Chapter 4

Automotive manufacturing

4.1 This chapter examines the future of automotive manufacturing in Australia and some policy responses to ensure that as much manufacturing capacity is retained and utilised following the cessation of vehicle production in 2017.

Future of automotive manufacturing

4.2 As noted in chapter 2, the manufacturing industry is an important contributor to economic growth and development. It is the fifth largest industry employer in Australia and employed 922,400 people in February 2015, which represented 7.8 per cent of total employment.[1] However, this contrasts with February 1995 when the industry was the largest employer in Australia—employing 1.08 million people and accounting for 13.4 per cent of all employment. The level of manufacturing in Australia is set to decline further with the cessation of passenger motor vehicle production.

4.3 Automotive manufacturing is an integral part of advanced manufacturing activities more broadly as the technologies and skills associated with automotive manufacturing are readily diffused into other manufacturing applications, such as defence, aerospace materials, renewables, biopharmaceuticals and medical devices (to name a few).

4.4 In contrast to much of the doom and gloom associated with the cessation of motor vehicle production, the committee was pleasantly surprised to learn that there were many businesses actively taking on the challenge of seeking new markets and/or diversifying their manufacturing activities to improve the viability and sustainability of their operations after 2017.

4.5 Even in a highly competitive international environment, some automotive manufacturers have been able to secure new work. Nissan Casting Australia is an example of one such business which exports all of its production:

> What sets us apart is a drive to exceed our customers' expectations on new project works, in regard to innovation, offer solutions to their problems, manage the complexity, be reliable, deliver a quality product the first time and achieve the shortest possible project-introduction timing…Our factory has been awarded more manufacturing work, and we have not won this based on cost.[2]

4.6 But even a successful operation like Nissan Casting Australia needs to fill a funding gap of $1 million (of a total investment of $4 million) to cover the capital investment required to make castings for the next generation LEAF electric vehicle.

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1 Australian Bureau of Statistics, *Labour Force, Australia, Detailed, Quarterly*, Cat. No. 6291.0.55.003, May 2015.

2 *Committee Hansard*, 8 October 2015, p. 38.

4.7 Some component makers have seen the writing on the wall for a number of years and sought new applications for their processes and workforce. For example, Mr Brian Hughes, Managing Director of Composite Materials Engineering, described his business diversification process:

> With the announcement of the decision of GM [General Motors], which was our major customer, in December 2013 to close, we decided that we needed to ramp up a diversification program that we had been on for a number of years. At that time we were 70 per cent automotive…Our business is now split through a number of industries—building around 40 per cent and autos 30 percent. We are the No. 1 in the world and we export over 30 per cent of product—of our business and total exports—to the confectionary industry. In the last six months we have signed all of the leading multinational and international confectionary companies…We are making it all here in Melbourne and exporting it…[3]

4.8 In addition to expanding its production of diodes for the global group, Robert Bosch Australia has had some success in diversifying its engineering activities:

> We are now undertaking R&D [research and development] for non-automotive third parties, we have established a global centre of competence in Melbourne for trailer safety, and we are beginning to work on the application of automotive technologies into adjacent industries, for example rail and marine.[4]

4.9 Indeed, the future of automotive manufacturing may not just be limited to component production. There are a number of different organisations working towards the establishment and manufacture of low-volume, niche motor vehicles in Australia. For example, RED Automotive Technologies, a spin-off from Applidyne Australia, is seeking to build a premium off-road capable sports utility vehicle, with an electric propulsion system that places a motor on each wheel.[5] Similarly, Simmonds Global is in the process of developing a detailed business plan for the production of a specialist vehicle in Australia.[6]

4.10 Some stakeholders indicated that one of the main barriers to the development of a niche motor vehicle is the nature and application of the Australian Design Rules (ADRs).[7] Tomcar Australia advised the committee that it:

> …faces an incredible amount of bureaucracy and legislation trying to get our vehicles compliant for general road use…The current ADR scheme is expensive and limited to vehicle manufacturers who can afford to carry the testing and crash tests on their vehicles.[8]

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3 *Committee Hansard*, 8 October 2015, p. 10.

4 *Committee Hansard*, 1 October 2015, p. 13.

5 RED Automotive Technologies, http://www.redautotech.com/ (accessed 22 November 2015).

6 *Submission 22*, p. 2.

7 See, for example, Mr Robert Bryden, *Submission 38* and Tomcar Australia, *Submission 12*.

8 *Submission 12*, p. [4].

4.11 A number of stakeholders urged the committee to continue and increase government support for those parts of the manufacturing industry (including business that have diversified and new entrants) that will continue to operate after 2017. For example, Mr Gavin Smith, President of Robert Bosch Australia, reflecting on the experience in other countries of rebuilding automotive manufacturing, commented that:

> …don't let it all go. If it all goes it will likely never come back. Hold onto all that can be possibly retained, because from the ashes something can rise. If the ashes are scattered on the four winds then it is much harder.[9]

4.12 The Australian Automotive Aftermarket Association (AAAA) noted the significant potential for the component manufacturers supplying the aftermarket to expand production and absorb some of the workforce if assistance was available.[10]

4.13 Given the right policy settings and incentives, there would appear to be a relatively bright future for Australian automotive manufacturing, and advanced manufacturing more broadly, if some of the current barriers to investment can be overcome.

Policy settings are important

4.14 Realising the potential of the automotive manufacturing industry requires the government to set policies that give businesses the certainty to invest and assist them to overcome some initial challenges to realising new opportunities. As such, the policy environment for encouraging manufacturing and innovation more broadly is an essential element of a diverse economic base.

4.15 A number of stakeholders highlighted the interactions between policies to support automotive manufacturing and innovation in manufacturing more broadly, particularly advanced manufacturing. For example, the Ai Group advocated for government policy to support innovation across a range of manufacturing activities, not just automotive activities:

> While the imperative to innovate extends well beyond manufacturing, transformation and innovation in this industry is particularly urgent for Australia…Australia requires a coordinated and clear government policy, aimed at promoting opportunities for new industrial directions.

4.16 And, along with other stakeholders, Business SA highlighted the importance of commercialisation to drive the outcomes of innovation into tangible goods and services:

> The future of advanced manufacturing will also rely heavily on Australia's ability to increase the commercialisation of research for industrial purposes…Enabling the auto-component supply chain to better leverage

9 *Committee Hansard*, 1 October 2015, p. 15.

10 *Submission 5*.

> university resources to diversify will also help provide a future beyond auto related manufacturing.[11]

4.17 Stakeholders provided mixed reviews of the outcomes of partnerships with universities. Mr Paul van de Loo, Technical Director of Applidyne Australia, noted that:

> Where we tend to fall over with our university engagement is the sense of urgency and timing. In our business, we live in a very fast moving segment, where clients come and want results even more quickly than we think is possible. Where it would be very tempting to get a university postgraduate student or final year project running on a particular aspect of that project, we find that generally the timeframes preclude it.[12]

4.18 By contrast, Precision Component, a 50 per cent joint partner in the Heliostat SA solar thermal electricity generation project, considered their relationship with the University of South Australia to be excellent:

> …the experience that Precision Components and Heliostat SA have through research and industry collaborations is an excellent one. It is not very common, and there should be a lot more done to support those initiatives.[13]

4.19 The committee notes that a Senate inquiry into Australia's innovation system is underway. The issues paper for that inquiry highlighted that collaboration 'between universities and business is firmly on the innovation agenda'.[14] As such, the committee believes that the recommendations from the innovation inquiry may also be relevant to automotive manufacturing.

4.20 Policy consistency was also highlighted as an important factor in encouraging long-lived capital investment in manufacturing processes. For example, the political stoush over the funding associated with the Automotive Transformation Scheme has created a level of uncertainty that is not conducive to a smooth transition. According to the Federation of Automotive Products Manufacturers:

> The industry urgently needs funding certainty to maximise its chances of charting a path to the cessation of Australian volume production without an uncontrolled collapse of the supply chain…
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> As the industry operates on a just-in-time basis…certainty of funding provides a fundamental cornerstone of this requirement.
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> Further, with the commercial banking system employing ever more stringent lending practices to this industry, the importance of the certainty

11 *Submission 10*, p. 3.

12 *Committee Hansard*, 1 October 2015, p. 31.

13 Mr Darin Spinks, *Committee Hansard*, 1 October 2015, p. 31.

14 Senate Economics References Committee, *Australia's Innovation System—Interim report*, August 2015, Attachment 1, p. 8.

> that ATS funding provides to the supply chain is even more important than ever.[15]

4.21 As a relatively small part of a large multinational, Robert Bosch Australia is largely dependent on the decisions of its international parent, which is starting to ask questions about the policy regime in Australia:

> …I am answering more questions in the last six months about the outlook for Australia, the policy stability in Australia and the extent we can accept the risks of investing in Australia. I was called to a teleconference recently and asked what is going on with the legislated scheme for automotive transformation being killed off five years early despite activity continuing. I was asked why Australia is, up until recently, looking to reduce spending on R&D rather than increasing it.[16]

4.22 Policy makers also need to be cognisant of possible unintended consequences arising from assistance measures. For example, the AAAA noted that:

> There is a genuine concern from our members, and other sectors of the automotive industry, that an easy (but ineffective) option is to simply pay the PMV [Passenger Motor Vehicle] [component] producers to diversify **into our segments.** This would be the ultimate insult. To replace the dominant paradigm of a narrow focus on PMV with a program of funding these companies to compete against us is unfair, anticompetitive, unwise and insulting.[17]

4.23 The availability of raw materials and other inputs into the manufacturing process is a limiting factor in the decision for many businesses to invest in manufacturing in Australia. Many of the inputs to Australian manufacturing are imported, despite the raw materials coming out the ground here. Mr Gavin Smith outlined the problem well:

> The case for manufacturing complex products in Australia will fail if the components are predominantly coming from overseas. It is far more sensible to ship in a finished product produced in a lower cost country than to bring in all the parts and assemble it at high cost for a relatively low-volume domestic market.[18]

4.24 On this point, Mr Smith urged the government to 'pick winners' and make strategic decisions about how to facilitate globally competitive conversion of raw materials into semi-finished products that are inputs needed to support complex manufacturing in strategic industries or sectors.[19]

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15 *Submission 17,* p. 10.

16 Mr Gavin Smith, *Committee Hansard*, 1 October 2015, p. 18.

17 Australian Automotive Aftermarket Association, *Submission 5*, p. 9 (emphasis in original).

18 *Committee Hansard*, 1 October 2015, p. 14.

19 *Committee Hansard*, 1 October 2015, p. 14.

Policy options to support automotive manufacturing

4.25 This section seeks to take a broad view on how government can best support automotive manufacturing and secure the jobs that depend on it.

Automotive Transformation Scheme (ATS)

4.26 The interim report focused on the Automotive Transformation Scheme (ATS) which is the main government support program to the local automotive industry. The ATS is a legislated and funded government program that requires redefining and updating to ensure that it can continue to support local manufacturers to grow and prosper.

4.27 In the interim report, the committee made various recommendations to amend the ATS rules and eligibility requirements to support manufacturers to continue to secure complex design and engineering work, and provide greater support for diversification activities.

4.28 Stakeholders supported the committee's recommendations to redefine the ATS and widen eligibility for support under this program. Mr Gavin Smith outlined the opportunities of a reformed scheme:

> The industry does not end because three vehicle manufacturers leave. There are still component companies here who are doing things, who will continue doing things and they should be supported through that period, as was legislated. But there are also companies today that may not be eligible who perhaps could be and they can grow, they can introduce new development and new manufacturing with the support that that scheme could provide.[20]

4.29 The committee believes that the funding allocated to support the automotive industry should be spent, in full, on supporting the industry and its constituent businesses. It is disappointing that the government continues to shirk its responsibility to the sector and refuses to support local manufacturing by widening the eligibility criteria for the ATS. As such, the committee reiterates its support for Recommendations 2 to 5 from the interim report and calls on the government to implement them as a priority.

Automotive Diversification Programme (ADP)

4.30 The Automotive Diversification Programme (ADP) is a $20 million programme that provides grants to assist Australian automotive supply chain companies to diversify out of the domestic automotive manufacturing sector. The ADP is planned to run for four years, commencing in the 2014–15 financial year and has $20 million in funding, including $18 million in competitive merit-based grants.[21]

4.31 The Federation of Automotive Products Manufacturers (FAPM) raised a number of concerns about the operation of the ADP. It was concerned that funding

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20 *Committee Hansard*, 1 October 2015, p. 16.

21 *Automotive Diversification Programme Ministerial Guidelines 2015*, p. 2.

constraints may lead to high merit projects not receiving the funding needed. Funding could be sourced from reallocating some of the projected underspend from the ATS.[22]

4.32 FAPM was also concerned that a number of activities essential to a successful diversification process—such as research and development, commercialisation, feasibility studies, site relocation and/or site consolidation, and marketing activities—are not rewarded through the ADP.[23]

4.33 A number of stakeholders noted the significant costs associated with building export markets. For example, Mr Hughes indicated that Composite Materials Engineering invested significantly to establish the market supplying confectionary businesses:

> In relation to exporting and finding a new market… you do not just wake up and find it. You have to actually invest in the time to go and do it…To create that market we put a guy into Europe last year for six months, full-time. We covered every bill and we spent just under $100,000 because we needed the work.[24]

4.34 Recognising the significant costs associated with establishing export markets, FAPM also called for funding under the ADP to be available for the appointment of export and marketing managers on a 50:50 basis.[25]

4.35 The committee considers that the ADP is an important support initiative for component suppliers to diversify. Refinements to the ADP, in conjunction with the recommendations previously proposed to the ATS, would better assist the industry transition.

Recommendation 16

4.36 Subject to any changes to the Automotive Transformation Scheme after 2017 and providing no existing registered companies are adversely affected by changes to the scheme, the committee recommends that a proportion of the funding available under that Automotive Transformation Scheme (for example, from underspends in the scheme) be allocated to manufacturing diversification programs such as the Automotive Diversification Programme.

Recommendation 17

4.37 The committee recommends that the activities eligible for assistance under the Automotive Diversification Programme be expanded to include support for research and development, engineering and product development, commercialisation, feasibility studies, site relocation and/or consolidation activities and marketing activities. In particular, the committee recommends that grants for the appointment of export managers plus on-costs on 50:50 matched

22 *Submission 17*, pp. 16–17.

23 *Submission 17*, pp. 16–17.

24 *Committee Hansard*, 8 October 2015, p. 14.

25 *Submission 17*, p. 17.

basis be included as an eligible activity under the Automotive Diversification Programme.

Retaining engineering and development skills

4.38 The retention of core skills and capabilities, particularly engineering and product development, is essential if Australia is to maintain and grow its manufacturing activities. Crucial to this is the ability to transform ideas into tangible outcomes. Traditionally, however, Australia has not been successful at doing this as described by Mr Smith:

> We do lots of good research but we are no good at commercialising it.[26]

4.39 Recognising this problem, FAPM proposed an approach based on the German Fraunhofer method of application-oriented research as a way to increase the collaboration between research and development centres (including universities) and industry. According to FAPM:

> This concept involves utilising the core knowledge and skills of displaced (or soon to be displaced) automotive engineering and purchasing staff to identify opportunities and build business cases for new product development. This process is designed to provide SMEs [small and medium enterprises] with access to skills and know-how previously beyond their reach.[27]

4.40 These specialist skills are expensive to develop and maintain, and retaining and redirecting them wisely could be considered a prudent investment in Australia's manufacturing sector. The proposal is to establish a mechanism by which opportunities for engineering services or componentry supply suitable for the Australian industry can be identified and fostered. Industry Growth Centres, especially the Advanced Manufacturing Growth Centre, would be well placed to support such a model for industry and research and development collaboration.[28]

4.41 The proposal would address two pressing policy objectives:

- the efficient identification of diversification opportunities; and
- support to preserve, nurture and grow the high-end engineering capability of the Australian automotive industry.

4.42 The committee agrees that there is merit in exploring alternative options for improving links between automotive manufacturing businesses and research and development organisations. It also acknowledges that this issue should be considered in conjunction with the recommendations from the broader inquiry into Australia's innovation system.

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26 *Committee Hansard*, 1 October 2015, p. 18.

27 *Submission 17*, p. 17.

28 FAPM, *Submission 17*, pp. 17–18.

Affected regions may need additional support

4.43 The Australian and Victorian Governments have provided some targeted support for the regions most heavily affected by the closure of local vehicle production, most notably in North Melbourne and Geelong. Some stakeholders argued for more government assistance to support affected regions to manage the transition.

4.44 The South Australian Government noted the concentration of automotive manufacturing in the northern suburbs of Adelaide and the relative disadvantage this region already experiences. As the closure of GM Holden effectively represents the closure of an entire industry in the region, affected workers are likely to have great difficulty being absorbed by the labour market.

4.45 The South Australian Government is in the process of developing a Northern Economic Plan to build on existing strategies to build the South Australian economy and create employment. In their submission, the South Australian Government concluded that:

> Northern Adelaide requires a coordinated and collaborative approach across all levels of government, the community and industry to adjust and recover from the closure of the automotive industry.
>
> The South Australian Government recommends that the Commonwealth Government [use] unspent ATS funds to establish a targeted Commonwealth Government structural adjustment program in consultation with the State and Local Government and local communities, which would focus on the hardest hit areas such as northern Adelaide.[29]

4.46 Further, LeadWest submitted that Melbourne's west will be significantly affected by the exit of Toyota Australia's Altona manufacturing plant but, as yet, this region has not been supported like neighbouring regions, such as Melbourne's north and Geelong.[30]

4.47 In order to ameliorate the effects of the local vehicle manufacturing ceasing, it may be necessary for governments to evaluate whether further targeted regional assistance programs are required.

Aftermarket testing facility

4.48 In addition to providing direct industry assistance, the AAAA put forward a proposal for an 'Automotive Aftermarket Lab' to support the maintenance and growth of automotive engineering and research and development activities. The Lab would assist aftermarket manufacturers to reduce product development costs and time to market.[31]

4.49 The Automotive Aftermarket Lab would be modelled on an existing facility in the US, the Specialty Equipment Market Association (SEMA) Garage. This facility

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29 *Submission 32*, p. 14.

30 *Submission 29*, pp. [1, 8].

31 *Submission 5*, p. 12.

provides access to the high-tech tools and equipment required to take products from initial concept through to product launch, and has facilities for aftermarket-part certification.[32]

4.50 The AAAA noted that most testing of Australian components occurs in the US and Europe as there is no such facility in Australia.[33]

4.51 Various stakeholders, including component manufacturers and motorsport workshops, indicated that they would be interested in utilising an Automotive Aftermarket Lab if it were available. Mr Peter Langworthy, Managing Director of Dana Australia, reflected on a recent development experience:

> Certainly an entity such as this would provide a forum for companies like ours, at an efficient cost, to go in and develop products specifically for local and imported vehicles. We would certainly utilise it greatly.[34]

4.52 While the committee can see the potential benefits from establishing a specialised Automotive Aftermarket Lab, it considers that the development of such as facility should be developed and funded by the industry itself.

Enhancing truck manufacturing

4.53 Automotive manufacturing extends beyond the production of cars and automotive components. Australia has a robust and sustainable truck manufacturing industry with three local manufacturers building just over 5,100 cab chassis in 2014. These trucks are not merely assembled in Australia but manufactured, as the local content, by value, exceeds the imported content. This local content is designed and tested specifically for Australian conditions.[35]

4.54 Unlike high volume car manufacturing, truck production lines are less automated and allow for a high degree of customisation to suit the end task of the vehicle. According to the Truck Industry Council,

> …a heavy truck plan can be profitable when production levels are in the order of 1,000 units per annum, with each unit value (retail cost) averaging more than $150,000.[36]

4.55 In addition, at least a further 29,000 trucks sold each year require second stage modification to supply ancillary equipment and complete their on-road configuration. There are hundreds of second-stage manufacturing companies—from major trailer manufacturers and tanker builders to the smaller companies making everything from specialist bodies to hydraulic for tippers and garbage collectors.[37]

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32 *Submission 5*, p. 12.

33 *Submission 5*, p. 13.

34 *Committee Hansard*, 8 October 2015, p. 17

35 Truck Industry Council, *Submission 30*, p. 6.

36 *Submission 30*, p. 6.

37 Truck Industry Council, *Submission 30*, pp. 6–7.

4.56 And the truck manufacturing industry has prospered without government assistance for at least 3 decades.[38]

4.57 Recognising the need to expand manufacturing activity in Australia, the Truck Industry Council (TIC) put forward a proposal to modernise Australia's truck fleet:

> The Truck Industry Council proposes a policy option that could be considered to ensure Australia's future capacity to engage in advanced manufacturing, while at the same time modernising Australia's truck fleet, making the fleet safer, cleaner and greener.[39]

4.58 The TIC highlighted that around 30 per cent of the truck fleet, or some 175,000 trucks were manufactured before 1996 and, as a result, predate any Australian exhaust emission laws or regulations. Indeed, it would take 60 of today's trucks to equal the exhaust emissions of one pre-1996 truck.[40]

4.59 To achieve this, the TIC proposed the provision of investment allowances to accelerate the adoption (and local manufacture) of new trucks that are compliant with current emissions standards (that is, ADR 80/03 based on Euro 5 standards).[41]

4.60 The TIC acknowledged that these incentives would have to be funded and proposes that a reprioritisation of the fuel tax credit rebate would fund much, if not all, of the investment proposal. Currently, the fuel tax credit rebate is payable to all on-highway truck operators, irrespective of the emissions standard of the truck. There would also be substantial benefits arising from avoided health costs, avoided fatalities, reductions in emissions and direct savings by operators.[42]

4.61 As the demand for trucks would increase, the TIC estimates that:

> Such a measure could reasonably lead to an additional 3,300 trucks being manufactured here in Australia each year for the next five years and a 66 per cent increase in local production, providing a valuable stimulus to Australia's automotive industry.[43]

4.62 Noting that not all operators would be in a position to invest in new trucks, the TIC also proposed a scheme whereby a smaller investment allowance could be provided to operators which upgraded fleets through the purchase of used trucks that meet less onerous emissions standards (such as Euro 3 or 4 standards).[44]

4.63 Subject to further evaluation, the committee supports the proposal by the TIC to modernise Australia's truck fleet. It is attracted by the broad array of benefits across a variety of areas and by the redirection of existing funding.

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38 Truck Industry Council, *Submission 30*, p. 1.

39 *Committee Hansard*, 8 October 2015, p. 23.

40 *Committee Hansard*, 8 October 2015, p. 24.

41 *Submission 30*, p. 9.

42 *Committee Hansard*, 8 October 2015, pp. 24–25.

43 *Committee Hansard*, 8 October 2015, p. 24.

44 *A National Truck Plan for Australia*, Version 4.0, 30 July 2013, p. 27.

Recommendation 18

4.64 The committee recommends that the government undertake a feasibility study of the proposal put forward by the Truck Industry Council to modernise Australia's truck fleet. Pending a favourable evaluation, government should seek to implement this proposal as a matter of priority to assist the automotive manufacturing industry to adjust to cessation of passenger motor vehicle production in 2017 and as part of the broader reform agenda to reduce carbon emissions.