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Concrete NZ aims to be a highly respected and valued association, supporting industry to position concrete as the resilient construction material of choice for a modern New Zealand. This will be achieved through a consolidated voice that brings confidence, knowledge and leadership to members, industry and regulators.

Founding member organisations of Concrete NZ are the Cement & Concrete Association of New Zealand (CCANZ), the New Zealand Concrete Masonry Association (NZCMA), the New Zealand Ready Mixed Concrete Association (NZRMCA), Precast New Zealand (PCNZ) and the New Zealand Concrete Society (NZCS). The membership also includes architects, engineers and scientists, who work with concrete in a variety of professional capacities.

Our work programme includes activities to: improve understanding of concrete’s uses, and its performance as a material; raise quality standards in the manufacture and use of concrete; and enable the collective voices of businesses and employees in the industry to be heard.
WE RECOGNISE THE IMPORTANCE OF THE LIVING STANDARDS FRAMEWORK...

Our members are mainly businesses, but we share the Governments’ view that the wellbeing of New Zealanders depends on more than business performance. As well as good jobs and incomes, New Zealanders want a broader set of outcomes, including such things as: economic and technical progress; safety in the face of earthquakes and other natural hazards; a clean and healthy environment; different groups in society working together; and fairness for everyone.

We recognise that the Living Standards Framework (LSF) provides a useful way of thinking about how existing activities and potential investment decisions impact on current and future wellbeing; and this is why we decided to assess how the concrete industry is performing in terms of the Framework. We commissioned BERL to help us with the assessment; and this summary report draws on their final report.

THE FOUR CAPITALS

Intergenerational wellbeing relies on the growth, distribution, and sustainability of the Four Capitals. The Capitals are interdependent and work together to support wellbeing.

NATURAL CAPITAL
This refers to all aspects of the natural environment needed to support life and human activity. It includes land, soil, water, plants and animals, as well as minerals and energy resources.

HUMAN CAPITAL
This encompasses people’s skills, knowledge and physical and mental health. These are the things which enable people to participate fully in work, study, recreation and in society more broadly.

SOCIAL CAPITAL
This describes the norms and values that underpin society. It includes things like trust, the rule of law, the Crown-Māori relationship, cultural identity, and the connections between people and communities.

FINANCIAL/PHYSICAL CAPITAL
This includes things like houses, roads, buildings, hospitals, factories, equipment and vehicles. These are the things which make up the country’s physical and financial assets which have a direct role in supporting incomes and material living conditions.

The assessment was based on the underlying principle in the LSF that “Intergenerational wellbeing relies on the growth, distribution and sustainability of the Four Capitals. The Capitals are interdependent and work together to support wellbeing.”
...AND WE HAVE USED THE FRAMEWORK TO ASSESS OUR INDUSTRY’S CONTRIBUTION TO THE WELLBEING OF NEW ZEALANDERS

BERL developed a logic model, linking the four capitals to a set of broad wellbeing outcomes. There outcomes were specified in an earlier iteration of the LSF. Quantitative and qualitative evidence was collected to demonstrate how the concrete industry uses the Four Capitals to undertake activities, produce outputs and ultimately to secure the outcomes. This logic model is reproduced below. The evidence was obtained from a survey of cement and concrete producers, interviews with key industry players as well as available literature and official data sources. Evidence was also collected to show how the industry contributes to sustaining and growing the capitals, so helping to promote the wellbeing of future generations.
The nature of the four capitals that the concrete industry relies upon

It was necessary to interpret how the LSF defines the four capitals to make them meaningful in relation to the concrete industry. This was easiest in the case of Physical and Financial capital, and it was found the total assets of the concrete industry were worth almost $3 billion in 2017.

In the case of the Natural capital used by the industry, it was estimated that this could be valued at nearly $3.2 billion, based on the amount of constituent materials used in the concrete produced in New Zealand over the past decade.

It was found that the total stock of Human capital in the concrete industry could be valued, using an economically standard method, at just under $10 billion in 2018 dollars.

Social capital cannot be valued in monetary terms, but the “stock” of Social capital for the industry can be regarded as including the well respected Plant Audit (Quality Assurance) Scheme, high levels of stakeholder trust, the provision of opportunities to a diverse workforce, and the wide regional distribution of concrete producers.

The evidence of the workforce’s diversity includes the fact that the industry employs a large proportion of Māori; and many women in traditionally male-dominated roles, from truck drivers to top management.

BERL’s research revealed that the industry is even more regionally dispersed than the timber industry. This is because concrete cannot be transported over long distances and must, therefore, be produced close to where it is used.

The industry by numbers:

- The industry has an asset base of almost $3 billion
- 40 million cubic metres of concrete laid in the past 10 years
- Nearly 11,000 people employed in cement and concrete manufacturing – highest level in 10 years
- The industry generated $1.8 billion in GDP in 2017
- 189 plants signed up to the Plant Audit Scheme
- 81% of Concrete NZ members surveyed innovate, and 64% are involved in industry research
- 90% of members surveyed provide training opportunities
- 90% of members participate in community events and other philanthropic activities
INNOVATIVE, RESPECTFUL OF THE ENVIRONMENT, A GOOD EMPLOYER AND A GOOD NEIGHBOUR - HOW THE INDUSTRY UNDERTAKES ITS ACTIVITIES...

The concrete industry is innovative in its use of Physical and Financial capital. It was found that 81 percent of companies surveyed thought their firm was innovative, and 64 percent answered that their firm is involved in research at an industry level. Some of these innovations were found to be new products, like flooring systems, which are able to be releveled after an earthquake. Others were business processes like LEAN manufacturing.

The industry is also innovative when it comes to Natural capital. It was found that most manufacturers surveyed are engaged in some sort of innovation to change how concrete is produced and recycled. The key player interviews also revealed how different companies recycle concrete as aggregate in new concrete, recycle water used to cure concrete to make paint, convert trucks to synthetic fuel and how one company is innovating in the use of pozzolans to reduce the amount of embodied carbon in cement.

It was also found that companies in the industry often engage in waste minimisation initiatives, and/or recycling and re-use initiatives. A third of those surveyed have defined targets for recycling initiatives, with two thirds of those having defined targets for recycling in production processes and re-using waste materials. 73 percent of survey respondents have defined targets for waste minimisation.

...WHILE CREATING ESSENTIAL AND IRREPLACEABLE OUTPUTS...

The primary output of the industry is concrete that is used to develop Physical capital in all parts of the economy. Concrete was described, by one of the key players interviewed, as a “miracle material”. It is now being produced in New Zealand at the rate of around one million cubic metres per quarter, and it has applications in building and construction that timber and steel cannot replicate.

The industry’s outputs support Human capital by providing jobs that are safe, satisfying and productive. BERL estimate that the industry employed close to 11,000 people as at 2017. This is the highest level of employment in the industry in the last ten years.

The measurable output of the activities to enhance Social capital in the industry is mainly captured in the available statistics on the Plant Audit Scheme. It was found that most plants passed the audit in 2017/18, and those that did not quickly remedied the issues.

In terms of Human capital, the industry works hard to ensure staff are happy, productive and safe. A very large majority (88 percent) of companies have a policy for training workers, and a significant minority (37 percent) operate a cadetship scheme. 60 percent use BCITO, apprenticeship schemes and Concrete NZ courses. Similarly, over half have employment policies that go above and beyond those required by statute.

The concrete industry enhances and preserves Social capital by actively participating in philanthropic and community activities, with 90 percent of the companies surveyed doing so. Many companies participate in community-led construction projects by providing concrete and labour.

An important consideration for Social capital is trust; that is, how well the concrete industry is doing in securing confidence in its people and products. The survey of concrete producers found that 81 percent of respondents thought the industry was doing enough with regards to quality assurance, while 71 percent thought it was doing enough with regards to compliance with regulations.
...AND DELIVERING WELLBEING OUTCOMES THAT ARE WIDELY ENJOYED

As shown in the logic model, the assessment was concerned with examining how the industry contributes to five broad wellbeing outcomes.

In terms of Economic progress, it is clear that the industry plays a vital role in helping to build the county’s infrastructure, enhance its productive capacity and increase its productivity. Concrete is often the only viable material for infrastructure and capacity development. Official statistics show that the economy’s capital stock grew by $61 billion in the year ending March 2018, and it is likely that the production and use of concrete contributed significantly to this. In terms of economic output, it is estimated that the industry contributed $1,800 million in GDP in 2017, which is 0.8 percent of New Zealand’s GDP.

Innovations in product design by the concrete industry contribute to the Management of risks. An example is how the industry can make flooring systems that are resilient to natural hazards because they can be readily repaired after damage and returned to previous performance.

The core benefits of concrete, in terms of Sustainability, are its longevity, thermal properties, fire and flood resilience and acoustic separation. Under normal circumstances concrete will not deteriorate and will last many generations before needing replacement or substantial repair. In this respect, concrete is more sustainable than timber or steel. Concrete’s thermal properties mean that buildings made with concrete will capture, store and release heat much more efficiently than buildings made using steel or timber. Concrete’s acoustic separation properties mean it is well suited to residential buildings in medium and high density developments where noise control is hugely important.

Concrete contributes to Social cohesion by being an enabler; contributing to the built environment for the benefit of communities. It facilitates recreation and art when used in swimming pools, skate parks and theatres; and key social infrastructure, such as schools, hospitals and other public buildings. Equally important, the concrete industry promotes social cohesion by providing employment in many locations across the country, and to groups in the workforce, including Māori and women, that have often suffered from a lack of opportunities.

Finally it was found that concrete and the concrete industry contribute to increasing equity through innovation. Innovations in the industry are focussed on making concrete better and cheaper, so more people can enjoy its benefits. BERL found that every stakeholder was adamant that innovation in the industry benefits consumers.
The report also demonstrates that the concrete industry does not diminish the capitals it uses. At least in the case of Physical and Financial capital, Human capital and Social capital, the activities, outputs and outcomes grow and sustain the stocks of the Capitals. In the case of Natural capital, this is less obviously true. Harm to Natural capital cannot be eliminated, and the industry is no different to other production industries in this respect. However, the report shows that the industry is diligent in trying to mitigate environmental harm and remediate damage. In that sense, the industry is nurturing the Natural capital stock.