teams based locally and abroad, that have an ethnical approach for business, educational and leadership development, including Victoria University of Wellington's Komiti Pasifika board.



Fiona van Petegem – Member

Fiona has spent over 20 years working in manufacturing and product development in New Zealand, China, the Netherlands and Germany both as a design and industrialisation engineer and in areas including lean management, effective process improvement, global product compliance, efficient product development, improved product safety & quality and risk assessment procedures.

Fiona is a mechanical engineer with a B.E (Hons) from Canterbury University and a M.B.A in International Industrial Management from Germany. She has been part of AS/NZS and DIN (Deutsches Institut für Normung, the German Institute for Standardisation) standards committees and works with New Zealand manufacturers and other organisations looking to improve their practices to secure future resilience.



Richard Merrifield – Member

Richard is a building consultant based in Mahana, rural Nelson, undertaking project management and consulting work on housing projects. Richard is a Trade Qualified Builder and a Licensed Building Practitioner. He is a former Deputy Chairman of the Building Practitioners Board and a former member of the Plumbers, Gasfitters and Drainlayers Board.

Richard's previous roles include, Director of the Building Research Association New Zealand and Chairman of the Building Research Advisory Council. He is a Life Member and former Chairman of the New Zealand Certified Builders Association, he was a member of the Construction Strategy Group which has now been disestablished. He was a member of the Minister of Building and Housing Task Force on productivity and the Building Act Review Advisory Group.



Peter Gilbert – Member

Peter Gilbert has over 40 years' experience in the natural gas and LPG industries. He has been Executive Director of the LPG Association of New Zealand and Executive Officer of the Gas Association of New Zealand. He is also Chair of the Standards New Zealand Gas Sector Board and a member of various Australian/New Zealand standards committees.

He has considerable experience in the regulatory system and the use and development of standards in the energy sector.

Appendix H – Standards New Zealand management team



Malcolm MacMillan – *National Manager, Standards New Zealand*

Malcolm leads Standards New Zealand’s team of 32 staff, including carrying delegated authority for the statutory role of New Zealand Standards Executive, under the Standards and Accreditation Act 2015. He brings a background in strategic and operational leadership across the Government sector, including design and delivery of regulatory reform initiatives and programme delivery across a range of sectors. He is very familiar with the standards and conformance world, having working experience with New Zealand standards, accreditation, certification, licensing, registration, audit, performance review, and quality management and assurance schemes during his career.

Relationship management, engagement and collaboration with stakeholders are at the heart of Malcolm’s role and he has seen first-hand how standards benefit those in the diverse sectors he has worked in. These sectors include building and construction, health and safety, primary industries, housing, the COVID-19 response, emergency response and recovery, aviation, and central and local government building and planning functions. Malcolm has worked across a range of government agencies, often working closely with leading industry organisations (both domestic and international), represented New Zealand and our interests at international forums, and been on an advisory oversight committee for an independent accreditation body.



Stanil Stanilov – *Manager, Standards Development*

Stanil and his Standards Development team are responsible for the development, revision and updates of New Zealand, Joint Australia and New Zealand standards, and adoption of international standards. He also manages a range of relationships with commissioning organisations, Standards Australia and other national standards bodies, and standards development committee members.

Stanil joined Standards New Zealand in 2016 from the Licensed Building Practitioners team within MBIE, where he guided a nationwide network of building and construction assessors and played a leading role in development and implementation of regulatory policy, including the LBP Skills Maintenance Scheme. He is a Certified Microsoft Office Professional.



Danielle Aberdeen – *Manager, Commercial and Sectors*

Danielle and her Commercial and Sectors team deliver key initiatives within the Standards NZ business strategy and support its day-to-day operations. The team is responsible for a lot of externally focused activities, including communications, marketing, stakeholder engagement and business and product development, key customer account management, copyright and licensing, digital standards, and international engagement and participation.

Danielle has both private and public sector experience, which spans business development, stakeholder engagement, commercial, digital solutions, account management and client relationships. She brings valuable experience from her 13 years at PwC, where she developed effective growth and client development strategies across multiple market segments and service lines.



JT Schutte – *Manager, Business Systems and Operations*

JT leads our front-facing business team, incorporating customer services, our e-commerce platform, ICT business systems, finance, data analytics, quality management systems and business administration.

JT’s previous experience includes various operations, business support, stakeholder engagement and programme and product management roles with Xero, Wellington City Council, MBIE, and Capitec Bank in South Africa. He holds a Bachelor of Commerce and is currently working on his MBA at Victoria University.



Clare Francis – *Principal Advisor, Standards New Zealand*

Clare joined Standards NZ from the Ministry for Primary Industries, where she held a number of specialist advisor, programme advisor and business analyst roles in the areas of animal welfare and biosecurity. Clare has a post-graduate Honours degree in science. Her role spans all the business teams within Standards NZ, delivering operational policy, strategic and business planning, business and organisational development and performance and reporting responsibilities.

Appendix I – Environmental scan

Strategic themes and priorities of a number of other national standards bodies

Climate change	Digital economy	Business sustainability
Australia		
Smart energy Hydrogen Circular economy Environmental and social governance	Smart devices Cybersecurity Labelling schemes	Revenue – revenue-generating business activities Reputation – brand Reach – international influence
Canada		
Sustainability	Digital economy	Diversity and inclusion Health, well-being and safety Engagement with Indigenous Peoples
China		
Green (low carbon), energy conservation and ecological standardisation	Technological innovation Digital innovation and transformation	Health and safety
Denmark		
	Data sources – reporting solutions Data security	Processes – efficiency in processes and employee development
Finland		
Sustainability and climate change	Digitisation	Organisational culture and capability
International Organization for Standardization (ISO)		
Climate change	Innovation and technology	Demonstrate benefits of standards Inclusion and diversity
Singapore		
		Strong networks and partnerships Raising productivity Develop human capital
South Africa		
		Improve operational performance Organisational culture and capability
Sweden		
Climate change and energy		Social – human rights and working conditions
UK		
Sustainability and climate action	Technology and digital transformation	People and culture
US		
Environment Sustainability		Efficient and timely development of standards Health and safety

Appendix I – Environmental scan continued

Strategic themes and priorities of a number of other national standards bodies

Customer service	Other
Australia	
Relevance – innovation and change	
Canada	
China	
	Support industry development including electronics, consumer products, health and automotive Urban governance and public services and administration
Denmark	
Services – add more value	
Finland	
Customer experience	Innovation Competitiveness
International Organization for Standardization (ISO)	
	Capacity-building of ISO membership
Singapore	
Build self-help and easy-to-adopt solutions	Strengthen innovation Accelerate internationalism
South Africa	
Customer at the forefront	Broaden scope and reach of services
Sweden	
	Governance – ethics, anti-corruption, rules and regulations
UK	
	Enabling innovation
US	
	Technical barriers to trade

