



08/09/21

Committee Secretary
Senate Standing Committees on Economics
PO Box 6100
Parliament House Canberra ACT 2600

Dear Committee Secretary and Senators,

The Australian manufacturing industry

The following letter outlines my view of the Australian manufacturing industry, this has been influenced from almost 23 years of working in civil earthmoving, mining and infrastructure.

I started my apprenticeship in 1998 as a Heavy Diesel Mechanic for a Caterpillar dealership in Parramatta NSW and since then I have worked on various mine sites, for earthmoving companies and the following major infrastructure projects in Australia:

Cross City Tunnel - Sydney

Lane Cove Tunnel - Sydney

Gold Coast Desalination Project – Gold Coast

Airport Link Tunnel project – Brisbane

Narrows Marine Crossing (Tunnel for LNG pipeline)- Gladstone

Northconnex Tunnel project – Sydney

I am currently working for John Holland on the Rozelle Interchange Project as the Mechanical Superintendent for Tunnelling.

My role required me to oversee the refurbishment of 16 Roadheaders (tunnelling machines) and the manufacture and procurement of spare parts for other plant as well as the maintenance of a fleet of equipment worth approximately \$200 million.

The effects of persistent COVID 19 pandemic on the global supply chain has moved my view of manufacturing support in Australia from an industry in decline and a little concerning, to an embarrassing joke for anyone who has any national pride or hope the country could ever support itself in a larger crisis like a war or even if the covid crisis continues.

Steel

Steel and its availability, the quality and the grades available are the biggest issue I come up against every day.

A majority of the steel I need to make parts and carry out repairs comes from overseas. Australia makes a small amount of structural steel products but doesn't make high grade alloy steels that are required for the manufacture of some machine parts. Steel alloys like 4140, 4340 are used to make drive shafts, gears, pins and hydraulic components. The major steel suppliers import these products mainly from China. As China has overtaken the supply from the European mills there is now a noticeable drop in quality with some of these products. In the machining process it is quite easy to see changes in the surface appearance as the cutting tool moves through the steel. This would indicate inconsistency in the steel alloy content, hardness and strength. Recently I have waited over 4 months for a shipment of steel that was sourced through a component manufacture in Tasmania. They had a direct supply contract with a Chinese steel mill. I used them as all of the big steel suppliers did not have any stock or indication of when they could supply.

It is worth noting that earthmoving and mining equipment is closely related to military equipment, they often have similar gearboxes, drive lines, engines and hydraulic components. Steel grades like 4140 and similar are also used to manufacture gun barrels. Quenched and tempered steel wear plates that are used on machine buckets are also used for military armour plates. I have also experienced shortages of this material due to overseas supply problems.

Other work colleges have experienced shortages of concrete reinforcing steel, shortages of structural steel beams, steel cable and large high tensile nuts and bolts.

It amazes me that Australia has some of the world's largest deposits of iron ore and coal, but in recent times we produce very little steel in comparison. We have destroyed our steel manufacturing industry and are nowhere close to being self-sufficient in steel supply. Let alone large-scale export and manufacture of specialised steel alloys.

This is a risk to our national security and risk to us economically. We seem to have a lot of eggs in the raw iron ore export basket. We rely too much on the global supply chain to return that exported ore as steel. If anyone can't see there is a problem here, they should get out of the office and go visit some of the machine shops and metal fabrication shops and ask the owners.

The global supply chain

Since the GFC in 2008 the major equipment manufacturers and suppliers have learnt that, stocking a large amount of parts on the shelf can be a big problem if demand rapidly drops and they are still paying for storage space.

This has resulted in companies focusing on being able to ship parts quickly globally, pick parts off manufacturing lines rather than from stock and encourage large customers to increase their private parts stock. This is all well and good until something like the corona virus disrupts this.

The old answer to this problem would be to go and buy aftermarket parts, but we don't make any in Australia. It would seem that all of the oil filters, hydraulic valving, engine parts,

power train parts, tyres and electronics are made overseas and stock in Australia runs low quickly.

Electronics are one of the major concerns as every major component of modern machinery has an electronic brain or ECM (electronic control module). Like cars most machines have multiple computers or control modules on board. All of these components come from overseas. The global chip shortage is now starting to effect companies like Toyota who stockpiled them but now have run out.

The manufacture of tungsten cutting tips (picks) for tunnelling equipment used to be made in Newcastle by Sandvik. They now have a factory in China, the supply can be affected by the problems with global shipping. This narrative can be seen over and over again with different categories of parts and materials and even tools.

I remember when a Sidchrome spanner was stamped "Made in Australia" and my father used to talk about the Dowidat tool factory in North Richmond NSW producing spanners and other hand tools employing local labour. Now I have to call a supplier to see what stock they have in from overseas.

Services

Services that support the manufacturing industry and construction industry are disappearing.

Workshops that offer forging work around Sydney are down to one I know of that can do the size work I need. The previous business I used shut down and the equipment was sold off. The owner passed away and no one in the family wanted to take over.

We cannot get a spiral bevel gears set of the required size manufactured Sydney. We use a company in Victoria that is the only one on the East Coast of Australia that I can find. Again, the old company I used in NSW shut down with no one willing to take it over.

Heat treatment of manufactured parts we also had to send to Melbourne. Heat treaters in Sydney either didn't have the equipment for our fairly standard work or they were too busy to meet our required deadlines.

Foundry and casting businesses were that hard to find I ended up talking to a company in China.

Skills

One reason for the lack of technical services is the shortage of skills. Some are completely dying like industrial scale blacksmithing / forging. More common trades like machinists, heavy industrial plant mechanics, auto electricians, boilermakers, high voltage electricians are becoming increasingly hard to find ones with suitable skill levels.

Underground work pays very well with these trades making over \$200k a year but I have never been able to keep all positions filled for more than a few months. I constantly hear stories from small family-owned businesses that cannot get the appropriately skilled trades at all.

A few years back I visited my old TAFE at Wetherill Park in Sydney. I was surprised to see the money that had gone into the road transport section, a very good thing. However, my old section (heavy industrial plant repair) was gutted, same old equipment they had 17 years before, no upgrades, no introduction of newer technology, they seemed to have less training rooms, less equipment in general and had moved to a dark and dingy corner of the TAFE. I asked the very good staff there, why in their opinion was there no money put into this section when Sydney was going to go into an infrastructure boom, and these were the trades required to keep the machines going? I think I just got some sheepish looks in return and guessed it was political.

The Australian mining boom reminds me of a drunk on pay day, we had a great time, blew all our cash, didn't learn anything and facing reality the next day hurts. Too many people were hired with poor skills that made good money and were trained up to do work that was very specific. We taught people not to think, there is a safety document or overly complicated procedure for everything, we replace the broken part with a new one, don't try and fix the old and when it's all over try to get a job back in society that pays 50% less, you need to have a broader skill set, the business owner can't waste money on mistakes and nice things to have and you might actually have to do some hard work. This has created a generation of tradesman with bad training, bad attitudes and NFI!

I also wonder where all the revenue the governments raised from mining went. Obviously not into training and development of Australia's future tradesman.

There has however been a lot of inhouse training come about in the last decade by large companies like Hasting Deering (Caterpillar Qld) but unfortunately this does create a heavy bias towards company products and maintenance methods, usually driven by revenue from potential parts sales and not around remanufacture or repair of smaller components. I don't believe it should be a replacement for TAFE but they have been able to keep the industry educated on new technology a lot better than government TAFEs.

The housing boom.

Kevin Rudd's answer to the GFC, go hard into housing. I believe has had an unintentional impact on manufacturing.

Why keep your family machine shop or fabrication business when you could sell the land to a developer and go into early retirement? These businesses are often not replaced and are no longer there to get passed on in the family.

There is also the issue of, how can a company be competitive and pay their employees enough money so they can pay off their \$2million home, in an old blue-collar suburb of

Sydney? The cost of rent and living in general is also increasing so just saying people should rent isn't the answer.

My opinion on some answers

I believe that some of the answers to above problems would be:

- Revive the Australian steel manufacturing industry.
- Encourage development of regional cities with companies given tax breaks for moving there.
- Invest in better infrastructure in regional areas like Airports, fast trains between cities, hospitals and schools, encourage the development of regional manufacturing and industrial hubs
- Stop pumping the housing market and get behind small business and innovation.
- Cheaper housing developments in regional areas.
- Encourage females to consider trade-based careers in more non traditional industries. It worth putting more effort into schools promoting trades to kids with hands on personalities in general.
- More funding to TAFE's especially metal trades training.
- Work on reducing the cost of electricity.
- Stop exploiting the country's natural resources. We pay a lot for LNG in this country, but we basically give it away to overseas companies. Though I don't agree with fracking, we are giving away energy that could be used to help Australia reduce our energy cost.
- Don't let us be victims of climate change politics. This seems to be an international tool used to control economies in my opinion.

No one sane wants to destroy the planet, but we should also not want to destroy Australia's economy, society and environment. If modern coal fired power station produce less emissions than the old ones, we should build them as they are an improvement, If we can supply cheaper energy to businesses, cheaper housing, better training and education promoting a more complexed and diverse economy we would be in a much better place to make significant changes to carbon emissions. I think a better outcome would be more likely to come from innovation, education and developing new technologies than just continuing to dig holes, burn diesel, lend money, pump housing, repeat.

We might even be able to stand on our own two feet as nation in hard times.

Kind Regards,

