

Manufacturing in NSW:

boosting productivity,
getting access

**NSW AMWU Submission to the NSW
Industry Taskforce on Manufacturing**

November 2011



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Executive summary

Manufacturing delivers enormous economic benefit to NSW, directly employing 280,000 people – concentrated in western Sydney, the Illawarra and the Hunter – and indirectly supporting one million jobs.

The attitude and policies of the NSW Government play a critical role in determining the future of manufacturing in the state. Government support for manufacturing is not a question of returning to old-style protectionism. Rather, it is about working with industry and unions to develop smart, targeted industry policy.

Where government decision-making has an impact on local industry, it should support rather than undermine industry capacity, local supply chains and skills development. For example, major infrastructure projects like the planned North-West and South-West Rail Links have the potential to deliver enormous benefit to NSW manufacturing and the broader economy. These projects will require major orders of steel and rolling stock, which NSW businesses are well-placed to supply.

AMWU will be working with industry to encourage the NSW Government to set and achieve ambitious local content targets on these projects and ensure NSW businesses are well-placed to win contracts.

Similarly, the current mining boom that is driving our dollar sky high and putting pressure on regional communities *should* be creating significant opportunities for NSW manufacturers to participate in major construction projects.

However, local companies are missing out on the chance to access the benefits of the boom. The NSW Government can play a role in assisting local firms to engage with the major resources companies operating in NSW.

We have put forward a range of recommendations to this Inquiry on measures the NSW Government can take to bolster the position of manufacturing in this state.

We believe the NSW Government has the opportunity to leverage its purchasing power to boost productivity in priority industry areas. We also believe there are enormous possibilities for our emerging cleantech industry, if the NSW Government is willing to develop a framework for supporting cleantech and work cooperatively with the Commonwealth to ensure local businesses benefit from Commonwealth initiatives.

Most importantly, we ask the NSW Government to value and prioritise manufacturing in NSW and to work collaboratively with businesses and unions with to ensure a strong, skilled future for the industry.

Tim Ayres, NSW Secretary, AMWU
25 November 2011

Recommendations

1. Establish a Commonwealth-State three-year stimulus package (2012-15) for manufacturing and other trade exposed (non resource/finance) industries

The case for a joint Federal-State three-year stimulus package is made in this submission. Without it, manufacturing and other trade exposed industries will lose jobs, skills, capabilities and capacity that would otherwise survive and prosper in the not too distant future. NSW also has the opportunity to undertake stimulus initiatives of its own, such as bringing forward infrastructure spending that is manufacturing intensive and ensuring a disciplined approach to local industry participation, utilising the NSW Industry Capability Network.

2. Maintain the current 'NSW Jobs First' procurement framework as a baseline for all firms doing business with the NSW Government

The policy provides a sound basis for appropriate price preferencing for NSW and particularly regional businesses and supports investment in jobs and industry capability. The scheme was announced by the previous NSW Government in the context of the Global Financial Crisis, set to be reviewed in mid-2011. The AMWU commends the O'Farrell Government's decision to extend the scheme to at least March 2012. In a global economic environment of uncertainty, particularly in relation to European debt crises, an extended US slowdown and a high AUD that makes it harder for NSW manufacturing to compete the NSW Government should legislate the scheme to continue indefinitely.

3. Develop a 'Buy NSW Priority Industry Capability Policy'

This will provide for reciprocal improvements in productive performance in return for additional NSW Government support. When the NSW Government buys goods and services from a NSW Priority Industry Capability Policy designated sector or firm that purchasing power should be used as a lever to encourage improvements in productivity, quality and reliability; best return for taxpayer investment and long term private sector investment in industry capability for jobs in NSW.

- a. The NSW Government should identify sectors and industry groupings that provide goods and services to the NSW Government departments and statutory corporations to give them NSW Priority Industry Capability Policy status on the basis of the following criteria
 - a. The sector/industry grouping currently provides goods or services to the NSW Government or has the capability to provide goods and services to future procurement tranches;
 - b. Firms within the sector/industry grouping falls within the small to medium enterprise definition of the relevant trade agreements
 - c. The firms within the sector/industry grouping employ their manufacturing capability within NSW
 - d. Demonstrated compliance with relevant NSW safety and Commonwealth industrial, taxation and ASIC codes
- b. Each NSW Priority Industry Capability Policy sector/industry grouping should be required to work with the NSW Government, industry and unions to develop a productivity and

capability plan for their sector that includes measurable targets around at least the following key productivity issues:

- a. Skills, apprenticeships, trainees, on the job learning
- b. Management excellence, training and qualification – link to formal education institutions and accreditation
- c. Investment strategy
- d. Eliminate the peaks and troughs – establish a certain horizon to maximize investment
- e. Audit sectoral capability – NSW Government Department Industry and Investment should support access to Government programs and assistance to develop proposals for venture capital and credit for investment for firms who fall within the NSW Priority Industry Capability Policy framework

4. Identify key projects for targeted local content plans

The North West Rail Link, South West Rail Link, future rolling stock, bus and ferry contracts and other major infrastructure will be very significant public expenditures – private firms that win these contracts must deliver back to the people of NSW on jobs, apprenticeship and traineeships and world's-best safety standards. The NSW Government should set out mandatory requirements for all projects over \$100 million that require local industry participation plans, mandate a high level of local content and deliver guaranteed apprenticeship opportunities for school-leavers.

5. CEO, DG and Infrastructure NSW management bonuses and incentives be made contingent upon delivery of local content

Senior NSW bureaucrats earn very high salaries and performance bonuses – these bonuses should be partially contingent upon delivery of the NSW Government's jobs plan in their contracts and departmental activities.

6. Better utilise Enterprise Connect (EC) to help existing NSW manufacturers improve productivity and lift their international competitiveness

The NSW Government should engage on a short term two year contract three experienced production engineers/advanced manufacturing technology specialists to be embedded in EC's NSW manufacturing operation. These specialists would work with those manufacturers looking to utilise advanced manufacturing technologies, advanced automation and high performance work organisation systems to meet the competitiveness challenge that has engulfed so much of NSW industry.

7. Establish a NSW Government Mining Industry Advocate

Unprecedented levels of investment in the mining industry should benefit all NSW citizens, particularly in our great industrial regions. The level of local content, including Port Kembla steel and regional fabrication and engineering has diminished, meaning jobs and opportunities have drifted offshore.

The NSW Government should establish a Mining Industry Advocate within the office of the Department of Industry and Investment to audit mining industry projects (and other major private infrastructure projects) for local content and apprentice and trainee employment, identify local

capability and develop strategies to assist local firms to engage with the opportunities and report to Parliament annually on progress.

8. Clean Technology Plan

The NSW Government should develop a strategy to ensure that NSW firms win the race to engage with opportunities in the global clean energy and low emissions technology industries. Despite the NSW Government's opposition to the Commonwealth Clean Energy Future package there will be substantial opportunities for firms who invest in technology to lower emissions and energy use and for manufacturers to supply goods and components to Australian and international markets and the NSW Government should act to ensure that NSW industry gets 40% of the investment.

9. Utilise Commonwealth funding to accelerate the growth of a NSW cleantech industry

Cleantech industry supply chains extend from Research and Development through manufacturing and into distribution, retail, installation and maintenance services. The industry has three sectors:

- The emerging low carbon sector (including activities such as building materials/technologies and new fuels)
- Renewable energy (including activities such as wind, solar and geothermal)
- The traditional environment sector (including activities such as waste management, recycling, water and waste water treatment)

At the Commonwealth level, the Government's climate change package is directly focused on helping Australian manufacturers win their share of the \$6 trillion global cleantech industry and diversify their markets. Given the pressures on manufacturing in NSW, this is a very significant opportunity to revitalise our manufacturing industry through the \$14.8 billion being made available in various forms of federal government assistance:

The NSW Government has a unique opportunity to assist NSW firms leverage funding for cleantech that the Commonwealth is providing. For example:

- i) To utilize the intelligence of the states industry capability network and other sources to better map the cleantech supply chain in NSW and focus on where NSW may have a competitive/comparative advantage in realizing cleantech opportunities. There will be implications here for "new manufacturing".
- ii) To work with NSW firms to help them access the manufacturing, food and forging/foundry components of the clean technology program to enhance energy efficiency, including by helping to facilitate applications for groups of firms (supply chain)
- iii) To help NSW businesses controlled by NSW based universities/research agencies to access the matching grants under the \$200 million Clean Technology Innovation Program. There should be strategic opportunities to leverage up commonwealth funds with current and proposed NSW government funding.

The priority issue is to identify strategic priorities and to intervene/assist where and only where the NSW Government, its agencies and Departments can add value rather than duplicating bureaucratic effort between the Commonwealth and the states.

Manufacturing: why does it matter?

Australia's manufacturing industry is critical to the future of Australia and NSW in particular. Nationally the sector's importance is highlighted by the fact:

- It employs almost 1 million Australians directly and accounts for more than 10% of all full time jobs, more than 12% of all private sector jobs and around 20% of all blue collar jobs.
- Direct manufacturing employment is closer to 1.3 million given many manufacturing contract positions are counted by the ABS as service sector jobs, such as in maintaining manufacturing company facilities such as warehouses and R&D labs.

Australia has nearly 95,000 manufacturing businesses including 28,000 in NSW. Last year these manufacturing businesses:

- Registered sales of more than \$420 billion and they bought \$260 billion of goods, materials and services from all industries.
- Paid nearly \$54 billion in wages and salaries to its employees and nearly \$5 billion in superannuation.
- Invested around \$700 million in training its workers and employed more than 32,000 apprentices.
- Invested nearly \$20 billion (gross) in plant, equipment and factory buildings and related assets.

Manufacturing expert Prof Göran Roos has pointed out the industry is strategically important because it is:

- The biggest spender of applied research and innovation with spillover effects into the rest of the economy
- The key driver of productivity improvement across the economy
- The biggest share of world trade and hence is critical for export earnings
- The largest driver of high value services
- And each job in manufacturing generates on average between 2 and 5 jobs in the rest of the economy.¹

Importantly manufacturing in NSW employs one million people in total, including direct and indirect jobs. Almost 280,000 are employed directly. The industry will always be crucial to the future of employment for working people and their communities in NSW, particularly in Western Sydney and regional centres like the Illawarra and the Hunter. Small and medium sized family businesses make up the heartland for the industry, adding to more than 225 manufacturing businesses employing more than 200 workers.

¹ The data for the above come from ABS sources for the 2008-09 AND 2009-2010 as well as calendar year 2010 year depending on availability. The information from Goran Roos was his power point presentation in Canberra to members of the Federal Innovation Councils and Chairs of key committees earlier this year.

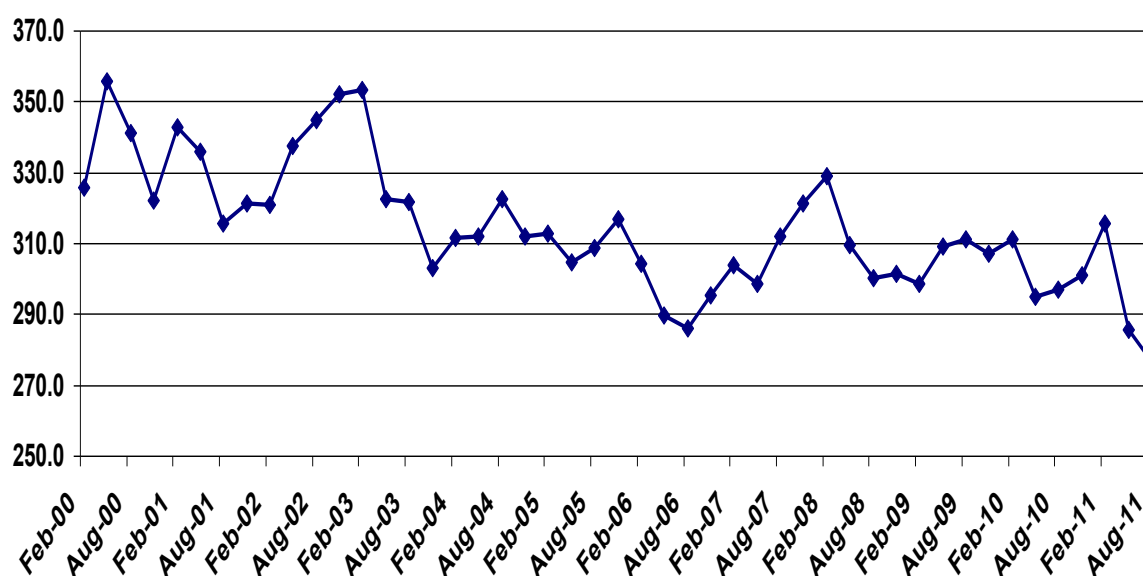
Over the past 5 years NSW manufacturers have invested \$5.5 billion in research and development, which equates to 25% of the total business investment in the state's R&D. Business investment in R&D is a key indicator for innovation in our economy.

Finally, manufacturing accounted for more than a third of the state's merchandise exports in the last 5 years, totalling nearly \$56 billion. Importantly nearly \$40 billion of these manufactured exports are classed as high value-added elaborately transformed manufactures.²

NSW manufacturing is typically more sophisticated than that of other states, with higher value-added manufactured goods – like medicinal and pharmaceutical products, printing and recorded media, chemical products and computer equipment – making up a greater proportion of NSW exports than other states.

THE CHALLENGES

WHILE THE DATA IS VOLATILE, NSW HAS LOST AROUND 35,000 MANUFACTURING JOBS SINCE AUGUST 2007 MANUFACTURING EMPLOYMENT IN NSW (ORIGINAL)



The manufacturing industry is facing tough times across the country. In the last three to four years it has shed nearly 110,000 jobs nationally, about one third of those from NSW.

About half of the total job losses can be traced back to the global financial crisis in 2008. Australia did better than most nations, losing about half the number of manufacturing jobs usually lost in

² The NSW data comes from ABS 8165.0 Counts of Australian Businesses Including entries and exits; ABS 8104 Research and Experimental Development, Businesses, Australia 2009-2010; DFAT: Australia's Trade by State and Territory 2009-2010; ABS 6291.0.55.003 Labour Force Detailed Quarterly August 2011

global recessions like those experienced in the 1980s and 1990s. Nevertheless the impact was particularly severe in NSW.

The other half of the lost manufacturing jobs can be sheeted home to four factors:

1. The high Australian dollar. After averaging 73 US cents between 1983 and 2010, the Aussie dollar today, driven by high commodity prices and our terms of trade is trading in a range of \$1- \$1.05, making imports a lot cheaper and causing Australia to lose market share in export markets.
2. Manufacturers have also faced higher raw material costs, impacting on their competitiveness.
3. The 2000-2009 decade is what many economists refer to as the 'lost productivity decade' where economy-wide productivity growth in Australia stagnated relative to the previous 10 years. The nation under-invested in infrastructure, skills and innovation and this and other factors dragged productivity growth down hurting the competitiveness of manufacturers and other industries.
4. The rest of the world have not stood still in the meantime and NSW manufacturers face greater competitive challenges from low-cost Asian nations like China and India, and a revival of major manufacturing firms headquartered in advanced economies, particularly the United States and Germany.

Meeting the productivity challenges

The seriousness of the challenge facing NSW and Australian manufacturing faces should not be underestimated. The AMWU and other manufacturing union leaders are well aware of the competitive advantage that NSW held a decade ago as a location for global manufacturers to set up shop or expand their operations using Sydney and regional NSW as a base, particularly for export into Asia.

In the last decade that competitive advantage has been eroded. Today Sydney is one of the more expensive cities in the world to do business. It has a poorly planned and congested transportation system and is part of a national economy framed within a political discourse that underplays the importance of productivity and international competitiveness.

The lifeblood for trade-exposed industries like manufacturing is made up of its productive investment in new plant and equipment, new design, engineering and R&D capability and it is driven by the skills of its workforce.

We need to lift the productive performance of our firms and industries to restore our international competitiveness if we want to continue to attract future investment.

ABS Average Weekly Total Earnings: Five year % change By Industry 2005-2006 to 2010-2011	
Construction	39%
Electricity, Gas, Water and Waste	38%
Other Services	36%
Mining	36%
Professional, Scientific and Technical Services	32%
Media and Telecommunications	30%
Public Administration and Safety	30%
Administrative and Support Services	25%
Financial and Insurance Services	23%
Accommodation and Food Services	23%
Rental, Hiring and Real Estate Services	23%
Education and Training	22%
Health Care and Social Services	22%
Arts and Recreation Services	19%
Wholesale Trade	19%
Transport, Postal and Warehousing	18%
Manufacturing	17%
Retail Trade	13%
<i>CPI: Five year % Change 2005-2006 to 2010-2011</i>	<i>15.7%</i>

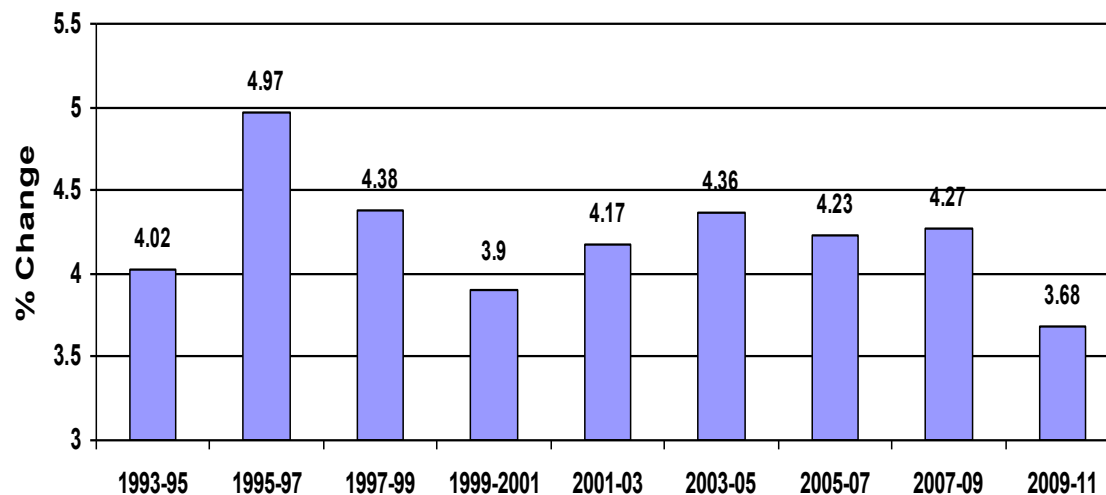
(Note: Wages data rounded to nearest per cent.)

Difficult market conditions have taken a toll on manufacturing wages. Over the past five years industry wages have increased at less than half the rate of wage outcomes in more buoyant sectors like construction or mining; and real wages (measured as total earnings) are virtually unchanged.

In addition, as shown below, the DEEWR data base of wage increases in enterprise bargaining agreements shows that over the two years through the 2011 March Quarter, annual average wage increases in manufacturing EBAs were a modest 3.68%.³

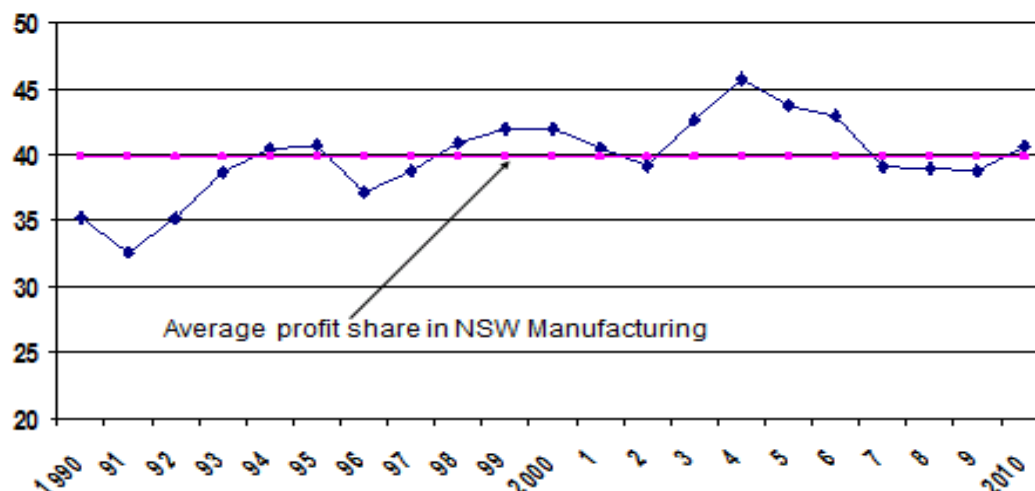
³ The database is accessible online and uses historical data for manufacturing through the 2011 March Quarter. The annualized average wage increase for the two year periods is the eight quarter average registered for manufacturing EBAs in the database.

Manufacturing Collective Agreements Annual Average Wage Increase over 2 year periods (March Quarter)



More specifically for NSW, unlike the recession of the early 1990s and '80s, the share of total factor income in manufacturing going to profits remained very close to its 20 year historical average during the 2008-09 global financial crisis. That profit share is just above its long-term average today.

ABS NSW State Accounts: Profit Share of Total Factor income



What this means is that relative wages and factor shares are not the issues some have argued they were in the past in the ongoing debate about the international competitiveness of Australian manufacturing and the NSW industry.

Industry and Government must reject a “race to the bottom” approach of cutting wages and jobs – instead unions, industry and Government should focus on the productivity issues that matter.

The principal debate about NSW firms’ international competitiveness must focus on two main factors:

- 1. Receiving the appropriate levels of investment in infrastructure, skills and innovation to lift economy-wide productivity and provide a more conducive environment for manufacturers to invest.**
- 2. Building better and more productive manufacturing businesses with the management systems and organizational capabilities required to succeed in an ever more competitive global economy.**

In terms of building a more competitive economy there are several reasons we can be cautiously optimistic, more so in terms of the second half of the decade.

The global economy is being seriously constrained by the sovereign debt crisis in Europe and to a somewhat lesser extent by global imbalances in trade coupled with the misalignment of exchange rates. After the global financial crisis it would have been expected that in late 2010 or 2011 there would be a broadening and strengthening of global economic growth in general, but particularly in the United States economy. One would also have expected that over the current decade high commodity prices would lead to a supply response as more gas came online and more iron ore and coal deposits were developed.

These two factors should have led to more normal interest rates in America and Europe (which put downward pressure on the Australian dollar as interest rate differentials narrow to their traditional spreads) as well as some downward pressure on commodity prices (which in turn puts downward pressure on the Australian dollar). While this was happening one would also have expected some of the speculative frenzy by hedge funds, and others betting on the appreciation of commodity currencies like the Australian dollar, to abate. This would also have put downward pressure on our currency.

The changes to interest rates as well as commodity prices and supply highlighted above will, in the assessment of the AMWU, still occur. But this will take time and the pressure from a high dollar may remain for much of the first half of the decade.

Recent forecasts from the world’s major central banks are all expected to revise down the outlook for global growth, revising up the probability of a recession in Europe in 2012. The outlook for Australia, the US and China remain moderately satisfactory provided the situation in Europe does

not become a deeper recession with financial contagion spreading via bank failures and a crises of confidence.

This slower and riskier outlook for global growth suggests a compression of interest rate differentials and a supply response to commodity prices will be delayed.

All this means NSW public and private sector leaders need to anticipate the strong currency will remain for the 2012-2015 period at least. The RBA's assumption in this November's monetary policy statement of a rate of \$1.03 against the US Dollar through 2012 and 2013 is probably close to the mark. But by the second half of the decade a gradual and relatively significant depreciation of the Australian dollar should be underway as interest rates and commodity prices/supply adjust and as speculative activity diminishes. It is also likely that emerging market economies like China will have their currencies appreciate against the Australian dollar provided they are driven by market forces rather than administrative fiat. This would be of considerable benefit to NSW manufacturers.

This means that particularly during the period to 2015 where NSW and Australian manufacturing and other trade exposed industries like tourism face a strong dollar, Federal and State Governments need to focus on demand side initiatives that help increase orders for domestic firms. All the leading manufacturing indicators, including the AI Group PMI indicator, show the industry suffering from contracting production, stagnation in forward orders and high levels of unutilised capacity.⁴

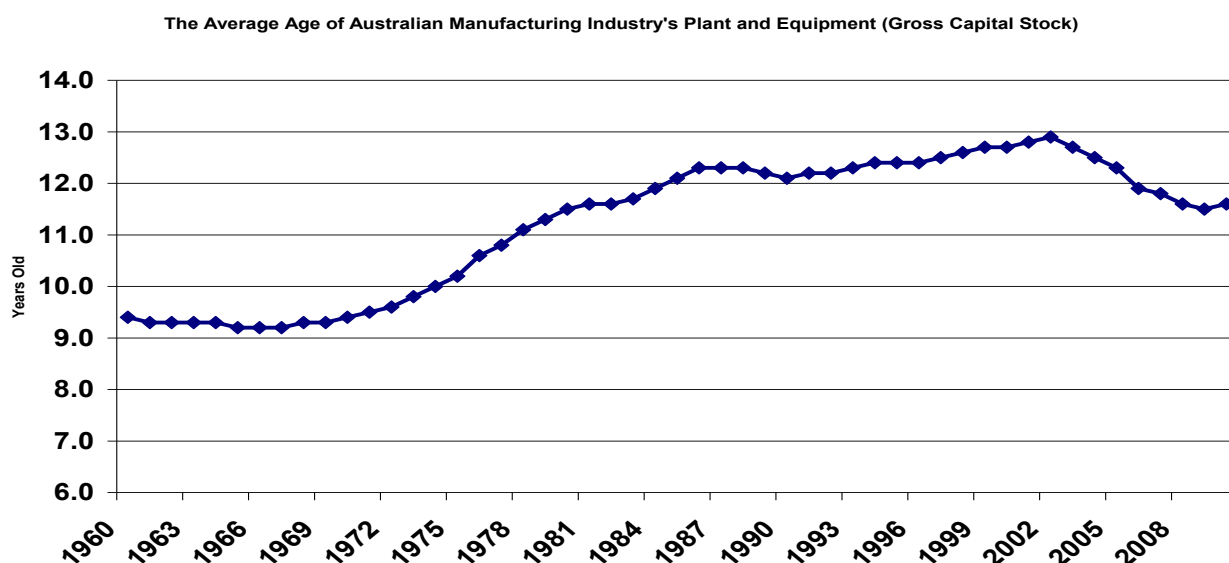
The AMWU acknowledges that short term stimulus in an environment of "fiscal consolidation" is never easy. We also know as do the overwhelming majority of economists and people who are not in the business of partisan politics, that Australia's public finances are such that federally for example, a budget deficit or surplus in 2012-2013 is a political issue not an economic issue. Plus or minus several billion dollars per annum over three years by bringing activity and incentives forward for manufacturing, tourism and similar trade exposed industries will have no impact on interest rates.

Accordingly, the NSW and other State Governments should sign off on a joint initiative with the Commonwealth in March quarter 2012 involving a jointly funded package of measures to stimulate demand and bring forward competitiveness enhancing capital expenditure for manufacturing, tourism and other trade exposed industries (excluding the resources and finance sectors).

Targeted infrastructure projects that are "shovel ready" and manufacturing intensive can be brought forward and with appropriate Australian industry participation measures these will flow through to firms. If properly selected they will also strengthen the supply side of the economy. Similarly helping manufacturers help themselves with skill formation and workforce development capability funding can help the industry secure and maintain skilled labour in an environment where the resources boom is putting pressure on industries with skills in demand. This will also lift productivity.

⁴ The AI Group PMI Index for manufacturing in October 2011 was released in early November and continues to show manufacturing nationally and in NSW contracting. It is available on the AI Group website.

Bringing forward a short-term investment allowance (operating from mid 2012 until mid 2014) can also assist with encouraging competitiveness enhancing capital expenditure by manufacturers. As suggested in the table below the manufacturing capital stock has been aging and there are also questions about the take up and diffusion of advanced manufacturing technologies. Addressing these issues now with a short-term investment allowance can help lift the productive performance of a wide range of trade exposed businesses in manufacturing and other sectors.



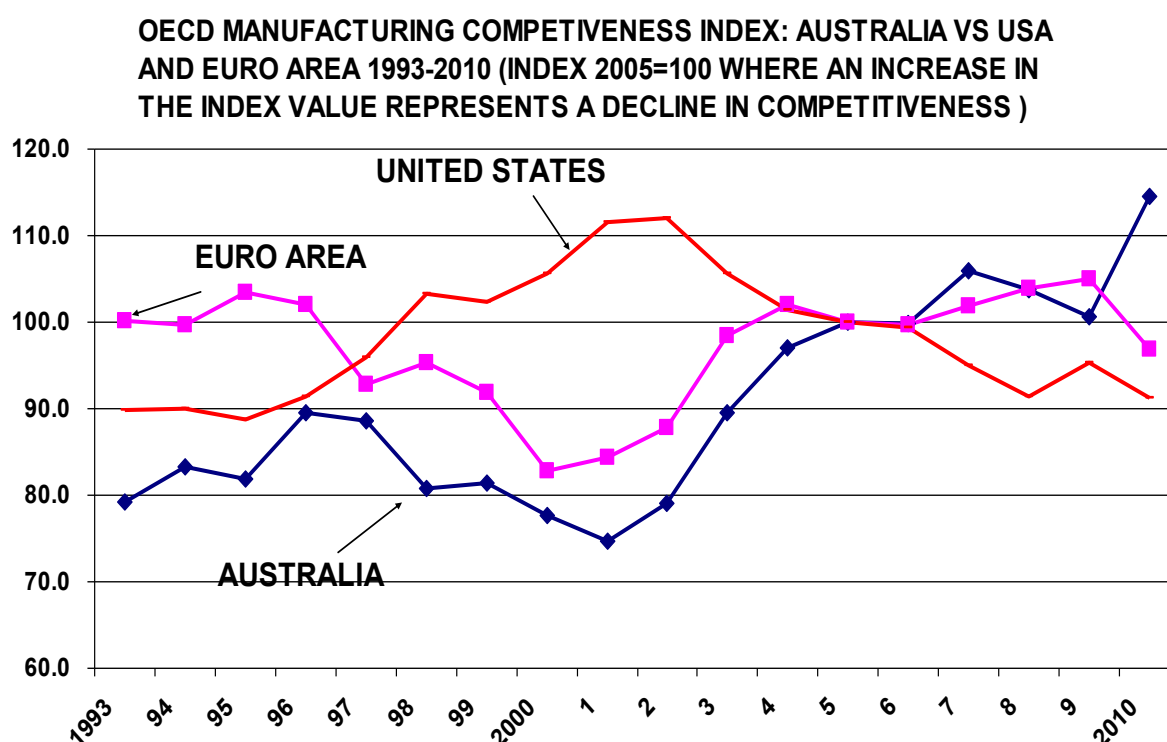
The shared budget cost of several billion dollars per annum over three years (once-off, not recurrent expenditure) would make a good deal of economic sense. However from the perspective of partisan politics it might not.

In the assessment of the AMWU, Governments must put partisan politics and deficit fetishism aside and assist industry by bringing forward procurement, infrastructure spending, incentives for bringing forward competitiveness-enhancing investment and other initiatives that assist firms in the tradeables sector in the short term who have contracting order books and high levels of unused capacity. Unless this is done, large sections of NSW and Australia's tradeable goods and services industries will be downsized and many skills and capabilities will be lost unnecessarily. These skills and capabilities are not easily replaced and they don't simply "re-appear" in the resources sector.

To boost demand for manufacturing and other trade-exposed industries, the actions needed from Government need to be taken now to lift economy-wide productivity. Restoring Australia's international competitiveness will take a number of years.

As highlighted in the table below we face a considerable challenge in restoring the loss of international competitiveness. The agenda for regaining what has been lost, and importantly building new sources of enduring competitive advantage will take time. It is an agenda that should

be shared by the states and Commonwealth in partnership with the representatives of capital and labour. That partnership must be forged now.



The update to this OECD data will become available at the end of November

At the center of the agenda for building new sources of competitive advantage is the challenge of building more productive and prosperous manufacturing businesses. Recent work of Professor Roy Green and Steve Vamos has highlighted what has been well known for some time about successful companies and high performance workplace.⁵ Altering wages, working conditions and IR laws is not the answer for building better manufacturing businesses and will not result in building a more prosperous, and productive manufacturing industry. Arguments for these changes revolve around “flexibility” but end up masking a narrow cost cutting approach that more often than not results in a high-stress, low-trust workplace culture, the very antithesis of what is required to lift productivity.

The focus must be instead on the quality of management and building capability.

A similar message was issued twenty five years ago in August 1986 when one of the world’s most respected experts on manufacturing productivity, Professor Wickam Skinner from the Harvard Business School published his now famous article in the Harvard Business Review “The Productivity Paradox”. The key message from Skinner is that the narrow cost cutting approach embraced by so many firms, and some governments, hurts more than it helps because it diverts management attention from where real productivity gains are made.

⁵ Professor Roy Green is the Dean in the Faculty of Business at UTS. The report of he and his colleagues on Management Matters as well as the report by Steve Vamos and his colleagues (Leadership, Culture and Management Practices for a High Performance Workplace) are central to much policy discussion today on improving productivity in manufacturing and other industries.

According to one of the better summaries for fostering better manufacturing businesses can be found in a 2000 report from the country's largest industry superannuation fund AustralianSuper, which concluded there were five key success factors for manufacturers going for growth.

BUILDING BETTER MANUFACTURING BUSINESSES:

1. The Chief Executive of the business and top management are committed to going for growth. Most importantly they have a long-term view of the business and a vision/mission statement, strategic plan and appropriate operational strategies for pursuing growth objectives.
2. The leaders/owners of the business understand that achieving growth requires investment in new products and markets, new plant, equipment and technology, new engineering, design and R&D capability as well as investment in skills formation and work organisation change.
3. The most successful manufacturing companies improve the productive performance of their organisations by involving their workers, building relationships based on trust, relying mainly on innovation and developing their organisational capabilities as opposed to pursuing a narrow cost cutting agenda.
4. The most successful manufacturing companies will have a strong international focus and understand what is required to develop export markets and the importance of building long term relationships with their customers.
5. The most successful manufacturing companies and their leaders understand that success or failure depends on their own efforts and initiatives. While a partnership role with Government, a favourable environment and appropriate incentives all help, in some case quite significantly, the buck stops with the CEO, the senior management team and the skills and commitment of their workers.

Source: Superannuation Trust of Australia (now AustralianSuper):
The Future of Investing in Manufacturing Businesses (2000)

This approach, rather than narrow cost-cutting, is what is required for NSW manufacturers to regain international competitiveness. In the current environment this is likely to involve re-engineering the business of existing manufacturers which export or compete against imports directly or as part of a trade exposed supply chain, in order to reduce time, cost and high operating costs.

Many existing firms will do this by re-engineering their systems and processes, rationalising their product offering to reduce cost and differentiating with value-added services. For others, smart design and factory automation will be the key to reducing costs. For others, the R&D budget is what will re-position the product offering in a competitive niche. In addition, skill formation and work organisation change will be used to lift productivity to meet the challenge of a strong currency.

This can drive a fundamental transformation as NSW manufacturers develop new forms of competitive advantage higher up the value chain to survive and prosper. Over the medium to longer term, the combination of a lower dollar and a productivity revolution amongst existing firms would go a long way to restoring the international competitiveness of existing Australian

manufacturing. And given the prominent role of NSW manufacturing in R&D and exports of elaborately transformed manufactures, one would expect NSW to play a leading role in these developments.

In addition to the transformation of existing firms, NSW needs to think about the next generation of manufacturing businesses in this state. This is likely to come from:

- An acceleration of the growth rate and survival of new manufacturing start-ups particularly (but certainly not exclusively) in advanced technology and knowledge-intensive industries.
- A significant re-structuring of manufacturers leading to radical or transformational diversification and a complete new line of business emerging (often established within a new factory or new business division spun off from the existing firm). But a common link between the old and the new will often be the core competencies of the manufacturing firm used to leverage the new opportunity.
- New green field sites from both domestic and foreign direct investment that feature “factories of the future” in terms of modern work organisation systems and advanced manufacturing technologies.
- New manufacturing firms emerge that contract some or all of the actual manufacturing process to concentrate on R&D/engineering/design/branding and logistic support. This has been happening in the last two decades as firms in the ICT sector sent the “making” function to specialised contract manufacturers. There is also an old fashioned “offshoring” of manufacturing which has long existed where cost considerations or the need for locational proximity to the customer or the existence of trade barriers has led to an exodus of the “making function” offshore to China and other nations. The emergence of “digital manufacturing,” 3D printing and other enabling technologies could make this occur in a somewhat wider range of manufacturing activities as the “making function” is in part transferred to more specialised sub sections of the manufacturing supply chain located in other parts of Australia, offshore or more likely a combination of both.
- The emergence of new industries such as “cleantech” and low emission technologies as a result of a carbon constrained economy. Studies in the UK suggest cleantech industries are nearly twice as manufacturing intensive for domestic economy wide activity as the average.⁶ This is discussed further in the recommendations section of this submission.
- All of the above will in turn be transformed by the emergence of a new institutional architecture that fosters richer/deeper collaboration, networking and clustering between firms, research organisations and universities/TAFE.

The AMWU attaches particular significance to this last point and wishes to highlight its importance to the future of manufacturing in NSW. The nations, states and regions that get this architecture right, and that develop the conditions needed to help new manufacturing to grow and flourish

⁶ The study can be found at www.berr.gov.uk/files/file50253.pdf

(including being situated within some of the most liveable cities with intelligent, literate and multicultural societies) will attract more of the key ingredients to develop a critical mass.

For NSW this includes securing global engineers, scientists and entrepreneurs who for lifestyle and commercial reasons are very mobile. It also involves securing global investment in a range of activities like the design, engineering, testing and R&D activities of global businesses.

To succeed, NSW must develop or attract additional R&D (over and above business as usual), more venture capital, more informed and connected networks of angel investors with better due diligence capabilities, an accelerated growth of manufacturing start ups (both with and without the making function inside their own business), more connected entrepreneurs and inventors, as well as a wider pool of more capable managerial expertise for start ups.

The critical mass will also result in a higher success rate in commercialising new technologies that come out of more connected, relevant and vibrant educational institutions and research institutes that are more engaged with NSW, global business organisations and the wider community. Both as a cause and an effect of this transformation will be the emergence of a NSW political and social culture where lifetime learning is the rule rather than the exception and a reality rather than a slogan.

A strategy of industrial regeneration has to balance policies that help secure the future of existing manufacturing businesses and those that encourage the growth of new manufacturing activities. In 2020 NSW will still have thousands of blue-collar workers in factories that have been here for many years with boilermakers, fitters and toolmakers, store workers and packers and process workers doing much the same work they have been doing for decades. Yes the technologies change as do work organisation systems, but we will still be making a lot of things in the state. However NSW manufacturing will be considerably diminished without the emergence and growth of “new manufacturing” activities.

Government action really matters. NSW should act to deliver a sustainable competitive advantage. This requires:

- **Ensuring governments at all levels help existing manufacturers by bringing forward demand now as capacity utilisation levels are low and we are at risk of losing core capabilities and skills that are not easily recoverable.**
- **A co-operative approach between the states and the Commonwealth for lifting investment in infrastructure, skills and innovation.**
- **Management systems and organisational capabilities enabling firms to grow and prosper in an increasingly competitive global economy.**
- **A sophisticated agenda harnessing the science, technology and risk capital.**

Getting access

To this point, the AMWU submission has concentrated on the challenges of getting competitive. But there isn't much point in becoming more internationally competitive if firms can't get access to what they require to win more business opportunities.

Barriers to access can be overt such as trade barriers in export markets or tariffs. Barriers can also be in the domestic market such as those faced by Australia's food processors in dealing with the retail oligopoly this country has, or our manufacturers trying to sell into big domestic mining projects only to find that in some cases the standards and specifications are designed around imported products limiting the opportunities for Australian firms to bid.

Access problems also exist in more subtle ways in areas such as access to the necessary finance a manufacturer needs for expansion or risk capital. Alternatively, access to Government support programs to help manufacturers build better businesses can be constrained by a lack of information getting to SMEs on the one hand or mountains of Government red tape on the other hand.

THE MINING BOOM

Australia is in the midst of a very large mining and energy boom fuelled by investment in iron ore, coal, LNG as well as other minerals and fuels. But this boom, when combined with strong commodity prices and Australia's interest rates heading back to normal much sooner than is the case in Europe or the United States, has caused a massive appreciation of the real exchange rate.

Many of our industries that compete with imports or export, including many parts of manufacturing, tourism, education, computer software, wine and other parts of agriculture, are getting squeezed and losing competitiveness. This resources boom could slow down for a short period owing to the possibility of recession in Europe and associated financial pressures spreading around the globe. However even then the boom will resume and may continue for some time due to:

- a. China's growth which is the main driver for demand for many commodities;
- b. Strong growth in the global steel industry which will be supported by industrialisation and urbanisation in other emerging economies such as India;
- c. Gas playing a much more significant role in supplying energy demand in a carbon constrained world; and,
- d. A supply response that will take time and vary from commodity to commodity.

Back in April 2011 the Government's forecasting agency ABARES identified 90 mining, energy and infrastructure projects that were committed or under construction and represented investment of nearly \$175 billion. More recent estimates put the figure even higher as new LNG projects get approved and big projects like BHP's Olympic Dam get added to the list. But NSW and other

Australian manufacturers are finding little of the work is going to Australian industry and there are real access problems:⁷

- In many big LNG projects, the local content for the steel used, the fabrication work for things like piping, pumps and compressors, structures and more specialist plant and equipment is 10% or less.
- A number of projects are using foreign standards and specifications that are built around imported products that the big mining/energy multinationals and their global procurement teams use elsewhere in the world which doesn't give Australian industry a reasonable opportunity to compete.
- In a number of cases modular or functional units are being imported into Australia. This is like a whole plant coming in on skids and it gets assembled as a "meccano set" with all the parts made overseas unlike in the past where Australian industry would have done much of the manufacturing work here.
- In other cases, a company that has equity in the Australian project or will be buying a large share of the mining/energy output, insists that a condition of its participation as a shareholder or customer is that some of the manufacturing work be done offshore by a company it chooses which disadvantages Australian firms.
- In yet other cases, those importing steel plate, fabrication work and other manufactured products into Australia's big mining/energy projects are being heavily subsidised by their own Government which seriously disadvantages Australian manufacturers trying to compete for the work and not getting the same subsidies.

The consequences of this for NSW manufacturing are very serious. Billions of dollars of work both directly and indirectly is affected by the constraints identified above which are inhibiting NSW firms from getting access to orders from the resources boom. It is one of the factors that resulted in the big rationalisation of BlueScope Steel's business involving the shutting of the No.6 blast furnace, the No. 1 slab caster and the No. 4 coke battery at Port Kembla as well as the rationalisation of the hot strip mill in Western Port in Victoria and the hundreds of jobs both directly and indirectly through the supply chain that will be lost.

The Federal Government has responded with several initiatives including a \$34 million 'Buy Australia at Home and Abroad' initiative to encourage greater industry participation in the resources sector. Arising out of the Jobs summit in October 2011, the Prime Minister announced that the Commonwealth would toughen up the Australian Industry participation regime by the use of the EPBS system. Under this system big miners get millions of dollars of tariff concessions when they import, making transparent the procurement system and commitment of the miners to give industry a fairer go. The question is whether it goes far enough.

There is considerable scope for the NSW Government to create initiatives that can help ensure that mining projects undertaken in NSW achieve higher levels of industry participation. The involvement of the NSW Industry Capability Network, accessing SAMP grants from the Commonwealth, and the Premier and relevant minister reaffirming Government's expectations of

⁷ See the Australian Steel Institute website for a full discussion of these issues and for accessing the report by the National Institute of Economic and Industry research highlighting the costs of Australia manufacturing missing out on the boom.

local industry involvement can all help. In other cases a small outlay of resources to help NSW firms bid for work can help, as can initiatives through Enterprise Connect among others. Ensuring the Commonwealth delivers on the commitments made at the October jobs summit is also critical.

A good start would be a the NSW Government establishing a Mining Industry Advocate within the office of the Department of Industry and Investment to audit mining industry projects (and other major private infrastructure projects) for local content and apprentice and trainee employment. This will help identify local capability and develop strategies to assist local firms to engage with the opportunities and report to Parliament annually on progress.

Commonwealth tax credit system

In relation to access to the Commonwealth's new tax credit system for manufacturers with a turnover of less than \$20 million the AMWU has highlighted the following problem:

The new system will impose an unacceptable administrative burden on manufacturers. The new legislation will increase the time and cost of undertaking R&D in Australia because, compared to the existing system, manufacturing firms will, in planning documenting and registering their R&D activities for tax purposes, need to determine:

- Is the activity a core R&D activity?
- If not, is it a supporting activity directly related to a core R&D activity?
- Is it an excluded activity and, if so, is it undertaken for the dominant purpose of supporting a core R&D activity?
- Is it an activity that is the production of a good or service?
- Is it directly related to a good or service?
- Is it for the dominant purpose of supporting core R&D activities?⁸

This will constitute a significant increase in red tape and will stretch the resources of many manufacturers, particularly SMEs. As Dave Oliver (AMWU National Secretary), Chris Roberts (CEO Cochlear) and the CEOs of Hoffman Engineering, Thales and Marand Precision put it to the Senate Inquiry in a joint submission:

“The consequence of the distinctions drawn between core and supporting R&D and the imposition of a dominant purpose test is a very large, costly unnecessary and unhelpful increase in red tape that will significantly increase the time and cost of compliance in planning, documenting and registering a firms R&D activities for tax purposes.”

Venture capital

In relation to venture capital the AMWU has the advantage of having in its ranks a number of industry fund trustees, including several with specialist knowledge and contacts in the venture

⁸ Deloitte: Submission on Second ED bill pg. 6

capital industry. Recently we provided an assessment for the Commonwealth about the state of the venture capital market, particularly in terms of whether it constrained access for new manufacturing start up businesses commercialising early stage technology in Australia. In summary our conclusions were:

“Based on our extensive involvement in the debate about Australia’s venture capital industry for the past several years and recent discussions with VCs and investors active in the clean technology space (as well as those avoiding it), the AMWU has reached the following conclusions:

- a. Institutional Investors in Australia are moving away from investments in the private equity asset class in general and venture capital specifically. There is a perception that the private equity asset class is too expensive. For example it has been suggested by many that investing in private equity increases a super fund’s management expense ratio (MER) without a commensurate contribution to fund returns. This is happening at the very time funds are looking to reduce their MERs.
- b. In venture capital there are only four first tier funds based in Australia capable of raising more than \$50 million on their own account. It is unlikely that more than one or two of them would be able to raise a \$150 million fund on their own at any time over the next two financial years (2011-2012 and 2012-2013). Only one of these funds invests in clean technology and only about a third of that one fund is invested in low emission technologies.
- c. In the second tier of the VC market there are a number of players who, in the current environment, are most unlikely to be able to raise funds and if any do they would be hard pressed to get up to \$50 million on their own account. This includes several smaller funds that specialise in clean technology.
- d. Institutional investors do not have confidence in the VC model in Australia. Analysis of several decades of returns tends to justify this lack of conviction.
- e. The Innovation Investment Fund (IIF) model (Government funds seeding VC and taking a lower return than private investors) was supported by both sides of politics in Australia and was intended to help VC managers get a track record with their first fund so they could stand on their own feet and raise a second and follow on funds from the private sector. Despite some initial successes the circumstances in today’s market raise questions about the durability and viability of a VC model in Australia.
- f. There are some high net worth individuals and families who have and will continue to make clean technology VC investments. Smaller “angel investors” are increasingly returning to the market after the GFC and will help some of the clean technology sector with investments up to around \$500,000.

For those VCs active in cleantech investing, a common problem was described to us in the following terms *“Broadly, many Australian cleantech companies confront a ‘capital intensity*

hurdle' early in their lives. Currently it is very difficult to find local funding sources that will provide capital to continue to grow these companies in Australia."

The AMWU was told of several examples where, after an initial \$1-\$2 million VC investment, another \$5-\$10 million was needed for the next stage and that is when the local VC sold the company and the intellectual property to foreign investors who took the technology and the manufacturing overseas. This included a very promising battery storage technology that is currently being manufactured as part of a \$100 million investment in the United States.

This is not the first or the last example of cleantech intellectual property and manufacturing leaving Australia for lack of local investors. David Miles took his solar company Ausra offshore, and University of NSW researcher Zhengrong Shi couldn't get support for his technology in Australia so he built the world's largest solar business in China which has already produced more than 13 million solar panels and which this year will generate more than \$3.5 billion in revenue.

There is also the case of the CEO of Australia's most successful cleantech company (a NSW based water membrane technology business) trying a decade ago to get the industry superannuation funds to help him set up a cleantech fund to replicate the success he had in building such businesses. The investment committee of the then Develop Australia Fund knocked him back for not having a track record and choosing the wrong venture partners.

There are of course successes in Australia and we should do much more to highlight them

The AMWU recognises that most cleantech businesses have to be "born global", a term referring to new businesses who, right from the start, are into exporting and establishing a global presence in overseas markets to get scale in their technologies and manufacturing in order to get the unit costs of production down. We also recognise that there will be cases where it is the right commercial decision to outsource some functions and that for some businesses the VC funds will come from offshore, as will the management expertise.

Nevertheless Australia must do better in commercialising its low emission technologies and building a cleantech industry of substance in this country. There is much more to doing this than simply having the venture capital funds available. But it is very hard to do it without some VC backing. That is why the AMWU has been engaging with Government, investors and other interested groups and experts to help develop an action agenda for building a viable venture capital funding mechanism in Australia."

(AMWU submission to the Government's Carbon Pricing Inquiry 2011)

Overseas Markets

There remain substantial access issues in overseas markets that can act as barriers to NSW and other manufacturers winning market opportunities. Many of these are in Asian economies. Examples were provided recently in the annual report to Congress by the US Trade Representative. While referring specifically to the experience of American firms they have broader application and highlight some of the issues. For example take the case of India and Thailand:

- India maintains very high tariffs averaging 32% in agriculture and very high on processed foods. There is also discretionary use of additional customs duty and excise on top of the tariffs as well as concerns about customs valuation procedures and complaints from importers of excessive searches and seizures.
- There are mandatory offsets required in defense procurement, tax holidays are given to Indian export firms in special enterprise zones and pressure applied to foreign firms to utilise countertrade arrangements.
- There is weak protection and enforcement of intellectual property, ownership restrictions in IT/telecommunications and standards are applied to the importation of telecommunications equipment that are not applied to domestic Indian firms.
- While not included in the US Trade Representatives report, India also has a range of mandatory local content policies in cleantech (both wind and solar) as opposed to Australia's WTO compliant "best endeavours" Australian industry participation policies.

Similar issues arise in the Trade Representatives report on Thailand, which is no secret to AMWU officials as exports of the Australian made Ford Territory were locked out of the Thai market by changes to excise arrangements that occurred exactly at the time of Australia's FTA agreement with Thailand. In addition:

- There are quantitative restrictions and import licensing restrictions impacting 32 product groups as well as the use of excessive taxes on imports. There are also accusations of corruption and inappropriate penalty reward systems for Thai customs officers.
- There is a high degree of copyright piracy and trademark counterfeiting.

While some of these trade access issues can be dealt with in trade negotiations of a multilateral or bilateral nature many "behind the border" barriers are not amenable to such processes.

Hopefully the NSW Government through its taskforce consultation process will develop an ongoing mechanism in 2012 that assesses the state of NSW and Australian manufacturing, including both the competitiveness issues, and the access issues and what needs to be done to address them. In establishing such a mechanism, Government, employer and union leaders as well as academics should be invited to participate not by virtue of a representational monopoly or partisan party politics but based on their capacity to make a substantial and meaningful contribution.

In closing this section of the submission and before turning to recommendations we would like to briefly address one final issue that is vital to the long term future of NSW manufacturing and the nation's manufacturers more generally. This concerns the rise of Asia and the implications this has for getting manufacturing in this country more internationally competitive and getting access to the global manufacturing business opportunities that will arise as the "Asian Century" unfolds. The world in 2025 will be very different to the world we see today, with an economic centre in Asia and giant middle classes in China and India.

There should be a significant debate about how ready Australia in general and NSW in particular is for this transformation and our capacity to engage with Asia. NSW accounts for almost 40% of Australia's services exports and the rise of Asia and an expanding Asian middle class is potentially very good news for the State and the nation's global tourism industry and also in attracting foreign

students that drive the State and the nation's education exports. Provided NSW and Australia can manage the tourism and education export industries in a sustainable fashion and deal with the competitive pressures of a high exchange rate over the 2012-2015 period there are very significant opportunities.

But what about manufactures, including processed food? Together they continue to represent some 60% of world trade. In the past 20 years according to the most recent WTO report on trends in global trade world manufacturing production is up 70% and exports in volume terms up 210%. For mining and fuels by contrast production is up 32% and exports 81%.

An increasing share of manufacturing imports and exports are going to Asia in general and China in particular. By way of example, in 2010 China imported \$894 billion of manufactured goods of which \$78 billion came from the United States, \$157 billion from Europe and \$627 billion from other Asian nations.

There is a large and complex network of supply chain linkages between China and other Asian nations and after Australia's manufacturing exports and market share in Asia boomed in the decade to the mid 1990s it has been stagnating or declining (in terms of market share) ever since. In 2010 Australia exported \$8 billion of processed food and \$18.5 billion of manufactures to East Asia but this was less than 1% of East Asia's imports of these products. Besides China other large importers of manufactures in Asia in 2010 included ASEAN \$645 billion and Japan \$347 billion, where once again Australia's market share of manufactured imports has been stagnating or falling.

In 2010 the largest importers of manufactured products were the European Union with \$3,745 billion of imports and the United States with \$1,470 billion. While Australia will remain focused on winning exports of processed food and manufactures in both these markets the future growth will increasingly be in Asia.

Some manufactured and processed food exports from NSW have slumped in recent times. In terms of processed food, NSW exports were lower in 2009-2010 than in 2004-05 while imports of processed foods were more than 45% higher. While NSW's manufactured exports have been growing by around 5% per annum (in nominal terms) in the five years through 2009-2010, they will take a hit, particularly the Asian component, with the rationalisation of steel exports by BlueScope.

The Prime Minister's Manufacturing Taskforce has a central focus on manufacturing trade and investment linkages with Asia in the decade to 2020 and beyond and it is one NSW should focus on as well. This applies equally to existing manufacturing opportunities as well as "new manufacturing" opportunities.

CASE STUDY 1

Quickstep gains foothold in NSW

The relocation of aerospace engineering firm Quickstep to NSW is an example of the positive outcomes for the manufacturing when there is strong government and industry co-operation.

In this case the niche manufacturer of high-tech components to the lucrative international Joint Strike Fighter project, the largest military global aerospace program in the world.

Under the JSF contract, Quickstep will use its Resin Spray Transfer (RST) technology and patented Quickstep Process in providing a number of composite panels and doors, delivering the first F-35 Lightning II parts in 2012 to aerospace firm Northrop Grumman, the principal contractor.

Originally based in Perth, Quickstep utilized a Commonwealth export finance guarantee to aid in its relocation to Sydney, a move strongly backed by the New South Wales Government.

Now Quickstep's head office is in North Coogee and its factory operations in Bankstown at the former Boeing site. Quickstep's relocated operations are estimated to have created approximately 400 jobs.

Quickstep has credited incentives from the NSW Government with the company's ability to acquire capital equipment and intellectual property to manufacture and supply composite parts under contract for the JSF program.

Last month Quickstep completed its first purchase order, supplying its first component delivery to the JSF project, ahead of schedule.

Since then it has also announced another project, a partnership with German carmaker Audi, which involves the research and development of lightweight automotive component production.

The 'PRESCHE Project' will begin this month and is aimed at producing composite components for the automotive industry with cost-reductions of up to 30 per cent over existing manufacturing costs.

The project will run until October 2014 and its ultimate goal is high-volume, low-cost composite components for a global automotive industry that is already turning its focus to lighter, carbon vehicles with reduced fuel consumption and carbon dioxide emissions.

CASE STUDY 2

Passenger rail manufacturing in crisis

The NSW rolling stock industry directly employs more than 2,000 workers and there are thousands more workers employed in related firms in the supply chain. The industry features manufacturers like United and EDI Downer at the head of long supply chains making the carriages for NSW passenger rail fleet. It is a vital part of the NSW manufacturing sector; playing an essential role in the NSW economy, particularly underpinning thousands of jobs in the Hunter Region. The industry supports long-term high wage/high skill jobs; attracts capital investment and R&D and supports skill retention and formation.

However, policy failure has forced many of these good jobs offshore.

Currently state rail authorities procure rail rolling stock as small, uncoordinated orders. This results in volatile demand cycles, leading to manufacturers having difficulty in achieving critical mass, establishing stable supply chains and consequently investing in training, infrastructure and technology development.

Low local content requirements, uncertain procurement horizons and a refusal to work cooperatively with enterprises in the supply chain to secure a practical approach to improving capability, productivity and the skills base has not delivered value for taxpayer dollars and it has certainly undermined the industries competitive position. In particular, the Waratah procurement saw hundreds of jobs forgone because of procurement failure and ineffective local content requirements. Critically, the tendering process for 626 carriages followed a 10 year rolling stock manufacturing drought with consequent reduction in local capability and disinvestment – local industry was unable to meet such a massive order with its existing capability given the unrealistic deadline. This was a policy failure – and it has delivered lost jobs, reduced capability and all of the public exposure associated with the delivery and quality issues associated with overseas manufactured carriages. All stakeholders in the NSW transport manufacturing industry recognise that we have reached a critical point for the ongoing viability of the industry.

Planning for supply of rolling stock would allow manufacturers and other suppliers to better plan production schedules, which in turn would provide them with the confidence and capital to invest in long term sustainable employment and training opportunities.

A coordinated approach to state rolling stock procurement would also reduce costs for both industry and government through economies of scale and competitive procurement strategies. It would enhance international business opportunities for local manufacturers and suppliers; exposing local rail manufacturers to international best practice manufacturing, facilitating export opportunities through integration into international supply chains and technological innovations.



In 2011 the AMWU led the “Build Them Here” campaign in over 100 rolling stock, bus manufacturer and ferry building operations. We met with, and surveyed, thousands of workers and discussed the key issues facing the industry with many plant managers and senior industry leaders. The AMWU ran a series of industry seminars with CEOs, managers, union delegates and industry associations to develop a robust approach to the future of these critical industries. The message from these discussions was clear:

- Managers, workers and the community share a strong view that these jobs matter, particularly in our industrial regions and Sydney’s West
- The NSW Government must act to even out the peaks and troughs of the uneven demand cycle generated by poor procurement practice – it wrecks capability, deters investment and exports good jobs.
- Local suppliers would welcome a coordinated approach from Government as the major client to building capability and engaging meaningfully with the challenge of lifting productivity
- The NSW Government must act to step in and mandate effective local content requirements, apprentice ratios and local industry participation plans.

Without the commitment of all stakeholders, NSW will be left dependent upon overseas supply chains for critical transport infrastructure, with all the risk that this would entail.

CASE STUDY 3

NSW solar cell production victim of policy backflips

NSW has lost its burgeoning solar cell production capacity after a series of government policy backflips on domestic solar subsidies.

Silex Solar at Homebush, Australia's only commercial manufacturer of domestic solar panels, closed its cells operation in August, against a backdrop of state and federal government policy instability.

A critical factor was the NSW Government's announcement it would cut altogether the solar bonus scheme introduced by the previous Government, as the Federal Government also wound back its solar subsidy scheme.

While AMWU recognises the previous scheme in NSW was inefficient, the uncertainty over bonuses for domestic solar panels production has been damaging to the industry; and there has been no policy framework to support emerging local cleantech manufacturing.

The AMWU had argued for the scheme to be tailored to cut costs to taxpayers while providing an incentive to buy locally-engineered panels, such as a premium feed-in tariff for energy produced from Australian-made panels. Other government initiatives to support the local industry could include a procurement policy on solar panels for government-owned buildings.

Instead, 30 jobs in Western Sydney in the high-tech end of solar panel production have been lost and there is little prospect of NSW rebuilding its capacity in this area.

As we head toward the introduction of a carbon price, NSW has no strategy in place to support manufacturers diversifying into cleantech products.

At this stage there is little hope NSW will be anything other than a destination for foreign imports of solar and other clean energy products, delivering no broader value in terms of jobs, research and development or flow-on economic benefit.