Ai GROUP SUBMISSION

Senate Economics References Committee

Inquiry into the future of Australia's Steel Industry

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About Australian Industry Group

The Australian Industry Group (Ai Group) is a peak industry association in Australia which along with its affiliates represents the interests of more than 60,000 businesses in an expanding range of sectors including: manufacturing; engineering; construction; automotive; food; transport; information technology; telecommunications; call centres; labour hire; printing; defence; mining equipment and supplies; airlines; and other industries. The businesses which we represent employ more than one million people. Ai Group members operate small, medium and large businesses across a range of industries. Ai Group is closely affiliated with more than 50 other employer groups in Australia alone and directly manages a number of those organisations.

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Executive summary

Ai Group welcomes the opportunity to provide a submission to the Senate Inquiry into the future sustainability of Australia's strategically vital steel industry and its supply chains.

The local steel industry, embracing the upstream steel manufacturers, steel fabricators, steel product importers, wholesalers and a number of steel distributors and detailers, is an integral part of the Australian economy. The industry makes a substantial contribution to the nation's gross product, employment and exports. The Australian steel industry also provides excellent examples of Australia's ability to innovate and to adapt to competitive market demands, with production techniques continually improving, business and marketing models evolving, and new products and applications being developed to suit market preferences.

Many downstream industries use steel as major input material in building construction, manufacturing transport equipment and infrastructure, mining, telecommunications, food production and storage. These industries require a wide range of structural and fabricated metal products, including steel grating, balustrades, railings, steel doors, window frames, platforms, curtain wall facades, pipefittings, security products and industrial machinery. Modern steel products are highly sophisticated with new lightweight steel allowing lighter and more flexible applications that are utilised in the design of smart cars, high-tech computers, cutting edge medical equipment and state-of-the-art satellites.

Steel's high strength to weight ratio also means that it is completely recyclable. It is in fact the world's most recycled commodity.

The opening years of the present century have been highly disruptive for Australian manufacturing in general and the steel industry has not been an exception. The acceleration of the industrialisation and urbanisation of China; the sharp rise in commodity and energy prices; the boost to demand from the investments in expanding the capacity of the mining and energy sectors and the significant appreciation of the Australian dollar posed transformative challenges. While Australia dodged the worst of the GFC, the period since has been marked by sluggish domestic growth amid the significant falls in domestic income associated with the reversal of commodity prices and the winding down of mining-related investment.

While the reduction in the value of the Australian dollar and growth in the domestic residential sector have supported the Australian steel industry in recent years, it is clear that the industry is confronted with a growing number of competitive challenges.

Weakness in demand for steel inputs from a range of other key downstream industries and persistently high levels of competition from imports and in export markets led to production over capacity. In response to this, upstream domestic steelmakers have closed capacity and reconfigured their operations. In addition steel production globally is being weighed down by subdued world demand, excess steelmaking capacity and falling global steel prices.

Australia's exports of steel products have also been negatively impacted from strong overseas competition and production oversupply in Asia, in particular China and Korea.

Further, the disruptions of the past decade and a half appear to have thinned out key links in domestic supply chains. Producers in various sectors have raised with Ai Group their concerns with the inability of steel supply chains to meet changes in demand. This is attributed to a "hollowing out" of supply

chains. It would be deeply disturbing if this were a permanent development rather than reflecting the time it takes for domestic supply chains to rebuild following the exceptional challenges posed by the period of a very high currency and other disruptive factors mentioned above.

More positively for the Australian steel industry outlook, the lower value of the Australian dollar will boost the competitiveness of businesses operating in export markets and of those competing against imports in the domestic market. That said, the lower dollar can adversely impact on importers and on domestic producers with high proportions of imported inputs. It also lifts the costs of imported capital equipment.

Market trends worldwide indicate growth opportunities in overseas construction projects and improving prospects in the metal products, machinery and domestic appliances market sectors. The development of niche markets for new and specialised products, including downstream value-added products, also offer potential growth opportunities for individual steel businesses.

The domestic market will remain important for many uses of steel, particularly building products, mining and manufacturing. An important source of competitive advantage for Australian businesses operating in the domestic market has been the local logistics capacity of the industry which enables the industry to respond quickly to demand requirements. As mentioned above, there are numerous reports suggesting that this advantage is being tested as local users of steel products seek to lift their production to meet changing patterns of demand. The weakened state of steel industry supply chains in the wake of the challenges of the recent past is a source of immediate concern. Relatively short lead times (compared to those associated with imported steels), lower on-site inventory requirements, access to a highly skilled workforce and the ability to offer “whole of life” cycle project benefits (including maintenance and through-life technical support) are other key competitive advantages.

This submission highlights the importance of the steel industry, including both the upstream producers and the downstream supply chains, to Australia’s economy, and examines the industry’s outlook and the major competitive challenges confronting local manufacturers and fabricators. It also outlines initiatives that have been undertaken by the local industry to lift their global competitiveness and capture a greater share of future opportunities.

Finally, a number of recommendations are made addressing a range of critical issues aimed at ensuring that we have the right conditions to support the sustainability of the steel industry in the future. These issues include supplier capability development, market development, government procurement, anti-dumping arrangements, product conformance and industry standards.

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Key Policy Recommendations

The recommendations below are aimed at building on the existing strengths of the Australian steel industry to further develop its productivity, international competitiveness and resilience with a focus on ensuring that the industry's upstream and downstream sectors can fully capitalise on future opportunities.

The sustainability of the Australian steel industry, which includes both upstream manufacturers and downstream supply chains, will largely come from business investment, innovation, good management and skills development at the firm level and from cross-industry co-operation and collaboration, encouraged and facilitated by government, to strengthen domestic supply chains by lifting industry capability and innovation and by exploring opportunities for market development both in Australia and abroad.

There are additional roles for government in ensuring that procurement practices provide full and fair opportunities to domestic producers; in ensuring that trade in steel products takes place according to WTO rules; in ensuring that market information is readily available to participants; and by ensuring that the standards and conformance framework operates effectively.

Supply Chains and Supplier Development

- Government and the industry should work together to establish a steel industry supply chain development program. The intention is for steel and steel product manufacturers and distributors to undertake programs of business support and development to enhance the capabilities of downstream manufacturers and fabricators, and to support the competitiveness and sustainability of the entire Australian steel industry.

Industry Development

Ai Group recommends the formation of a task force comprising representatives from steel industry businesses and industry associations to:

- Explore a range of initiatives that aim to exploit new market opportunities and expand existing markets both domestically and abroad.
- Examine ways of building a more integrated sector through greater collaboration between businesses that could help deliver increased market presence, exchange of information and experience on marketing and the critical mass needed for large orders or large procurement packages. This includes consideration for further steel fabricator alliance projects across regions nationally.
- Support the compilation of a data base that identifies supply opportunities for the manufacture and fabrication of steel products in Australia.
- Explore ways to increase design led innovation capabilities in the sector to increase the rate of innovation and lift competitiveness.

Steel Supply Advocate

- Given the pressures facing the steel industry, Ai Group recommends re-establishment of a dedicated Steel Supplier Advocate to improve opportunities for Australian steel and fabrication businesses to access and supply to major projects, particularly in view of the model's previous effectiveness. A further key role of the Steel Supplier Advocate would be to work closely with the steel industry, industry associations and research organisations to champion industry innovation and process improvements throughout the steel supply chain.

Government Procurement

- The barriers and distortions against local industry participation in government contracts and in major projects be addressed through a commitment to the procurement principles of: value for money, clarity, transparency and improvement of processes, full and fair access, full and fair opportunities for local suppliers, and supporting industry through effective planning and communication. In particular, the value for money principle in Government procurement must look beyond "least cost", and bring to bear and make more transparent, a broader cost-benefit equation or value model that considers whole-of-life costs.

- More fully utilise the Industry Capability Network's to help build local industry capabilities and sourcing opportunities.

- Early engagement in projects is critical to ensure that opportunities, risks and issues on individual projects are identified and communicated before requiring the submission of tenders or expressions of interest.

Australian Industry Participation Plans

- We urge continuing disclosure and greater transparency of the extent of local participation in major projects.
- We also believe that a lower threshold than $500 million should apply, supported by effective monitoring and compliance, so as to ensure a greater number of projects are captured by the AIP's. This should be done effectively without imposing prohibitive costs on affected businesses.

Anti-Dumping Arrangements

- Ai Group supports the improvements that have been made in recent years to Australia's anti-dumping arrangements to ensure that, while remaining WTO-compliant, they are now more effective and are more appropriately resourced.

- We also support further refinements to the arrangements and encourage the Committee to recommend a formal process whereby such refinements can be developed with input from all stakeholders.

Product Conformance

- That stakeholders, in consultation with all tiers of government promote awareness of the role of regulatory bodies in the building and construction sector and in particular how to report non-conforming product.
- That state and territory governments review their building certification arrangements with a specific focus on clarifying the role of building certifiers and assessing the adequacy of existing arrangements in preventing the installation of non-conforming product.
- That stakeholders, in consultation with all tiers of Government, examine how to best address the gaps and weaknesses in the building and construction sector conformance framework.
- Further research be undertaken to identify leading national and international conformance models that are effective and that keep compliance costs to a minimum.

Industry Standards

- Standards Australia continues to work with the steel industry and its supply chain to align steel material and design standards with European Standard (EN).
- Procurement agencies at all levels of Government – Commonwealth, State and Territories commit to a consistent approach to purchasing steel product certified to internationally aligned Australian Standards.
- Help inform industry and its customers of the benefits of certification in line with the National Structural Steelwork Compliance Scheme (NSSCS).

Background – The Australian Steel Industry

Profile and Operating Environment

The Australian Steel Industry is a fundamental building block for vast areas of activity across the economy. The industry covers the two major steel manufacturers, Bluescope Steel and Arrium; a number of smaller-scale operators; a network of over 160 steel distribution and warehouse premises; iron and steel product importers; as well as large downstream supply chains of structural steel fabricators. The larger industry players generally operate as integrated steelmakers, manufacturers and distributors of steel fabricated products. The industry also plays a major role in recycling steel.

The Australian steel industry is a major sector of the Australian economy. In 2013-14, the Australian upstream steel industry (iron smelting and steel manufacturing) employed about 18,500 people, paid annual wages of $1.5 billion and had an annual sales and service income of about $11.1 billion (Australian Bureau of Statistics, see table 1). The entire steel industry, from all iron and steel manufacturing through to downstream steel fabrication, forging and casting provided employment to over 100,000 people and generated about $36 billion in sales and service income. Moreover, in 2013-14, the steel industry and its supply chain contributed 10.4% of all manufacturing value added.

The iron and steel industry's upstream manufacturing facilities are based in regional Australia, including the Illawarra (New South Wales), Whyalla (South Australia), and the western suburbs of Sydney and Melbourne.

The Australian steel industry has a long-standing reputation for producing high quality products and services backed by a commitment to investing in technology, innovation and skills development. Modern steel products are highly sophisticated with new lightweight steel allowing lighter and more flexible applications that are utilised in the design of cars and transport equipment, cutting edge medical equipment, defence applications, and building and construction applications.

Australia operates in a global steel market and has significant capabilities and capacity, although it does experience widespread market access issues. According to the World Steel Association, Australia produced 4.9 million tonnes of crude steel in 2015 and was ranked 36th out of the World's top 66 steel producers during the year ended December 2015. The top three producers in 2015 were China (803 million tonnes), Japan (105 million tonnes) and India (89 million tonnes).

Major Competitive Advantages to be exploited by the Australian Steel Industry

There are a range of key areas where local steel manufactures have competitive advantage over overseas operators.

The **local logistics capacity of the industry** in particular has provided a significant competitive advantage to domestic producers. It enables the industry to respond quickly to local demand requirements as well as make design changes at short notice or in the latter stages of complex project work. The steel manufacturers are able to work closely with their customers to develop and design products that best meet local needs. This affords the domestic steel supply chains potentially

significant cost containment advantages. Steel manufactures with upstream vertical integration with mining operations can derive reliable access to iron ore and reduce volatility in input costs. Similarly, steel fabricators with ownership links with steel producers are able to gain easier and more reliable access to inputs and markets.

In recent times, however, there have been numerous reports suggesting that this advantage is being tested as local users of steel products seek to lift their production to meet changing demands. The weakened state of steel industry supply chains in the wake of the challenges of the recent past is a source of immediate concern.

Other key competitive advantages can include:

- **Reduced handling of components, lower onsite inventory levels and pre-production work**;
- **Relatively short lead times** compared to those associated with imported steels;
- **A reduction in the potential for re-works** due the minimisation of misinformation and mistakes in interpreting site plans, local regulations and environmental matters;
- **A reduction in "whole of life" costs** including maintenance and through-life technical support;
- **Access to high quality reserves of iron ore and coking coal;**
- **A skilled labour force** trained in latest steel fabrication techniques and welding processes;
- **Strong brand recognition** for a number product lines and;
- **Certification compliance with established Australian standards** from steel making through to steel fabrication.

Table 1: The Australian Steel Industry and Downstream Supply Chain (2013-14)

Industry sector (ANZSIC groups) **added**	**Industry value**		**Employment**	**Sales and service income**	**Wages and salaries**
	Nominal $mn per annum	*% of manuf.*	*At end of June number*	*Nominal $mn per annum*	*Nominal $mn per annum*
Iron Smelting and Steel Manufacturing *(2110)*	**2,159**	**2.2**	**18,569**	**11,133**	**1,490**
Basic Ferrous Metal Product Manufacturing					
Iron and Steel Casting (2121)	600	0.6	5,753	2,132	445
Steel Pipe and Tube Manufacturing (2122)	236	0.2	2,220	997	154
Total	**836**	**0.8**	**7,973**	**3,129**	**599**
Steel Products Manufacturing and Fabrication*					
Iron and Steel Forging (2210)	166	0.2	1,534	618	132
Structural Steel Fabricating (2221)	2,185	2.2	21,835	7,167	1,480
Metal roof and guttering – excl. aluminium (2224)	287	0.3	2,723	1,239	189
Other structural metal prod. manufacturing (2229)	807	0.8	8,894	2,459	477
Boiler, tank and heavy gauge containers (2231)	433	0.4	5,255	1,104	283
Sheet metal product manufacturing (2240)	820	0.8	9,280	2,034	517
Spring and Wire Product Manufacturing (2291)	363	0.4	3,609	1,373	226
Nuts, bolts, screws (2292)	176	0.2	1,522	627	102
Other fabricated metal prod. manufacturing (2299)	1,936	2.0	19,874	4,924	1,197
Total	**7,173**	**7.4**	**74,526**	**21,545**	**4,603**
Total Steel Industry and downstream supply chain	**10,168**	**10.4**	**101,068**	**35,807**	**6,692**
Total Manufacturing	**97,547**	**100.0**	**879,073**	**385,671**	**55,381**

*Source: ABS, Australian Industry, 2013-14, *sectors where most businesses use iron and steel as their principal inputs using information from IBISWorld Industry Reports.*

The Australian steel industry also comprises a network of over 160 steel distribution and warehousing facilities possessing state of the art steel processing and stock control systems. Leading distributors include Arrium Distribution, Bluescope Distribution, Southern Steel Group and CMC Coil Steels. The distributors work closely with a number of steel detailers who are recognized for utilizing advanced technologies in modelling and detailing, and achieving efficiencies by optimizing the use of datacentric information for the forwarding of product specifications to distributors.

Downstream Markets

Steel provides a key material for construction, infrastructure, resource developments, ship building, aerospace, telecommunications and other manufacturing, including, household appliances, machinery and transportation vehicles. The rural sector is also a significant purchaser of the industry's output (see table 2). Activity levels and capital investment in these downstream markets drives demand for the industry's output and revenue.

Table 2: Major Market Segmentation (2014-15)

Market Segment	Share (total $11.0 bn)
Construction industries	34.8%
Manufacturing industries	22.1%
Mining	15.8%
Export	12.3%
Rural and other	6.9%

Source: IBISWorld

Demand for steel is dictated by economic factors including global and domestic steel prices, the value of the Australian dollar, capital investment, demand from downstream industries and technology changes. Government policies affecting construction activity are also important influences. This includes policies that influence residential building formation and infrastructure development (taxation, land allocation, industrial and planning policies).

Steel Production

Weakness in demand for steel inputs from a range of key downstream industries and persistently high levels of competition from import markets has led to a significant reduction in domestic production volumes of iron and steel in recent years.

Data from the World Steel Association shows that Australia's iron and steel production volumes declined at an average annual rate of 10.4% p.a. between 2011 and 2014 (see table 3).

Despite a robust residential construction activity in Australia, output has come under increasing pressure from:

- the downturn in mining investment and the structural retreat of mining-related engineering construction;
- subdued overall levels of commercial building construction;
- sustained weakness in non-mining business investment;
- weak demand from the contracting manufacturing sector and;
- the phasing-out of automotive manufacturing in Australia.

In 2015, Australia produced 4.9 million tonnes of steel, a rise of 6.9% on the previous year and the first increase since 2010. The increase was due to higher electric arc and blast furnace production. Nevertheless, growth was off a low base with 2015 volumes down by one-third (32.5%) on 2010.

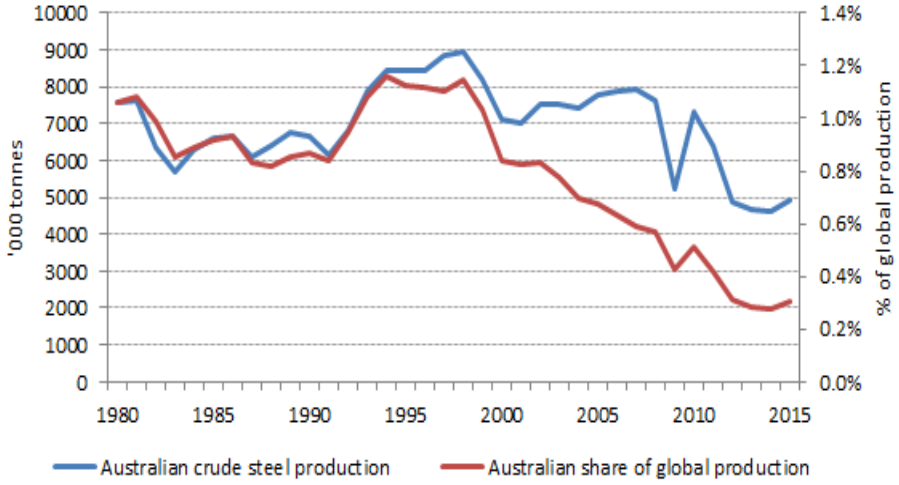
Table 3: Australian Crude Steel Production, 2011 to 2015

	2011	2012	2013	2014	2015
Australian crude steel production (thousand tonnes)	6,404	4,893	4,688	4,607	4,925
% change p.a.	-12.2	-23.6	-4.2	-1.7	6.9
Share of global production (%)	0.42	0.31	0.28	0.28	0.30

Source: World Steel Association

Australia's share of global production has trended down since the late 1990's. According to the World Steel Association, Australia's crude steel production accounted for 0.3% of global production in 2015, down from a peak of 1.2% in 1994 (see chart 1).

Chart 1: Australian Crude Steel Production, 1980 to 2015

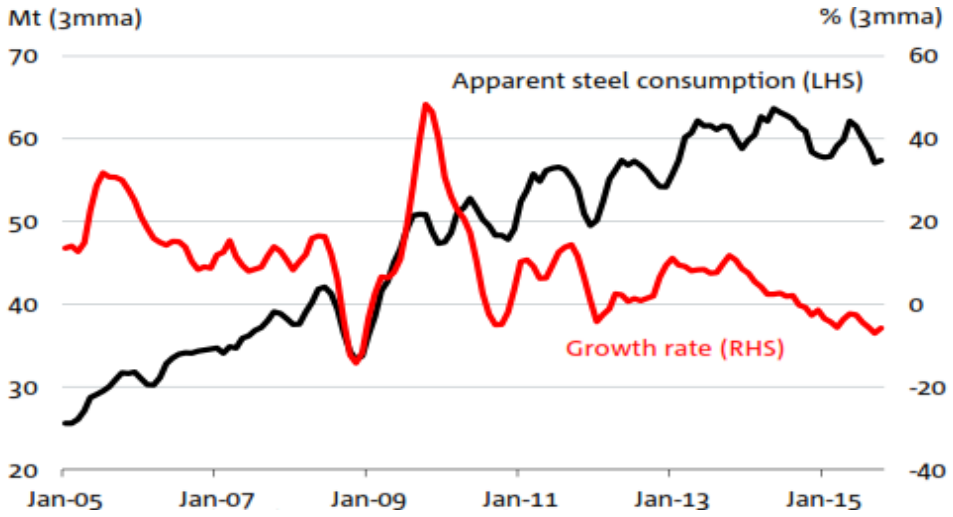


Source: World Steel Association

Australian steel manufacturers also face a challenging global market due to subdued global steel demand, falling iron ore and steel prices and heightened risks in emerging market growth and key Chinese demand. Chinese demand for steel is continuing to subside in response to overcapacity and weak consumption growth (see chart 2). The weakness in Chinese steel demand is being largely driven by an oversupplied residential market which typically accounts for around one-half of the country's steel demand. In the first ten months of 2015, new residential building commencements fell by 14% while in the commercial building sector there were solid declines in both offices (-12.0%) and other commercial premises (-9.2%).[1]

[1] National Australia Bank, Minerals & Energy Outlook, December 2015

Chart 2: Chinese Steel Consumption



Source: CEIC, Bloomberg, NAB Economics

The World Steel Association forecasts that China's steel consumption will total 714 million tonnes in 2015, a decrease of 3.5% p.a. A further fall of 1.0% is forecast in 2016. Reflecting the importance of China to world steel consumption, world steel production fell by 2.8% in 2015.[2] Global steel production is expected to remain unchanged in 2016.[3]

International Trade

The strong value of the Australian dollar restricted export growth and the ability of steel producers' to exploit overseas market opportunities over much of the past decade. In more recent years exports of upstream products have continued to fall in the face of strong overseas competition and production oversupply in Asia, in particular China and Korea. The value of iron and steel exports declined at an average annual rate of 14.3% p.a. between 2011-12 and 2014-15 (see Table 4).

Although steel imports have generally trended down over the past five years, the level of import competition remains at a high level with domestic demand falling in line with shrinking mining and manufacturing investment. This was highlighted by the 28.5% p.a. decline in manufacturing capital expenditure in Australia in 2012-13 and the 22.4% drop in mining sector capital expenditure in the two years to 2014-15.[4]

Import penetration is a major pressure point for many businesses engaged in the steel fabrication sectors. For instance, in the major structural steel segment, import competition is expected to have surged almost fourfold in the past five years, accounting for 22.2% of domestic demand in 2014-15 (IBISWorld).[5] For lighter fabricated steel products, competitive pressures have been particularly compounded by the high levels of standardised and low-value added products which have elevated the degree of price-based competition. In the fabricated metals product sector where iron and steel is a

[2] World Steel Association data, January 2016 https://www.worldsteel.org/media-centre/press-releases.html
[3] Office of the Chief Economist, Resources and Energy Quarterly, December 2015
[4] Australian Bureau of Statistics, Private New Capital Expenditure and Expected Expenditure, Australia, Sep 2015
[5] IBISWorld Industry Report, Structural Steel Fabricating in Australia, June 2015

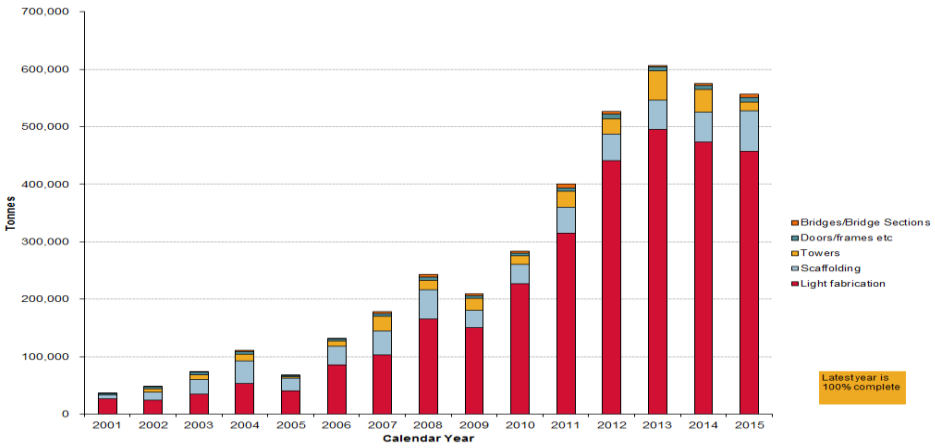
principal material input, import penetration rose from 52.4% of domestic demand in 2010-11 to around 56.8% in 2014-15 and is projected to account for 59.5% of domestic demand by 2020-21.[6] The quantity and value of light fabricated steel imports from 2001 to 2015 by major product category is shown in chart 3.

Table 4: Australian Iron and Steel, Exports and Imports, 2011-12 to 2014-15

	2011-12	2012-13	2013-14	2014-15
Value of exports fob. ($m) % change p.a.	983 -24.6	820 -16.6	724 -11.7	692 -4.4
Volume of exports (kt)* % change p.a.	1,186 -33.6	993 -16.3	874 -12.0	850 -2.7
Value of imports ingot steel ($m) % change p.a.	2,113 -0.4	1,755 -16.9	1,654 -5.8	1,731 4.7

*Source: Department of Industry, Innovation and Science, Resources & Energy Quarterly, December quarter 2015 *Includes all steel items in ABS, Australian Harmonized Export Commodity Classification*

Chart 3: Fabricated Steel Imports by Calendar Year



Source: Australian Bureau of Statistics

Industry revenue

Industry revenue in the upstream iron smelting and steel manufacturing industry declined at an average annual rate of 3.8% over the four years to 2013-14 to reach $11.2 billion according to the latest IBISWorld data (see table 5). The financial year 2012-13 saw a substantial drop in revenue due to large falls in demand for steel inputs from key domestic markets. The fall in domestic demand over this period was largely linked to the downturn in engineering construction which fell by $16.8 billion through 2012 to 2014[7] as mining investment fell from its record-high peaks and as mining-related heavy industrial, rail and port infrastructure construction declined. Recent trends in industry revenue are shown in Table 5.

[6] IBISWorld Industry Report, Fabricated Metal Product Manufacturing in Australia, June 2015
[7] Australian Bureau of Statistics, Construction Work Done, Australia, Preliminary, Sep 2015

Rapidly falling iron and steel prices in recent years have further undermined revenue growth. The industry's two major players, Bluescope Steel and Arrium have both reported revenue losses in their steel making segments over the past five years, with Bluescope recording double digit declines in the two years to 2012-13[8].

Reduced domestic demand for steel resulted in the closure of Bluescope Steel's BlueScope No. 6 blast furnace at Port Kembla and the Western Port hot strip mill at Hastings east of Melbourne in 2011. Along downstream supply chains, revenue has generally trended lower in the past five years, due to weak demand in key markets, intense competition from cheaper inputs, product substitution (i.e. concrete and timber-based building materials, PVC-based pipe fittings, ceramics) and rising domestic input prices. However, increased demand from residential construction businesses appears to have supported a lift in revenue in the structural steel fabricating and steel pipe and tube manufacturing sectors in 2013/14. Residential construction, particularly high rise apartment developments is a key market for products such as reinforcing steel, scaffolding and structural steel pipes and tubes.

Table 5: Australian Iron and Steel Revenue $m, 2010-11 to 2013-14

Iron and Steel Revenue ($ million)	*2010-11*	*2011-12*	*2012-13*	*2013-14*
Iron smelting and steel manufacture	**15,083.2**	**14,214.1**	**10,970.4**	**11,156.4**
Basic Metal Product Manufacturing				
Iron and steel casting	2,167.2	2,094.3	2,372.8	2,327.8
Steel pipe and tube manufacturing	1,155.4	1,176.8	998.0	1,014.9
Steel products manufacturing and fabrication				
Iron and steel forging	797.0	835.0	652.0	639.5
Structural steel fabricating	7,196.3	7,443.4	7,480.1	7,620.0
Metal roofing, guttering (excl. alum)	822.4	756.1	740.5	771.6
Other structural metal products mfg	2,413.7	2,365.8	2,260.5	2,215.3
Boilers, tanks, containers	989.7	1,074.7	1,248.4	1,098.5
Sheet metal product manufacturing	2,237.9	2,228.0	1,875.4	1,911.0
Spring and wire product manufacturing	1,242.3	1,213.8	1,190.7	1,194.0
Nuts, bolts, screws	647.8	674.5	684.3	623.9
Other fabricated metal product mfg	4,495.9	4,632.5	4,256.5	4,899.5
Total Steel Industry and downstream supply chain	*39,247.8*	*38,709.0*	*34,729.6*	*35,472.4*
% change p.a.	-5.7	-1.4	-10.3	2.1

Source: IBISWorld

Steel Industry Businesses

A total of 12,253 businesses were registered as operating in the Australian steel industry (upstream and downstream supply chains) as of June 2014 (see table 6). Outside of the major players, (including Bluescope Steel, Arium, BHP Billiton, Australian Reinforcing Company and Acrow Holdings) the industry is overwhelmingly comprised of a large number of smaller scale iron smelters and steel manufacturers and fabricators. Medium size businesses (employing between 21 and 199 employees) accounted for only 6.4% of total businesses while those with fewer than 20 employees made up 93.2% of businesses. Indeed, 43.2% of businesses are sole operators with no employees. The industry has a medium level of

[8] IBISWorld Industry Report, Iron Smelting and Steel Manufacturing in Australia, June 2015

market share concentration. 14.4% of the industry's businesses generated more than $2 million of revenue in 2013-14. Highlighting the fragmented nature of the industry outside of the major players, revenue of less than $200,000 was generated by 48.7% of businesses with just over one-third (36.8%) generating revenue of between $200,000 and $2 million.

Steel Industry Employment

In line with declining output and revenue, steel industry employment has deteriorated in recent years. Total employment across the upstream and downstream supply chain fell by 8.3% in the three years to 2013-14. (see table 7). The major players, Bluescope Steel and Arrium have struggled to maintain profitability amid global overcapacity and intense competition from imports (and in export markets), leading to restructuring, plant closures and job losses.

Heavy industry and non-residential building are principal sources of demand for businesses manufacturing and fabricating structural steel components. The subdued overall levels of non-residential building (offices, industrial premises and hotels etc) activity in recent years, and the scaling back of investment in mining and heavy industrial plants has driven employment significant reductions in employment in a number of downstream sectors, including structural steel fabricating, metal roofing sheet metal product manufacturing and other fabricated metal product manufacturing.

Table 6: Distribution of businesses by sector and employment size -June 2014

	Non-employing	1-19	20-199	200+	Total
Iron Smelting and Steel Manuf.	**497**	**651**	**122**	**9**	**1,279**
Basic Metal Product Manufacturing					
Iron and Steel Casting	90	94	22	6	212
Steel Pipe and Tube Manufacturing	87	112	20	0	219
Steel Products Manufacturing and Fabrication					
Iron and Steel Forging	53	68	9	3	133
Structural Steel Fabricating	616	1,032	191	14	1,853
Metal Roof and Guttering (excl. alum)	20	53	12	6	91
Other structural metal products	530	804	78	3	1,415
Boilers, tanks and containers	985	640	42	0	1,667
Sheet metal product manufacturing	509	694	88	3	1,294
Spring and Wire Product Manuf.	141	204	40	0	385
Nuts, bolts, screws	59	100	14	0	173
Other fabricated metal product mfg.	1,705	1,673	150	4	3,532
Total steel industry and downstream supply chain	**5,292**	**6,125**	**788**	**48**	**12,253**

Source: ABS: Counts of Australian Businesses, June 2014

Table 7: Australian Iron and Steel Employment, 2011-12 to 2013-14

Employment	2011-12	2012-13	2013-14	% change 2011-12 to 2013-14
Iron smelting and steel manufacture	**20,369**	**17,525**	**18,569**	**-8.8**
Basic Metal Product Manufacturing				
Iron and steel casting	6,492	6,016	5,753	-11.4
Steel pipe and tube manufacturing	2,528	2,094	2,220	-12.2
Steel Products Manufacturing and Fabrication				
Iron and steel forging	1,710	1,537	1,534	-10.3
Structural steel fabricating	25,157	23,811	21,835	-13.2
Metal roofing, guttering (excl. alum)	2,233	3,212	2,723	-21.9
Other structural metal products	9,827	9,108	8,894	-9.5
Boilers, tanks, containers	5,480	5,390	5,255	-4.1
Sheet metal product manufacturing	10,264	9,071	9,280	-9.6
Spring and wire product manufacturing	3,657	3,465	3,609	-1.3
Nuts, bolts, screws	2,108	1,922	1,522	-27.8
Other fabricated metal product mfg.	20,407	18,777	19,874	-2.6
Total Steel Industry and downstream supply chain	***110,232***	***101,928***	***101,068***	***-8.3***

Source: ABS, Australian Industry, 2013-14,

Key strategies employed by local industry

A number of businesses in the Australian steel industry have adopted new technologies and enhanced production processes to mitigate issues impacting on their competitiveness and improve their sustainability.

For instance, **steelmakers have adopted new technologies to improve energy efficiencies and reduce emissions.**

There has also been substantial technological change in the sintering stage in the steelmaking process, leading to improvements in plant-heat recovery, air-leakage reduction and changing methods.

Across the steel industry's downstream supply chain, initiatives have largely focused on production innovation and process improvements. This has included the adoption of lean manufacturing practices and more environmentally friendly approaches aimed at reducing wastage.

- In 2014, BlueScope Steel introduced a new COLORBOND® steel coating technology, which has significantly boosted that product's performance and corrosion-resistance, while reducing its environmental footprint. The addition of two magnesium compounds to the original zinc and aluminium coating improves the galvanic action of the zinc, and enables the aluminium in the coating to more actively protect the base steel. This is a world-first application for coated steel building products. The new product has a longer lifespan and a lower environmental impact compared with previous-generation COLORBOND® steel, in a product that is 100 per cent recyclable.
- The adoption of computer aided design (CAD) has been another priority area for businesses targeting improvements in the efficiency and accuracy of design work. One example is Permasteelisa, a global leader in curtain wall and cladding design which adopted the use of Autodesk and 3D manufacturing design software into its design and manufacturing processes.
- In the steel fabrication sector, businesses have developed successful proprietary technologies, particularly in the areas of lock, safe and vault manufacturing. For example, key and lock manufacturer ASSA ABLOY owns the patent to the CYL4 key technology that allows one key to open multiple locks.
- Within the sheet metal product manufacturing sector, the GWA Group has placed increasing emphasis on its Eco Logical Solutions, seeking to manufacture products that require lower water volumes and that use less energy in the production process.[9]

Australia's leading steel detailing businesses are also at the forefront of international developments in data interfacing, including advanced 3-D modelling and detailing systems and the use of electronic data exchange for efficient forwarding of specifications to distributors. Other key initiatives in support of industry sustainability include:

The **Australian Steel Hub** is a ground-breaking initiative, which has attracted funding of $12M over five years, including significant investments from the Australian Research Council and BlueScope. It operates through a collaborative approach between leading universities and the steel industry. The

[9] IBISWorld Industry Reports, June 2015

focus of the Steel Research Hub is in delivering manufacturing innovations that will ensure the industry's global competitiveness. Led by the University of Wollongong, the hub brings together key partner, BlueScope, with Arrium, Bisalloy, Cox Architects, Australian Steel Institute, Lysaght and the University of Queensland, University of NSW, University of Newcastle, Swinburne University of Technology and RMIT, to drive its research program.

Key elements of the Hub are:

- **Market-Focused Product Innovation:** This program optimises the market interface to clearly define end-user need, thereby ensuring product developments are market-driven. Under the program, the resources and research capacity of the Hub will become available to a broad range of Australian SMEs. Product development initiatives will be undertaken with a view to improving high strength hot rolled products, coated products for resilient Australian buildings, and surface engineering of coatings.
- **Innovative Coating Technologies:** This program involves strengthening existing capability and developing breakthrough technology in the field of continuous coil coating for steel. Fundamental knowledge on microstructure development in hot dip coatings through thermodynamic and phase field modelling will be developed, and novel structure refinement techniques to improve coated product performance will be explored. Surface engineering of coatings will lead to novel modified surface technologies resulting in world-leading Chromium free passivation systems for Al-Zn coated steel.
- **Sustainable Steel Manufacturing:** This program is aimed at transforming Australia's competitiveness in iron and steelmaking, with attention to both economic and environmental sustainability. There will be two projects: economic sustainability through enhanced productivity and flexibility of raw material usage in steelmaking, and environmental sustainability through lower greenhouse gas emissions and greater recycling of plant waste.

The Australian Steel Institute has developed the **Environmental Sustainability Charter (ESC**) with the objective of developing steel as a sustainable form of construction and to have the steel industry chain operate in an environmentally responsible way. This Charter is designed for downstream enterprises associated with steel manufacturing, fabrication or services to demonstrate a company's approach to environmental improvement, particularly where a company is required to achieve an accreditation as a contractual requirement, and is designed to be used by regulators, environmental rating agencies and bodies such as the Green Building Council of Australia.

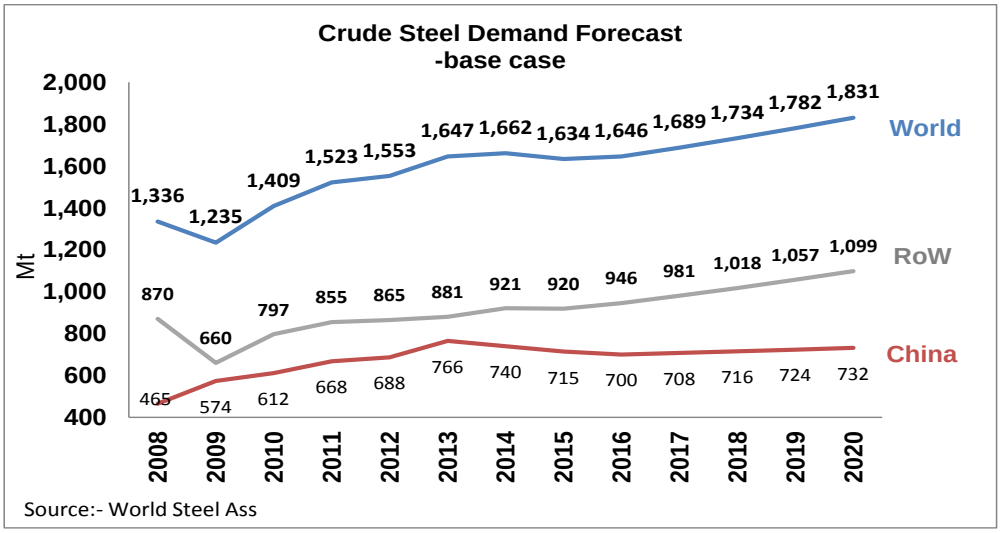
The Steel Industry Outlook

The Australian steel industry will continue to face a challenging domestic and world market in the future. Global steel production is being weighed down by subdued world demand, excess steelmaking capacity, low profitability of steelmakers and falling global steel prices.

World steel consumption is estimated to have declined by approximately 1.7% in 2015 to 1,634 million tonnes due largely to weaker investment activity in China (see chart 4). Increased demand for steel in the United States, India, and other emerging economies was insufficient to offset falling consumption in China and Japan.[10]

In 2016, world steel consumption is forecast by the World Trade Association to increase only modestly by 0.7% (led by growth in the United States, the European Union and India).

Chart 4: World Steel Demand



A slow recovery in world steel consumption is expected from 2016 as the world economy (excl. China) improves.

Global steel production contracted by 2.8% in 2015 to 1,622.8 million tonnes reflecting weakness in demand and falling steel prices (see chart 5). Across countries, the decline was largely due to reduced output in China (down by 2.3%), the United States (down by 10.5%) and Japan (down by 5.0%). China accounted for around 50% of world steel production in 2015. China's share of global steel production remained substantial at 49.5% in 2015, up from 49.3% in 2014.[11]

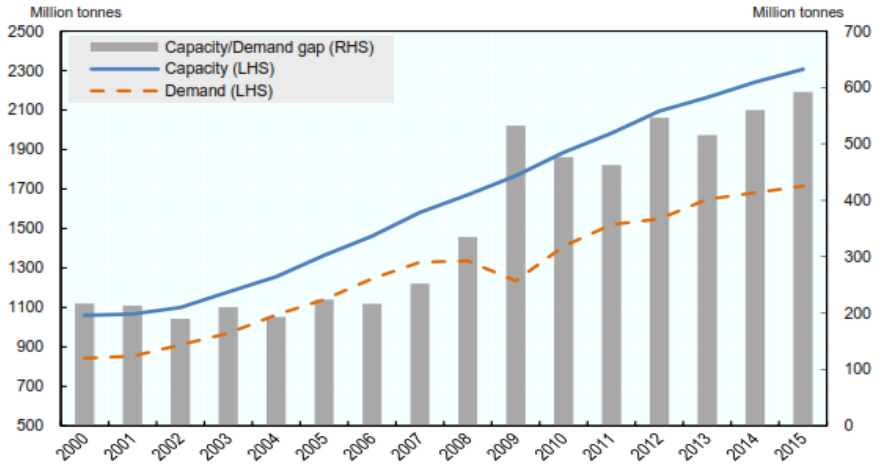
[10] Office of the Chief Economist, Resources and Energy Quarterly, December 2015
[11] World Steel Association data, January 2016 https://www.worldsteel.org/media-centre/press-releases.html

Chart 5: World Steel Production

Source: World Steel Association

Against this background, the global steelmaking capacity is continuing to expand, having more than doubled since the early 2000's due to expansions in manufacturing and construction activity and the need to support infrastructure developments, particularly in emerging economies (see chart 6). The OECD reports that while steel consumption growth is expected to remain moderate, several crude making steelmaking investment projects have been completed, contributing to mounting global excess capacity. The OECD reports that this *"global inbalance between capacity and demand will continue to pose risks for the industry for the foreseeable future"*.[12] The OECD is projecting global nominal steelmaking capacity to increase to 2.36 billion tonnes by 2017, up from 2.16 billion tonnes in 2013. The OECD further notes that *"the growing gap between global steelmaking capacity and demand has led to deterioration in the financial situation of steelmakers, and has raised concerns about the longer term economic viability and efficiency of the industry".*[13]

Chart 6: World crude steel capacity (nominal) and demand



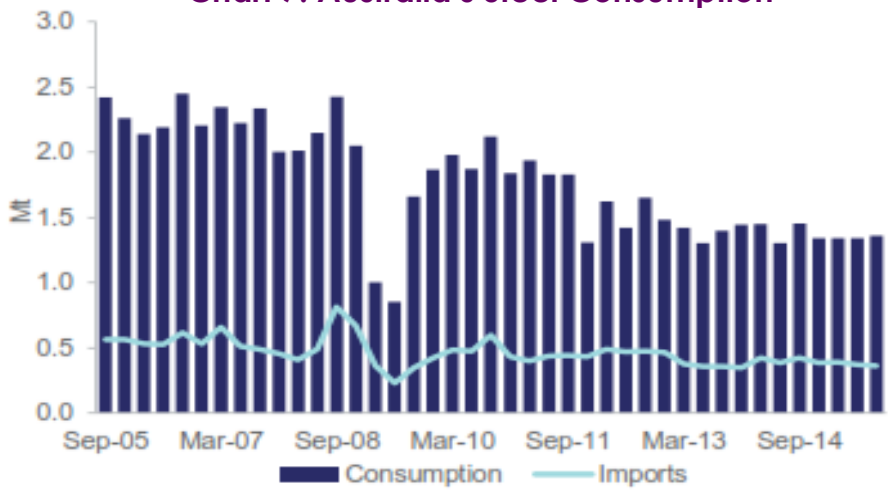
Source: OECD for nominal capacity and the World Steel Association for demand

[12] OECD (2015) "Excess Capacity in the Global Steel Industry and the Implications of New Investment Projects", OECD Science, Technology and Industry Policy Papers, No.18, OECD Publishing.
[13] ibid

Reflecting international competitive pressures and continuing falls in domestic steel consumption, Australia's steel production is forecast to fall by 6.2% in 2016.[14] This is likely to lead to further downsizing in the operations and productive capacity of steel manufacturers.

Steel consumption in Australia was down by 7% in the September quarter 2015 on a year earlier and a substantial 44% below levels of a decade ago. The deteriorating trend in domestic steel consumption has mainly been at the expense of domestic production rather than imports (see chart 7).[15]

Chart 7: Australia's Steel Consumption



Source: Company reports, ABS Office of the Chief Economist

More positively for the Australian steel industry outlook, the depreciation of the Australian dollar will boost the competitiveness of businesses operating in export markets. According to IBISWorld, after a fall of 5.1% in 2014/15 iron smelting and steel manufacturing industry exports are forecast to recover by 2.0% in 2015/16 and rise by a further 3.5% in 2016/17. The lower value of the Australian dollar will also result in higher prices for imported steel products, and an easing in import competition pressures for local producers.

Nevertheless, import competition is likely to continue be intense for iron smelters and steel manufacturers. Overseas steel manufacturers operate on a larger scale and at lower costs than Australian producers.

Downstream markets

Construction, manufacturing and mining constitute key downstream markets for steel manufacturers and fabricators. Parts of Australian manufacturing are improving in response to the lower dollar and stronger housing activity, but a range of other segments (notably metals and machinery) continue to face the headwinds of declining mining investment, global demand shifts and the closure of automotive assembly in Australia. Manufacturing investment in buildings, structures, plant and equipment is expected to be 21.2% p.a. lower in 2015-16, as revenue constrained local manufacturers' remain reluctant to invest.[16]

[14] Office of the Chief Economist, Resources and Energy Quarterly, December 2015, World Steel Association
[15] ibid
[16] Australian Bureau of Statistics, Private New Capital Expenditure and Expected Expenditure, Australia, Sep 2015

Mining remains a significant drag on Australia's business investment. Mining investment in buildings, structures, plant and equipment fell by 10.4% q/q (and -29.6% p.a.) in Q3 of 2015, the fifth consecutive quarter of decline. The outlook for mining industry investment indicates further falls, with a 35.4% decline in investment expected in 2015-16 (in nominal terms)[17] and the prospect of continued weakness in the medium term as bulk mining expansions reach completion and the LNG facilities in WA, QLD and NT come on stream.

Latest data also points to a fragmented outlook for Australia's construction industry. The downturn underway in **engineering construction** is expected to continue, as mining-related construction and related infrastructure investment falls further from its recent peaks.

The October 2015 Australian Industry Group/Australian Constructors Association Construction Outlook survey reveals that revenue from major project activity in Australia is forecast to fall by 2.4% (current dollars) in 2015/16 following a 4.1% decline in 2014/15. However, a mild recovery is expected in the 2016/17 financial year as higher infrastructure activity helps to soften the impact of the downturn in mining and heavy industry investment. A key positive for the industry is the boost expected from road and rail projects in 2016/17 in line with the emerging growth cycle in major urban transport infrastructure.

Non-residential building activity (commercial construction) is expected to remain subdued into 2016, reflecting persistent weakness in approvals and building commencements across most major commercial property markets. Constrained public sector investment and weak white collar employment growth (two of the main drivers of office construction), poor growth in local retail spending (the main driver of growth in retail construction) and poor investor sentiment continue to weigh heavily on the commercial construction industry's pipeline of work. Accordingly, results from the Ai Group Construction Outlook survey point to modest growth of 2.3% in turnover from non-residential building work in 2015/16.

Residential building activity, however, is expected to remain buoyant in 2016 although its pace of growth will slow with recent data indicating that Australia is past the peak in the building approvals cycle. The total number of building approvals in December 2015 stood at 18,161 (trend data), the lowest level since October 2014. Nevertheless, approvals are still elevated and well above their ten-year average. Factors including low mortgage interest rates, strong population growth and urban transport infrastructure developments will also continue to support activity.

According to 2015 OECD statistics[18] (based on data from HIS Global Insight), global output of the main downstream steel markets are expected to grow moderately in 2015 and 2016 (see table 8 and chart 8).

- Construction, which represents the largest world steel consuming sector (52.2% of global steel use in 2013 – worldsteel 2014), is expected to record output growth of 2.6% in 2015, down from 3.3% in 2014. However, stronger growth of 3.6% is expected in 2016. Growth in construction output in 2015 to 2016 is expected to exceed the 2014 rate of increase in the EU, NAFTA, Africa and India. In contrast, growth in steel output is expected to stagnate in the

[17] ibid
[18] OECD, Steel Market Developments, 2nd quarter 2015

Commonwealth of Independent States (CIS) region. For China, construction output growth is expected to weaken from the 8.8% increase achieved in 2014 to 4.3% in 2015 and 6.0% in 2016.

- Automotive (11.6% of global steel use in 2013 – worldsteel 2014) is forecast to rise by 3.5% in 2015 and 3.0% in 2016, after 5.1% growth in 2014. Automotive output is expected to recover in 2015 from negative growth rates in the ASEAN region and India. However, EU output is forecast to moderate and China is expected to experience a significant slowdown from 12.0% in 2014 to 7.6% in 2015 and 6.6% in 2016.
- Machinery (14.2% of global steel use in 2013 – worldsteel 2014) is expected to show stronger world growth in 2015 before decelerating in 2016. Growth in the machinery sector in China is expected to trend lower through 2015 and 2016, although key support is expected over this two year period from output increases in Europe and Latin America.

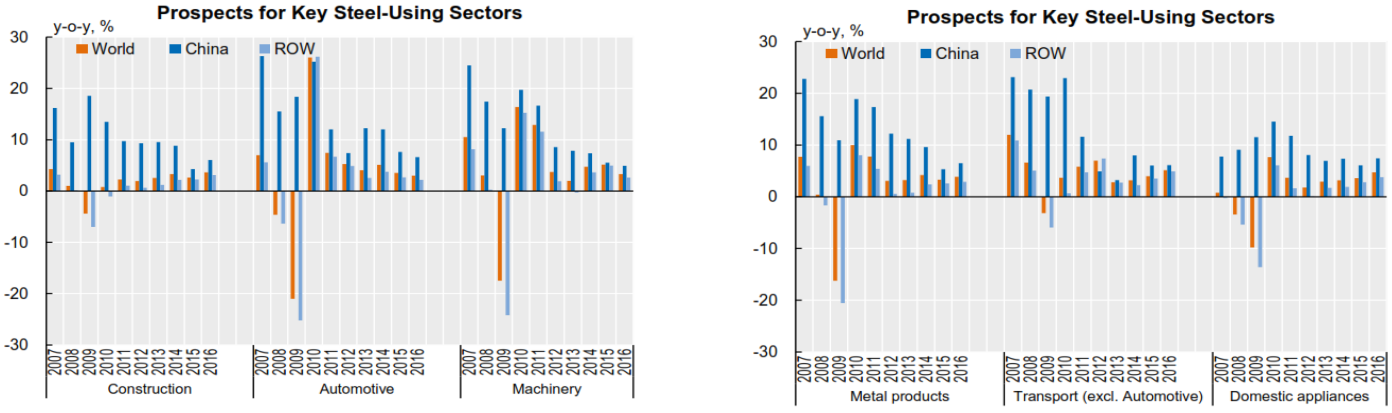
Table 8: World Growth of key steel using sectors by region

	Construction			Automotive			Machinery			Metal products			Transport			Domestic appliances		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
World	3.3	2.6	3.6	5.1	3.5	3.0	4.7	5.1	3.3	4.2	3.3	3.9	3.2	4.0	5.1	3.2	3.6	4.7
EU (15)	1.2	2.0	2.4	5.3	1.9	2.1	-0.1	2.0	2.3	2.0	2.4	2.2	0.0	3.6	3.9	-2.2	1.3	1.5
Other Europe 1/	3.7	1.0	2.4	-1.0	2.6	4.2	7.1	0.3	2.9	3.0	0.9	1.8	5.7	1.2	2.9	2.1	1.6	2.8
CIS 2/	-3.5	-5.7	-2.7	-11.1	-4.3	1.3	-6.0	-3.2	-0.4	-12.1	-3.0	1.5	-0.1	-3.9	1.0	-9.5	-3.4	1.6
NAFTA	2.2	2.4	4.9	8.3	6.5	2.8	6.8	4.1	1.6	3.9	2.6	3.3	4.5	4.6	6.3	3.7	3.3	6.0
Latin America 3/	0.5	0.3	1.2	-15.1	0.2	2.8	-3.9	1.6	1.5	-8.3	0.0	1.6	2.7	2.4	2.8	-3.4	-0.1	1.2
Africa 4/	3.4	4.1	4.0	6.7	4.5	4.2	1.5	2.7	3.7	3.4	3.8	4.7	0.0	1.5	2.6	1.6	3.5	4.2
Middle East 5/	4.9	4.3	3.2	4.5	4.0	3.4	3.7	3.0	2.9	6.8	4.2	4.2	4.7	4.3	4.9	4.4	4.4	4.2
Developed Asia 6/	1.1	1.0	1.2	3.1	-1.9	-0.9	6.8	11.3	3.7	2.3	2.5	2.8	-2.8	0.7	3.4	5.4	4.2	3.9
China	8.8	4.3	6.0	12.0	7.6	6.6	7.4	5.5	4.9	9.6	5.3	6.5	8.0	6.0	6.1	7.4	6.1	7.4
India	3.3	6.4	7.1	-3.3	4.7	7.4	3.3	3.8	4.0	-1.8	5.9	6.9	8.5	4.5	7.0	2.7	5.0	6.5
ASEAN 7/	5.8	4.3	3.8	-9.7	7.5	5.8	5.3	6.1	4.6	4.0	4.8	5.5	5.9	5.4	6.0	2.5	4.8	4.9
Oceania 8/	6.5	1.0	0.7	-13.1	-6.4	-13.7	4.9	12.2	4.7	0.7	-0.4	-0.8	1.5	1.3	1.4	2.1	1.5	1.7

1/ The aggregate of Norway, Switzerland and Turkey. 2/ The aggregate of Russia and Ukraine. 3/ The aggregate of Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Honduras, Jamaica, Panama, Peru, Uruguay and Venezuela. 4/ The aggregate of Cameroon, Kenya, Morocco, Nigeria, Senegal, South Africa, Tunisia and Zimbabwe. 5/ The aggregate of Bahrain, Egypt, Iran, Israel, Jordan, Kuwait, Qatar, Saudi Arabia and United Arab Emirates. 6/ The aggregate of Japan, Hong Kong, China, China, Korea and Chinese Taipei. 7/ The aggregate of Indonesia, Malaysia, Philippines, Singapore, Thailand, and Viet Nam. 8/ The aggregate of Australia and New Zealand.

Source: OECD based on gross output data from HIS Global Insight

Chart 8: Global prospects for key steel consuming sectors



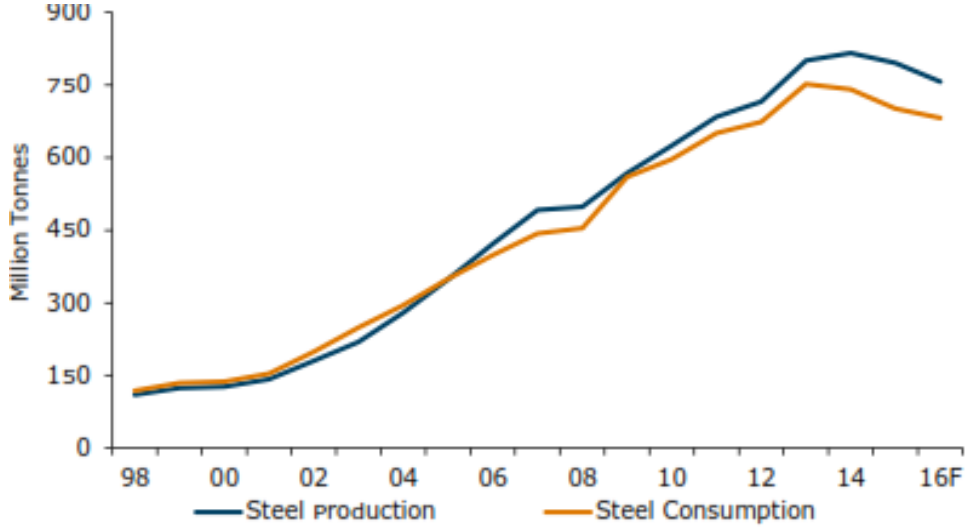
Source: OECD based on gross output data from HIS Global Insight

Steel Prices and Raw Material Price Developments

Steel prices

Falls in global steel prices are largely attributable to Chinese over production. Although Chinese steel production is estimated to have fallen by 1.8% in 2015 and by a further 1.0% in 2016 (Department of Industry, Innovation and Science, Resources), China's steel consumption is also declining. China's steel demand is forecast to decline by 2.8% in 2016 following a 4.3% fall in 2015[19](see chart 9).

Chart 9: China Steel Demand Peaked in 2013



Source: Bloomberg, Chinese Customs, ANZ Research

The consequent boom in Chinese export volumes has exerted significant downward pressure on steel and closely linked iron ore prices (see chart 10). In the first 11 months of 2015, China's steel exports totaled 102 million tonnes, a 22% increase on 2014. Indeed, over this period, China's steel exports were almost equivalent to Japan's estimated steel production.[20]

Chart 10: Iron ore prices linked closely to steel prices

Source: ANZ Commodity Call, December 2015

[19] ANZ Commodity Call, ANZ Research, December 2015
[20] Office of the Chief Economist, December 2015, Resources and Energy Quarterly

Chinese steel exports will be a key influence on future steel prices. According to ANZ Research *"rising trade protectionism - particularly a raft of new US anti-dumping duties – should close the Chinese steel export arbitrage window and trigger the start of long overdue consolidation in domestic steel supply".*[21] Such a development could trigger a relief rally in steel prices in the second half of 2016.

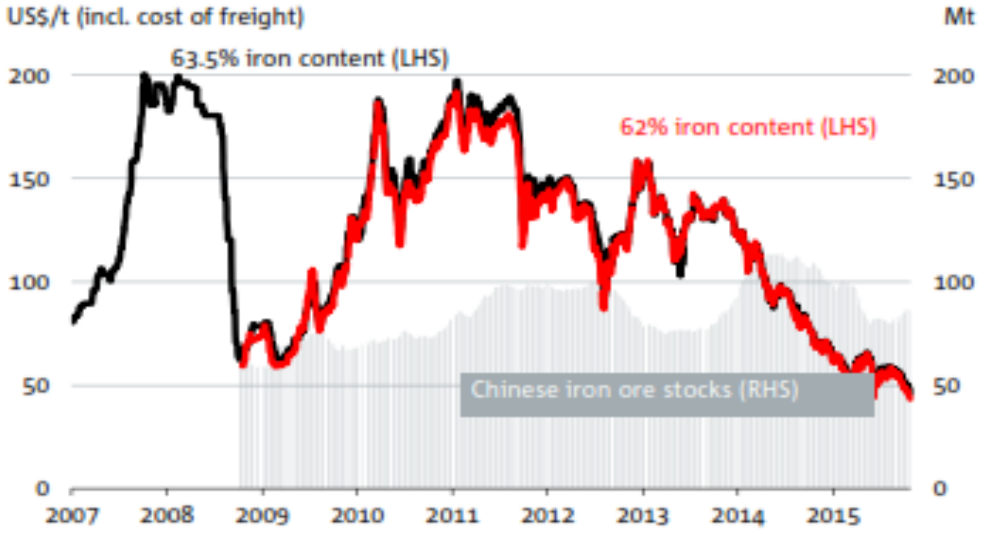
The lower value of the Australian dollar and a potential rise in the world price of steel should provide support to steel industry businesses and limit the pressures on the industry. It will help domestic businesses to close the gap on the cost advantages of overseas competitors, while also increasing competitiveness in export markets and improving the potential for higher profitability. However, the Australian dollar's depreciation will disadvantage those enterprises with an established business model involving the importing of fabricated steel products and components.

Raw material prices – some key developments

Raw material prices have generally trended lower since 2010/11. With world steel demand expected to remain subdued in 2016, raw material prices are likely to remain relatively low over the next two years.

- **Iron Ore:** In line with broader weakness in commodities, iron ore prices have continued to drift lower in recent months. With steel demand remaining subdued and the major iron ore producers keeping markets well supplied, the price of iron ore declined substantially during the September quarter 2015 and into the December quarter 2015. Prices dipped below $US35 tonne in mid-December from a price of $US50 tonne in August 2015. Chinese industrial output cuts are likely to exert further downward pressure on prices (see chart 11). According to ANZ Research spot iron ore prices are expected to remain at low levels in 2016, averaging US$44 a tonne.[22] Longer term Analyst consensus forecasts are provided in table 9.

Chart 11: Continuing supply into a weakening market drives iron ore prices lower



Source: Bloomberg, Thomson Datastream, NAB Economics

[21] ANZ Commodity Call, ANZ Research, December 2015
[22] ibid

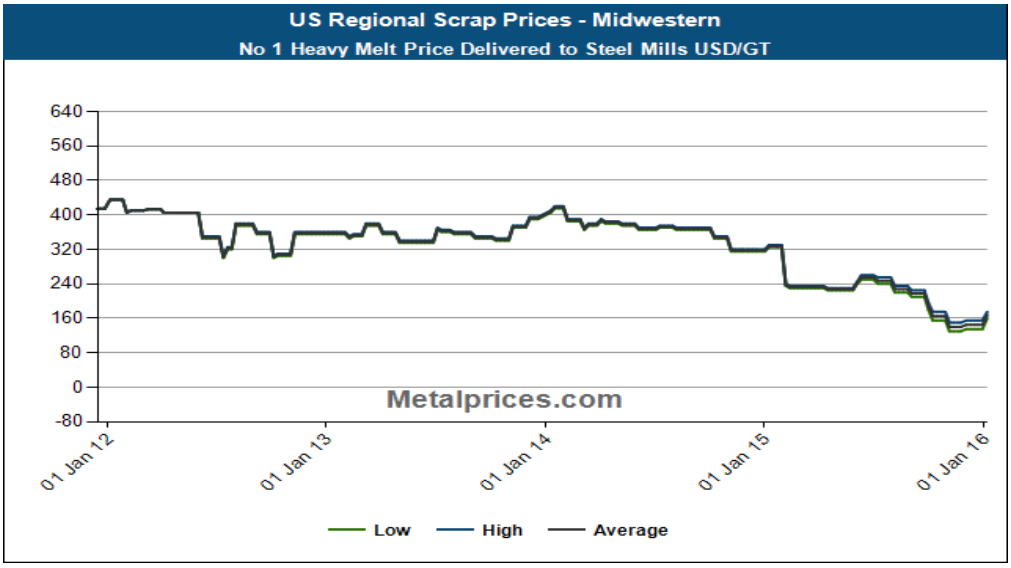
Table 9:Iron Ore Price Forecasts

Iron Ore (Fines) US$/t @ 62% Fe (Spot)	FY16	FY17	FY18	FY19	FY20
Citigroup	**44**	39	40	43	52
CLSA	**59**	60	60	63	67
Morgan Stanley	**58**	68	73	75	77
Deutsche Bank	**50**	62	64	68	73
Goldman Sachs	**48**	41	40	41	43
Macquarie	**52**	60	67	73	75
Credit Suisse	**48**	48	50	50	52
UBS	**52**	51	54	57	60
JP Morgan	**53**	55	60	65	69
Analyst Consensus (US$/t cfr)	***51***	***55***	***56***	***59***	***63***

Source:Platts, CRU, Investment Bank analyst reports, Arrium ,October 2015

- **Metallurgical Coal:** Falling steel demand has also driven solid declines in prices for metallurgical coal with little prospect of a recovery in 2016. Domestic coal is also becoming an increasing share of China's blast furnace requirements, further suppressing prices. Rising Chinese coal exports also pose a risk to prices, with the volume of China's coal exports increasing sharply by 15% in 2015. The spot price for coking coal was around $US116 at the start of 2015 and averaged $US102 through 2015. Prices are expected to average $US80.00 tonne in 2016.[23]
- **Scrap steel:** As a key input to steel production, prices for scrap steel are also a function of prices for steel. Scrap steel prices have generally trended significantly lower since 2014. For example, the closely watched United States heavy metal steel scrap price declined from an average price of $417.50 in January 2014 to $167.50 in January 2016 (see chart12).

Chart 12: US Regional Scrap Prices

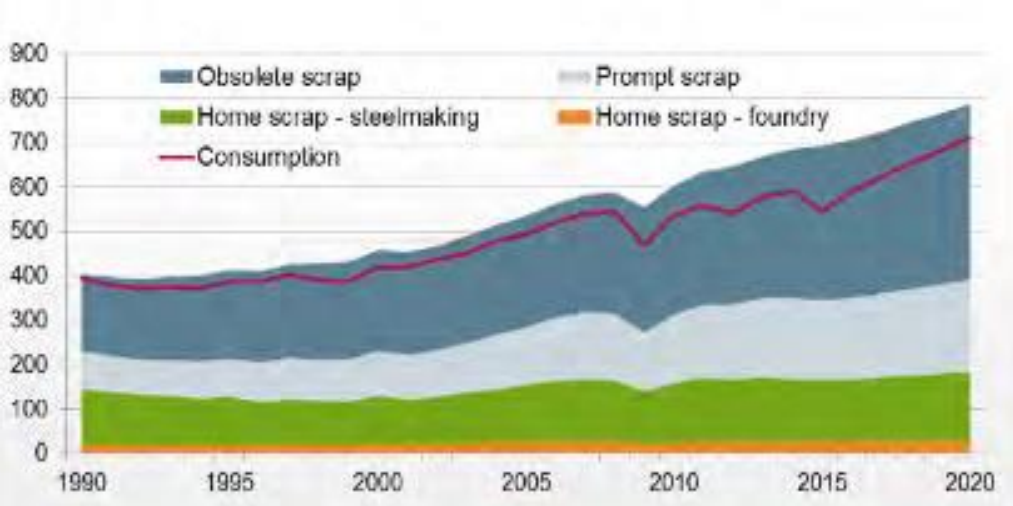


Source: MetalPrices.com, a premier market intelligence service for the international metals industry.

[23] ibid

The scrap market has been negatively impacted by exports of cheap billets from China. Moreover, global scrap availability is expected to be ample to meet demand requirements during the next five years (see chart 13).

Chart 13: Global scrap availability and consumption,Mt



Source:Arrium

These trends suggest that raw material purchase costs for the major steel manufacturers will continue to fall relative to revenue in the short to medium term, although input price volatility is likely to remain a key concern. Vertical integration has allowed some businesses to lessen the negative effects of input price volatility. Arrium, for example, operates within close proximity to its own iron ore mines. The company also has recycling divisions in eight countries, providing further control over its sourcing of raw materials for steelmaking.

Recommendations

The sustainability of the Australian steel industry, which includes both upstream manufacturers and downstream supply chains, will largely come from business investment, innovation, good management and skills development at the firm level and from cross-industry co-operation and collaboration, encouraged and facilitated by government, to strengthen domestic supply chains by lifting industry capability and innovation and by exploring opportunities for market development both in Australia and abroad.

There are additional roles for government in ensuring that procurement practices provide full and fair opportunities to domestic producers; in ensuring that market information is readily available to participants; ensuring that steel trade is conducted in accordance with WTO rules; and by ensuring that the standards and conformance framework operates effectively.

Supply Chains and Supplier Development

The Australian steel industry is characterised by an integrated approach between steel manufacturers, and a network of over 160 steel distributors that work closely with steel detailers and downstream steel businesses to deliver and lead a broad range of projects. Sustainable supply chains comprising globally competitive manufacturers and suppliers is a key component of maintaining a viable steel industry in Australia. Ai Group proposes that Government and industry work to develop projects directed at improving the capability and competitiveness of downstream steel fabrication and manufacturing businesses. This would assist in driving upgrades in technical, design, cost and quality capabilities to meet customers supply needs and support the enhanced competitiveness of the entire steel industry. It should be noted that local steel manufacturers engage technical teams with considerable experience in working with businesses in the steel supply chain, and there are opportunities for this experience to be further leveraged to target specific development projects across the industry.

The program could also play a role in fostering collaboration between supply chain businesses. Collaboration can be an effective way in ensuring that a supply chain is agile and can adjust as required to meet the specific needs of clients. It would also assist in improving the competitiveness of the local operators against large overseas businesses that can offer a “one-shop” solution and greater capacity to deliver on major projects.

Ai Group recommendation:

> **Government and the industry should work together to establish a steel industry supply chain development program. The intention is for steel and steel product manufacturers and distributors to undertake programs of business support and development to enhance the capabilities of downstream manufacturers and fabricators, and to support the competitiveness and sustainability of the entire Australian steel industry.**

Industry Development

Industry development is essential to industry sustainability. There is a need for Australian downstream manufacturers and fabricators to adopt strategies to assist them in capturing a greater share of domestic and overseas opportunities. Strategies could include a stronger focus on collaboration and networking initiatives that help businesses better access overseas markets by increasing economies of scale and market presence; competitive initiatives that enable businesses to significantly add value to products and compete on factors other than price and; the implementation of new processes and innovative products.

A key related issue is the identification of new market opportunities, including niche markets and understanding how to best access these opportunities. A comprehensive data and information base that identifies gaps and opportunities that businesses could seek to exploit in steel value chains could be one useful initiative. Programs that promote the demand for steel inputs could also play an important role, particularly given that businesses are likely to be subject to rising product substitution pressures due to developments in alternative materials such as plastics and ceramics.

SMEs in the sector are generally lacking skills and capabilities to assist them with identifying niche opportunities, developing ways to exploit them and to be more innovative. Assisting the sector to develop design led innovation capabilities may increase the speed of innovation along with increased competitiveness within the sector.

Encouraging and facilitation of the formation of joint ventures and alliances to produce collaborative bids and a central marketing point for the industry could also be important. Many smaller sized operators are restricted by a lack of sufficient scale to take full advantage of large procurement opportunities, although even the largest fabricators can struggle to meet the required volumes of large works packages.

Enterprise Connect (which now continues under a similar Federal Government program called the Entrepreneurs' Program) established a blueprint for the development of **Steel Fabricator Alliance project** aimed at building scale and capacity within the steel sector and thereby increasing competitiveness. The first stages of this project began in 2008. Its focus was on the steel sector in North Queensland and South East Queensland and it was driven by an intensification of import competition, with many businesses struggling to compete with imports on price and volumes. Aggressive competition was seen as potentially damaging to the regional sector in the short term, and the industry's long term viability. The project involved a number of key steps in the planning phase, including establishing linkages with the Industry Capability Network and National Steel Advocate and support from the Australian Industry Group in identifying project participants at a wide industry level. A joint venture model (commissioned by the National Steel Advocate) was developed by Clayton Utz in consultation with prime contractors and Engineering, Procurement, and Construction Management (EPCM) contractors. Workshops were also held with the aim of formulating a strategy around developing major project opportunities, strengthening regional economic growth and securing local jobs, and determining the types of projects to be targeted under the joint venture model. The expected outcomes of the project are to:

- Develop a reputation for the Northern and Southern Queensland regions as having the capability to tackle big projects.
- Provide one interface to the customer.
- Enable quote for projects before they automatically go off shore.
- Achieve continuity of work and even out cash flow.
- Develop new markets for participating businesses.
- Develop capabilities across the industry and the workforce.
- Streamline the supply chain.
- Speed up innovation.

Ai Group recommendation:

Ai Group recommends the formation of a task force comprising representatives from steel industry businesses and industry associations to:

- **Explore a range of initiatives that aim to exploit new market opportunities and expand existing markets both domestically and abroad.**
- **Examine ways of building a more integrated sector through greater collaboration between businesses that could help deliver increased market presence, exchange of information and experience on marketing and the critical mass needed for large orders or large procurement packages. This includes consideration for further steel fabricator alliance projects across regions nationally.**
- **Support the compilation of a data base that identifies supply opportunities for the manufacture and fabrication of steel products in Australia.**
- **Explore ways to increase design led innovation capabilities in the sector to increase the rate of innovation and lift competitiveness.**

Steel Industry Advocate

A key initiative in improving opportunities for Australian steel businesses to access and supply to major projects was the Steel Supplier Advocate, established in 2009 part of the Boosting Australian Industry Participation program. The steel supply advocate played an important role in marketing Australian capabilities to major project proponents; promoting supply chain initiatives; briefing industry on procurement opportunities and; providing feedback to the steel industry and Government on how to better meet the requirements of project proponents.

"The Supplier Advocates also helped facilitate behavioural change within the resources sector by increasing industry awareness of opportunities and encouraging project developers to consider capable and competitive Australian suppliers for their projects. The four Supplier Advocates (rail, steel,

information technologies and clean technologies) were an effective instrument for industry development, using their insight, networks and leadership skills to drive practical activities to open up opportunities and better improve the capability and competitiveness of Australian suppliers. The Department of Industry (the Department) attracted a cohort of senior, high-calibre people. There is also agreement amongst stakeholders that the Supplier Advocate model, comprising the appointment of part-time Supplier Advocates supported by full-time Departmental staff, was effective and efficient."[24]

The Supplier Advocate initiative was discontinued in June 2014 following the 2014-15 Federal Budget.

More recently, the South Australian State Government created an independent Industry Participation Advocate in February 2013 to help local businesses leverage maximum opportunities from the SA Government's portfolio of infrastructure projects. In 2015, the Australian Capital Territory Government established the position of Local Industry Advocate to work exclusively in the interests of the ACT business community in maximising opportunities to participate in ACT Government projects. Both are important initiatives with a broad industry focus.

Ai Group recommendation:

Given the pressures facing the steel industry, Ai Group recommends re-establishment of a dedicated Steel Supplier Advocate to improve opportunities for Australian steel and fabrication businesses to access and supply to major projects, particular in view of the model's previous effectiveness. A further key role of the Steel Supplier Advocate would be to work closely the steel industry, industry associations and research organisations to champion industry innovation and process improvements throughout the steel supply chain.

Government Procurement

It is critical that Australian steel makers and fabricators businesses have real and fair opportunities to compete in providing goods and services to major Australian projects. Ai Group is not advocating that favouritism be shown to local suppliers, but rather they be given equal access to tender.

Consequently, the Australian Industry Group supports a national procurement strategy, where all levels of government follow principled and coordinated approach to improve access for domestic suppliers to public sector contracts and to the provision of goods and services for major projects undertaken within Australia. For major infrastructure, construction and mining projects, governments should require prime contractors and holders of licences to adopt and demonstrate adherence to similar practices.

Ai Group member companies increasingly report being locked out of contracts by barriers and distortions which include:

- **An undue emphasis on upfront costs rather than whole of life costs** in public sector procurement. This emphasis results in the purchase of lower quality goods and services and

[24] Department of Innovation Industry and Science, Review of Buy Australian at Home and Abroad, June 2014 *http://www.industry.gov.au/industry/IndustryInitiatives/AustralianIndustryParticipation/SupplierAdvocates/Pages/Review-of-Buy-Australian-at-Home-and-Abroad-–-June-2014.aspx*

neglects the costs involved in maintenance and through-life support which are key advantages that local suppliers are able to offer. The value for money principle in procurement must look beyond "least cost", and bring to bear and make more transparent, a broader cost-benefit equation or value model that considers whole-of-life costs, including in relation to maintenance, servicing, quality and ongoing supplier relationships. Ai Group has consistently argued for consideration to be given to the whole of life costs of projects. Whole of life costs should include costs incurred by the purchaser from after-sales service, regular maintenance and servicing, parts replacements and any machine down time. It should also take into account supply risks, quality risks and reliability that may affect production delivery times and/or these future costs. In many cases a holistic assessment of these costs will show that for local businesses these total costs could be lower than for overseas-based businesses because services could be rendered more quickly, more reliably and replacement parts delivered more promptly.;

- **An uneven approach to standards** which often allows foreign suppliers to avoid the same quality and performance assessment that is applied to local producers;
- **Selection criteria which favour offshore suppliers** by requiring the demonstration of a record of supply in other countries; and
- **Preferences given to offshore suppliers by prime contractors in major resource projects and in defence contracts.**

To address these barriers facing local industry seeking to participate in government contracts and major projects, Ai Group proposes that government agencies and major contractors implement an approach that demonstrates ongoing commitment to five major procurement principles:

- **Value for Money** - Value for money looks beyond "least cost" and brings to bear a broader cost-benefit approach that considers whole-of-life costs, including in relation to maintenance, servicing, quality and ongoing supplier relationships.
- **Clarity, Transparency and Improvement of Processes** - Procurement processes should be clear and transparent and be subject to ongoing improvement to reduce costs of tendering and access for domestic suppliers, particularly small and medium-sized enterprises.
- **Full and Fair Access** - Procurement processes should ensure local suppliers have full and fair access to supply opportunities under direct government contracts and with prime contractors for major projects. This includes consistency in relation to conformity with standards and no preferential treatment of offshore suppliers.
- **Full Opportunities for Local Suppliers** - Australian based suppliers should have full opportunity to compete for the provision of goods and services under government contracts both directly and indirectly through supply to prime contractors. For major projects, prime contractors and licence holders should ensure that local suppliers have full and fair access to sub-contracting and supply arrangements.
- **Supporting Industry through Effective Planning and Communication** - Large government purchasing activities and major project plans should be developed in a transparent way to ensure local industry is able to invest sufficiently to participate in major tenders. As much as

possible, major procurement activities undertaken by Australian governments should be coordinated and staged to allow locally-based businesses scope to invest and achieve economies of scale by aggregating demand across the federation.

An enhanced and harmonised approach to procurement across all levels of government would reduce complexity and cost and give Australian-based business opportunities that many are currently denied. For the reasons discussed above, there is good reason not always to proceed with the lowest cost tender, given it may not represent the best value for money once ongoing costs are considered.

These practices should work alongside programs aimed to facilitate local industry participation such as **a strengthened Industry Capability Network**. ICN's should be more fully utilised to help build local industry capabilities and sourcing opportunities through:

- **identifying import replacement opportunities** in purchases of all Government agencies;
- **assisting in the formulation of Government procurement documentation** by reviewing and advising on local industry capabilities and skills to ensure that requirements and/or specifications do not unnecessarily preclude local businesses from bidding;
- **conducting pre-tender briefings** for Government purchasing agencies on local sourcing opportunities;
- **acting as an intermediary between Government and local industry** following the awarding of a contract, to provide feedback on strengths and weaknesses of tender documents, capabilities and other areas that may enhance future submissions.

Measures to ensure **early engagement in projects** must also be implemented to ensure that opportunities, risks and issues on individual projects are identified and communicated before requiring the submission of tenders or expressions of interest. This enables businesses to more effectively understand projects, assess the likely cost of tendering and their chances of being a successful tenderer and develop any appropriate collaborative arrangements (such as the combining of fabrication capacity) that may be needed to service the needs of a particular project or client. There is a role for the ICN's to adopt a greater focus on early engagement with project proponents to support informed local industry discussion of the challenges faced by proponents in delivering on project objectives and to identify the components required within each process.

It is also important to account for the wider value to the economy by purchasing locally, such as through skills development and retention and through creating jobs. Governments procuring locally also ensure a broad range of suppliers can continue to operate locally. Finally, governments should be aware that many foreign governments impose contractual requirements for local content in their purchase of local goods.

Any decision to acquire locally should be subject to rigorous fiscal assessment that takes into account benefits that the local procurement provide, but also if local content would provide value for money for the taxpayer.

Ai Group believes that **Governments should be flexible on definitions of local content**. For example, local content could be the local assembly of inputs made overseas when that is the most sensible option that delivers value for money for the government. Local should also refer to businesses operating in Australia and not limited to a single state.

Ai Group recommendation:

- **The barriers and distortions against local industry participation in government contracts and in major projects be addressed through a commitment to the procurement principles of: value for money, clarity, transparency and improvement of processes, full and fair access, full and fair opportunities for local suppliers, and supporting industry through effective planning and communication. In particular, the value for money principle in Government procurement must look beyond "least cost", and bring to bear and make more transparent, a broader cost-benefit equation or value model that considers whole-of-life costs.**
- **More fully utilise the Industry Capability Network's to help build local industry capabilities and sourcing opportunities.**
- **Early engagement in projects is critical to ensure that opportunities, risks and issues on individual projects are identified and communicated before requiring the submission of tenders or expressions of interest.**

Australian Industry Participation Plans

The Australian Jobs Act 2013 (the Act) requires public and private major projects in Australia with a capital expenditure of $500 million or more to prepare and implement an Australian Industry Participation (AIP) plan. AIP plans provide a mechanism for project proponents to detail actions they will undertake to familiarise themselves with the capabilities of Australian businesses and identify qualified suppliers, and provide them with access to supply opportunities within a project. Australian Industry Participation (AIP) plan requirements may also apply to large infrastructure projects where funding over $20 million is provided by the Commonwealth through state and territory governments. It should be noted that AIP's do not mandate that Australian business tenders be selected.

Ai Group is strongly supportive of the requirement to include Australian Industry Participation Plans in tenders for major projects and their policy intent to promote Australian industry capability. AIP's are essential to the continued competitiveness of Australian industry and in boosting the opportunities available for Australian-based businesses to have full and fair access to supply goods and services to major resource, construction and infrastructure projects.

Ai Group recommendation:

- **We urge continuing disclosure and greater transparency of the extent of local participation in major projects.**
- **We also believe that a lower threshold than $500 million should apply, supported by effective monitoring and compliance, so as to ensure a greater number of projects are**

captured by the AIP's. This should be done effectively without imposing prohibitive costs on affected businesses.

Unfairly Priced Imports and Anti-Dumping

Particularly in the context of the global over-supply of steel, there are heightened concerns about the potential damage to sections of the domestic steel industry if imported steel is "dumped" in Australia at very low prices. These concerns are reinforced by the global experience of increased incidence of dumping. At as the end of 2015 there were 75 active trade cases in the steel industry worldwide, including anti-dumping, anti-subsidy or countervailing, anti-circumvention, anti-absorption, safeguarding, exemption and public interest inquiries, as well as interim and expiry reviews. China is the source of imports most commonly complained about with South Korea, Taiwan, Japan, India, Vietnam and Malaysia also in the top ten.[25]

It is important to note that anti-dumping actions and countervailing measures are specifically sanctioned by the WTO. The Anti-Dumping Agreement allows countries to take action against imports from countries allegedly exporting at dumped prices. Australia's anti-dumping regime can serve a purpose similar to that served by predatory pricing provisions of Australian competition law. Ai Group believes that Australia should have effective and fair anti-dumping arrangements.

There are clearly tensions that arise in relation to low-priced imports and anti-dumping arrangements. Within downstream supply chains, producers using imported steel (or domestic steel that can be displaced by imports) and their customers can benefit from low-priced imported steel. Lower-priced inputs can make a material difference to their competitiveness in the domestic market *vis a vis* imports and, indeed in export markets. Anti-dumping arrangements need to ensure that industries positively affected by low-priced imports receive a fair opportunity to have their cases heard.

It is therefore critical that the design and operation of anti-dumping arrangements provide timely and effective remedies to producers unfairly affected by dumping as well as ensuring procedural fairness that allows the full range of perspectives to be brought to bear in the consideration of remedies in the face of low-priced imports.

Ai Group recommendation:

- **Ai Group supports the improvements that have been made in recent years to Australia's anti-dumping arrangements to ensure that, while remaining WTO-compliant, they are now more effective and are more appropriately resourced.**
- **We also support further refinements to the arrangements and encourage the Committee to recommend a formal process whereby such refinements can be developed with input from all stakeholders.**

[25] Metal Bulletin, '2015 Review – Steel trade cases in numbers', London, 18 January 2016.

Product Conformance

Over the past decade there has been a growing body of anecdotal reports by business about the use of non-conforming products. Ai Group's November 2013 published report - **The quest for a level playing field: The non-conforming building products (NCP) dilemma**- revealed the widespread use of non-conforming products across the building and construction sector.

This issue not only impacts on the safety and compliance of products and structures but also on the economic viability of businesses, and the potential for future investment in products supplied by the industry. Local producers conforming with relevant standards and regulations can be at a distinct competitive disadvantage when the price at which competing product is sold reflects lower levels of attention to the quality that is required under Australia's conformance framework.

The Ai Group report highlighted the severe exposure of steel fabricators as well as steel building products manufacturers to non-conforming product due a conformance framework that is overly reliant on first party certification and increasing imports of non-conforming structures and products.

The Australian Steel Institute (ASI) commented:

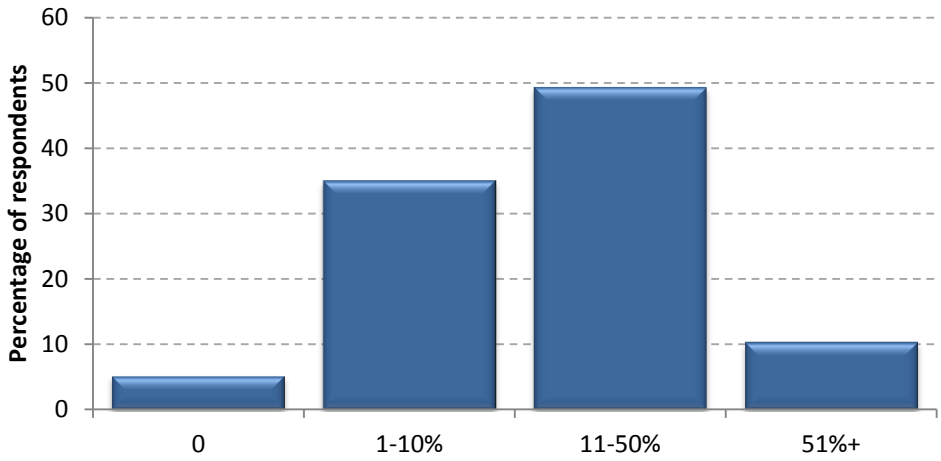
> *"The construction products industry in Australia is faced with a choice: it can follow a path of the lowest cost denominator in which case be exposed to the worst in quality the world can produce, or, it can implement product conformity systems similar to what is in place in most of the developed world that inform the client of achievement of levels of quality compliance benchmark . Nowhere is this better demonstrated than in the area of structural bolts where Australia has followed a path of lowest global cost, at the expense of functionality and safety, whilst other countries like the USA and the UK have quickly implemented compliance procedures and have avoided our costly failures."*

In compiling the quest for a level playing field report, Ai Group conducted a detailed study of key sectors of manufacturing, incorporating the collection of case studies, to assess the scale of the non-compliance problem and its causes. For the steel product sector, it was found that **95% of respondents surveyed in the steel product sector reported NCP in their supply chain**.

49% indicated that NCP market penetration lay between 11% and 50%. Interviews indicate that the percentage of NCP varies by sub-sector with the incidence of NCP reported to be relatively high in the structural steel fabrication market and lower in the steel material producer market area.

In terms of the negative influence on businesses**, 40% reported lost revenue/margin and reduced employment numbers due to NCP**. Other businesses say they are downgrading their product quality and service offer in order to remain viable. There was also a significant degree of concern about the safety impact of NCP with many respondents reporting that non-conforming steel products and structures can increase the risk of personal injury to employees and has the potential to affect long term building and structure safety. In addition non-conforming product in the steel sector was reported as a risk factor in escalating the deterioration rates in buildings and reducing the value of holding assets as well as increasing maintenance costs.

Chart 10: Estimates of non-conforming in the steel product sector - 2013



Source: Australian Industry Group, The quest for a level playing field, 2013

8% of businesses surveyed said they have been positively affected by non-conforming products because they obtain rectification work and this is often at higher margins because of the tight deadlines involved.

The key failure points identified by businesses in the building conformance framework for steel products were gaps and/or weaknesses resulting from:

- Inadequate surveillance, audit checks, testing, enforcement and an over reliance on first party certification.
- Inadequate clarity on the role of building certifiers.
- A lack of clarity for stakeholders in terms of how and where to report NCP.

Potential solutions

Respondents in the steel product sector suggested the following potential solutions:

- Clarify the role of building certifiers;
- Mandatory (confidential) reporting of NCP should be implemented. CROSS (UK) is a current, effective model;
- An industry sector risk based approach is needed – Possibly including 3rd party certification including mutual recognition of international conformity assessment bodies, round robin testing and peer reviews;
- Active support from the public and private sector procurers to purchase third party certified products;
- Education of the market is required;
- An Australian Standard for steel fabrication should be developed; and

- Provide greater visibility of product standards within the National Construction Code (direct references in the NCC instead of the current secondary references).

Ai Group supports these solutions in helping to address the gaps and weaknesses in the building products conformance framework, and improve the viability of the Australian steel industry.

Ai Group recommendation (as outlined in *"the quest for a level playing field"):*

- **That stakeholders, in consultation with all tiers of government promote awareness of the role of regulatory bodies in the building and construction sector and in particular how to report non-conforming product.**
- **That state and territory governments review their building certification arrangements with a specific focus on clarifying the role of building certifiers and assessing the adequacy of existing arrangements in preventing the installation of non-conforming product.**
- **That stakeholders, in consultation with all tiers of Government, examine how to best address the gaps and weaknesses in the building and construction sector conformance framework.[26]**
- **Further research be undertaken to identify leading national and international conformance models that are effective and that keep compliance costs to a minimum.**

These recommendations where amplified in Ai Group's submissions to the Senate enquiry into non-conforming building products that called for:

- We should improve surveillance and audit activities to support compliance with the National Construction Code (Vol I & II).
- High risk building products should have a higher level of evidence of compliance (third party certification) in the National Construction Code.
- The feasibility of establishing a confidential reporting system to facilitate the reporting of NCP should be assessed.

Industry Standards

A regime that specifies that all steelwork procured for public works are independently tested and certified to relevant structural standards is critical to ensure the integrity and safety of public infrastructure as well as in ensuring full and fair access for local producers to development projects.

Ai Group notes the importance of infrastructure procurers using an integrated suite of structural steel product and design standards to ensure that design safety factors are preserved throughout the design and fabrication stage of the project. A fragmented approach (e.g. accepting product and workman ship

[26] On 23 June 2015, the Senate referred an inquiry into non-conforming building products to the Senate Economics References Committee for inquiry and report by 12 October 2015, subsequently extended to 16 March 2016

compliant to differing sets to standards) to compliance with steel standards may reduce the safety factors in the resultant structures.

Ai Group understands that a number of countries/regions have integrated structural steel design standards including the US, Europe, Japan and Australia. There are, however, no integrated International Standards (i.e. developed by ISO) that are practical for use for structural steel.

Ai Group acknowledges Standards Australia's obligations to the World Trade Organisation's Technical Barriers to Trade agreement that states:

"Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade."

To adhere to the spirit of this agreement Standards Australia's committees revising Australian Standards relating to structural steel are working to harmonize new editions with ISO and European EN Standards. Technical committees including BD-023 responsible for structural steel standards, ME-029 responsible for bolting Standards and BD-032 responsible for the Composite Structure Standard are all currently working to harmonize with the EN series. It is to be noted that this process takes time to allow local industry to adopt to the change in practices in the EN standards.

The South Australian Government has recently announced that all steelwork procured for public works must be independently tested and certified to Australian standards. All steel used in public works will have to be sourced from mills with Australasian Certification Authority for Reinforcing and Structural Steel (ACRS)[27] third party certification and steelwork will have to come from steel fabricators independently certified to the recently created National Structural Steelwork Compliance Scheme (NSSCS). The SA Government is also offering grants to South Australian steel fabricators to undertake certification under the NSSCS.

Ai Group recommendation:

- **Standards Australia continues to work with the steel industry and its supply chain to align steel material and design standards with European Standard (EN);**
- **Procurement agencies at all levels of Government – Commonwealth, State and Territories commit to a consistent approach to purchasing steel product certified to internationally aligned Australian Standards and;**
- **Help inform industry and its customers of the benefits of certification in line with the National Structural Steelwork Compliance Scheme (NSSCS).**

[27] ACRS scheme (see www.acrs.net.au – see "Certificate Holders") certifiers 150 manufacturing locations, in 15 countries including China

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