

This Ministerial Briefing Document sets out the views of the Construction Industry Council on a range of core policy matters facing the building and construction industry.

We look forward to discussing the recommendations set out in this Briefing with both the Minister of Building & Construction, Hon Maurice Williamson, and the Department of Building & Housing.

29 March 2012

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1. INDUSTRY SITUATION/OUTLOOK

Actions taken during the first term of the Key-led National administration have laid the foundations for setting New Zealand's fifth largest business sector on a course to lead the country out of the current economic recession. The sector directly employs more than 157,000 full time equivalents (FTEs) and construction-related services employ a further 42,000. During the past 10 years 14 percent of all new employment has been in the construction sector. It is poised, because of a series of natural disasters, constrained economic circumstances brought about by the global financial crisis, and the ongoing need for weathertight building remediation, to move into a significant growth phase. Because most construction occurs where people live, the sector is spread throughout the country. This, in turn, means that the economic benefits of a rise in its activity levels will be widely shared across the economy.

The PricewaterhouseCoopers (PwC) report prepared for the Construction Strategy Group (CSG) estimates around \$4.1 billion in direct gross domestic product (GDP) will be generated by the construction aspects of the Canterbury rebuild, or around 54 percent of one year's national construction GDP. The report says that taking into account indirect and induced (flow-on) impacts, the construction component of the rebuild could stimulate approximately \$15.8 billion of GDP across all sectors around the country.

The CIC sees three distinct strands of future policy direction as crucial to the capability of the industry to achieve this potential, and secure a more stable construction environment beyond the reconstruction period. These cover current essential industry specific reforms; more generalised policies impacting on the industry; and social initiatives which can spread the benefits of a lift in industry activities more widely across the community.

Industry specific: The CIC supports what may be termed essential and basic industry specific "policy/regulatory housekeeping" that is currently under way, including:

- an across the board lift in professionalism as highlighted by the Licensed Building Practitioner (LBP) regime;
- moves as encompassed in the Building Amendment Nos 3 and 4 Bills to clarify and reinforce accountability within the industry;
- improvements in the consent and compliance process covering both better efficiency in administration and greater use of electronic technology in processing; and
- progress in adapting electronic technologies (RFI) to product assurance programmes.

We see the following – within as short a timeframe as possible – as essential additions to this programme:

- Better and easier access to New Zealand Standards linked to the current NZ Building Code.

The CIC is currently preparing a position paper for Government consideration which will deal both with the place of Standards in the administrative system as well as an initiative for revised funding to enable free or reduced cost access to Standards by LBPs and other industry participants who require regular recourse to them. The industry has welcomed views expressed by the Minister of Building and Construction that he would like to see Standards freely and more easily available to LBPs through use of electronic technology.

- A modernising of the NZ Building Code.

The CIC is also working on potential revisions to the Code which it sees as a natural progression from studies carried out in regard to the Christchurch earthquakes and which it believes will both simplify and update the documentation.

Generalised policies: The PwC report referred to earlier highlighted a number of issues which the CIC believes need addressing across a range of Ministerial portfolios. Among these are industry volatility and the need for a range of policies to address this prior to the predicted period of intense activity coming to an end and potentially resulting in a repeat of the extreme boom/bust cycle; skill shortages and training programmes; process streamlining changes to the Resource Management Act (RMA); and improved coordination and standardisation of Government procurement. These issues are dealt with in more depth throughout this briefing paper.

Social initiatives: The projected significant increase in work volumes will translate into a similar significant increase in demand for skilled workers right across the industry. The CIC urges early action which will link building industry specific training and community initiatives to develop skills that will be needed to meet the forecast skilled labour demand.

State of the industry

Frequently the industry has been accused of fragmentation with too many trade specific bodies presenting conflicting views and solutions which are confusing to government and regulators. The CIC takes the view that there is now a new spirit of partnership taking hold in the sector that gives substance to the current reform programmes. Establishment of the CSG has contributed to a much better understanding within the Government of industry issues, while fostering an improved understanding within the industry of Government policy positions. The Building and Construction Productivity Partnership is demonstrating the value of action-oriented dialogue between the private and public sectors. Issues being addressed by this partnership will contribute to furthering the matters referred to above. The Report of the Productivity Commission into Housing Affordability has endorsed the Productivity Partnership as a useful vehicle for addressing the urgent need for a lift in sector efficiency.

The PwC Report identified the volatility of the industry as a prime reason for the shortage of specialist skills. This is underscored by new residential building consents issued in the past year being at a record low point of 15,000 compared with 32,000 at the previous high point of the cycle (a 50% fall over 4 years). The industry considers approximately 22,000-25,000 residential consents a year as compatible with a stable construction industry environment.

PwC considered that the approaching industry workload could impact in the following ways: price increases across the sector due to increased demand; deferral of other projects, by both government and the private sector, as Canterbury soaks up both financial and resource capacity; and growth in employment in the sector through temporary and permanent immigration and from other sectors.

*It highlighted however: **“Reconstruction due to the earthquake may offer the sector the chance to develop skills and a capital base that will serve it well for the future”.***

The key challenges PwC identified were ways to harness this anticipated surge in activity and the surety of the work programme over at least the medium term. These, it said, could include:

- Developing skills and capacity in the sector, through sector training;
- Leveraging the geographic concentration of the work programme and the opportunity that it can provide for agglomeration benefits; and
- Testing and developing more innovative procurement processes.

The CIC looks forward to working in partnership with the Government over the next three years to meet this challenge by focusing strongly on harnessing these opportunities for the benefit of the industry and the country.

2. RISK AND LIABILITY

The CIC has long argued that the current liability framework creates too many dis-incentives for the building and construction industry to optimally manage and bear risk, and we have in turn advocated for a more fuller and proper consideration of proportional liability.

We are pleased that the Government has asked that the Law Commission look further into this issue and report back in due course, and the CIC very much supports this action.

We look forward to working with the Law Commission as it progresses its review.

3. INDUSTRY REGULATION

The current regulatory system

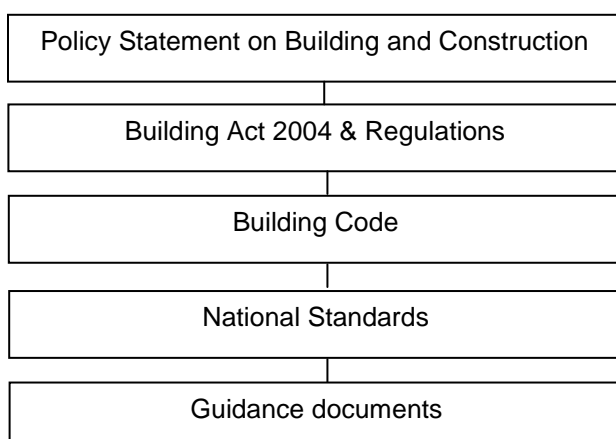
The CIC believes the current performance-based system should continue. However, we believe New Zealand should more fully adopt the latest model for building regulation as designed by the Inter-Jurisdictional Regulatory Collaboration (of which the Department of Building and Housing (DBH) is a member). The latest model focuses on defining and quantifying levels of tolerable performance and incorporation of some of these measures into regulations. We believe New Zealand needs to determine the higher level objectives it is asking the building and construction sector to achieve. In particular an assessment of the adequacy of the current life protection requirement is required. We believe the regulatory framework needs increased emphasis on public safety, serviceability of structure and reparability of structure. In addition the cost (risk)/benefit trade-off New Zealanders are willing to accept needs to be determined – or at least made more overt for building owners and users to make more informed decisions.

We further set out below our view on changes needed to the current regulatory system.

Need for clear hierarchy of building and construction policy and compliance documents

We believe there is a lack of clarity and understanding as to how the Building Act 2004, Building Code, NZ Standards and guidance documents relate to one another. We are concerned that the Building Act 2004 and the Building Code are not adequately underpinned by documents with sufficient specificity as to the standards of building performance expected. That is, there are too many Building Code clauses that have no effective means of compliance (Verification Methods or Acceptable Solutions) and thus rely on expensive bespoke testing or solely on professional opinion. We also believe there is inconsistency and confusion between information contained at differing levels in the existing documents, as well as a strong industry preference to making all the requisite documents more readily accessible. Action is urgently required to sort out the connection between building and construction policy documents to give the sector the consistency and certainty it needs.

We believe a clear hierarchy would help provide the consistency, certainty and clarity needed and the CIC recommends the hierarchy below be adopted:



This hierarchy would see a policy statement setting out the fundamental expectations and objectives of building and construction. The policy statement would be supported by the Building Act 2004 and Regulations. The Building Act and Regulations would themselves be supported by the Act and Regulations-derived Building Code. New Zealand Standards would sit below the Building Code as approved means of compliance documents, with industry standards, guidance documents and practice notes sitting further down the hierarchy.

While proposing this hierarchy we also note the importance of the balance between regulator-developed compliance documents and consensus-based industry standards, guidelines and practice notes. A risk-based framework for product and systems assurance should align the standards development methodology and level of specification with the level of risk associated with the use of the product or process.

The individual components of the hierarchy are discussed below, along with discussion of changes needed to improve the components.

Policy statement on building and construction

The CIC believes an important and currently absent part of the policy hierarchy is a relevant national policy statement. Creation of a policy statement would help provide a succinct explanation of what the nation expects of its building and construction. The CIC believes the policy statement must clearly and succinctly set out what is expected of the built environment – and accordingly of the building and construction industry – in New Zealand.

This statement should include setting the appropriate level of tolerable building performance in terms of life safety, resilience, health of occupants, acceptable risk, affordability and sustainability. It is also important the policy statement is able to adapt to emerging societal expectations of sustainability, urban intensification and aging population. While it is acknowledged that some aspects of the discussion in developing such a statement might be uncomfortable CIC believes it is important for it to become more overt and in the public domain.

Building Act 2004 and Regulations

The Building Act 2004 must complement and be consistent with all other parts of the regulatory framework. CIC has worked to develop a “model” for a future Building Act/regulatory framework. The proposed model is attached in more detail in Appendix 1.

Building Code

We believe the Building Code needs to be supported by an effective system of product certification and an effective system for declaring proficient workmanship, such as constructors’ producer statements. An effective system for validating alternative solutions is also needed and alternative solutions must be required to be proposed by professional designers and peer reviewed for quality assurance.

We support the need for an importance and complexity matrix for all projects. Projects receiving a high score should automatically require a design peer review. All but the simplest projects should require construction monitoring/observation by the designers.

National Standards

The CIC believes it important that the Building Code be supported by an up-to-date suite of national Standards, comprising an appropriate mix of international, trans-Tasman and NZ-own Standards. The present suite of over 650 building and construction Standards referenced in the Building Code and other regulatory documents are well overdue for review. We understand this has resulted from Standards New Zealand not being able to secure sufficient funding for renewal and replacement of the Standards within the building and construction portfolio.

Standards New Zealand has been in existence for 80 years as the operating arm of the Standards Council, a Crown entity with the specific purpose of developing, promoting, encouraging and facilitating the use of standards in New Zealand. Despite this long established entity, the Government has not articulated a clear commitment to Standards New Zealand. The Government has also not ensured Standards New Zealand has adequate and secure funding to maintain its expertise and capability. This needs to be addressed urgently, as a review of the suite of building and construction Standards is critical to ensure the integrity of the Building Code.

The CIC recommends Standards New Zealand be jointly funded by the Government and industry to ensure funding certainty. One industry-funding model is that each licensed building practitioner should pay a modest fee (\$75 to \$100) as part of their annual licence, with this being the industry contribution. These funds should be matched by funds from the Building Levy (received by DBH under the Building Act 2004), with this representing the public or consumer contribution. The resulting pool of funds should then be used for the ongoing development and maintenance of building-related Standards and should pay for free online access for those licensed building practitioners and others opting to pay into the scheme.

Together with acknowledgement of essential in-kind contributions from industry players, this funding model will ensure Standards committees have broader representation, rather than merely having members who can afford to be on the committee. This will help ensure continued industry involvement towards the development of interventions to deliver public outcomes.

The CIC believes that even with joint funding Standards New Zealand should continue to be able to charge users for access to Standards. However, as indicated above, the CIC firmly believes that Standards cited in the Building Code and associated documents should be available at minimal or no cost, in electronic form where possible. We believe that ultimately there could be a web portal through which licensed building practitioners and others paying into the scheme could log on and access the Building Code, compliance documents, Standards, advisory notes, BRANZ appraisals and other documents.

We note a process is needed for prioritising which Standards are developed, reviewed and amended. We believe the Government needs to be more involved in this process. The CIC believes it would be beneficial for DBH to lead this process, in consultation with an industry advisory panel consisting of key industry practitioners. The Department could recommend to the panel the type of document (standard, guidelines or other document) needed, the best way for that document to be developed (e.g. whether it should be developed by DBH, Standards New Zealand or industry) and the most appropriate development process. Using this process would provide certainty to those involved in document development and ensure clearer lines of responsibility for documents being developed. The process would also enable BRANZ to ensure its research programme aligns with the development programme.

In relation to the particular content of National Standards we believe they should provide means of compliance through a mix of acceptable solutions and verification methods for all clauses of the Code. In addition there should be clear performance objectives for alternative solutions to be reviewed against.

We believe it important that the national Standards be suitable for regulatory incorporation, and draw on best international practice. We therefore recommend that DBH be asked to develop, as a matter of urgency, a specification for "Standards with regulatory suitability". Such a specification would ensure Standards developed met the requirements of the Department of Building and Housing (for citing in the Building Code) and the Standards Act 1988 (for Standards Council approval as a National Standard). Introduction of this specification would greatly enhance the rate at which national Standards are cited.

Guidance documents

The CIC believes the regulatory regime must be seen as more than just the legislative framework and regulatory action in response to it. We recommend DBH give consideration to policy instruments other than regulation as a means of achieving policy objectives. We acknowledge the Department already makes available advisory guidance to the industry, but we believe the Department could increase its provision of information and guidance to consumers and homeowners as a way of further contributing to the regulatory regime.

Need for clear roles, responsibilities of DBH, Standards NZ & BRANZ

Associated with the need for clearer specification of the relationship between documents is the need for clearer specification of the respective roles and responsibilities of DBH, Standards New Zealand and BRANZ. It is imperative the roles and responsibilities be clearly articulated, along with clearer explanation of the processes of investigation, specification and promulgation of Standards.

Need for clear means of obtaining regulatory approval for building work

The CIC believes there needs to be clear means of obtaining regulatory approval for building work, without duplication of steps or stages. Under such a process:

- Designers would provide sufficient documentation of designs to owners so those owners can submit those documents in the knowledge they are likely to demonstrate there are reasonable grounds for the relevant regulator to decide designs comply with the Building Code.
- Builders would decide how to construct the designed building, manage the construction process, and at its conclusion, provide sufficient evidence so the owners can submit that evidence in the knowledge it is likely (taken in conjunction with evidence collected directly by the regulator) to demonstrate there are grounds for the regulator to issue a code compliance/consent checking certificate.
- Where appropriate (for example, where alternative designs that might be considered difficult to construct) the role of designers observing construction to confirm correct implementation by the builder is recognised and specifically included in the regulatory approval process.
- There is a system to cope with situations where, for legitimate purposes, building work might be carried out in advance of issue of a modified building consent.
- Any registrant on a relevant national statutory register is entitled to present a producer statement, either in support of an alternative design, or to declare the quality of building work undertaken. Other lists of authors are only used where no national register exists.
- The statutory-backed national registration system comprises three occupational groups, each separately administered as a multi-competence level system – engineers, architecture/design and construction. In addition there should be a multi-part register for those undertaking work in regard to certification of specified systems but who could not reasonably be expected to be on the other registers.
- Producer statements and memoranda for restricted building work are consolidated into two nationally-consistent documentation systems, one based on proof of workmanship, the other on providing a standardised means for providing evidence towards alternative solution acceptance.
- Information from the consenting process on the quality of work submitted by individuals is consistently provided to occupational registration authorities to assist those authorities to run educational and complaints processes to support consistent competence standards.
- Use of written contracts is required so disputes and liabilities are almost invariably decided in contract, and not through claims in tort.
- Clear disclosures of limitations are required of parties involved in the design or construction process, and the building owner is adequately informed on the ongoing maintenance that might reasonably be required.
- Clear information for building owners is provided from a single central source.

Need for single national regulatory body to process building consents

The CIC believes New Zealand needs a single national regulatory body to process building consents, with that body having regional representation. This model would ensure smooth interfacing with the RMA consenting process, and allow for improved national consistency. We believe the model also needs the following:

- Risk-based consenting applied to work involving alternative solutions, with clear protocols to define the requirements for evidence at different levels of risk.
- Clear and unambiguous information to allow applications involving only acceptable solutions and applications involving multi-use consents to proceed rapidly.
- The regulatory body delivering services locally as well as centrally, applying modern technology to its processes to ensure high quality service is perceived by applicants.
- Consistent national education and training of building officials.
- The national regulatory body taking responsibility for rapidly identifying emerging issues and ensuring these are addressed.

Regulators must have skilled personnel

The CIC notes the importance of regulators having sufficiently skilled personnel. We encourage local and central government to ensure regulators in the building and construction sector have the people and systems necessary to operate an efficient and effective regulatory regime.

4. HOUSING AFFORDABILITY

This part of the CIC Ministerial Briefing replicates the CIC's submission to the Productivity Commission's Inquiry into Housing Affordability.

17 February 2012

Steven Bailey
Inquiry Director,
Housing Affordability Inquiry
New Zealand Productivity Commission

Dear Steven,

Thank you for the opportunity to respond to your draft report on Housing Affordability.

The report is very comprehensive - which we commend the Commission for – and (from the CIC's perspective) the key issues for the construction industry are:

- How is affordability measured?
- What are the key performance indicators which can be measured and after actions taken remeasured to monitor the initial position of affordability?

It is notable that in many Western nations research has reported productivity of the construction industry and as a consequence affordability is low or not improving. A variety of reasons have been proffered to explain the issue. However, all have also reported a dearth of hard data which can be used to properly monitor the true state of the issues, other than simply reporting housing prices. Affordability, productivity, industry sustainability and quality are all complex and inter-related matters, and un-locking them is not an easy matter.

CIC comments on the recommendations in the draft report are as follows.

Industry Structure

Despite being fragmented the CIC notes that common among all industry practitioners is a desire to build quality buildings. While fragmentation does have some negative consequences, the industry is highly competitive and, should accordingly be delivering cost optimal outcomes (under normal market theory) – there must, therefore, be other structural barriers leading to the reported low house affordability.

The very large number of SME and micro businesses has both benefits and disadvantages, and recent regulation changes, especially the use of licensed building practitioners for restricted building work, may affect the number of 1 and 2 person SMEs – given the need for ‘CPD maintenance’ to retain licensing, such that it discourages practitioners from continuing their licence. One benefit of the current industry model is that it allows project management companies to upscale their workforce as needed, without the overheads that full time employed staff can impose. One of the core issues for the CIC is the lack of investment in higher levels of training for the basic tradesman/professional. The DBH led Productivity Taskforce report would indicate an hourglass skills gap problem in our industry with trade and initial training levels about right, and the higher (professional) end being adequate, but significant gaps exist at the construction manager and supervisor levels.

Economy Boom Bust

The CIC contends that the effect of the boom bust economy is the largest single challenge to increasing sector productivity to in-turn improve house affordability. The construction industry is affected to a greater degree and for longer in these cycles, and the CIC welcomes all initiatives to smooth these cycles through:

- long term planning and investment, especially by central and local government as the most significant clients; and
- through responsive immigration policies.

The CIC welcomes the formation of the National Infrastructure Unit with a focus on \$10million (+) projects, but we also wish to emphasize that government ‘minor works’ also account for approximately 30% of total construction within NZ.

Additionally, positive net migration correlates directly to new housing activity. Having said that, there is a need for a more strategic approach to urban planning policies affecting the willingness (or not) for home ownership encouragement of medium density, communal or apartment living.

Access to Information

The CIC has long held concerns about – and made numerous submissions on – the adoption of a Performance Based Building Code needing to be supported/underpinned by a robust framework of Standards and information, accessible by all in the industry.

Performance-based building systems are prevalent in many developed countries, and member countries of the Inter-Jurisdictional Regulatory Collaboration Committee (IRCC) have evolved the best practice design of these systems. NZ has fully developed all aspects of such a system, but the user-pays funding model used for Standards development and access is a barrier to practitioner access and has flow-through impacts on sector knowledge, productivity and eventually affordability. The CIC submits that the funding model needs to change to allow for prioritization of and funding for Standards development (eg assessed on maximum ‘public good’, access and maintenance, based on need), and to allow for free website access to Standards in the same way as the Act and Code are free. These measures will enable improved knowledge in the sector and thereby underpinning industry productivity.

Sustainable Construction

CIC members believe it is important in many projects for clients to consider whole-of-life costing, not only initial construction cost. Such costing affects the definition of and information on what “affordable” means by the Commission in the context of the report. The report focuses on the land and build cost for an owner; however, if the operating costs, impact and disposal of construction are included a different base will be established.

Operating costs of a property become more important in a renting situation than the higher capital cost of some sustainable features that an owner must face. A more ‘affordable’ house which is cold, damp, with poor acoustic properties and high maintenance costs in a medium density setting is not a desirable outcome – not for the tenant/owner, and not for New Zealand Inc.

Bureaucratic Cost & Regulatory Impacts

The effect on housing cost and contribution to non-affordability is difficult to assess and measure due to commercial sensitivity. The regulatory impact statement for the introduction of Building Act 2004 reported the cost to be less than a 2% total increase, noting that the Act the addressed councils and consenting, skills and product areas. The CIC is not aware of any “back costing” or testing of the actual impact – but certainly anecdotal evidence from the industry is that the “bureaucracy cost” of increased regulatory levels in the industry (imposed nationally or applied locally in response to leaky buildings) has risen significantly.

A level of bureaucracy is important for standardisation and uniformity of construction activities, regulation of unsatisfactory activities, and to obtain real building data.

Unfortunately, there are a large number of authorities all acting as consent authorities, with varying expertise and resources and a multitude of different in-house IT systems – none of which supports uniformity or consistency in decisions on the application of the building consent and RMA requirements, nor do they support appropriate reporting.

If moves are made to reduce the number of authorities responsible for applying building controls it is recommended that a parallel process apply also to RMA issues, as the separation of decision makers will create new difficulties. Whether a single authority is considered suitable or not a single IT supporting system will provide significant benefits for measuring activity, decisions and feedback. CIC members suggest that there would be benefits for other authorities and the industry at large to be informed of a design, construction or other issue or solution that exists in a single Building Consent Authority (BCA); however, with BCAs currently averse to risk because of the insurance and the current ‘joint and several’ liability regime, this sharing of information is most unlikely and risky. The industry needs to have a robust and open ‘feed back loop’ which fosters continuous improvement right through the system.

Building Products

Some CIC members do not agree with the draft report regarding the possibly being issues with the pricing of building products. They would argue that it is a highly competitive sector, and the CIC is aware that they have made individual submissions to the Commission.

We understand there are approximately 45, 000 product lines used in the industry. Some members are regularly dealing with product and/or product assurance deception and the CIC suspects there may be significant numbers of products carrying unproven manufacturers claims reaching the market outside usual merchant channels in view of a steadily growing flow of Asian products into the market. A premium attaches to high quality, independently tested and reputedly appraised products because the Building Act of 2004 puts the onus on the building practitioner to use products that are fit for purpose.

An improved and robust product assurance framework accompanied by an improved Standards system is commended by the CIC.

Conclusion

CIC members welcome being involved in further discussion to support the final Commission report.



Pieter Burghout
Chairman
Construction Industry Council

5. PRODUCTIVITY

While productivity – labour and multi-factor – has improved across most parts of the economy, productivity in the building and construction industry has been static when taken over the last 30 years, and has declined when taken over the last 10 years.

The factors behind this decline are multiple and varied. The Productivity Taskforce in 2009 concluded the contributors included:

- Poor procurement practice;
- Poor management capability;
- Low skill levels;
- Job churn;
- Lack of innovation;
- Inefficient/inappropriate regulation.

The Taskforce report recommended that industry and DBH work together on a multi-year work programme to address the factors influencing the productivity performance of the building and construction sector.

To that end, the Building and Construction Productivity Partnership was initiated in 2010, targeting a 20% measurable lift in industry productivity by 2020, including the formation of four workstreams:

- Research/Evidence;
- Procurement;
- Skills; and
- Construction Systems.

The Research/Evidence workstream has published a draft Research Action Plan, which details a broad range of work that could be done to better understand productivity in the industry. The Procurement workstream has been working closely with central and local government agencies over adoption of best practice procurement methodologies. The Skills workstream has published a draft Skills Strategy, which again details a broad range of work recommended to improve skills-related outcomes in the building and construction industry. And the Construction Systems workstream, amongst other things, is working on systems and process mapping projects to better understand efficiency points within the industry, and on how Building Information Modelling (BIM) and associated adoption of new technologies could bring about step-change.

In particular, the building industry (and Government) needs a clearer understanding and appreciation of the 'systems model' underpinning the workings of the industry – so that the best points of intervention are readily clear to improve industry productivity at one level, and at another so that the Government (in particular DBH) can better understand how well the regulatory framework is delivering anticipated outcomes and/or efficiencies.

The Productivity Commission has published a draft report looking at Housing Affordability – one of its main recommendations is supporting the work of the Productivity Partnership as one of the best ways to tackle the issue sustainably within and by the industry. [See Section 4 above for commentary specifically on this point].

However, going forward, it's clear that the work of the Partnership is at risk of being significantly under-funded. Some \$4m of worthwhile programme work has been crafted up by the respective workstreams, but the Partnership has insufficient funding to deliver on these. Given the strong benefits to the New Zealand economy of an efficient and effective building and construction industry – every 10% productivity gain in the industry delivers an on-going 1% growth impact on New Zealand's GDP – the CIC believes higher levels of Government funding are required to drive the Partnership's programme, funding to be matched one-for-one by industry. This model has been deployed in other critical industries – such as the Primary Growth Partnership in the agricultural sector, and the NZ Wood programme in the forestry sector – and the CIC strongly recommends its adoption in support of the work of the Productivity Partnership.

6. BUILDING PERFORMANCE & SUSTAINABILITY

The CIC supports best practice in sustainable building design, construction and operation. The benefits of green building are numerous and include financial benefits such as asset protection and enhancement, reduced risk, capital and operating cost savings, improved productivity and reduced absenteeism, flow on effects such as improved business opportunities but also improved quality of life for the inhabitants. Green buildings therefore embrace the environmental, economic and social paradigms of sustainability.

There are a number of sustainability challenges facing the building and construction sector arising from global drivers, including:

- Increased reporting and information requirements by overseas entities (traceability of goods and resources, third party verification, qualified demonstration of sustainability and quality, carbon and water footprinting, and life cycle analysis (LCA)).
- The need to embrace and test new and innovative methods of construction, products and services. Reinterpretation of value to include long term sustainable value, with a whole of life definition that includes a broad remit such as anticipated legislation, changes to the climate, social displacement and global restrictions on resources.
- Wholesale adoption of principles that support not just energy efficient buildings, but those that contribute in a regenerative sense to New Zealand's built environment.

Steps the building and construction sector needs to undertake and areas where Government can assist are:

- The rapid adoption of a holistic performance tool for the operation of buildings during their lifetime. Whilst voluntary tools such as Green Star and Homestar are important steps, a mandatory approach to measuring impact would have a dramatic impact on New Zealand's environment.
- Develop a credible, consistent, robust life cycle methodology which has buy-in across the sector but which is also cognisant of LCA activity in other sectors in New Zealand and internationally. This will provide the 'level playing field' sought

by industry which is fundamental whether companies want to publish Environmental Product Declarations (EPDs), undertake LCA for internal benchmarking purposes, include their data in rating tools like Green Star, or apply for use of a life cycle based eco-label.

- Kick start with adequate funding support a New Zealand life cycle inventory (LCI), which needs development of publicly accessible, preferably free data commonly used in all LCAs (e.g. electricity generation, combustion of fuels, truck transport, landfill and end of life processes, packaging), similar to the European Commission's ELCD (<http://lca.jrc.ec.europa.eu/lcainfohub/datasetCategories.vm>).
- Government can help development by becoming a lead innovator encouraging life cycle costing and requiring LCA data to be provided as part of its own procurement of new buildings or refurbishment of existing buildings.
- Support the integration of sustainable design and building skills across the value chain, from site specific contractor practices regarding waste, through to passive solar design of buildings and homes.
- Develop the initial groundwork to support the integration of sustainability principles, practices and processes into the Building Act over the longer term.

In the short term CIC recommends that the Government:

- Supports the development/adoption of a building rating tool that measures energy, water, waste and indoor environment quality so that property owners and tenants can report on use, alongside their usual annual corporate reporting.
- Philosophically and financially supports the development of a New Zealand LCI database and encourages the use of LCA in the future through its own procurement activity.
- Develops a multi-sector project to streamline the consenting process that also includes mechanisms such as accelerated consent to increase the build of efficient and sustainable buildings in New Zealand.
- Adopts a broad view of whole of life costing that also reflects less tangible values that are harder to identify but equally as important in costing.
- Supports the design, build and operation of quality, sustainable buildings proven with third party verification, in its own portfolio of property.
- Encourages the integration of sustainability into education interventions across the building and construction sector.
- In the interest of improving New Zealand exports, encourages companies to develop EPDs for their products.

7. RESEARCH

The Key-led National Government has consistently recognised the need for appropriate research as a driver of efficiency, innovation and economic growth – through, for example, the establishment of the Chief Science Advisor role, the CRI funding reforms and the formation of the Ministry of Science and Innovation, and the proposals to re-craft the CRI IRL into a new centre of excellence around “advanced manufacturing technologies”.

The building and construction industry has, in part, benefitted from having its own research organisation, BRANZ, funded by a building research levy (proportionate to building consent \$ value) under a separate piece of legislation since 1969. Like the CRI funding reforms which are designed to give CRIs a stable level of core funding, the building research levy has enabled BRANZ to deliver an on-going research programme against the research and information needs of the industry – however, more in a ‘tactical-research’ way, rather than a ‘fundamental-research’ one.

Another similar research organisation funded by a levy is the Heavy Engineering Research Association, the levy coming from steel manufacturers and importers proportionate to material supply.

As well as these two organisations, a good deal of general industry research is done within the various Universities which have faculties focused on the building and construction industry.

The downside of having such dedicated research organisations is that access to other funding sources appears to be significantly reduced – and declining. When BRANZ was established the Government commitment was to one-for-one funding, but Government funding for BRANZ today is less than 10% of BRANZ's overall budget. And while the building and construction industry comprises 5-10% of GDP (depending on whether a multiplier effect is included or not), the total level of Ministry of Science and Innovation (MSI) research funding coming into the sector is ~2% of MSI's total funding. Agriculture is a similarly-sized sector in terms of GDP contribution, yet it secures ~12% of MSI research funding.

This imbalance in research funding is one impediment to the industry optimising its contribution to the New Zealand economy – particularly in terms of the under-recognised contribution of a vibrant sector to the New Zealand economy, misunderstandings as to the role and value of New Zealand's building stock, the need for much improved productivity in the industry, and mis-appreciation of the role of buildings in the health and well-being of kiwi families and workers.

For a number of years the industry has advocated the merits of having a broader Research Strategy, developed and endorsed by (for example) the CIC, the CSG, and DBH. This in turn might help to secure better returns from existing research funding, higher levels of MSI research funding, and provide a higher-level guidance to research expenditure across the various parties that serve the industry.

While the research sector is predominantly serviced by university, CRI and levy funded associations the CIC believes that we should not restrict the definition of research service provider too narrowly at the outset. Trade and sector associations have useful roles to play in both defining research 'needs' and field validating research 'outputs' as well as representing other important industry stakeholders.

The definition of value the B&C industry brings to the economy should include concepts beyond static % GDP calculations. Perceptions and revealed preferences of the end user have an equally important role to play in evaluating the 'value' of the built environment. These preferences include, for instance, institutional trust, amenity value and derived wealth from the dynamic network effects of a built environment (we acknowledge the pioneering economic research of people such as Prof. Grimes of the University of Waikato and MOTU in helping to put these concepts on a secure theoretical foundation). These concepts are often described in urban planning strategies with phrases such as 'liveable cities' and we should acknowledge and welcome the opportunity to engage with these concepts and practitioners in the building and construction research space.

The CIC is highly supportive of the objective to place the building and construction research agenda on a secure strategic footing and look forward to contributing to the process.

8. PROCUREMENT

Members of the CIC are encouraged by a growing awareness within Government, including DBH, the Ministry of Education and the Treasury, of the need for change in public sector procurement as it relates to the building and construction sector. In looking at options for smoothing out the boom-bust cycle PwC identified the key element as “certainty” for forward planning –

“The way the Government procures, and signals procurement intentions, will help the sector plan better. Certainty is likely to result in less workforce turnover, and more investment in capital and skills, leading to a higher productivity workforce.”

A need for a national register of major public sector vertical and horizontal building and construction projects and timelines associated with them is canvassed in Item 13, as is Whole of Life value tendering in Item 9.

The importance to the industry of a move away from short term capital forecasting was highlighted by PwC –

“The consequence of this short term cycle is that the construction sector has little certainty about the future. It cannot justify investment in training, or build a skills pipeline. It is encouraged to buy in contractors as needed rather than develop its own capacity. Furthermore sector employees recognise that today’s job may not be there tomorrow, and are encouraged to move around”.

A need for local government to be involved in this improved forward planning cycle was also highlighted.

CIC endorses – alongside the CSG – systemic change to Government procurement policy with a focus on:

- Driving innovation throughout the process, including the procurement, the structure of the contract and the design of the project itself;
- Whole of life costs, rather than contract price;
- Opening up opportunities for increased private sector investment;
- Improved allocation and management of risks; and
- Recognition that complex projects that are difficult to price can lead to significant risk premiums – with a consequence that these projects may be better suited to more collaborative procurement approaches.

Public Private Partnerships (PPPs) were identified by PwC as one form of partnering approach that could provide access to private sector capital –

“PPPs provide opportunities to leverage private sector finance and encourage a broader suite of construction investment opportunities. But most crucially they bring private sector expertise and discipline, particularly into project design. This drives creativity, innovation and productivity”.

The CIC is aware of a number of initiatives within both the central and local government sectors that are positive in addressing the identified need for change in procurement. It is encouraged by the emphasis placed on this and follow up actions being taken by the Productivity Partnership. The CIC recommends that, where feasible, the Government monitor closely progress that is being made with these initiatives and when necessary provide direction for Ministries and Departments to act in accord with the new reforming approach.

An issue identified by PwC which the CIC stands ready to work on with Government is a need for a better understanding of the industry's capacity region by region. It was the view of PwC that regional capacity needs to be stratified by the three primary sub-sectors of the industry – residential, non-residential and infrastructure. The aim would be to reach a common Government-industry understanding of the potential parameters of a steady activity level achievable following the peak levels recorded in dealing with Canterbury reconstruction, leaky buildings and the current repressed housing demand, especially in Auckland.

9. WHOLE OF LIFE APPROACH

The Government procurement guidelines which are currently under review stipulate that whole-life costing principles are adopted for all procurements. However, it is noted that in the current form the guidelines lack clarity on how to do this and make little reference to their adoption, especially in the context of combining the costing method with maximising consideration towards using locally manufactured/produced products and services, in preference to imported ones.

Based on the fact that whole-life costing places emphasis not only on the start-up project procurement cost but also the operational cost over its life time, there are generally improved tender opportunities for local suppliers. This is because local suppliers have significant competitive advantages if operating, servicing and also end of life disposal or recycling are considered at the time of the project planning and in the tender process. This will result in lower whole of life costs and improved business opportunities for our local industry.

In respect to construction procurement it is noted that the UK is a leader in this field applying whole-of-life cost minimisation philosophy through its adoption of "Achieving Procurement Excellence" guidelines. An excellent example of this philosophy can be seen in the UK with their Office of the Government Commerce document, "Whole-life Costing and Cost Management, Achieving Excellence In Construction Procurement Guide". Through following these guidelines, not only are lower whole-of life project cost achieved, project procurement and operational risks are also reduced. An added benefit is the support such a process provides to triple bottom line reporting in relation to economic, social and ecological outcomes.

The CIC recommends that:

- a whole-of-life costing approach to public sector procurement is made a mandatory requirement for all government and public sector procurement;
- adequate measures are undertaken to ensure uptake of whole-of-life costing as the overriding procurement decision making tool; and
- That the Government considers making whole-of-life costing a significant component of the establishment of Local Industry Participation Plans.

10. PRODUCT, SYSTEMS AND INNOVATION

Some progress has been made in the product assurance field over the past three years through the introduction of Code Mark and an active Departmental programme of engagement with product manufacturers and suppliers. Nevertheless significant quality linkages are absent from the assurance chain that require addressing in the interests of consumer protection. The existence of them is not indicative of any crisis point but does point to reform in this area lagging behind the accelerated focus on improving the quality of systems and services in the "build" segment of the industry.

Positives during the past three years include:

- identification of costly weaknesses in the consent and compliance regime and steps to streamline this;

- the introduction of more comprehensive training programmes for BCA staff dealing with consent and compliance applications;
- wider implementation of the Code Mark scheme;
- recognition by the Cabinet of the need for nation-wide use of electronic processing of consent and compliance transactions.

A programme to build on these positives needs, in the view of CIC, an early determined programme of progress to achieve the following:

- introduction of nation-wide consent and compliance processing allowing for interaction under a strict timetable between applicant and regulator;
- electronic linkages between this processing system and a product register which allows rapid confirmation by consent officials, architects and specifiers of the fit for purpose nature of products;
- agreement between Government and industry on the form such a product system register should take with an emphasis on achieving simplicity and lowest possible costs to product suppliers consistent with effectiveness;
- an investigative focus on the potential application of RFI technology to both product assurance and compliance checking as a tool for assuring application of specified product in the build environment is a) fit for purpose; b) in line with consented specifications; and c) that product substituted in place of a specified product is a “like for like” replacement.

The degree of urgency which attaches to such a programme should take into account the following factors:

- There will be a notable upsurge in overseas interest in supplying building products to New Zealand in view of the intense workload expected by the end of 2012;
- Such a period of intense activity will place significant strains on regulators in the consent and compliance system to check the fit for purpose nature of all “build” products coming to market; and
- Origin and test/appraisal verification for fresh products can be extremely hard to confirm.

The industry sees introduction of a fully robust product assurance framework as an essential step toward completing the quality reforms envisaged following identification of the leaky building syndrome. It considers such a potential programme as outlined would encourage innovation within quality guidelines, offer a means of checking that overseas product meets “fit for purpose” requirements without imposing product/ country/ regional specific origin barriers; and lift efficiencies in the consent and compliance regime.

Current Issues

As discussed elsewhere in this document, the CIC considers it essential that there be a much improved system for reviewing and implementing Standards and making them more freely available to regular users. In the context of quality assurance, however, we would like to stress that greater care needs to be taken in the drafting of new Standards to ensure they reflect appropriate product use in distinctive conditions. An example is a Standard for use of base plates in coastal conditions. The intent was to have bolts used manufactured from stainless steel. The writing of the Standard allowed the use of bolts manufactured from zinc. A process that provides for a final consultation with major manufacturers prior to introduction of a new standard to establish that wording meets intent may be in order in such cases, rather than simply sign-off by an industry-departmental consultative group.

The approaching heightened level of building activity is expected to boost demand for steel and other imported materials – as well as large components, panels and even complete modules. There are indications overseas industrialists are gearing up for supply and it may be prudent that product assurance verification methodologies are rigorously applied to ensure there is no variation from New Zealand manufacturing standards.

Innovation

The reaction of insurance companies to weathertight buildings issues has produced a complex situation for BCAs. Alternative solutions to systems and methodologies acceptable under the NZ Building Code can only in rare cases gain approval because use of the alternative will rule out insurance protection for BCAs in the event of a system, product or methodology failure. This acts as a barrier to innovation because, in the knowledge that BCAs will almost certainly reject an alternative solution, specifiers are reluctant to propose them. They instead turn to well known and acceptable products or systems. This makes the approvals path for innovators much harder. A product/systems register that rapidly verified to BCAs and specifiers that a fresh and innovative product or system had been tested and satisfactorily appraised would give comfort to regulators and insurers and provide encouragement for innovators.

Construction Systems

New Zealand residential and commercial buildings are made up of 17% prefabricated parts. Prefabrication is any component, panel, module or complete building made away from the actual construction site. As the industry invests in more computer-aided design and manufacture (CAD-CAM) technology, there will be more construction happening indoors, so that the process at site becomes more one of assembly. This is already evident in the widespread uptake of pre-nailed roof trusses and wall frames used in over 95% of new residential units. These digital technologies enable customised output and one-off client-driven solutions, but they require substantial start-up investment. Parts of the construction industry, including the Productivity Partnership, are investigating modern methods of construction (MMC), lean construction, and prefabrication and modularisation. (NB: 98% of United States architects, engineers and contractors anticipate using prefab by 2013 according to a McGraw-Hill Smart Market Report in 2011). This is an important area for the New Zealand industry to keep aware of, with the goal to supply more export markets with more value-added construction parts in the future.

11. BUILDING INFORMATION MODELLING

An online national building consent processing system has been on the construction industry radar for some years. The DBH realised the importance of such an initiative in 2007/8 (refer Codewords December 2008). It identified the need to improve efficiency and add consistency to a currently fragmented process. The means of achieving this has been thought to be to develop a national portal for the online application, tracking, processing and approving of building consents. While the project has not proceeded beyond preparing an internal report (Business case for online building consents process – DBH January 2009), the need to improve the mainly paper-based systems operated by individual BCAs remains. The current consenting system is uneven in application, and extremely slow and expensive to operate.

Online consenting, based on locked PDF documents - files that are unable to be interrogated electronically - is not only possible, but is already being used successfully by some local authorities in New Zealand and Australia. This is essentially an online submission and tracking system, with only very limited opportunities to interrogate the documents with electronic software. Implementing such a national system would not pose any major difficulties, beyond ensuring all BCAs accept and are able to implement a single, consistent approach. There are no major barriers to introducing such a system within a relatively short period of time. This approach would require only minor changes to current industry practice by applicants and consenting authorities.

Adding related information systems, such as a national database of vetted building products, would pose few technical and technological challenges. The result would be an improvement over the current approach, but with only a modest advance in productivity and cost savings

for applicant and BCA. Such a system would be well worth implementing but would not be capable of taking the quantum leap provided by BIM technology.

BIM-based online consenting assumes that applicants provide, via a national file server (one able to cope with the very large files involved) a fully populated digital model of the building project. The project model is then interrogated electronically by a building consent software system to confirm (or not confirm) code compliance. Where compliance is not achieved, a spreadsheet would be sent to the applicant setting out areas where further information is required, or changes need to be made.

Such a system has already been trialled in Singapore, but has proved to be only marginally successful; and only on very large projects. Core reasons for such modest success are:

- the inability and/or unwillingness of design-build teams to cooperate sufficiently to create a single digital model; and
- the lack of interoperability of data, leading to checking software being unable to interrogate and interpret the project model.

Interoperability of software systems and related data sources is an essential element in both allowing a design/construct team (architects, engineers, quantity surveyors, project managers, contractors, planners, etc) to create a single project model and the ability of other software systems (such as consenting software) to interpret the project model.

Even after more than 15 years of concerted activity by ISO, BuildingSMART International and other such international organisations, the holy grail of interoperability of BIM software and related information sources is yet to be achieved.

The interoperability challenge is a significant one. However the associated challenge of persuading industry organisations to establish the systems, protocols, contracts and protections (including liability) to allow a more cooperative approach to design and building, is yet to be seriously addressed by key industry bodies in New Zealand.

Significant progress has been made internationally in scoping a pathway for the construction industry in taking advantage of BIM technology. The Australian Institute of Architects has put significant effort into developing guidelines for what they are calling “Integrated Practice” for architects and their fellow consultants and industry partners. They, together with BuildingSMART Australasia, local industry and government agencies, also published The National Guidelines for Digital Modelling in late 2009. The guidelines were accompanied by a number of case studies of completed projects; all of which employed BIM principles.

In the UK the government launched its Building Information Modelling Strategy project in 2011, one of the catalysts for the NBS BIM survey, which predated the 2012 Masterspec National BIM survey in New Zealand. Therefore significant progress has been made into preparing the construction industry for the challenges ahead, as the above project data is available to guide similar developments in New Zealand.

The advantages emanating from an industry move to BIM are much broader than just improving the consenting process, with advantages occurring right through the design/construct/manage cycle:

- rationalising design and documentation;
- testing a project’s viability in terms of cost, environmental impact, or buildability before firm decisions are reached;
- simplifying the checking and approvals phase;
- managing the building process; and
- following project completion, a Building Information Model is a powerful facilities management tool and an essential resource for rebuilding or demolition.

For BIM to deliver its full potential: the design and construction industry and Government would need to:

- a. Invest in the necessary hardware, software and connectivity.
- b. Develop partnerships to ensure an integrated, team-based approach to design and construction.
- c. Establish the necessary statutory framework, including a national BIM strategy, a classification system for digital objects and a national approach to the vetting of building products.
- d. Create the necessary contractual, legal and liability protections for all parties, both private and public, operating within a new cooperative regime.

Online consenting in its fullest sense, will be possible once the industry establishes an agreed framework against which electronic building consent software can be used to verify Code compliance. In the meantime, introducing a national online submission and tracking system would be a positive step towards improving consistency and reducing costs in this important area.

12. SECURITY OF PAYMENT

The Construction Contracts Act review in April 2011 was part of an integrated package of reforms the previous Government decided to make to help improve the overall productivity of the building sector.

To date, we understand that DBH has sent drafting instructions to the Parliamentary Counsel Office to draft a Construction Contracts Amendment Bill. While we appreciate that DBH has significant work priorities, such as the Canterbury earthquakes, we would like to emphasise how important this review is and the need for the Amendment Bill to be considered in a timely manner. These amendments are necessary to further improve cashflow in the industry, the original purpose of the Act.

There is however, a concern that the issue of security of payment to contractors has yet again not been given the attention it deserves (see Section 70 of the Review). Security of Payment was recognised as a significant issue when the original Act was at Bill stage. As the deliberations did not result in an acceptable solution, the matter was passed over, but the problem remains. Not addressing the issue due to its potential complexity, further constrains cashflow and productivity in the industry.

In a recent survey 61 per cent of contractors reported instances of non-payment in the past five years with the average non-payment each year per contractor of about \$5k. There are about 45,000 contracting firms in New Zealand which equates to approximately \$225 million of non-payment per year in the industry.

As stated in Section 79 of the Review, there is a variety of security of payment mechanisms in the market but there is no requirement to use them. In this highly competitive environment, the additional cost to secure payment in the contracting process means it is often excluded. A recommendation from the CIC is for there to be a provision in the Act requiring the parties to consider and provide for a means of security of payment. This makes it a level playing field for all contracting parties.

13. INDUSTRY SKILLS

As with every industry, the skills levels of those within the building and construction industry, especially given the lack of standardisation within residential home building and the continued demand for 'bespoke' houses. The building and construction sector relies heavily on skilled staff the majority of which are employed by small and medium sized enterprises (SMEs). The industry has been battered by the significant decline in work volumes in recent

years, while looking ahead to boom times once the rebuild of Canterbury fully kicks in. As a result ensuring the right skills are available at the right time will be critical.

Under the auspices of the Construction Sector Productivity Partnership, the industry has been working on a Skills Strategy, to be launched in early 2012. Some of the inputs to that Strategy include:

- The number of construction workers required in the Canterbury region is expected to increase from 21,000 to 37,700 between December 2011 and September 2014.
- Demand for construction workers in other regions is forecast to increase by almost 9,800 people over the same period.
- Even with this growth, nationwide construction employment is not forecast to surpass its 2008 peak until June 2014.
- Current training numbers suggest that growth in demand for construction-related workers will outstrip growth in supply over the next three years. However, the size of the shortfall is likely to be lessened as strong demand conditions limit the number of people choosing to leave the industry.
- A substantial net outflow of construction workers heading overseas has developed since early 2010, reflecting the low level of building activity within New Zealand and the relative strength of the construction sector in Australia.

The construction industry is more labour intensive than most other sectors of the New Zealand economy and as a result ensuring that the workforce is appropriately skilled is a priority. In addition, changes in legislation (eg the introduction of building practitioner licensing) and technology have steadily increased the level of skills and qualifications required. The perception of high levels of skills, along with qualifications and building practitioner licensing, are required to underpin consumer confidence in the industry for the future.

Along with the wider economy the construction sector has lost skilled workers during the recession, which may contribute to delaying an economic recovery, inhibit housing supply and increase the cost of new building and housing.

At the same time econometric forecasts predict a strong lift in construction activity over the next five years. New Zealand currently uses a variety of techniques to tackle construction industry skills shortages, such as increased wages, overseas recruitment and reformatting training requirements, but still there is a shortage of skilled and semi-skilled workers for the construction industry. The results of the in-depth interviews of leading practitioners in New Zealand show how different sectors – government, education and industry – provide different solutions but that ultimately a joint focus on education and training will have the biggest long-term impact on skills shortages.

While labour productivity in the New Zealand economy as a whole has been growing steadily since 1978, labour productivity in the construction sector fluctuates from year to year but is roughly at the same level it was nearly 30 years ago. This means that the past growth observed in the construction sector has solely been driven by increasing the number of people in the sector, or the number of hours they work, rather than increasing the output per worker per hour.

A workstream within the Building and Construction Productivity Partnership has been working on a Skills Strategy for the past two years, which has just recently been launched. The Skills Workstream developed this strategy to outline how skills can help transform the sector and identifies concrete steps that can be taken to reach this goal. This strategy focuses on skill development, skills utilisation, deployment of skills and ensuring workers have the right skills at the right times. Together, these skill levers will help increase productivity by ensuring work is done more efficiently and safely, reducing staff turnover, increasing morale, and reducing rework and fragmentation.

Four priorities have been identified as being the most important to focus on first:

- **getting it right the first time** – addressing quality issues and avoiding rework;
- **eliminating the down-time** – effectively managing labour so it is better deployed and less time is wasted;
- **working towards meaningful careers** – developing pathways into and through the industry so people have careers rather than jobs;
- **multi-disciplinary team work** – increasing collaborative practices between firms, different parts of the sector, and within projects as well as with and between education providers.

The Workstream envisages that industry will take the lead on implementing these actions in partnership with Government, the education sector, clients, and other groups.

14. NATIONAL INFRASTRUCTURE PLANNING

The New Zealand construction industry is characterised by regular boom bust cycles. In strong market conditions the construction industry is able to make gains in skill and resource and capability and in down cycles these gains are undermined or lost.

We recognise that New Zealand is a small player in the global economic system and we have little ability to influence the external economic conditions that give rise to the boom bust cycles in New Zealand. While we are not able to influence these drivers, we do have the ability to influence the internal conditions which amplify the effects of these economic cycles.

We note that the cost of constructing assets varies greatly depending on the demands placed on the industry's resources and the urgency for asset delivery at any given point in time (ie clients collectively spend when the cycle is moving up and collectively stop spending when it is going down). This is a factor noted by previous Transport and Associate Infrastructure Minister, Steven Joyce, who advised the Transport Agency during the recent recession that he "*would be very disappointed if the Agency did not move to capitalise on the current favourable purchasing conditions*". The Minister also took the opportunity to provide stimulus funding to bring forward essential construction and maintenance work – another example of counter cyclical spending to contribute to the economy ticking over at a difficult time while creating value for clients and NZ Inc at the same time.

As demonstrated above, there are initiatives that can be undertaken internally to mitigate the effects of boom bust cycles, and to stimulate the economy at a time of need, while at the same time providing opportunities to create enduring value in the down phase of our seemingly inevitable 8 to 10 year economic cycle. This is especially relevant to public sector purchases which often have longer planning horizons and do not have the same time-bound economic imperatives as private sector initiatives and can be planned more flexibly and further ahead.

The ability to plan and purchase construction of significant assets counter cyclically, with the benefit of transparency over who is competing for supplier resources, would help to mitigate the effects of boom bust cycles, enhance the industry's ability to engage in forward planning, and create greater efficiency and productivity in the construction industry, while at the same time enabling clients to secure more favourable construction costs and therefore increase value for money and achieve lower whole-of-life costs.

The CIC recommends that government take the initiative to establish a National Register and timelines for major public sector construction projects. Such a register would provide a degree of transparency that would allow clients to plan their design and construction timelines to enable them to reap the benefits listed above. Such an initiative would possibly be managed out of the office of the Minister of Infrastructure or Economic Development or may reside in the mandate of the Treasury Infrastructure Unit.

15. CHRISTCHURCH REBUILD

As the recovery and demolition phases comes to an end in Christchurch the construction industry is gearing up for rebuild phase which we anticipate gaining momentum in the second half of 2012 subject to the risk of delays from more seismic activity. As discussed earlier in this paper this will require enormous resources. As the PwC report prepared for the CSG highlights:

“Reconstruction due to the earthquake may offer the sector the chance to develop skills and a capital base that will serve it well for the future”.

The key challenge PwC identified was ways to harness this anticipated surge in activity and the surety of the work programme over at least the medium term. These, it said, could include:

- Developing skills and capacity in the sector, through sector training;
- Leveraging the geographic concentration of the work programme and the opportunity that it can provide for agglomeration benefits; and
- Testing and developing more innovative procurement processes.

This presents a significant challenge to the industry.

Development of an earthquake performance rating system

Following the Canterbury earthquakes, there is an increased level of awareness of the performance of buildings that have only been designed to meet the minimum requirements given by the Building Code, and the cost of bringing these assets back into service afterwards. In the aftermath of the recent earthquakes in Canterbury, the option of designing buildings to exceed the minimum code level is being given serious consideration by designers, building owners and the insurance industry. Recent New Zealand examples where building owners have invested in more resilient buildings are the Te Puni Village high-rise student accommodation for Victoria University in Wellington, and the Nelson Marlborough Institute of Technology (NMIT) Arts and Media building. Both buildings have been internationally recognized by the Institution of Structural Engineers Structural Awards for their innovation in the seismic resisting systems. For one example, the extra cost of building to a higher level of performance, only amounted to a 0.5% premium to the standard building cost. Whilst these are examples more research into seismic resistance is also required as mentioned in a later paragraph.

As new more resilient forms of construction come onto the market, it is important to have suitable tools to quantify the benefits of higher levels of investment in building construction to key decision makers, regardless of their earthquake or engineering expertise. This need has been well recognized overseas, which has led the Structural Engineers Association of Northern California (SEAONC) to develop an Earthquake Performance Rating System (EPRS).

The CIC strongly supports the development of a New Zealand earthquake rating tool which provides information about safety, damage, and recovery in a way that addresses both new and existing buildings in consistent terms and more directly addresses stakeholder questions.

Funding of R&D for Damage Avoidance Technology

The CIC notes that Government funded research and development funding is currently focused on seismicity and geotechnical considerations. We believe future-focused research is also needed to develop damage avoidance technologies (such as base isolation, PRESSS, as well as other steel and timber systems) which would protect both human life and the assets as well, thus reducing the economic burden of rebuilding following an earthquake.

In addition to R&D requirement above, the CIC strongly supports Recommendation 15 of the Interim Royal Commission (RC) report regarding the enabling documentation requirements to facilitate the use of these new technologies, across a full range of materials.

The CIC strongly supports the activities of the RC and awaits its recommendations. A submission was provided to the RC in December with a focus on the regulatory system (see Section 3 above).

APPENDIX 1

BUILDING ACT/REGULATORY FRAMEWORK – PREFERRED MODEL

The CIC has recently spent some time discussing the New Zealand Building Act/regulatory framework, and recommends the following model:

1. The continuation of the current performance-based system, with the Building Act and Regulations and the Building Code derived from them, expressed in terms of desired outcomes, but with more quantitative specificity where appropriate/useful.
2. The Building Code should be supported by:
 - (i) an up-to-date suite of National Standards which:
 - represent an appropriate mix of international and national Standards, together with joint Australian/New Zealand Standards;
 - provide greater detail in compliance documents at the next level (in conformance with the Government's preferred "stepped-approach" from regulation down to supporting documents at the next level);
 - are, as at present, a mix of acceptable solutions, verification methods and alternative solutions, but with greater scope for the last of these;
 - are suitable for regulatory incorporation, drawing on best international practice for Standards development;
 - are cited in a timely and accessible manner.
 - (ii) guidelines, good practice documents and a range of similar documents developed by, or on behalf of, the industry;
 - (iii) an effective system for industry-developed good practice and guidance documents to be transferred wholly or in part into recognised compliance documents;
 - (iv) an effective system of product certification/assurance;
 - (v) an effective system for declaring proficient workmanship (ie constructor producer statements);
 - (vi) an effective system for validating alternative solutions, proposed by professional designers and quality assured using verification methods or by peer review (ie designer producer statements);
 - (vii) an effective system for prescribing requirements for certification on an ongoing basis of specified systems with clarity as to the competence requirements to perform certification;
 - (viii) assured free (electronic) access to all compliance documents cited by the Code.
3. There should be a single means of obtaining regulatory approval for building work, without duplication of steps or stages:
 - (i) Designers provide sufficient documentation of designs to owners so those owners can submit those documents in the knowledge they are likely to demonstrate there are reasonable grounds for the relevant regulator to decide designs comply with the Building Code.

- (ii) Builders decide how to construct the designed building, manage the construction process, and at its conclusion provide sufficient evidence so the owners can submit that evidence in the knowledge it is likely (taken in conjunction with evidence collected directly by the regulator) to demonstrate there are reasonable grounds for the relevant regulator to issue a code compliance/consent checking certificate.
 - (iii) Where appropriate (eg designs that might be considered difficult to construct) the role of designers observing construction so that they can provide evidence as to whether their designs have been correctly implemented by the builder, is recognised, and specifically included, in the regulatory approval process.
 - (iv) As well as the process set out in 3(i) and (ii) there is a system to cope with those situations where, for legitimate purposes, building work might be carried out in advance of issue of a modified building consent (designed as built), and in this system the responsibilities of the designer and builder are clearly delineated.
 - (v) Any registrant on a relevant national occupational register is entitled to present a producer statement, either in support of an alternative design, or to declare the quality of building work undertaken. Other lists of authors are only used where no national register exists.
 - (vi) The statutory-backed national registration system comprises three occupational groups, each separately administered as a multi-competence level system – engineers (noting the wider application of this system beyond engineering and its international benchmarking), architecture/design (also with international benchmarking), and construction. In addition there should be a further multi-part register for those undertaking work in regard to certification of specified systems but who could not reasonably be expected to register in the other three systems.
 - (vii) Producer statements and memoranda for restricted building work are consolidated into two nationally-consistent documentation systems, one based on proof of workmanship, the other on providing a standardised means for providing evidence towards alternative solution acceptance.
4. There is a single national regulatory body, but using regional delivery of some services to ensure smooth interfacing with resource consenting. The liability of this body is clearly established (and indemnified by the Crown as required).
- (viii) Risk-based consenting is applied to work involving alternative solutions, with clear protocols to define the requirements for evidence at different levels of risk.
 - (ix) There is clear and unambiguous information to allow applications involving only acceptable solutions and applications involving multi-use consents to proceed rapidly.
 - (x) The regulatory body delivers services locally as well as centrally, and applies modern technology to its processes to ensure high quality service is perceived by applicants.
 - (xi) There is consistent national education and training of building officials.
 - (xii) The national regulatory body is charged with taking responsibility for rapidly identifying emerging issues and ensuring these are addressed.
5. Information from the consenting and CCC processes on the quality of work submitted by individuals is consistently provided to occupational registration authorities to assist those authorities to run educational and complaints processes to support consistent competence standards.
6. Use of written contracts is the norm so disputes and liabilities are almost invariably decided in contract and not through claims in tort.

7. There is a requirement for clear disclosures of limitations by parties involved in the design or construction process, and the building owner is adequately informed on the ongoing maintenance that might reasonably be required.
8. Clear authoritative information for building owners and industry participants is provided from a single central source.
9. There is a clear means for the industry and the main regulatory bodies to engage, foresight emerging issues, and develop approaches to address these.

NZ Construction Industry Council

29 March 2012

APPENDIX 2

CONSTRUCTION INDUSTRY COUNCIL



CIC profile

The Construction Industry Council (CIC) is the overall representational body for the 30 peak industry bodies in the building and construction sector. Given its membership base and operating style, the CIC is able to take both a strategic and tactical approach to topical sectoral matters.

In recent years the CIC – in its own right and/or through the input and support of its members – has successfully worked on:

- **Design Guidelines** – promulgating best practice guidelines for design work within the industry, leading to a better and more informed interface between designers and clients
- **Research Strategy** – developing an over-arching research strategy for the industry, to provide a clearer picture in the industry's need, identify gaps, and provide linkages between disparate parts of the industry
- **Construction Industry Health & Safety Council** – contributing to improved health and safety in the sector including supporting the formation of a new industry Council to oversee H&S within the sector
- **Building Act Review** – using the wide base of members, and experience to give detailed input (with Ministers, officials, and Select Committee) into the reform of the Building Act and associated Building Code system. We noted in our submission, amongst other matters, a need to consider whether there should be a greater focus on public safety, serviceability of structures and reparability of structures
- **Weathertight Homes policy reforms** – giving detailed input into the newly proposed approach around resolving one of the more critical issues facing the industry in recent times
- **Construction Contracts Act** – leading the industry's input into the review of the CCA so as to provide better financial certainty within the industry and improved disclosure of information to clients
- **Building Code and Standards interface** – proactively developing a CIC view on the industry's preferred approach to improve the interface between the Building Code and Standards, thereby improving the quality of Government regulation, enabling easier access to information, and reduce compliance costs
- **Productivity initiatives** – giving considered input into the various productivity-related programmes being undertaken, so as to contribute to the 20% lift in productivity sought by 2020.

The CIC works on a consensus basis – ie it can only work on and put forward a view on those initiatives where there is unanimous support for the approach taken. However, because of the wide and significant membership, discussion on construction issues following briefings provides CIC members with an understanding of issues and consequences and access to expertise not available in any other forum. The CIC meets bi-monthly, mostly in Wellington but also in Auckland and Christchurch.

Attached are profiles of the CIC membership (in alphabetical order – covering both 'full' and 'associate' members).



**Architectural Designers New Zealand Incorporated
ADNZ**

www.adnz.org.nz

ADNZ is a professional body of Architectural Designers and Architects.

The primary objects of the organisation are to:

- Promote and advance architecture in New Zealand through the activities of the organisation, its members and its educational activities.
- Represent and promote the interests of members of the society.
- Promote high ethical standards of architectural design practice in New Zealand, including excellence in design and service to clients.

The organisation is comprised of nine regional branches which are managed by a Christchurch based National Office, and governed by a National Board. Nine regional branches work closely with National Office to grow the ADNZ brand as a quality mark at a grass roots level. Membership is available to all registered architects and architectural designers holding a building practitioner license. There are four membership categories – Professional, Intern, Colleague and Honorary.

To become a professional member of ADNZ, the applicant must have PI insurance, a Design Licence or be a registered architect and undergo a face to face assessment to ensure they meet all four ADNZ competency standards which cover: documentation, construction, design and practice management. The applicant must then be endorsed by their local region and finally approved by the ADNZ Board.

The provision of quality CPD is a priority for the organisation and all members have a comprehensive “menu” of CPD on offer. All CPD record keeping and registration is online. The further development of CPD is a priority for the organisation over the next two years.



**Association of Consulting Engineers New Zealand
ACENZ**

www.acenz.org.nz

Established in 1959, ACENZ is the business association representing professionals in the built and natural environment. ACENZ has more than 180 corporate members that include about 95% of NZ consulting engineering, and which in total employ over 9000 people. Approximately half of those are professional engineers, architects or planners.

Collectively ACENZ members generated over \$1.5 billion in services last year representing about \$16 billion in completed works.

ACENZ is an active member of the International Federation of Consulting Engineers (FIDIC).



**Building and Construction ITO
BCITO**

www.bcito.org.nz

BCITO is the organisation appointed by Government to;

- set standards for the building and construction industry,
- provide industry leadership around skills strategy, and
- arrange training for trades within the sector.

Central to our role is the engagement with and advocacy of the building industry in New Zealand, in order to create, promote and administer relevant qualifications which aim to lift skills standards and increase productivity.

Operationally, we are responsible for promoting building trades and associated training programmes, which includes producing resource materials and trainee assessment. Our specialist Training Advisors liaise with both apprentices and employers to reach required training outcomes.

Although carpentry accounts for about ninety per-cent of the training arranged by the BCITO, we are also the standard-setting body for other trade sectors including cement and concrete, tiling, frame and truss manufacturing, plastering, brick and block laying and historical masonry trades. The BCITO is therefore the largest construction-related industry training organisation in New Zealand, and forms part of the Built Environment Training Alliance (BETA).



**Building Officials of New Zealand
BOINZ**

www.boinz.org.nz

The Institute is a membership based and focused, not-for-profit charitable organisation, representing over 1200 Building Control Officials in New Zealand since 1967.

We have an enthusiastic membership base from a wide range of disciplines within the building control sector including Building Inspectors, Surveyors, Manufacturers, Designers, Clerk of Works, Building trades and Corporate Partners. There is very strong support for the principles and activities of the Institute from Local Territorial Authorities and Central Government departments.

The Institute supports its members through services and benefits, including training, technical information, products, advocacy and branding which in turn benefits the community in the form of safer buildings. Human Resources services have been developed to provide professional assessment and career paths for members, and an efficient recruitment service for employers.

The Institute is committed to continually improving building performance, ensuring the quality of New Zealand's buildings meets the requirements of the building regulations, best building practice, the community and their occupiers.

Our Training Academy was established to deliver training to its building control members and has developed to provide training services to other building industry stakeholders such as Licensed Building Practitioners. Training courses delivered meet Unit Standard requirements and also contribute to the Institute's Continuous Professional Development (CPD) programme. maintenance, to ensure the community retains an overall faith in New Zealand's building stock.



**Building Industry Federation
BIF**

www.bifnz.org.nz

BIF was formed 10 years ago as an independent body that represents industry participants including manufacturers, importers, distributors, merchants and other service providers as they relate to, and impact on the building industry. Its mission is to deliver increasing value to the building materials supply chain by identifying, advocating and delivering positive outcomes on issues of importance to members. BIF aims to encourage increasing quality in the building industry through information and advocacy.

The BIF is a conduit for information that central and local government wishes to pass through to the industry supply chain and provides a voice for its sector within the decision making processes of government. It is active in the promotion of best practice in product assurance.

The BIF Board of Directors comprises senior executives of major New Zealand companies including Fletcher Distribution, ITM, Carters, Paslode, CSR-Monier, and Tasman Insulation. Members include Mitre10, Mitek, Nuplex Industries and James Hardie Industries NZ.

Contact with BIF can be made through Chief Executive Bruce Kohn at bruce.kohn@xtra.co.nz or telephone 04-386-2793; 027-247-7748.



**Building Research Association of New Zealand Inc
BRANZ**

www.branz.co.nz


BRANZ is the building and construction industry's primary provider of independent research and information. We provide specialist research into building material and systems durability, fire and structural engineering, sustainability (including health, energy, water, and life-cycle analysis) and industry economics. We also provide high-quality publications and education materials via numerous channels.

Our expertise base also means we are able to offer consulting, testing, and product evaluation services for manufacturers and suppliers.

BRANZ manages the Building Research Levy, and applies it for industry and national good in pursuit of "better buildings".

The vast majority of information relating to BRANZ and its work – Strategy & Business Plan, Annual Review, Study/Research Reports, Publications, etc – are all publicly available on BRANZ's website: www.branz.co.nz.

 <p>NEW ZEALAND'S MOST QUALIFIED BUILDERS</p>	<p>Certified Builders Association of New Zealand Inc CBANZ</p> <p>www.certified.co.nz</p>
<p>CBANZ is an organization representing trade qualified builders.</p> <p>CBANZ was established in 1998 and all members must have trade qualifications in construction. In 2012 CBANZ represents about 2400 individuals and 1650 companies, estimated to be around 25% of the construction market in New Zealand. CBANZ members are working primarily in the residential and light commercial areas of construction, and in the current economic climate there is a weighting towards the Additions and Alterations/Renovation market.</p> <p>CBANZ provides a range of support services to Owner operators of small businesses in the construction industry, with contracts, help lines, insurance services and market support. CBANZ members can offer the Homefirst Builders Guarantee which is a fully underwritten 10 year structural warranty, as well as loss of deposit and contract completion cover.</p> <p>CBANZ also operates an apprentice training program in partnership with 10 Polytechnics across the country. This program currently has about 750 apprentices under training. As part of our commitment to Practitioner licensing CBANZ operates a Builder Training program where all members can attend regional training events to learn off the details and opportunities of Practitioner licensing and also achieve the necessary skills maintenance to retain their license.</p> <p>For more information on CBANZ visit www.cbanz.co.nz.</p>	

	<p>Cement and Concrete Association of New Zealand CCANZ</p> <p>www.certified.co.nz</p>
<p>By blending technical and marketing disciplines, as well as balancing growth opportunities with support for existing markets, the Cement & Concrete Association of New Zealand (CCANZ) aims to ensure that industry decision makers realise the full potential of concrete as key to a sustainable built environment.</p> <p>The methods CCANZ employs to achieve its objectives include delivering industry solutions based on technical expertise, proving effective representation to Government, regulators and other stakeholders, co-ordinating concrete-based education, training and research initiatives, as well as implementing marketing campaigns.</p> <p>Visit www.ccanz.org.nz .</p>	



Department of
Building and Housing
Te Tari Kaupapa Whare

**Department of Building and Housing
DBH**

www.dbh.govt.nz

The Department of Building and Housing was established in 2004 to strengthen government housing and building policy advice and service delivery functions. This came in response to the findings of reviews of the Government's institutional arrangements for housing and housing issues, and a review of building issues and building quality in the wake of the leaky homes crisis.

The integration of these functions into the one organisation was driven by the Government's desire to move from a fragmented, multi-agency arrangement to a more coherent, collaborative and strategic approach to building and housing policy and service delivery. This consolidation of approach has enabled the Government to take a strong leadership role with the building and housing sector - through work on housing supply and affordability, and by working with sector stakeholders to improve the productivity and performance of their highly fragmented sector.

The Department works closely with stakeholders in the development of policy and services to:

- drive a more strategic and joined-up response to housing, building and construction issues;
- improve sector performance;
- increase productivity and efficiency through effective and focused service delivery, policy and regulation.

We deliver advice, services and standards that enable the building and housing sector to play its part in the success and prosperity of our communities and businesses. Our work supports an effective building and housing market so people can participate with confidence and trust the quality of their homes and buildings.

**The
Designers
Institute.**

**Designers Institute of New Zealand
DINZ**

www.dinz.org.nz

The Designers Institute of New Zealand Inc. was formed in 1991 by the merger of the New Zealand Society of Industrial Designers (formed 1960), and the New Zealand Association of Interior Designers (formed 1968). Today the Designers Institute nationally represents 1000 members from spatial design, graphic design, product design, interactive design, design and strategy management, and design education.

The Designers Institute has a national office and is governed by a Board which is made up of members from each design sector of the industry. Each sector is given representation on the board relative to the size of that sector as a proportion of the total membership.

Our mission is to ensure our professional designers are valued and rewarded for the contribution they make to the economic, cultural and social growth of New Zealand. To do this we have a number of goals:

- Bring the different design disciplines together under a united front.
- Improve the standards of professional service.
- Increase demand for design excellence.
- Increase the profile of design.
- Encourage the development of professional skills within the membership.
- Collaborate with likeminded organizations.

The expert knowledge, experience and professionalism of Designers Institute, together with our legal representatives, give the Designers Institute members strength, credibility and marketability in the design arena.



**Fire Protection Association (New Zealand) Inc
FPANZ**

www.fireprotection.org.nz

The Fire Protection Association (New Zealand) Inc. is the principal national body representing individuals, companies and organisations involved in all aspects fire protection and fire safety. It currently comprises some 205 Members nationally including: fire design engineers; manufacturers and suppliers; contractors involved in installation, testing, inspection, maintenance and monitoring of fire protection systems; evacuation consultants; education and training establishments; and fire fighting and fire safety.

The Association was incorporated in February 1975 and registered as a charitable entity on 30 June 2008. It is governed by a Board and Council through a national office. It is affiliated to BusinessNZ and the Construction Industry Council in New Zealand, the National Fire Protection Association in the United States, and the Confederation of Fire Protection Associations – Asia. It also has informal links with Society of Fire Protection Engineers (NZ Chapter) and Institute of Fire Engineers (NZ Branch).



**New Zealand Heavy Engineering Research
Association
HERA**

www.hera.org.nz

The New Zealand Heavy Engineering Research Association (HERA) was established in 1978 as an industry owned, membership based, not-for-profit research and industry development organisation dedicated to servicing the needs of metal-based industries in New Zealand. With a membership of over 600 companies it covers the fabrication/manufacturing, consulting, supply and services industry sectors of the metals industry supply chain. Whilst the emphasis of its activities is on heavy engineering including steel construction, HERA also services the wider metals industry interests such as in light-gauge steel, stainless steels and light alloys.

Through its specialist staff, it provides a combination of research, training, advisory, industry development and promotional services making it the national centre of excellence for metals-based product design, manufacturing technology and inspection and quality assurance. HERA also performs industry advocacy functions developing HERA member policy on items relating to R&D and heavy engineering industry development and communicates this to government and other relevant bodies.

The research and development activities undertaken by HERA's Structural Systems Division covers many aspects of steel construction including multi-storey construction, fire engineering, seismic resisting systems, light steel framing systems, building physics, bridge engineering, together with development of construction products and structural analysis systems. It also plays a leading role in the development and maintenance of the steel construction related Standards for New Zealand's performance-based Building Control system. Supported by HERA's Welding and Inspection and Quality Control Centre divisions and in co-operation with its sister organisation Steel Construction New Zealand (SCNZ), HERA provides the framework for technology transfer in all matters relating to constructional steelwork.

For further information on HERA and its network see www.hera.org.nz



**Institution of Professional Engineers New Zealand
IPENZ**

www.ipenz.org.nz

The Institution of Professional Engineers (IPENZ) is the lead national professional body representing the engineering profession in New Zealand. It has approximately 12,000 Members, including engineering students, practising engineers, and senior Members in positions of responsibility in government agencies and business. We:

- facilitate the setting of agreed competence and ethical standards for the engineering profession and ensure that these are adhered to.
- work to align New Zealand engineering with international best practice.
- recognise professional competence via competence based membership classes.
- undertake the accreditation of engineering degrees and diplomas throughout New Zealand tertiary institutions.
- provide leadership on national and community issues via submissions, informative notes, media releases and representation of engineers.
- provide professional development support via a range of courses, tools and information.
- provide engineering practice support.
- attract young people to the engineering profession.

For more information on IPENZ see www.ipenz.org.nz.



**National Association of Steel Framed Housing Inc
NASH**

www.nashnz.org

The National Association of Steel Framed Housing Incorporated (NASH) is an active Industry association representing the interests of its members.

It represents the interests of suppliers, practitioners and manufacturers of light steel framing systems and actively participates in regulatory processes affecting steel-framed housing. It contributes to New Zealand Standards and the Building Code of New Zealand. NASH works closely with government agencies and aims to grow and sustain the light structural steel framing industry in New Zealand.

NASH members are mostly involved in light steel framing systems for residential and similar construction.

NASH has developed a series of technical publications over the last 3 years and has published its own Industry Standard. NASH also commissions focused research on a variety of related themes for the educational enrichment and enhancement of the sector.

NASH is the peak body for the Light Steel Framing sector and represents the vast majority of the Industry.



**New Zealand Building Trades Union
EPMU/BTU**

www.epmu.org.nz

The origins of the NZBTU stretch back to the earliest days of the first settlement of New Zealand, when building tradesmen combined for the purpose of maintaining and improving the condition of their working lives.

The NZBTU's members come from a wide range of building trades. It's key role is in promoting the best interests of its members in areas such as:

- Jobs
- Training programmes
- Health and safety in the workplace
- Social welfare and retirement
- Free education
- Affordable medicine
- Access to and free hospitalization.



**New Zealand Contractors Federation
NZCF**

www.nzcontractors.co.nz

In its capacity as the national industry representative body of the New Zealand civil construction industry since 1944, the New Zealand Contractors' Federation (NZCF) has been the eyes, ears and voice of the country's civil construction industry for 67 years.

With more than 600 members and associates nationwide, NZCF is the only industry body in the New Zealand civil construction industry with members ranging from small owner operators to billion dollar civil construction businesses and every level in between.

NZCF members can be found leading or subcontracting at every level of every major infrastructure construction project in New Zealand and they operate in every facet of civil contracting including water infrastructure, road construction, road maintenance, rail, energy, ports and property. They play a vital role in the economy by constructing and maintaining the country's public and private infrastructure services.

NZCF works toward achieving a safe, viable and progressive civil construction sector meeting the needs of all its participants.

We believe a healthy civil construction sector is one where skilled and qualified clients, consultants and contractors produce outcomes that deliver value for money for all participants.

It is the result of investment in people, forward planning, fair, transparent, and consistent procurement strategies, competition in the supply chain, and growth opportunities for those willing and able to take up the challenge.



**New Zealand Green Building Council
NZGBC**

www.nzgbc.org.nz

The New Zealand Green Building Council (NZGBC) was established in July 2005 and is a not-for-profit, industry organisation dedicated to accelerating the development and adoption of market-based green building practices. Our vision is New Zealanders working, living and playing in a healthy, efficient, productive and environmentally sustainably built environment today and into the future. The Council achieves these aims through setting standards of best practice through the development and adaptation of green building rating tools, education and training for all areas of the building industry value chain and providing access to networks, information and resources for our members to actively lead the market.



NEW ZEALAND INSTITUTE OF
ARCHITECTS
INCORPORATED

**New Zealand Institute of Architects (Inc)
NZIA**

www.nzia.co.nz

NZIA represents more than 90 percent of all Registered Architects in New Zealand. It is a professional body supporting the needs of its members through a range of services. But it also has another role; it is committed to promoting architecture which enhances the living environment of all New Zealanders.

To this end, the Institute maintains productive links with the building industry, government and the wider community, ensuring that the value of good architecture and the range of skills which architects can provide are at the forefront of public awareness.

First established in 1905, the Institute was later reformed under the Architects Act 1963 which split its previous functions in two: the New Zealand Institute of Architects became the professional organisation for Architects, and the regulatory functions transferred to the Architects Education and Registration Board (AERB). The Institute has since elected to become an incorporated society (like many other building industry professional organisations), giving it the flexibility to identify and expand its range of activities and membership base.

The objects of the Institute include:

- To promote excellence in architecture, the acquisition and dissemination of knowledge relating to architecture, ethical conduct in the practice of architecture and the interests of the profession of architecture in New Zealand and overseas.
- To advance the study and practice of architecture.
- To improve and elevate the technical and general knowledge of persons engaged in, or about to engage in the practice of architecture.
- To hold and promote competitions and to give prizes, certificates and other awards to promote excellence in architecture.
- To bring before government authorities, public and other bodies any matters affecting architecture and architects.
- To amalgamate, or combine, or confer, or act temporarily or otherwise in conjunction with any other professional body or bodies, institutes or institutions having objects similar to those of the Institute.



**New Zealand Institute of Building
NZIOB**

www.nziob.org.nz

The NZIOB is the professional institute in New Zealand for persons engaged in building practice in a managerial, technical, or administrative capacity in construction, installation, designs or survey, and for those engaged in the teaching, science and practice of building and building research. The NZIOB is an incorporated body whose members are drawn from the wider construction industry. It was established in 1983 on the initiative of members of the then New Zealand Chapter of the Australian Institute of Building which was founded in 1965.

The NZIOB representation comprises members from all parts of the building industry, including:

- Architects & Designers
- Builders
- Building Managers & Officials
- Engineers
- Project Managers
- Quantity Surveyors
- Educational; Researchers & Teachers
- Site Managers
- Students / Graduates

The organisation consists of a National Council and three Chapter Boards; Northern, Central and Southern. These boards are based in Auckland, Wellington and Christchurch respectively, with branches also located in Northland and Waikato.



**New Zealand Institute of Building Surveyors
NZIBS**

www.buildingsurveyor.co.nz

The New Zealand Institute of Building Surveyors Inc. is the national body formed to represent skilled, professional building consultants who have achieved a high degree of knowledge in the field of building surveying through formal qualifications, on-going training, and practical experience.

To achieve Registered Membership status candidates are required to complete a rigorous entry process that was put in place to ensure all that achieve this status have proven to their peers that they are professionally competent to work in this field.

Membership of the Institute brings together people with a wide range of construction disciplines from trade based qualifications to the professions such as quantity surveyors, engineers and designers to focus on the assessment of buildings and building related activities.

Membership is tightly controlled and is only open to those individuals practising in the field of building surveying in New Zealand.

Activities undertaken by members of the Institute range from core activities such as building condition assessment and technical due diligence reporting, maintenance planning, defect/failure investigations, compliance and safe and sanitary reporting, weather-tightness related investigations, providing advice on building materials, products and systems through to more developed roles such as project management, contract administration, dispute resolution and the remediation of damaged buildings.



**New Zealand Institute of Landscape Architects Inc
NZILA**

www.nzila.co.nz

The New Zealand Institute of Landscape Architects (NZILA) is the internationally recognised professional body of qualified landscape architects in New Zealand. It is an active member of the International Federation of Landscape Architects (IFLA).

The objective of the institute is to promote the profession of landscape architecture throughout New Zealand, and to promote the appropriate and sustainable protection, planning, design, intervention and management of our landscapes. As a collective of professionals, we have a responsibility to assist our members in improving their general and technical knowledge through Conferences and a Continuing Professional Development (CPD) programme.

Members must undergo an examination in professional practice before becoming a Registered Member, and are encouraged to extend their knowledge and skill in their preferred areas of practice. Members of the institute must adhere to an agreed code of conduct. Further information about the New Zealand Institute of Landscape Architects can be found on our website www.nzila.co.nz



**Quantity Surveyors Institute of New Zealand
QSI NZ**

www.nziqs.co.nz

The Quantity Surveyors Institute of New Zealand (QSI NZ) was incorporated in 1943 and initially represented the quantity surveyors working on consultant firms in New Zealand during WW2. In 1978 the NZ Chapter of the Building Surveyors Institute and QSI NZ merged to form the current Institute NZIQS. Currently (February 2012) the membership of all levels is 1350 and increasing.

It represents those specialists with QS tertiary qualifications and/or Work experience and who work in a multitude of roles in the construction industry – mainly but not exclusively vertical – building – construction. The ‘qualified’ members are employed or engaged primarily by contractors and subcontractors, professional consultant firms, tertiary institutes, property developers and banks.

The primary role of NZIQS is to represent the profession and members in New Zealand and overseas and maintain an appropriate membership qualification assessment as the NZ standard for the industry. Additionally, NZIQS provides advice on the QS tertiary qualifications, a set of Rules, Code of Ethics and a complaints and disciplinary process, publications, opportunities for networking and continuous learning such as CPD and social events and an annual Conference.

NZIQS is linked by reciprocity agreements to several other international QS bodies and is a foundation member of the regional PAQS comprising 12 Asian and Pacific rim countries.



PrefabNZ

www.prefabnz.com

***PrefabNZ** is the hub for pre-built construction in New Zealand. It is passionate about how prefabrication and offsite construction can offer innovative high-quality buildings on time and within budget. There is a clear need for a radical paradigm shift to improve building quality in a sustainable way by decreasing defects, while also reducing costs and timeframes. An increased uptake of prefabrication is for the good of New Zealand's wider design and construction industry. New Zealand is not alone - 98% of architects, engineers and contractors in the United States will be using prefabrication or modularisation by 2013 ([McGraw-Hill Smart Market Report](#), 2011).*

PrefabNZ is a self-sustaining non-profit incorporated society representing the interests of a wide range of materials and stakeholders in the design and construction sector: from clients through to designers, specifiers, manufacturers, contractors and government. It was established in mid-2010 and by early 2012 had grown to over 120 members, 1,200 database contacts, 20 monthly newsletters, 10 regional events to over 700 participants and one major project, the Hive Home Innovation Village in Canterbury (www.homeinnovation.co.nz).

PrefabNZ's mission is to double the uptake of prefabrication in NZ by 2020. BRANZ has measured this as 17% in 2010 (by overall cost of the prefabricated components of residential and non-residential buildings), so PrefabNZ is aiming for at least an increase to 40% by 2020.



**Property Council of New Zealand
PCNZ**

www.propertynz.co.nz

The voice of commercial property in New Zealand, Property Council is a not-for-profit organisation representing the country's commercial, industrial, retail, property funds and multi-unit residential property owners, managers and investors – including thousands of New Zealanders with retirement savings in listed property trusts, unlisted funds and KiwiSaver.

Our 550-member companies, with a combined \$24 billion investment in commercial property, range from leading institutional investors, property trusts and financial organisations to private investors and developers.

Property Council's lobbying efforts ensure red tape, compliance costs and inefficiencies are minimised, to help create a vibrant commercial property market and wealth for all New Zealanders. Our efforts have helped to overhaul the Local Government Act 2002, the Building Act 2004, the Unit Titles Act and the Resource Management Act 1991, and we were an early, consistent supporter of a unitary governance structure for Auckland.

Property Council proudly champions quality urban design, local government efficiency and financial accountability, a friendly investment environment and an affordable property market.



PROPERTY INSTITUTE OF NEW ZEALAND INC.

**Property Institute of New Zealand
PINZ**

www.nzigs.co.nz

The Property Institute of New Zealand was launched in 2000 by members of the New Zealand Institute of Valuers (NZIV), the Institute of Plant & Machinery Valuers and the Property & Land Economy Institute of New Zealand.

PINZ members work in a broad range of areas including property and asset management, property consultancy, real property valuation (rural, residential, commercial, industrial), facilities management, plant and machinery valuation, financial analysis, property development, real estate sales and leasing, project management and other related property professional areas.

Our 2600 members play an active role in promoting professionalism, ethical conduct and innovative thinking. Principles we work to are defined as:

- Creating extra-ordinary people through professional learning and continuing professional development.
- Exemplary ethical practice and behaviour, integrity and transparency.
- Pursuing excellence in all areas of the property industry
- Being socially responsible and working responsibly

The Property Institute seeks to increasingly work with government, industry, other professional associations, education stakeholders and the media to promote our standards and views.



**Registered Master Builders Federation
RMBF**

www.masterbuilder.org.nz

The Registered Master Builders Federation (RMBF) is New Zealand's largest construction industry association and represents New Zealand building companies that pride themselves on delivering quality houses and buildings to their clients. Our member companies employ more than 15,000 employees and carpentry subcontractors, and complete over two-thirds of all construction work (by dollar value) in New Zealand. Our members include the majority of the large residential volume builders and major construction companies.

Our heritage spans over 110 years and we are dedicated to delivering value to our members through strong industry representation and advocacy to create business conditions that increase opportunities for success.

The Registered Master Builders brand is a recognised hallmark of quality, and we offer a range of products and services to our members including world-class industry events namely the Registered Master Builders House of the Year and RMB Commercial Project Awards in association with PlaceMakers and the Registered Master Builders Apprentice of the Year in association with Carters.

Master Build Services Limited (MBS) was established in 1991 and is a wholly owned subsidiary of RMBF. It is responsible for the marketing and administration of the Master Build Guarantees to clients of Registered Master Builders. MBS is the largest provider of home warranties in New Zealand.

Registered Master Builders relish being able to continue to build great homes, schools, offices and other buildings for all New Zealanders to live, work and play in. We stand for building excellence and continue to strive to achieve this on behalf of the industry as a whole.



Site Safe

www.sitesafe.org.nz

Site Safe is the New Zealand construction industry's health and safety organisation. Site Safe's mission is to promote and advance a culture of safety in the construction industry. In 1999, construction industry leaders shared concerns over the level of accidents, deaths and injuries. Although the industry environment is competitive, it was believed a collective approach was the best way to improve the industry's safety culture.

For that reason the not for profit and incorporated society of Site Safe was established. Governance is through an elected Board of Directors which represents the construction industry – including all the sectors and trades involved in the industry.

Site Safe has grown from a small group of committed construction industry leaders to an expansive membership base. It works collectively with members to achieve site safety. Site Safe has a national team of safety, health, and environmental professionals who provide the assistance of training, consulting, auditing, and advice. Regular research and information on health and safety is provided to the membership of Site Safe from the head office in Wellington.

Site Safe's products and services identify and apply proven solutions, which help members achieve safe sites. Site Safe provides training qualifications and a continued professional development programme to upskill the industry. The Charter Accreditation Safety Programme also provides an ongoing stepping platform for companies to attain and exhibit best practise and leadership. Health and safety promotion initiatives such as safety talks, tours, conferences, seminars are also provided to membership and all industry.

Further information about Site Safe can be found on the website: www.sitesafe.org.nz.



New Zealand Specialist Trade Contractors' Federation Inc NZSTCF

www.nzigs.co.nz

The New Zealand Specialist Trade Contractors' Federation Incorporated (NZSTCF) is an umbrella group representing the interests of specialist trade contractor groups. The member base predominately consists of trade Associations such as the Master Plumbers, Gasfitter and Drainlayers, Master Electricians, Master Painters, Association of Wall and Ceiling Industries (plastering and ceiling sector) , Scaffolding and Rigging NZ, Precast NZ, Roofing Association, Fire Protection Association, HVAC, IRHACE and RACCA (heating and ventilation sector).

The NZSTCF was established in 1997 to represent the interests of the specialist trades in the building and construction industry in industry-wide issues. The Federation played a leading role in the development of the Construction Contracts Act, passed into law in 2002 to improve cashflow in the industry. The Federation actively represents the views of its members in other legislative reviews and industry related issues.

The New **Zealand Specialist Trade Contractors Federation** (NZSTCF) has recently been re-named, from the New Zealand Building Subcontractors Federation. The Federation name change was to ensure wider recognition of the role and skills of its members in the specialist trades which are significant players in the building and construction industry.



**Standards New Zealand
SNZ**

www.standards.co.nz

The Standards Council is an autonomous Crown entity under the Crown Entities Act 2004. Our mandate comes from the Standards Act 1988.

Standards New Zealand is the operating arm of the Council. We function as New Zealand's national Standards body. Our work is supported through the efforts of over 2000 people who serve voluntarily on Standards development committees and advisory groups, providing expert input. The Standards Council and Standards New Zealand have a strong reputation for independence and integrity.

We are a user-funded, not-for-profit organisation that primarily generates its revenue from the sale of Standards publications and contracts from sponsors to develop Standards.

Standards help the Building Code to function effectively by providing practical guidance to make complying with the Code achievable: 93% of all homes built today are to some aspect of Standard NZS 3604 Light-Timber-Framed Houses.

Standards are agreed specifications for products, processes, services, or performance. Standards are 'voluntary' and have no legal status until they are referenced or incorporated into law by a regulator. They can bridge the middle ground between direct 'black letter' government regulation and industry approaches to self-regulation. Standards can be considered a 'light touch' regulatory option, and help to minimise business compliance costs when they form part of well-designed policy.



**Wood Processors Association of New Zealand
WPA**

www.wpa.org.nz

WPA members handle 85% of the wood processed in New Zealand.

- The processing sector as a whole is worth \$5 billion in revenue per year.
- Every year, the processing sector exports products to the value of \$2.8 billion.
- Over eighteen thousand New Zealanders are directly employed in the wood processing sector.

Our members add value by producing:

- Structural grade timber
- Appearance grade timber
- Engineered wood products
- Panels
- Pulp & paper
- Packaging
- Bio-energy