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**New Zealand Metals Engineering Industry  
Position on Public Policy Issues 2012**



**METALS**  
NEW ZEALAND

A United Industry Voice



New Zealand Metals Engineering Industry

Position on Public Policy Issues 2012



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LIGHT ALLOY MANUFACTURING  
NEW ZEALAND



New Zealand Metals Engineering Industry

Position on Public Policy Issues 2012

Published By

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# 1 Executive Summary

This document provides an overview of the position of Metals New Zealand members to government issues and policies. Its intent is to:

- inform policy makers of key issues facing our industries
- seek support on political alterations to improve the ease of doing business
- help the government achieve its economic growth goals

The metals-based industry is actively involved with and supports many other industries, such as food processing, energy generation, agriculture and construction. As such, industry-specific figures are difficult to pinpoint, but 2010 estimates are:

- Contributes over **7%** to Annual NZ GDP
- Direct metals-based product manufacturing employs more than **26,000** people
- Over **\$7.3 billion** worth of metals-based product manufactured annually
- More than **\$2.6 billion** of product exported, representing **5.6%** of total NZ exports

The Metals New Zealand recommendations presented in this document are summarised below:

## Industry R&D

- An R&D tax credit scheme is an ideal broad-based mechanism for transformation. However, in the absence of such a scheme a suitable replacement might be to widen the access to R&D grant schemes and deliberately target the sectors of industry which enhance creating high value products and services for exports or as import substitution.
- Continuous availability of company-specific grants over several years to help embed R&D functions within the business, as opposed to the current emphasis on R&D service providers being in charge of the grant funds and providing only time-limited initiatives under their drive.
- Widening the range of approved research providers for the R&D grants schemes to include non-public sector or independent research providers such as HERA.
- Allowing the combined funding of research projects by companies that have common interests e.g. in renewable energy or resilient building systems.
- Government increases support for non-agriculture manufacturing sector groups to create stable industry levy funded R&D streams, provided industry groups are unified behind funding R&D via compulsory levies enshrined in legislation. The legislation should include the industry's right to subsequent abandonment of the scheme should industry consensus be lost.
- Support from all MPs to increase HERA's industry R&D funding via an adjustment in the maximum prescribed levy rate in the HERL Act via the Statues Amendment Bill tabled in Parliament in October 2011.
- Capability of Independent Research Organisation Funding is implemented without delay to ensure important research capability is not lost in the transition from old funding mechanism to the new.
- HERA research funding is considered as an exception: a levy base-funded research organisation with R&D capacity of national importance and eligible for Capability of Independent Research Organisation Funding.
- Making the early stage R&D commercialisation costs 100% tax deductible in the form of depreciation over the first year
- Introducing faster depreciation rates on productive manufacturing equipment

## Public-funded research and its impact on industry

- More government R&D money is channelled through industry rather than directly through the research provider to industry. This will result in industry deciding what research provider they wish to spend R&D funds with. Demand will then dictate which research providers and what research services best meet the needs of industry and determine which will expand and thrive
- In largely academic programmes government R&D policy puts more emphasis on industry involvement to determine research needs and its funding, the performance of the research, and in the governance process

## Economic Development Strategies

- Inclusion of local industry development objectives in national economic development strategies
- Creation of “Projects of National Significance” for industry development to focus national efforts
- Endorsement of the principles developed in Pure Advantage’s Green Growth Report, including support of the development of an associated Green Growth Strategy. However, this must include ‘greening’ of essentially “dirty” activities, and New Zealand contributing to harvesting natural resources in a responsible manner

## Government Procurement Policy

- Provide balanced government procurement in respect to social, economic and environmental impacts. In particular include the consideration of loss in tax revenue from imported products in government procurement decision making
- Develop the New Zealand-specific business case for procurement excellence via supportive research and case studies
- Develop the technical side of whole-life costing guidelines and implement in the public sector procurement guidelines
- Develop the concept of lead-user innovation as part of the public sector procurement model
- Adoption of the developed guidelines, including the development of Industry Participation Plans, is a mandatory requirement for all major public sector procurement
- No import tariff exemption unless a detailed and satisfactory IPP has been provided
- To further the active adoption of procurement excellence assist in the associated training, especially of whole-life costing, cost management and development of IPPs

## SOE Procurement

- Consideration is given for SOEs to follow the above “procurement excellence” principles e.g. a requirement is placed on SOEs that in relation to major projects they operate as good New Zealand corporate citizens, including support for national priorities in industry development as lead user innovators
- The SOE Act, and any legislation that considers the proposed mixed-ownership model, be reviewed in relation to best practice procurement
- Major project procurement must include establishment and publication of local IPPs



## Free Trade Agreements

- Free trade agreements are weighted in relation to the level of equity between New Zealand manufacturers and those overseas

## Skills Availability Issues

- The Competenz submission is considered, particularly the point of gaining efficiencies through the merger of ITOs
- Government recognises that industry training is essential and needs to be cost effective, however, the cost to employers is too high and limits uptake, especially in difficult economic times
- Increased emphasis on providing career paths from school to work, and further on into leading positions i.e. progression beyond Level 4 qualifications
- Industry must be involved in setting national standards for qualification, and the advisory functions offered via the ITOs deliver this. However, delivery of standards must become more effective and consistent, and without the continued duplication of efforts across different ITOs
- The metals-based industry must make an increased number of apprentice places available to satisfy skill demands and maintain its competitiveness as an attractive industry
- Student numbers in priority professions supporting high-value growth industries such as mechanical engineering continue to be increased

## Emission Trading Scheme (ETS)

- Government ensures equitable treatment of New Zealand metals manufacturing on a national and international level when formulating policies relating to the ETS or in the negotiation of any Free Trade Agreement
- Government encourages the built environment to reduce its carbon emissions

## Measuring Sustainability

- Government supports the development of a New Zealand LCI database and encourages the use of LCA
- In the interest of improving New Zealand exports, the Government encourages companies to develop EPDs for their products

## Seismic Building Resilience

- Government explores and supports the introduction of a Building Resilience Rating System
- More research on seismic and tsunami damage-avoidance is stipulated in national research strategies and stimulated accordingly through appropriate funding

## Construction Material Research Prioritisation and Promotion

- Government funding of construction materials-specific research is balanced commensurate to a material sector's economic contribution or in strictly contestable fashion based on performance expectation
- Policy on R&D funded from the building research levy includes statements on construction material neutrality, and setting R&D priorities reflects construction material contributions to the building research levy
- BRANZ is supported in its effort to be the centre of excellence for construction research in New Zealand, with clear policies in place to provide innovation with balance in respect to levies received via the different material sectors
- Government officials /agents stand neutral in terms of advocating one building system/material over another
- Government, in its procurement guidelines, specifies only performance requirements that are free from prescriptive material or building system-specific requirements
- Exploring the economic and associated pros and cons of adopting recognised standards, such as the European and existing ISO standards
- Investigating the feasibility of adopting recognised overseas standards, EN standards for example, in selected areas such as steel construction

NB: This document is an amended version of the Heavy Engineering Research Association (HERA) Report R5-42:2012. A draft has been circulated widely for feedback to the membership of Metals New Zealand and is also endorsed by the CEO of the NZMEA, John Walley. However, this paper does not imply that each individual member of Metals New Zealand agrees with all of the statements made.

## 2 About the New Zealand Metals Engineering Industry

### 2.1 The New Zealand Metals Engineering Industry

The New Zealand Metals Engineering industry was established in the 1800s with the country's first foundries. Today, this high-value-added industry is a diverse and significant contributor to the New Zealand economy, and spans base-metal producers, original equipment manufacturers, fitters and fabricators, and all of the essential supply chain in between.

The metals-based industry is actively involved with and supports many other industries, such as food processing, energy generation, agriculture and construction. As such, industry-specific figures are difficult to pinpoint, but 2010 estimates are:

- Contributes over **7%** to Annual NZ GDP
- Direct metals-based product manufacturing employs more than **26,000** people
- Over **\$7.3 billion** worth of metals-based product manufactured annually
- More than **\$2.6 billion** of product exported, representing **5.6%** of total NZ exports

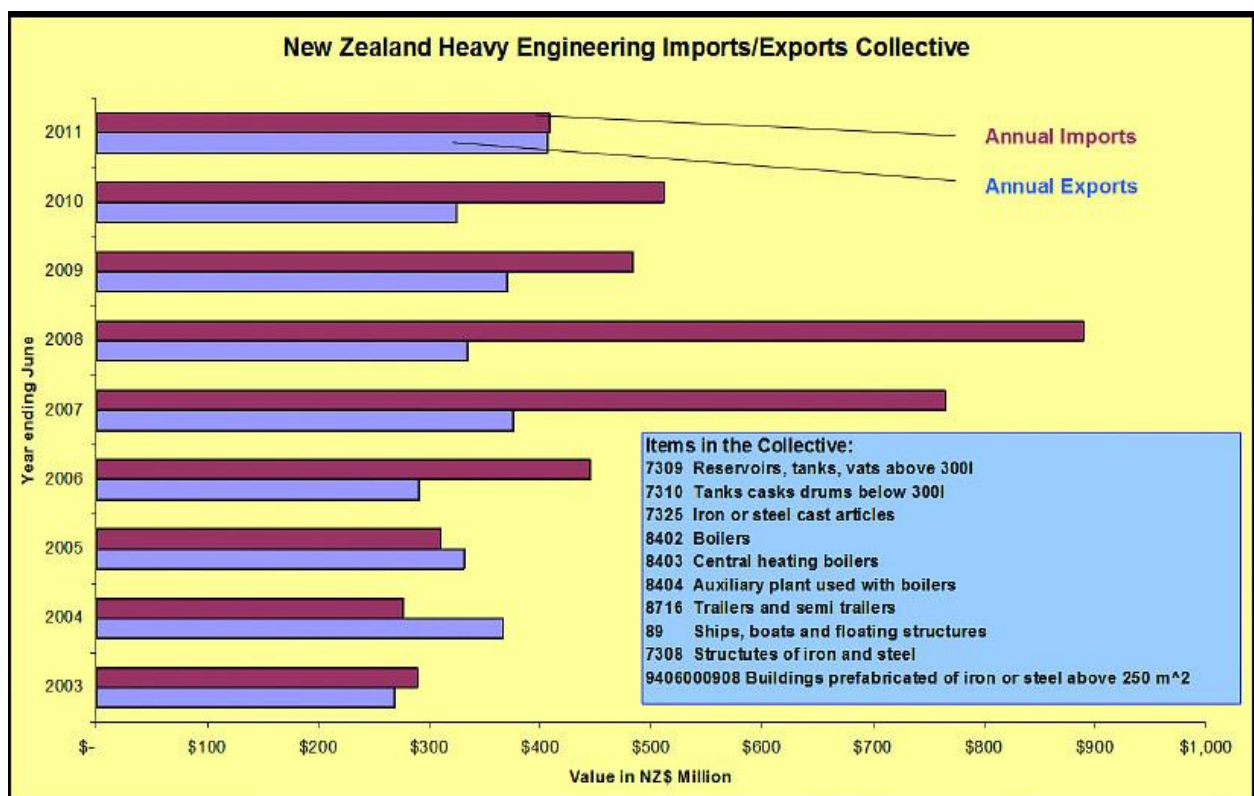


Fig. 2.1: New Zealand-fabricated heavy engineering imports/exports collectively shows significant export growth in the 2010/11 year.

### 3 Industry Transformation Policies

For New Zealand to become more prosperous and sustainable its economy must not only become globally competitive and profitable, but also more export focused and environmentally aware. The productive, high-value-added and export-focused industry sectors will lead the way to improved economic performance.

To achieve this, our industry needs policies that enable:

- business to thrive and innovate
- a focus on developing productive, high-value-added, export-oriented business sectors

We recognise the current constrained economic climate and accept that there is limited additional funding available to support industry transformation. However, industry believes that existing resources must be prioritised and strategically aligned for maximum effect to achieve industry development. The profitable operation of the productive sectors will provide the tax revenue required to support government expenditure in the non-productive areas such as social, health or educational activities. Prioritising spending in the productive sector at a time of constrained spending is considered to be justified because it:

- incentivises and rewards co-operation, enhancing the 'NZ incorporated' type business model and behaviour, and includes a Green Growth Strategy
- leverages the resources New Zealand taxpayers own and control through encouraging 'lead user' innovation

For business to thrive and innovate, the business environment must be right. Many policies, such as tax and spending, influence the business environment. Comment in this document is limited to areas where METALS NZ feels it is competent and has received industry feedback. These areas include innovation, local industry development and the drive for increased exports.

#### 3.1 Industry Innovation Policies

The ability of any economy to thrive in a competitive global marketplace is enhanced through continued innovation. The main drivers of innovation are industry and public sector R&D investments; our focus, therefore, is on policies that influence this.

##### 3.1.1 Industry R&D

The current reality is that, compared with the average OECD nation, New Zealand's industry research spending is extremely poor – we are in last place on the OECD R&D spending list, and the only country where industry R&D spending is well below the percentage for government-funded R&D.

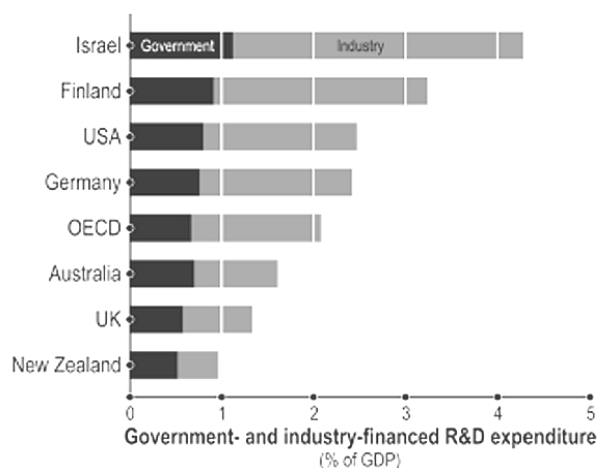


Fig. 3.1: OECD R&D spending list.

New Zealand aspires to emulate nations that have industry R&D spending significantly higher than government R&D spending – in other words, industry leads research, not the government. In these nations industry R&D leadership is likely to happen through an existing R&D business culture and/or appropriate business conditions facilitated by the government.

There is widespread agreement amongst government and industry alike that spending on industry R&D needs to increase for New Zealand to become more innovative, competitive and export focused. Company-specific and company-led R&D strategies embedded in long-term product and services development strategies are the key for any successful industry transformation.

Metals New Zealand believes the following policies will lead to effective change:

### R&D Incentive Schemes

For R&D-based industry transformation to happen, operating conditions and incentives must be offered to industry. They must be broad-based and readily accessible to all companies wishing to innovate or, more importantly, have the potential to be transformed into innovators. Access must be facilitated for the many “average” performers, not just for the few hundred high-performance companies who already have an R&D culture. The right incentives will encourage companies to think strategically about the function of R&D and its role in securing future business, and will motivate them to embed a formal R&D strategy.

### ***Metals New Zealand recommends:***

- An R&D tax credit scheme is an ideal broad-based mechanism for transformation. However, in the absence of such a scheme a suitable replacement might be to widen the access to R&D grant schemes and deliberately target the sectors of industry which enhance creating high value products and services for exports or as import substitution.
- Continuous availability of company-specific grants over several years to help embed R&D functions within the business, as opposed to the current emphasis on R&D service providers being in charge of the grant funds and providing only time-limited initiatives under their drive
- Widening the range of approved research providers for the R&D grant schemes to include non-public sector or independent research providers such as HERA

- Allowing the combined funding of research projects by companies that have common interests e.g. in renewable energy or resilient building systems

### **Support for self-funded industry R&D via industry levies**

Sector-specific R&D has been funded effectively and with industry support via levy schemes such as the Commodities Levies Act (which comes under MAF), or by individual Acts of Parliament such as the Building Research Association NZ (BRANZ) Levy Act or the Heavy Engineering Research Levy (HERL) Act.

These funding schemes are very effective, particularly in New Zealand where, due to our small market, we lack substantial key industries such as automotive manufacturing, which normally lead and support downstream industries in their R&D efforts.

#### ***Metals New Zealand recommends:***

- Government increases support for non-agriculture manufacturing sector groups to create stable industry levy funded R&D streams, provided industry groups are unified behind funding R&D via compulsory levies enshrined in legislation. The legislation should include the industry's right to subsequent abandonment of the scheme should industry consensus be lost
- Support from all MPs to increase HERA's industry R&D funding via an adjustment in the maximum prescribed levy rate in the HERL Act via the Statutes Amendment Bill tabled in Parliament in October 2011



Fig. 3.2 HERA industry levy funded research contributed to seismic design solutions, which are now in every multi-storey building in New Zealand. Aurecon's International Structural Engineers UK award-winning Te Puni student accommodation building incorporates damage-avoidance systems such as rocking frames (inset) and sliding hinges.

### **Capability in Independent Research Organisation Funding**

Metals New Zealand noted with interest the pre-election announcement of the Ministry of Science to introduce Capability of Independent Research Organisation Funding. This is an important step to maintain research capability of national significance outside the publicly funded system of universities and Crown Research Institutes (CRIs).

However, it is noted that associations funded by a commodity or industry levy are excluded from applying with one exception: the Science Board may determine that an organisation is eligible if it



has a unique R&D capability of national importance, and is unable to be supported adequately by the income generated by the levy. HERA believes it is in exactly this situation.

***Metals New Zealand recommends:***

- Capability of Independent Research Organisation Funding is implemented without delay to ensure important research capability is not lost in the transition from old funding mechanism to the new
- HERA research funding is considered as an exception: a levy base-funded research organisation with R&D capacity of national importance and eligible for Capability of Independent Research Organisation Funding

**Recognition of R&D and Expensing**

While R&D forms the basis innovation, downstream commercialisation with anticipated returns is the driver. Commercialisation is a costly process that requires investment in new plant and equipment, testing pilot products, staff training and IP protection. Sourcing money to cover these costs often stifles the commercial uptake of R&D results.

A positive measure to financially assist companies is to permit the complete write down of R&D capital for further investment. The measure will be largely cost neutral to government as it is a matter of timing when tax is paid, not a reduction. It has little long-term effect on total company tax paid as increased profits in the following years are likely to more than compensate for a reduced first-year tax take.



Fig. 3.3: The steel fabrication industry has invested heavily in more productive plant over recent years. The new Welded Beam Line installed at Metals New Zealand member Dixon and Haddon is shown here fabricating girders for the Kopu bridge.

Consideration should also be given to stimulating investment in more productive manufacturing equipment by allowing faster depreciation.

***Metals New Zealand recommends:***

- Making the early stage R&D commercialisation costs 100% tax deductible in the form of depreciation over the first year
- Introducing faster depreciation rates on productive manufacturing equipment

### 3.1.2 Public Funded Research and its Impact on Industry

It is recognised that publicly funded research via the CRIs and the universities has a key role to play, especially in the long-term fundamental and blue sky research area. It is also acknowledged that New Zealand's share in government-funded R&D (refer fig. 3.1) is relatively close to the OECD average, while industry-funded R&D is well below average. Increased industry R&D spending will create the greatest return to investors and generate growth in the New Zealand economy. Effort must focus on how public sector R&D can promote and support increased industry R&D and effectively put industry in the driver's seat for R&D investment.

Metals New Zealand supports the thrust of recommendations in the MSI-commissioned "Powering Innovation" report (<http://www.msi.govt.nz/about-us/consultations-and-reviews/high-value-manufacturing-review>), which looked at the high-value manufacturing and services sector to find ways public research organisations could better support firms.

HERA contributed via submission and presentation to the MSI report and is pleased to note that many of its recommendations concur with industry thinking. The recommendations are excellent and provide clear and detailed guidance to government and research providers to move forward and become more effective in assisting the commercial sector perform its R&D role.

Metals New Zealand particularly supports the report's following recommendations:

- Restructuring CRI IRL as a "platform for industry" to be known as Advanced Technology Institute (ATI), with premises developed in Christchurch and Auckland in addition to IRL's existing Lower Hutt campus
- Focus ATI on engineering and applied science, expanding industrial development projects and downsizing basic research projects, which may be transferred to universities or other CRIs
- Introduce more flexible arrangements for employment, intellectual property rights and benefits to encourage collaboration between research organisations, tertiary organisations and industry
- Provide incentives to research staff to move after a period of employment with the research provider into industry
- Develop a national innovation strategy

Metals New Zealand, however, is concerned that the report's translation into action, as presented by the current government, puts too much emphasis on developing the publicly funded research provider's capability, and not enough on how to empower and support industry to increase its innovation activities through R&D. This latter emphasis would help industry to value research, become effective research managers and, in the process, create a demand-driven research cycle for research providers to interface with.

Transferring the current IRL into a three-site – Auckland, Christchurch, Wellington - organisation to be known as Advanced Technology Institute (ATI) with the corresponding staffing and equipment will cost, as per 2012/13, an additional \$166 million over the next four years: \$76 million (46%) of capital funding and \$90 million of operating funding. These are significant taxpayer resources and, if not accompanied with a culture change that entrenches industry as a leader in future R&D spending, may not achieve the significant increase in outcomes from R&D that New Zealand needs.

Therefore, Metals New Zealand believes some of ATI's KPIs could read:

- Following research projects with ATI – how many companies will have put a lasting product innovation and R&D strategy in place?

- Did this lead to increased long-term company R&D spending? How many continue with self-funded R&D afterwards?
- Did the partnering companies set up an R&D function? How many researchers transferred from ATI to staff the industry R&D function?
- How much company owned IP was generated?
- How many patents per year were generated? What has ended up as actual products?
- What is the annual product added-value generated as a result of ATI involvement? What industry co-funding has been achieved? Who is driving the research project – research provider or industry? Is there a shift towards industry drive?

Additionally Metals New Zealand argues that with increased pressure to provide quick improvements under the current economic conditions, the majority of the government-funded research should satisfy immediate- to medium-term needs and have a high probability of implementation and return on investment.

It is noted that, specifically in the government-funded academic R&D programmes, there is often little industry involvement in the definition of R&D needs. This leads to a lack of industry pull with little to no industry involvement in the research, its governance and its funding. With the argument that research is not exploited unless it is applied in industry, the missing link is really more industry involvement.

***Metals New Zealand recommends:***

- More government R&D money is channelled through industry rather than directly through the research provider to industry. This will result in industry deciding what research provider they wish to spend R&D funds with. Demand will then dictate which research providers and what research services best meet the needs of industry and determine which will expand and thrive
- In largely academic programmes government R&D policy puts more emphasis on industry involvement to determine research needs and its funding, the performance of the research, and in the governance process

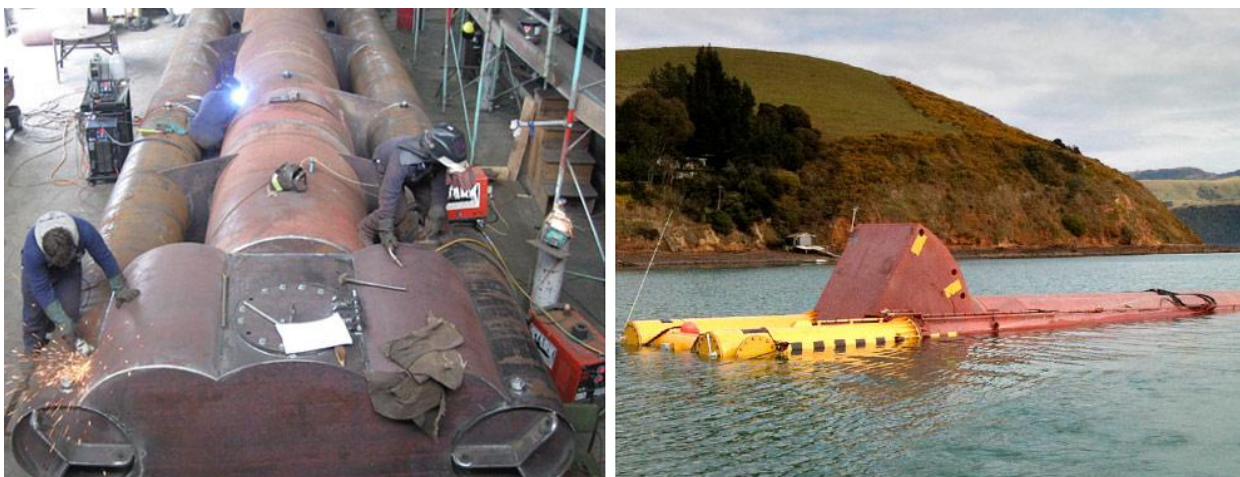


Fig. 3.4: WET-NZ – a research collaboration between IRL and Power Projects Ltd: half-scale wave energy device being fabricated at Stark Brothers in Lyttleton (left); being deployed for first sea trials (right).

### 3.1.3 Economic Development Strategies

Metals New Zealand supports the Government's Economic Development policies, in principle, and agrees with the need to set priorities and support development of selected industries. We feel development opportunities for our industry sector are very much in the high-value manufacturing category.

Our industry sector is also of national strategic importance as it supports a wide range of key industry sectors such as agriculture and food, energy, building and construction, and a range of critical infrastructure. The strong link between our industry and those such as food processing, minerals, petroleum and renewable energy, provide an opportunity for parallel development, providing solutions for local industry that can then be sold into offshore markets

Local industry development objectives do not feature strongly enough in many of the Government and sector strategies. For example, the objective of the Energy Strategy is to have "90% renewable energy by 2025", yet the development of a local industry, which could benefit from striving to support this target, does not feature as a development aim.

In the context of setting priorities and galvanising interests, the elevation of selected industry development projects to "Projects of National Significance" would be an effective tool to be applied by government. New Zealand will benefit from well-researched and argued "Projects of National Significance", as was the case in Denmark when it moved to create a world-leading wind energy industry. For example, elevating the R&D priority around geothermal energy generation technology for export markets to a "Project of National Significance" would allow all relevant government departments (e.g. MSI/MFAT/MED/MFE) to be pulled together under MED/NZTE leadership. This, along with an associated industry development roadmap, would contribute significantly to developing a solid export-focused industry.

Equally in the context of setting focus and prioritising national efforts the release of Pure Advantage's Green Growth Report *New Zealand's Position in the Green Race* (full report can be downloaded from [www.pureadvantage.org](http://www.pureadvantage.org)) is showing a pathway that our industry sector supports as a thinking model.

However, as an industry that is based on what the report calls "dirty and finite resources", we believe a more considered approach is needed which must include aspects of 'greening' dirty activities based on ongoing innovation. In our view New Zealand should contribute its share in the production of the worldwide demand for such materials including extracting natural resources such as oil and coal.

NZ Steel's steel production, for example, demonstrates how such activities can be 'greened', including furthering research into how carbon emissions can be turned into biofuels using the Lanzatech technology. Metals are near infinitely recyclable and, with a focus on using renewable energy in the recycling process, metals have the potential for an excellent environmental footprint. The important aspect is that as an industry we take sustainability seriously and continuously innovate with sustainability and the prosperity of our country in mind.

The report suggests that New Zealand industry takes a leadership role in developing a Green Growth Strategy and that government supports this development by removing policy roadblocks and provides incentives if industry leaders demonstrate a willingness to invest.

#### ***Metals New Zealand recommends:***

- Inclusion of local industry development objectives in national economic development strategies



- Creation of “Projects of National Significance” for industry development to focus national efforts
- Endorsement of the principles developed in Pure Advantage’s Green Growth Report, including support of the development of an associated Green Growth Strategy. However, this must include ‘greening’ of essentially ‘dirty’ activities, and New Zealand contributing to harvesting natural resources in a responsible manner



Fig. 3.5: The new 100MW Kawareu Geothermal Power Station highlights the potential for geothermal energy in New Zealand. Through the collaborative effort of Geothermal New Zealand, export opportunities for New Zealand geothermal opportunities are explored.

## 3.2 The Role of Government in Developing Sustainable and Profitable Local Industries

Developing sustainable, profitable industries is accepted government policy in order to increase employment and the general wealth of New Zealand. The local metals engineering industry is a significant, viable and strategically important sector.

Our industry understands that it is required to be not only locally but also internationally competitive as it operates in a global environment. To maintain our competitiveness we need policies that recognise the importance of the industry sector and provide an effective framework to support the development of the industry.

In this development context it is recognised that central and local government play a major role through its own public sector procurement. But government is also able to influence State Owned Enterprise (SOE) procurement policy and the current shift to a mixed private public ownership model through the partial sales process is an opportunity to embed policy in the Mix Ownership Model Bill and/or an amended SOE Act.

### 3.2.1 Government Procurement Policy

The New Zealand Government’s procurement spend alone is approximately \$30 billion per year. If the associated annual operating cost of those procured items is added, under whole-life considerations the estimated total cost is many times the original procurement cost. Due to the extent of this spending, public sector procurers have a major influence on the procurement chain, the follow-up operational cost and the total cost to the taxpayer. What’s more, the procurers also have major influence on local industry development through their investment decisions, for example, through the determination of local versus imported content, or driving innovation by being lead users.

We understand that MBIE is currently reviewing the Government Procurement Process and HERA is represented on the Business Reference Group for this development. We welcomed the cabinet approved Five Principles of Government Procurement. We particularly note *Principle 4 Get the best deal for everyone*

- *Get best value for money – account for all costs and benefits over the lifetime of the goods or services.*
- *Make balanced decisions – consider the social, environmental and economic effects of the deal.*
- *Encourage and be receptive to new ideas and ways of doing things – don't be too prescriptive.*
- *Take calculated risks and reward new ideas.*
- *Have clear performance measures – monitor and manage to make sure you get great results.*
- *Work together with suppliers to make ongoing savings and improvements.*
- *It's more than just agreeing the deal – be accountable for the results.*

These principles are a signal issued by the cabinet to base procurement decisions on a comprehensive evaluation including 'consideration of the social, environmental and economic effects of the deal'.

Recent purchasing decisions in particular associated to projects from the NZ Transport Agency (NZTA) included importing of components from overseas with very small cost advantages and where the value in lost tax revenue to the New Zealand economy was less than the difference in cost when buying from the local source. This buying at lowest cost can hardly be considered to be balanced decision making considering the economic and social impacts but also the additional risk that without a fabrication industry, NZTA and its procurement chain will not get the benefit from the value added contribution of the local industry in the procurement process which in the end saves considerable cost. As an industry sector we believe in free trade which is fair and equal and we don't want to advocate for the prescription of fixed local contents quota which many of our trading partner subscribe to. However we believe we need to enter into a debate with government and its agents in the context of their government procurement review to establish what is balanced decision making which keeps fundamentally competitive jobs in New Zealand

### • **Whole-Life Costing**

Government procurement guidelines already stipulate that whole-life costing principles are adopted for all purchases. However, industry notes that the guidelines lack clarity on how to do this and make little reference to their adoption, especially in the context of combining the procurement costing method with operational cost considerations to achieve optimum whole-life cost. It also lacks guidance on how to maximise return on investment via driving local content and local industry development.

The UK is a leader in the field of project procurement and applies a cost minimisation philosophy through its adoption in their *Achieving Procurement Excellence* guidelines. By following these guidelines, not only are lower whole-life project costs achieved, project procurement and operational risks are also reduced. An added benefit is the support such a process provides to undertaking triple-bottom-line reporting: economic, social and environmental outcomes.



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 lifetime, there are generally improved tender opportunities for local suppliers. This is because local suppliers have significant competitive advantages if operating, servicing and end-of-life disposal or recycling are considered during project planning and in the tender process. This will result in lower whole-life costs and improved business opportunities for the local industry.

### • **Local Industry Participation and Industry Participation Plans**

In a Business & Economic Research Ltd (BERL) report produced for NZTE's Industry Capability Network it was established that for every \$1 million spent in manufacturing activity in New Zealand, an extra 11 jobs are generated. Yet the impact of using local versus imported content extends beyond the direct jobs gained; it also results in \$117,000 of tax revenue, \$195,000 of added purchasing power and, if we assume associated job generation, a \$119,000 saving of government welfare payments.

Industry Participation Plans (IPPs) are typically developed in large projects to research and seek potential involvement of local industry to ensure cost-effective procurement, and to meet obligations and legal requirements imposed on them by government. IPPs include evidence on how local industry has been encouraged to contribute to the project as part of the tender process.

IPPs often find local options that generate benefits both within and outside the project budget. These benefits would not occur if a prime contractor was not required to test the local market and simply used their existing offshore supply chain.

IPP-generated benefits typically found within the project include:

- Savings in set-up and logistic costs by making use of existing maintenance support, skills, facilities, supply chains and local knowledge
- Capacity/capability growth that parallels the project's growing needs

IPP-generated benefits outside the project budget, with relevance to local supply, include:

- Increased capability, capacity, credibility and export opportunities
- Reduced social burdens and increased national skill level
- Generation of GDP growth
- Reduced risk for taxpayer-funded projects
- Contribution to the wealth and social well-being of New Zealand
- Improvement to the balance of payments
- Strong demand drives innovation, competition and growth for New Zealand

The need to develop local content has been recognised by most countries, including those which are part of joint free trade agreements with New Zealand. They actively support the development of local industry input into projects funded by public money or receiving contributions via grants or other means from the public purse. For example, on 6 October 2011 the Australian Government announced its intention to make federal grants to states and territories of \$20 million or more contingent on them maximising opportunities for Australian business (<http://www.alp.org.au/federal-government/news/strengthening-opportunities-for-australian-industr/>).

Additionally, if project developers wish to receive the 5% tariff exemption on imports for major projects they are required to publish more extensive details on opportunities available to Australian business. IPPs are now required to be made public, providing greater transparency. Some

Australian states are going further than that: the Victorian Government introduced a local content quota of 90% to build a AU\$1 billion Comprehensive Cancer Centre. It also expressed a strong commitment to the development of a Local Industry Development Plan.

- **Lead User Innovation**

As nations struggle to pull themselves out of the economic malaise created by the global financial crisis, an enduring theme appears to be 'innovation'. In New Zealand, we have a newly-named Ministry Business, Innovation and Employment; in Australia, they have the Department of Innovation, Industry, Science and Research.

Innovation is, according to the dictionary, "the introduction of something new", and it is easy to see why countries would be focusing on 'something new' in an effort to stimulate economic growth. Of course, there are many different aspects to innovation, but the most compelling is 'lead user innovation'. This is where a procurer/customer works with a company to provide an innovative solution.

Arguably, the transition from concept to commercialisation is a daunting phase for any innovation; the attraction of the lead-user model is its promise of smoothing this process – the commercial need has already been identified and the technology development can focus on a real-life, clearly defined customer need. So it's a win-win situation: the customer, or lead user, gets the early advantage of the innovation; the company gains a customer-ready solution to take to market.

Indeed, lead user innovation is an especially suitable tool where government funding is constrained, as it is often not the government that invests directly but the lead organisations under the government's direction. In the New Zealand context, State Owned Enterprises, Government departments like Defence or, at a local level, city councils, are among the largest procuring entities in the country. They offer huge opportunities for New Zealand industry to work with them to develop and supply superior solutions to those they sometimes end up with.

Internationally, the US government helps drive R&D procurement and stimulates innovation in smaller companies with its Small Business Innovation Research (SBIR) programme. Launched in 1982, the SBIR programme is the world's largest seed capital programme for science and technology businesses: it makes more than 4,000 awards to small US businesses annually, totaling over USD 2 billion. It has converted billions of dollars of US taxpayer-funded research into highly valuable goods and services for the benefit of society and the economy.

Back home in New Zealand, one example of Government-led lead user innovation is the ANZAC Ship Project where the Ministry of Defence promoted local industry participation. One such local company was electrical control specialist Electropar, which recognised the commercial opportunity. The company formed new local partnerships, and designed and manufactured a new set of military-quality castings to house the fragile electronic componentry.

Electropar's successful delivery for the project ensured ongoing defence opportunities, most recently the supply of naval defence-quality products for the three Air Warfare Defence Destroyers for the Royal Australian Navy.

Developing sustainable, profitable industries to increase employment and the general wealth of New Zealand is accepted government policy. There is no reason that we cannot perfect the art of lead user innovation; all it takes is the leadership to say that's what we are going to do.

- **Some US Government Lead User examples**

nGimat, an intellectual property company and manufacturer of engineered nano-materials, was founded in 1993. It has won SBIR contracts from a number of government agencies including the Department of Defense, the National Science Foundation, the Department of Energy and the Environmental Protection Agency.

A \$700k award from the Navy, which focused on thin film coatings and passive devices that can be embedded on printed circuit boards, led to a \$7 million development and licensing agreement with Rohm & Haas, a subsidiary of Dow Chemicals. Today it has development programmes with several technology companies around the world.

Brewer Science supplies specialty chemicals and instruments to the micro- and opto-electronics industries globally. Its technology is used in products ranging from computers, phones and cameras, to medical instrumentation, telecommunications equipment and cars.

The company has received over 40 SBIR contracts from more than six different government agencies, many of which have led to commercially successful products. Established in 1981, Brewer now employs over 300 people worldwide and receives more than half of its revenue from outside the USA.

There are many examples where lead user innovation could apply in New Zealand: the Defence department purchasing major capabilities such as new ships; geothermal SOEs engage with New Zealand companies to improve their plants and, in the process, develop geothermal plants that industry can then take to the world.

### • **Procurement Excellence Proposal**

Linking the three principles – whole-life costing, local industry participation plans and lead user innovation – under the heading “Achieving Procurement Excellence” has major potential benefits; higher economic goals that accrue from local content become the focus, shifting attention from the ‘lowest contract price’ mentality.

Metals NZ accepts that the drivers for local development must be based on maximising the overall returns to the New Zealand economy from taxpayer-funded investments. But as the thrust is on driving excellence in public sector procurement, it will also provide guidance for the astute private investor.

We accept that New Zealand has subscribed to the principles of free trade and therefore the guidance developed must remain within these free trade rules, but we also believe that the fair and equal principles of free trade must be followed when considering public sector investment.

We acknowledge that the proposed procurement process requires considerable planning and its application may consume sizeable resources; its full application may only be economic for projects of a certain minimum project value.

The benefits are considered to be first of all in the interest of the project proponents and include:

- Lower whole-life project cost to project owner
- Reduced project procurement and operational risk including project objectives are met (on time, on budget, to specification)

Associated benefits of testing the local market and buying competitive local products and services can include:

- Lower quality conformance cost
- Lower repair risk

- Options for cost savings through responsiveness to innovation and design changes
- Savings through shorter lead times
- Reduced exchange rate risks
- Fulfilling triple-bottom-line reporting requirements
- Meeting any special contract conditions
- Demonstrating that New Zealand industry has been afforded full, fair and reasonable opportunity to participate in the project
- Providing good public relations as a corporate citizen
- Contributing to development of the local economy

While whole-life cost reductions on its own justifies the use of this guideline to any project owner, meeting the triple-bottom-line reporting requirements is finding increased global recognition. The OECD-endorsed Global Reporting Initiative (GRI) is a widely used and internationally acknowledged sustainability reporting scheme. GRI's core goals include mainstreaming disclosure of environmental, social and governance performance. Landcare Research and Business New Zealand have joined the GRI consortium to support New Zealand businesses manage their sustainability performance effectively and get world-class recognition for their work.

***Metals New Zealand recommends:***

- Provide balanced government procurement in respect to social, economic and environmental impacts. In particular include the consideration of loss in tax revenue from imported products in government procurement decision making
- Develop the New Zealand-specific business case for procurement excellence via supportive research and case studies
- Develop the technical side of whole-life costing guidelines and implement in the public sector procurement guidelines
- Develop the concept of lead-user innovation as part of the public sector procurement model
- Adoption of the developed guidelines, including the development of Industry Participation Plans, is a mandatory requirement for all major public sector procurement
- No import tariff exemption unless a detailed and satisfactory IPP has been provided
- To further the active adoption of procurement excellence assist in the associated training, especially of whole-life costing, cost management and development of IPPs

### **3.2.2 SOE Procurement**

SOEs are a major procurer of assets and services from the metals engineering industry and, as government has a major influence on their operation through the provision of performance expectations, we believe government is able to influence their procurement behaviour, particularly through the objectives as set in its Act. In its current version the State Owned Enterprises Act (1986) places no obligation on SOEs to consider enhancing industry participation or industry capability development. In other words, they can operate without a sense of social responsibility and without regard to the intent of strategic government initiatives.

In the context of a potential SOE Act review to accommodate the requirements of the mixed ownership model, it is an opportune time to include requirements for SOEs to support overriding national interests in the Act.

***Metals New Zealand recommends:***

- Consideration is given for SOEs to follow the above “procurement excellence” principles e.g. a requirement is placed on SOEs that in relation to major projects they operate as

good New Zealand corporate citizens, including support for national priorities in industry development as lead user innovators

- The SOE Act, and any legislation that considers the proposed mixed ownership model, be reviewed in relation to best practice procurement
- Major project procurement must include establishment and publication of local IPPs

### **3.2.3 Free Trade Agreements**

Metals New Zealand members are generally supportive of free trade agreements, although it is noted that some members who are solely engaged in manufacture for the local market have expressed reservations with this position.

The Metals New Zealand position fundamentally is:

- Negotiated trade conditions must be fair and equal (no other non-tariff trade barriers or unequal compliance cost burdens)
- If tariffs are removed it must go both ways i.e. if the tariff applicable in New Zealand is 0%, the tariff with the treaty partner must also be 0%.
- All elements of influencing fair and equal trade need to be considered, including:
  - Health and Safety requirements – a comparable standard should be met
  - Code compliance – design, material and quality requirement should be comparable
  - Practices on imported labour – where an advantage is gained from importing and exploiting guest labourers, as in the case of shipyard workers imported into Singapore from Bangladesh and paid significantly below local wage rates, this is noted as an unfair advantage
  - Safeguards to prevent dumping need to be implemented

#### ***Metals New Zealand recommends:***

- Free trade agreements are weighted in relation to the level of equity between New Zealand manufacturers and those overseas

## 4 Labour Market Policies

### 4.1 Skills Availability Issues

While the recession and subsequent slow recovery has dampened some of our industry's demand for skilled people, we continue to note ongoing shortages, particularly in higher skilled professional groups. Our sector continues to lose skilled people, particularly to Australia and, with our aim to grow the export market for high-value engineering products, we need to address this issue. We suggest a range of measures: attract people into the higher value industries, education/training, skills importation, skills retention, and appropriate payment scales which will accrue from participating in higher value markets.

### 4.2 Education/Training

#### 4.2.1 Skills Training

Metals New Zealand supports the submission of its key ITO, Competenz, to the Ministry of Education. The Competenz submission raises the following issues:

- There are too many ITOs: companies have to deal with too many different approaches to training, back office costs are duplicated and economies of scale are not achieved
- Duplication through Modern Apprenticeship Coordinators (MACs) adds confusion and cost, and ITOs have no control over the performance of MACs yet ITOs are measured on a MAC's performance
- Funding rates add friction: on-the-job training attracts one government funding rate, the STM. The STM rate, however, is not enough for ITOs to deliver on their statutory obligations, buy block courses, support numeracy and literacy skills building, support under-represented groups, and support under 21s. Funding could be graduated to reflect government objectives and be fair to employers.
- The cost to employers is too high, particularly for vocational education in areas requiring high investment from employers like mechanical engineering. Graduated funding to reflect the true cost of training would ease the burden and encourage building a skilled workforce.
- Improving productivity through transferable skills: New Zealand needs to upskill and, to do this, training needs to be delivered to national standards when companies want it, how they want it and how often they want it.
- Quality: industry needs to determine the level of qualifications to reflect the capacity and standards it requires. This needs to be backed up with robust moderation by ITOs to protect industry's and government's investment.

Metals New Zealand is aware of the findings of the Competenz report *Converting the Unconverted* ([www.competenz.org.nz/wp-content/uploads/2012/06/Competenz-White-Paper-Converting-the-Unconverted.pdf](http://www.competenz.org.nz/wp-content/uploads/2012/06/Competenz-White-Paper-Converting-the-Unconverted.pdf)), which looks at what it would take for companies to recruit apprentices. The report notes that currently 35% of engineering and metal manufacturing companies say they have skills shortages in the areas of fabricators, tradespeople, welders and engineering staff and, to address our need for more skilled workers created on the job, we need to improve the likelihood of being employed as an apprentice. It concludes that the number of places available for apprentices is too low to satisfy the skills demands and that we must therefore increase the number of positions offered by industry. The report recommends ways of increasing the current 13% baseline of employers who hire apprentices regardless of incentives to a maximum of 55%, essentially more than tripling the rate of available places.

According to the report, the most cost-effective interventions are around management support services. It argues that those services are best provided by trusted advisors and points out the



important role of ITOs in this space. It also notes that to initiate any shift requires policy intervention, most likely by government.

Metals New Zealand recognises the importance of workplace-based skills training and believes the joint intervention of industry and government is the way forward. With the right incentive industry will make the required contribution and lift the required intake of apprentices,

***Metals New Zealand recommends:***

- The Competenz submission is considered, particularly the point of gaining efficiencies through the merger of ITOs
- Government recognises that industry training is essential and needs to be cost effective, however, the cost to employers is too high and limits uptake, especially in difficult economic times
- Increased emphasis on providing career paths from school to work, and further on into leading positions i.e. progression beyond Level 4 qualifications
- Industry must be involved in setting national standards for qualification, and the advisory functions offered via the ITOs deliver this. However, delivery of standards must become more effective and consistent, and without the continued duplication of efforts across different ITOs
- The metals-based industry must make an increased number of apprentice places available to satisfy skill demands and maintain its competitiveness as an attractive industry

#### **4.2.2 Professional Education/Training**

Metals New Zealand supports refocusing tertiary educational spending at a time of continued economic constraint to areas that contribute to a productive economy. We applaud the Government's decision to shift funds made available through changes to the student loan scheme to allow higher student numbers in engineering and science degrees, based on the understanding that specifically professional engineering skills are in short supply. However, we recommend monitoring demand to avoid overstimulating supply.

***Metals New Zealand recommends:***

- Student numbers in priority professions supporting high-value growth industries such as mechanical engineering continue to be increased



Fig. 4.1: Students guided through Fletcher Easysteel's facilities as part of a wider industry tour to showcase the engineering industry as a potential career path

## 5 Sustainability

### 5.1 Emissions Trading Scheme (ETS)

The New Zealand metals industry is acutely aware of the importance of sustainable development; the materials it uses have a high level of embodied energy and, as such, the industry is increasingly adopting best practice initiatives. HERA R&D follows international developments to minimise the environmental impact of metals. To enhance the lifespan and associated environmental performance of metals and the metals industry, Metals New Zealand promotes re-use and recycling, reduced usage through higher strength grades and corrosion-protection

New Zealand metals producers have signed up to international conventions for emissions reduction and are proud to note that New Zealand steel and aluminium are largely produced from renewable energy. This low-carbon production sets New Zealand apart from most international competitors, making the over \$2 billion annual export contribution even more valuable.

Our industry recognises the need for emission reductions and, in principle, supports all measures, including the ETS, which aim to reduce New Zealand carbon emissions. However, given the international metals commodities produced in New Zealand arguably meet international best practice with respect to carbon emissions, every effort must be made by government to ensure that Free Trade Agreements provide a level playing field and our industry is not disadvantaged. Our industry will then do its part to maintain its competitive position and continue providing jobs and export revenue.

Also the current government strategy towards climate change is missing a major opportunity to reduce New Zealand's emissions and the associated cost burden from the ETS: no recognition is made of reducing carbon emissions from the construction sector.

Approximately 17% of New Zealand carbon emissions are from the construction and operation of buildings. Moreover, the built environment is one of the few sectors where reducing emissions saves money rather than imposing a financial burden on the taxpayer. Similar to China's plan to reduce the energy consumption of residential and public buildings by 65% by 2020, it would be helpful if the Government set an aspirational goal to encourage the New Zealand building sector to develop low carbon technologies.

#### ***Metals New Zealand recommends:***

- Government ensures equitable treatment of New Zealand metals manufacturing on a national and international level when formulating policies relating to the ETS or in the negotiation of any Free Trade Agreement
- Government encourages the built environment to reduce its carbon emissions

### 5.2 Sustainability in Building and Construction

HERA contributed to and supports the Construction Industry Council's (CIC's) statement on government policy (<http://www.nzcic.co.nz/Policy%20Statements/CIC%20BIM%202012%20FINAL.pdf>). The following points are made:

Through the creation of the Sustainable Steel Council (SSC), which comprises the key organisations and companies of the metals-based industry, it now has a unifying body which brings the industry together to focus on sustainable development. SSC also places emphasis on the contribution its products and services make to a sustainable building and construction environment.

In terms of the sustainability of New Zealand's infrastructure, HERA research, supported by government funding, has made significant contributions – particularly to seismic-resisting structural steel-based construction – and it continues to have a major R&D focus in this area.

### **5.2.1 Measuring Sustainability**

As a sector that represents 17% of New Zealand's carbon emissions, Metals New Zealand supports best practice in sustainable building design, construction and operation. GreenStar is New Zealand's leading environmental assessment and rating system for buildings. In a similar way to other rating tools around the world, the uptake of GreenStar has been driven by investors and developers because it offers:

- enhanced marketability
- recognised brand associated with quality buildings and organisations with an active corporate social responsibility programme
- low-risk investment choice
- reduced letting voids
- good return on investment

Steel is arguably the most sustainable of the major structural materials. It has numerous sustainability benefits, which are guaranteed to be realised whenever steel is used. They include:

- low waste
- flexibility
- offsite manufacture
- speed
- resource efficiency
- adaptability
- demountability
- long-lasting appeal
- safety
- reusability
- recyclability

Unfortunately, until recently, the steel credit in the GreenStar tool provided technical barriers that discriminated against steel-frame construction. Consequently, Metals New Zealand supports the recent NZGBC Products and Materials Advisory Group (PMAG) and Products and Materials Industry Group (PMIG) initiative, which provides a platform for providing high-level guidance regarding the strategic approach to products and materials within the rating tools.

Life Cycle Assessment (LCA) is an analytical tool for the systematic and quantitative evaluation of the environmental impacts of a product or service system through all stages of its life, which are underpinned by international Standards. LCA studies the environmental aspects and potential impacts throughout a product's life (i.e. cradle-to-grave or cradle-to-cradle) from raw material acquisition through production, use and disposal. Although LCAs are being used by many of New Zealand's major trading partners, it is still in its infancy in the building sector owing to the fact that, to date, work on the New Zealand Life Cycle Inventory (LCI) database still needs to be completed. Nevertheless, many larger product and material suppliers have recently begun to undertake their own LCA to improve their environmental performance.

In the interest of reducing the burden on users of demonstrating the environmental credentials of a particular material or product, ecolabels have been introduced. However, ecolabels on New Zealand products are unlikely to be accepted overseas. As companies are undertaking their own LCA, the natural progression is to develop Environmental Product Declarations (EPDs) for their products. EPDs provide detailed information and environmental data, and are often considered analogous to a nutrition label on food packets: they offer a brief, quantitative summary of key product issues. Moreover, they are also regarded as neutral as they provide all relevant product performance information rather than relying on predetermined environmental performance levels. In view of the uptake of EPDs among international trading partners, Metals New Zealand supports the recognition and adoption of EPDs within New Zealand.

***Metals New Zealand recommends:***

- Government supports the development of a New Zealand LCI database and encourages the use of LCA
- In the interest of improving New Zealand exports, the Government encourages companies to develop EPDs for their products

## **5.2.2 Seismic Building Resilience**

The analyses of the damage caused by the Canterbury earthquakes demonstrated that by and large 'modern' building standards are adequate to protect lives in a serious earthquake. But it also highlighted two other significant aspects.

Firstly, much of the legacy building stock was so severely damaged that it now has to be demolished and completely rebuilt at huge cost and with the uncertainty of getting appropriate insurance cover for the rebuilt solution.

Secondly, some of the buildings representing specific building systems performed very well and could continue to be occupied with little or no repair. One such group is structural steel-framed buildings, which were built under current structural steel design guidance and under competitive market conditions. They cost the same or only a little more than the competing solutions, which failed next to the structural steel buildings and could not be reoccupied.



Fig. 5.1: The 13-storey structural steel-framed HSBC Tower on Worcester Boulevard was the first multi-storey building reoccupied after the February 2011 Christchurch earthquake. The 2006 building, designed to current steel construction guidance, demonstrates that competitive technology exists to minimise potential earthquake damage.

In other words, there are building systems now in place that survive higher level earthquake loading at

competitive cost. Additionally, further R&D-based product development would offer more scope to increase the resilience of the building stock without significant extra cost. Provided the reduced risks associated with higher level resilience is well understood, there should be no reason that insurers should not insure such buildings, and owners and occupiers should have confidence that living in such buildings is safe. The key issue is that a more resilient built environment can be achieved without substantial additional cost (certainly should whole-life costing principles be applied), and such systems should easily find economic justification.

New Zealand is not alone in coping with the aftermath of serious earthquakes and, following international developments, Metals New Zealand advocates the development of a Seismic Building Resilience System. This would operate similar to energy efficiency or car safety rating systems, providing an assessment of the building stock. Voluntary introduction followed by adoption of minimum compliance standards for publicly funded buildings would, in the long run, lead to wider adoption of such a system. This would provide incentives for further development of seismic resilient New Zealand building systems.

In the context of building more seismic resilient infrastructure, we believe that government-funded R&D programmes are currently focused disproportionately on seismicity and geotechnical considerations. While this is informative it should be noted that, particularly research on earthquake prediction, it cannot prevent earthquakes. Instead, there should be increased focus on future-focussed research to develop damage-avoidance technology, which protects both human life and the value of assets.

***Metals New Zealand recommends:***

- Government explores and supports the introduction of a Building Resilience Rating System
- More research on seismic and tsunami damage-avoidance is stipulated in national research strategies and stimulated accordingly through appropriate funding

## 6 Construction Materials Research and Promotion

### 6.1 Construction Materials Research Prioritisation

R&D in construction is a key driver for the competitiveness of different building systems. Funding support for research investments comes from the taxpayer via the MSI channel – but also, in the case of timber research, through separate MAF funds.

The BRANZ-administered building research levy is another significant contributor to the sector's research with annual contributions typically exceeding \$15 million. Although the building research levy is attributed to the construction industry itself, it is clearly collected from the developers at the time of applying for a building consent and there is an expectation that the end-user, i.e. the building user, should benefit from the levy spent.

The metals-based construction industry, in the same way as the concrete- or timber-based industry, contributes to the tax-based income of the Government and the building levy in proportion to their market share and overall economic contribution. However, BRANZ activities funded from the building levy appear to favour funding research for timber-based construction and best practice advice, and do not sufficiently reflect market changes – for example, steel construction in multi-storey construction has grown from virtually 0% in the '80s to close to 50% market share today.

Also, particular MAF-administered initiatives such as the Forest Industry Development Agenda (FIDA) are one-sided – they benefit one material system and are not accessible in a contestable manner by neither steel nor concrete.

#### ***Metals New Zealand recommends:***

- Government funding of construction materials-specific research is balanced commensurate to a material sector's economic contribution or in strictly contestable fashion based on performance expectation
- Policy on R&D funded from the building research levy includes statements on construction material neutrality, and setting R&D priorities reflects construction material contributions to the building research levy
- BRANZ is supported in its effort to be the centre of excellence for construction research in New Zealand, with clear policies in place to provide innovation with balance in respect to levies received via the different material sectors

### 6.2 Government Officials Statements on Construction Materials

In a free market economy, it is the market that must determine which building system or construction material to choose. It is for the market players to demonstrate the benefits of any one particular system over a competing one.

Also, public office bearers representing the general interest, while entitled to a personal opinion, should be neutral as to the promotion of one particular solution over another. For example, in the context of the rebuild of Christchurch we note that Ministers have expressed support for timber construction as the preferred material for the rebuild of the city.

The Construction Industry Council (CIC), which represents the competing interests of the industry, is facing similar issues when representing the sector and has adopted a Policy Statement on Construction Materials which specifically states that it is neutral in terms of advocating one material over another; rather it promotes the use of materials on a fit-for-purpose basis. Metals New Zealand believes such a policy should also guide public office bearers such as MPs or be followed when



public procurement guidelines are developed such as in the Green Star rating requirements for buildings.

***Metals New Zealand recommends:***

- Government officials /agents stand neutral in terms of advocating one building system/material over another
- Government, in its procurement guidelines, specifies only performance requirements that are free from prescriptive material or building system specific requirements

## **6.3 Construction Industry Standards Development**

Metals New Zealand, through its organisation members and particularly HERA, is involved in the development of New Zealand, joint Australia/New Zealand, and European and ISO standards. Its contribution includes the development of standards for steel and steel-based composite materials construction.

Metals New Zealand recognises that having local standards may be particularly justified for high-volume residential construction where sufficient demand is providing the know-how base for local standards development, and also for local competition from different building solutions. As a result of being unique these local standards may also, for certain applications, be an effective trade barrier for imported solutions and maintaining the status quo may be considered acceptable.

However, for several key standards, bridge construction for example, the New Zealand technical resource base is too small to reliably develop its own standards. Also, the approach typically taken of 'cloning' local standards together from recognised overseas standards is high risk and, at best, a compromise. Using recognised overseas standards with solutions and technology support of a much larger user base will have substantial benefits for the local economy, minimise the risks, and save considerable cost and resources of local standards development. HERA already advocates the move to joint Australia/New Zealand standards development where practical and accepted by industry, however, there is benefit in moving towards the use of more widely recognised standards.

For the construction industry, the European standards are leading the world largely based on the fact that their recent push for standards alignment across Europe has driven the development of widely accepted, complete and innovative standards. The EU system allows the development of national appendices that recognise specific local conditions, including existing codes, facilitating introduction of the overarching EU standards. And, in many cases, European standards lead the development of ISO standards as the push from EU countries and the economically emerging Asian countries favour EU-based ISO standards development.

Investigating the pros, cons and the feasibility pathway of New Zealand adopting selected overseas construction industry standards, are worthwhile actions. As these actions would benefit the entire construction industry they should find the support of DBH, CIC, SNZ and BRANZ and should be put on their action agendas.

***Metals New Zealand recommends:***

- Exploring the economic and associated pros and cons of adopting recognised standards, such as the European and existing ISO standards
- Investigating the feasibility of adopting recognised overseas standards, EN standards for example, in selected areas such as steel construction

## **Appendix 1: Metals New Zealand and its Members**

Metals New Zealand Incorporated was formed in 2011 to advance the interests of New Zealand's diverse metals industry. It provides advocacy and strategic leadership on issues that affect the entire metals industry. From its beginnings in the 1860s, when there were 28 foundries employing 855 people, the industry has now grown to employ over 26,000 people and produce over \$7 billion of product each year. In 2010 the industry exported metal commodities such as aluminium, iron and steel worth \$2.3 billion, or 5.5% of the country's total exports. Approximately 90% of steel and aluminium is recycled and reused.

[www.metals.org.nz](http://www.metals.org.nz)

### **Heavy Engineering Research Association**

The New Zealand Heavy Engineering Research Association (HERA) was established in 1979 as a non-profit research organisation dedicated to serving the needs of the metals-based industries in New Zealand. Its membership consists of approximately 600 companies representing metals-based fabrication and manufacturing companies, the associated design and consulting industry, related education providers, and the supporting material supply and services industry.

HERA is base funded through an industry generated R&D contribution in the form of a levy on heavy steel and welding consumables administered by the Heavy Engineering Research Levy (HERL) Act. HERA's current research is in the areas of steel construction, general heavy engineering industry development and welding fabrication innovation. HERA works with other research providers such as universities, independent research organisations and CRIs to deliver its programmes.

[www.hera.org.nz](http://www.hera.org.nz)

### **Steel Construction New Zealand**

Steel Construction New Zealand Inc. (SCNZ) aims to advance the interests of New Zealand's diverse steel construction industry by promoting the benefits of steel solutions in building and infrastructure projects. Members include manufacturers of structural steel and steel products, distributors, fabricators, designers, detailers, galvanisers, and paint and building supply companies. SCNZ provides its members with technical advice on the latest in steel design trends and standards, networking opportunities, and a representative voice with key industry and government decision-makers.

[www.scnz.org](http://www.scnz.org)

### **Casting Technology New Zealand**

Casting Technology New Zealand (CTNZ) aims to be a major contributor to the success and prosperity of the metal casting industry. The organisation is an advocate for maintaining high industry standards and encourages members to participate in quality training programmes. It provides a network for technical and business activities among its membership at national and

international levels. At a government level, CTNZ keeps abreast of legislation relevant to the metal casting industry and, importantly, represents the industry's position on issues affecting the sector.

[www.castingtechnologynz.org](http://www.castingtechnologynz.org)

### **Galvanizing Association of New Zealand**

The Galvanizing Association of New Zealand (GANZ) represents the core of New Zealand's galvanising specialists. Its mission is to promote the environmental sustainability of its product and to maintain the highest standards of quality and service in support of New Zealand construction and engineering industries through its international affiliations.

[www.galvanizing.org.nz](http://www.galvanizing.org.nz)

### **New Zealand Metal Roofing Manufacturers Association**

The New Zealand Metal Roofing Manufacturers Association Inc (NZMRM) represents companies that roll-form steel and other metals for roofing and cladding purposes. Commonly known as 'Rollformers', NZMRM has 30 member companies. Members are involved in producing a wide range of profiled product, both painted and unpainted. The Association is active in the development and promotion of industry standards, and in conducting research that promotes the use of metal roofing and cladding.

[www.metalroofing.org.nz](http://www.metalroofing.org.nz)

### **Titanium Industry Development Association**

The Titanium Industry Development Association's (TiDA's) goal is to introduce titanium powder technology to the wider New Zealand industry. TiDa actively assists companies improve their technology and techniques by providing the best possible product options. With the support of New Zealand Trade and Enterprise, Ministry for Science and Innovation, Tertiary Education Commission and a number of private sector companies, TiDA has evolved to support ongoing research and provide parts manufacture to industry. The Association manages a prototype and testing facility in Tauranga and runs a national research development programme.

[www.tida.co.nz](http://www.tida.co.nz)

### **Light Alloy Manufacturing New Zealand**

Light Alloy Manufacturing New Zealand Incorporated (LAM-NZ) was formed in 2005 as part of a research initiative to develop light alloys based material innovation. The association aim is to link industrial end-users interest to academic research and to promote the application of light alloys in the market. The organisation is currently being restructured. For more info contact

[admin@metals.org.nz](mailto:admin@metals.org.nz).

### **National Association of Steel-Framed Housing**

Formed in New Zealand and Australia in 1982, the National Association of Steel-Framed Housing (NASH) is an advocate for all forms of low-rise steel-framed construction. NASH represents the interests of suppliers, practitioners and customers of steel-framing systems, and provides a representative voice for the sector at government level.

[www.nashnz.org.nz](http://www.nashnz.org.nz)

### **New Zealand Stainless Steel Development Association**

The New Zealand Stainless Steel Development Association (NZSSDA) was formed in 1998 to promote and develop the stainless steel market in New Zealand. Its members include engineers, architects, fabricators, merchants and end-users with an interest in the supply or application of stainless steels. NZSSDA supports and encourages technical excellence in the industry and provides specialised training courses on stainless steel for the New Zealand market.

[www.nzssda.org.nz](http://www.nzssda.org.nz)