ENGINEERING A STANDARDS SYSTEM THAT DELIVERS FOR NEW ZEALAND

New Zealand needs a standards system that safeguards public safety, drives economic growth and enables the delivery of high-performing infrastructure.

The standards system underpins nearly every part of our daily lives - from everyday products to complex infrastructure. Standards are consensus-based documents, developed by technical committees, that define technical requirements and set benchmarks for quality, safety and performance. For decades, they have supported engineering across disciplines – from building and bridge design to water networks, electrical systems, and fire safety.

Despite their importance, New Zealand's standards system is not meeting the needs of industry. It is chronically underfunded, increasingly outdated and lacks alignment with international best practice. This leads to unnecessary costs, regulatory uncertainty and missed opportunities to improve safety, productivity and resilience.

There is clear international evidence that greater use of standards contributes to economic growth. Germany, Canada and Australia have all demonstrated measurable GDP gains through increased use and development of standards.[1] In contrast, New Zealand's underutilisation of standards (particularly international ones) is limiting our innovation, productivity and competitiveness.

Engineering New Zealand supports the Government's work to explore a more sustainable and effective standards system, but actions must be urgent and far-reaching. Sustainable public funding, broader access to standards, and a national strategy to guide priorities and close critical gaps are all urgently needed.

What we are doing

Engineering New Zealand is actively working to support improvements to the standards system. This includes:

- championing more public funding for Standards New Zealand, to replace the current user-pays model and enable more strategic, proactive delivery of standards.
- advocating for a better Standards Development Committee model by highlighting the challenges our members face when contributing to standards.
- collaborating with industry partner organisations to form a collective view on a more effective system.
- supporting standards development by connecting Standards New Zealand with expert volunteers from our membership, helping ensure standards reflect current engineering practice and emerging needs.
- working with Standards NZ to improve access to standards, including exploring discounted bundle options.

Government-enabled solutions needed for sector challenges

The current standards system lacks sustainable funding

Standards New Zealand receives no direct public funding and operates entirely on a user-pays model. This has resulted in a system that is reactive, unable to prioritise strategically, and is increasingly out of step with international practice. Many standards are outdated or missing and updates occur infrequently. Some have not been reviewed since the 1990s, despite best practice recommending updates every five to seven years. The lack of updates increases the risk to public safety.

We recommend the Government:

- Improve the funding of the standards system and reduce the reliance on the user-pays model. Base-line funding must support proactive planning, regular updates and prioritisation based on risk to public safety.
- The Government should consider using the building levy or other public funding mechanisms to reflect the public good that standards provide and enable updates that aligns with best practice.
- Sustainable funding would allow New Zealand to contribute meaningfully to joint standards development with Australia, ensuring New Zealand's needs are reflected while promoting trans-Tasman alignment. It would also support the adoption or alignment with international standards where appropriate, reducing duplication and supporting global consistency.

Industry volunteers shoulder too much of the burden

The system relies on the unpaid work of a small group of expert volunteers, many of whom find the cost and time commitment unsustainable. There is no support for expenses such as travel or time away from work. This is contributing to slower processes and reduced participation. The barriers to volunteering are particularly apparent for joint Australia/New Zealand and international standards, where volunteers are required to undertake international travel at their own expense. These challenges can result in standards development that lacks sufficient technical input, or New Zealand can miss out on contributing.

We recommend the Government:

- Provide funding or support mechanisms to reimburse expenses and recognise volunteer contributions.
- Review the volunteer process to find ways to make it easier to volunteer. This will help retain experts and enable more diverse participation in standards development.

Access to standards is prohibitively expensive

Accessing the full catalogue of standards can cost up to $21,000 per year for an engineering firm. While some building and construction standards are currently free under sponsorship arrangements, significant parts of the catalogue remain behind a paywall. Many individual standard documents reference other standards, requiring the purchase of multiple standards and exponentially increasing costs.

Some engineers need to access specialised standards that are not part of collections for niche or infrequent projects. In these situations, it is not always possible to determine a standard's relevance without reviewing the contents, as a result a standard must be purchased even though it may not be useful.

This presents a major barrier for small and medium firms, which have smaller cost margins than larger companies. Therefore, they may be forced to rely on outdated standards or forgo them entirely. This increases the risk of inconsistent practice and leads to poorer outcomes across the sector.

Previously, there were a range of ways to access discounted standards through membership organisations or third-party providers but many of these have been discontinued. Standards NZ offers an online library subscription both at an individual and business level which offers discounted rates, but the costs of this are highly variable.[2]

Many other countries recognise the public good nature of standards and offer heavily subsidised or even free access to their collections. In some cases, it is more economical for New Zealand engineers to access international standards.

We recommend the Government:

- Expand the range of funded or subsidised standards, particularly those essential to infrastructure, design and construction.
- Look at ways to reduce industry costs. This could include reinstating discounts previously available through membership organisations or utilising mechanisms like levies to make the end-user pay.
- Allow previews or search functions of standards to provide engineers the ability to assess relevance of standards before purchasing.

Lack of strategic direction results in ad hoc development

There is no overarching strategy guiding standards development in New Zealand. Updates are ad hoc, with no clear prioritisation of key gaps. This creates uncertainty for industry and regulators, and it makes it difficult to plan for long-term infrastructure delivery.

We recommend the Government:

- Develop a standards strategy that sets out a clear work programme for review, development and alignment with international best practice.
- Prioritise areas where the risk is highest or where innovation is most needed.

The standards system is poorly aligned with legislation

There is often a disconnect between regulation and standards. Regulators may reference outdated standards[3] or fail to update citations. MBIE has estimated that 440 standards citations in the energy sector alone need updating[4]. It is not uncommon that standards cited in the Building Code are no longer fit for purpose and require amendments or supplementary guidance to remain workable. This creates confusion and uncertainty for practitioners and regulators alike.

We recommend the Government:

- Improve regulatory stewardship by ensuring legislation consistently references the most up-to-date standards. We recommend establishing a formal process to keep legislative references current and improve transparency across government agencies.
- We also recommend exploring updating references outside of a formal legislative or regulatory process.

Outdated, missing and underused standards are creating unnecessary risk

Too many standards are outdated, and in some cases, missing altogether. This creates unnecessary risks to public safety, drives inconsistent practice and limits our ability to deliver quality infrastructure. It also stifles innovation and productivity across the sector, contributing to lower-quality outcomes and economic inefficiencies.

New Zealand is also missing opportunities to adopt international standards that reflect global best practice. International standards are often underused and undervalued. Its wider adoption would reduce system pressure, save time and cost, and support more consistent, high-quality outcomes.

We recommend the Government:

- Commit to regularly reviewing and updating standards that reflects international best practice, and to developing those that are missing, particularly in high-risk areas.
- Adopt and integrate international standards more widely, where they reflect best practice and meet local needs.

1 In Germany, standards contribute approximately €16.77 billion per year (0.72% of GDP). In Canada, standardisation accounts for 17% of GDP growth. In Australia, a 1% increase in standards production is linked to a $2.78 billion rise in GDP.

2 For a business looking to access a sample of 10 standards it can range between $1,425 and $1,852 depending on the number of concurrent users. This cost is based on a sample of 10 engineering related standards; the cost of individual standards varies widely. This is cheaper than access to the same standards through hardcopies ($2,043) or single-user PDFs ($1,822).

3 Some standards referenced in the Building Act 2004 were last updated in the 1970s eg NZS 3501:1976 Specification for copper tubes for water, gas, and sanitation.

4 www.mbie.govt.nz/dmsdocument/30545-updating-energy-safety-standards-citations-in-regulations-proactiverelease-pdf