James Martin Institute for Public Policy

Policy Insights Paper

A mission-oriented approach to public finance for NSW

How the NSW Government can leverage investment into NSW manufacturing and beyond

Simon Rowell

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Contents

Acknowledgment of Country

The James Martin Institute for Public Policy acknowledges the Gadigal people of the Eora Nation upon whose ancestral lands our Institute stands. We pay respect to Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands. We celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

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About the author

Simon Rowell was a JMI Senior Policy Fellow (Public Service Stream) from The Cabinet Office in the NSW Government in 2024. Simon is an experienced senior executive committed to driving public impact through economic growth and investment across the public, private and non-profit sectors.

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Executive summary

The NSW and Australian Governments recognise the vital role they can play in shaping a more resilient, complex and globally competitive economy. The NSW Government has indicated that its industry policy and innovation blueprint will signal how it will meet key challenges such as the Net Zero transition, increased housing supply and boosting local manufacturing. At the Commonwealth level, the Future Made in Australia Act proposes to bring together a range of initiatives to help industry drive the Net Zero transition and ensure economic security in key industries and technologies.

An unprecedented amount of investment will be required to deliver on these missions. Alongside corralling policy levers including procurement, coordination and regulation, public financing needs to play a strong role in delivering mission-oriented industry policy. The Australian Government and other governments are already using public finance to drive new types of investment. Public finance can deliver longer-term returns, crowd in investors and shape the direction of market growth. Given this momentum, the NSW Government could further explore how public financing can be applied to its industry and innovation policies.

> *Public financing needs to play a strong role in delivering mission-oriented industry policy.*

The NSW Government has committed to 'rebuilding manufacturing' to help support sovereign capability and generate more good jobs, particularly throughout the supply chain.[1] Manufacturing provides a valuable case study of the potential role for NSW public finance. It will require a significant whole-of-government effort, including procurement, to rebuild NSW manufacturing back to 10 per cent as South Australia aims to (from its current level of 6 per cent), as considered in *Making it in NSW*.[2]

Significant investment will be needed to support this transformation. However, private finance may not step in straight away due to the long-term development cycle, capital-intensive nature, and perceptions of risk. Some key investment needs are emerging to support commercialising ideas by start-ups, encouraging technology adoption by small-to-medium-sized enterprises (SMEs) and supporting significant new infrastructure.

The NSW Government has the assets, expertise and networks to deploy mission-oriented public financing. There are a suite of possible interventions including local manufacturing venture capital investment funds, SME technology adoption funds and platforms to encourage new institutional investment. By deploying these tools, the NSW Government can leverage private sector funding, as well as support from the Australian Government, towards achieving its goals.

> *The NSW Government has the assets, expertise and networks to deploy mission-oriented public financing.*

There are broader opportunities for public finance to enable mission-driven industry and innovation policies in NSW. This includes helping develop the most critical industries needed to support the Net Zero transition, improve housing supply and affordability and provide effective health and medical care into the future.

The NSW Government could take advantage of these opportunities by taking a concerted approach through directing, investing and coordinating mission-oriented public finance. A consolidated policy framework is also needed to address risks, change public perceptions of public financing and government capability, and drive effective use across government.

Policy opportunities

1) Endorse public finance for NSW

The NSW Government could provide clearer direction through senior Ministers on the value and role of public finance. It would be beneficial to develop an action plan alongside such an endorsement, encompassing an audit of investment needs across strategic priorities, including manufacturing, housing, Net Zero and medical technology, and a review of Treasury accounting processes to identify and address barriers.

2) Outline principles of public value for public finance

To continuously provide confidence to the public about the decision-making processes for public finance, the NSW Government may wish to outline principles for how public value would be delivered. Principles might include transparency, independence and appropriate risk sharing.

3) Consider deploying a suite of public financing tools to build NSW manufacturing

The NSW Government could consider a range of specific public finance investments with different risk tolerances to build local manufacturing. This includes a venture capital fund, SME technology adoption fund and institutional investment platform. They can seek to institutionalise existing relationships with the federal government or international partners and help coordinate private and public sector activity where needed.

4) Establish a NSW public investment fund to drive public finance towards NSW missions

The NSW Government could ramp up this activity by establishing a centralised public investment fund to provide scale, expertise and capacity to deliver public finance across NSW missions, such as Net Zero, housing and manufacturing. This independent body can target financial sustainability and be a key pillar of a future mission-led industry approach for NSW.

Investing in industry and innovation in today's world

Since being elected in 2023, the NSW Government has been rethinking how it works with industry and promotes innovation. The NSW Minister for Industry, The Hon. Anoulack Chanthivong MP, has stated that industry policy is "back in vogue"[3] and reviews of industry policy and the development of an innovation blueprint are underway.

Governments in advanced economies increasingly recognise that intentional industry and innovation policies are critical to competitiveness and sovereign capability. The US Inflation Reduction Act and CHIPS and Science Act, the European Commission's Green Deal and China's Made in 2025 have reshaped global consensus on the role of governments in industry policy. The Australian Government's Future Made in Australia agenda is targeting support for five industries to drive the Net Zero transformation as well as economic security and resilience.

Such policies are also being recognised as important tools to achieve other priority domestic objectives. For NSW, this could mean harnessing the bigger system transformations such as decarbonising transport systems to support Net Zero by 2050, providing appropriate healthcare to support an ageing population, or delivering sufficient affordable housing.

This resurgence is happening for several reasons. There is a need for more economic diversity, which existing markets have failed to provide. There is a mismatch between some of the country's long-term competitive advantages and short-term investment horizons, particularly for bigger transitions like Net Zero. Effective innovation systems require coordination across the economy.[4] There is also better evidence of how industry policies work, with a 2023 Harvard analysis providing a more positive view on the impact of industrial policy.[5]

Today's industry policy looks different from the industry policy of past decades. As the Centre for Policy Development highlights, contemporary industry policy moves beyond the pre-1980s policies that were often characterised by heavy and protectionist interventions.[6] This new approach seeks to develop a more comprehensive response to the complex challenges faced – requiring clear direction, a mix of policies beyond subsidies, and appropriate governance to work across government and industry. Industry policy may be an important tool for delivering *missions*, specified cross-cutting goals in which government and industry can work more effectively together (see Figure 1).

Figure 1: Mission economy[7]

Mission economy

The mission economy refers to how governments can partner with business to address significant, specific challenges of the 21st century with a clear sense of purpose and direction. The term was popularised by Professor Marianna Mazzucato in *Mission Economy: A Moonshot Guide to Changing Capitalism*, amongst other contributions.

Grand challenges

A difficult but important, systemic and society-wide problem with no 'silver bullet' solution. 21st century examples include addressing the ageing society, pollution or the economic transition associated with Net Zero.

Missions

A concrete target or achievable step towards a grand challenge that contextualises projects. Missions are not new – a generation of missions in the 1960s were technological (such as the NASA Apollo mission) – but those today are more complex and involve social, technological, environmental and political dimensions, such as a Green New Deal.

Applying missions in industry and innovation policy

Mission-led approaches stimulate the development of a range of different solutions to meet grand challenges and reward those actors willing to take risks and experiment. They provide direction, encourage collaboration across government, industry and academia, and support knowledge spillovers.

Mission-oriented innovation policy helps corral the entire innovation process, including funding, patents, access to capital and procurement. *Mission-oriented industry policy* helps bring together a range of industry sectors and economic foundations.

These policies recognise the role of governments to actively *shape markets*, not just intervene where market failures exist. It also recognises that *public value* (or purpose) needs to be central to markets.

What a state can do to drive industry policy

Most research focuses on national governments, rather than states or provinces. This may be because national governments have more traditional levers available to drive industry development, such as corporate and investment tax and migration. They also have more funding to promote public research and development (R&D) (for example, through CSIRO's multibillion-dollar budget) and significant production tax credits.

In the Australian context, individual states such as NSW still have important roles to play. This includes using the following policy levers:

- Developing the right *skills* to staff industries through education and training;
- Helping industry develop in the right *places* through planning and access to land to ensure they can succeed;
- Providing an important market signal through its *procurement* to encourage domestic industry to invest; and
- Supporting *connections between research and industry* through enabling place-based innovation systems.

Crucially, in the federal system, the NSW Government also needs to work effectively with the Australian Government and other states to help identify priorities, ensure policies can work together, and limit unnecessary and unproductive competition between states. This is an enduring challenge and beyond the scope of this paper, though the Industry Capability Networks and Office of National Rail Industry Coordination provide useful reference points for how greater cooperation could emerge.

Significant and varied investment is needed to deliver new industry policy

The investment needed to drive new policies to achieve economic resilience and the Net Zero transition is staggering. Globally, at least US$25 trillion of investment is needed annually to deliver on Sustainable Development Goals and address inequality.[8] For Australia to meet its 43 per cent emissions reduction targets by 2030, $76 billion in extra investment in the energy transition is needed.[9]

A different approach is needed to build new industries and support innovation in areas undergoing transformation. Patient capital is needed to fund long-term investments in the real economy and to manage social change associated with economic transformations. New markets need to be identified, and knowledge shared about how they can work. Investment is needed to support innovation in new technologies, strengthen the ecosystem of businesses to deliver missions and help deliver long-term capital-intensive projects.

Evidence has shown that private finance tends to be focused on short-term financial returns and does not always finance the most productive activities – spending on share buybacks often exceeds long-run investments in human capital and R&D.[10] Capital-intensive and new industries perceived as higher risk are often of less interest to private investors. In the UK, HM Treasury's *Patient Capital Review* highlighted that thin levels of patient capital are holding back further investment.[11] Investors often favour established business models and technologies and more 'standardised projects' with predictable returns.

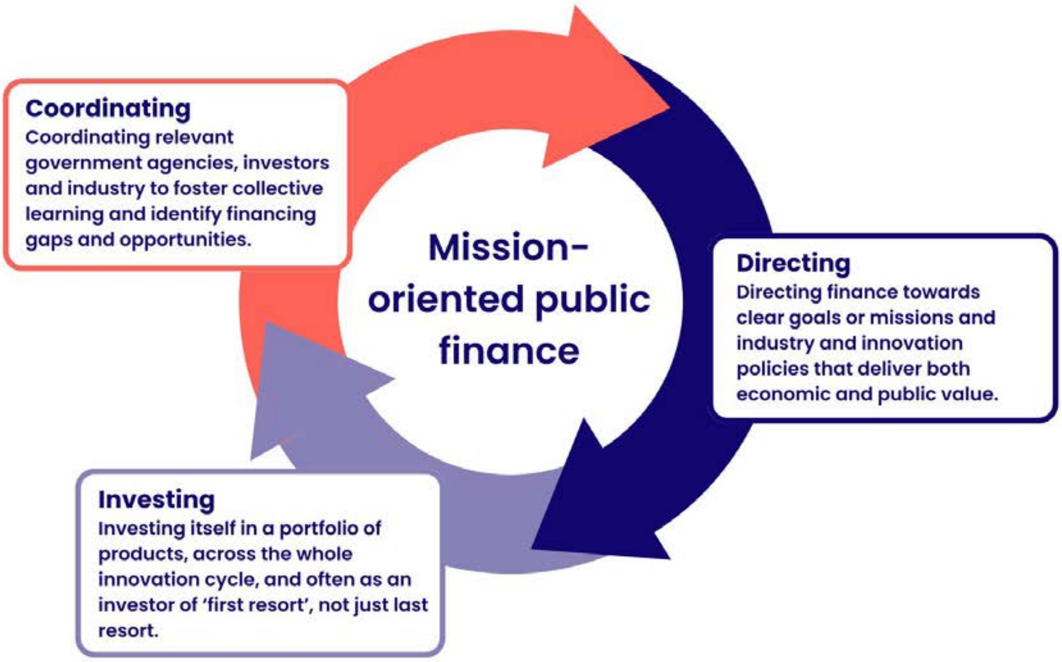
In Australia, some argue that a highly consolidated banking industry has led to a lack of patient capital, particularly for small and medium enterprises (SMEs). This was a reason given for establishing the Australian Business Growth Fund.[12] Australia's venture capital has grown rapidly in the last two decades to make $30 billion of investments, including around 800 investments in 2022-23. However, many investors continue to prefer investments in digital technology and software.[13] Other sources of investment, such as super funds, are often anticipated as being valuable sources of long-term investment and the Australian Government is pursuing these to co-invest in housing and the Net Zero transformation. However, progress is slow and deal size and risk tolerance are often cited as barriers.[14]

A mission-oriented approach to public finance

Governments are already playing a more strategic role in how they use their public finance to support missions, abroad and at home. The European Investment Bank and European Investment Fund have pioneered long-term finance and risk sharing in climate action finance.[15] The Australian Government has amassed over $70 billion in public financing institutions which are tasked with achieving specific objectives (if not missions), notably including renewable energy technology through the Clean Energy Finance Corporation (CEFC) and rebuilding the industrial base through the National Reconstruction Fund (NRF).[16] Breakthrough Victoria's $2 billion direct investment approach supports breakthrough innovations in five defined impact areas.

A '*mission-oriented public finance*' approach can help create and shape markets towards achieving important policy objectives. It involves government:

- *Directing* finance towards clear goals or missions and industry and innovation policies that deliver both economic and public value;
- *Investing* itself in a portfolio of products, across the whole innovation cycle, and often as an investor of 'first resort', not just last resort; and
- *Coordinating* relevant government agencies, investors and industry to foster collective learning and identify financing gaps and opportunities.



In acting as a risk-taking investor, government can seek to share not only in the downside but also the upside – socialising both risk and reward. This helps government and the public have a stake in investments and supports positive spillovers.[17] These deals, between the public and private sector, can also develop and shape markets that align with broader government objectives for the public good (e.g. use of energy-efficient supply chains in the US, long-term investment in Korea or even the creation of good jobs).

This mission-oriented public finance approach is useful in times of fiscal pressure – public investment in the CEFC has been leveraged 2.93 times with private investment. Investor stakeholders often highlight the critical role that government investment plays in providing confidence, knowing that government processes have been followed. Mission-oriented public finance also enables innovation and new product development by fostering a clear environment of learning by doing. This provides new opportunities to partner with the private sector and gives government more detailed intelligence on the inner workings of markets.

This more engaged role does, however, require different government capabilities, including the need to understand better how the industries operate, trends and barriers. A combination of extensive financial and technical expertise is likely to be needed. Different models of engagement with the private sector, beyond traditional highly structured consultation exercises to more dynamic relationships, will support this development.

A NSW approach for mission-oriented public finance will also need to consider how it can learn from and work alongside a growing number of similar initiatives at a federal level, such as CEFC and NRF. So far, NSW appears to have secured at least a population-level proportion of funding in Australian financing vehicles based on available data – see Table 1. However, competition for new funds will increase given similar state industry sector priorities, other states' access to natural resources such as critical minerals, and the initial significant investments such as established foundational investments of PsiQuantum in Brisbane and the Fortescue Future Industries Green Energy Manufacturing Centre in Gladstone.

Table 1: NSW share of Australian Government mission-oriented investments

Australian Govt Funding Vehicle	NSW based investment	Total investment	NSW share (%)
Clean Energy Finance Corporation State specific investment commitments as at FY22/23	$2.9 billion	$6.9 billion	42%
Homes Australia Total NHIF approvals and outcomes	$281 million	$510 million	55%
Australian Business Growth Fund	2 investments	8 investments	25%

NSW can build on its experience with public finance with a targeted approach

Figure 2: Public financing tools

Public financing tools

Governments can support industry and innovation with direct support (detailed below) or indirect support (such as tax incentives, which are less applicable to NSW).

Grants and subsidies

Grants and subsidies are the most common form of direct support. These are allocated on a competitive basis, and do not usually require repayment.

Debt financing

Credit loans, repayable grants, loans, guarantees and risk-sharing mechanisms, non-bank debt funding or mezzanine funding.

Equity financing

Venture capital funds and funds-of-funds, and the use of business angel networks.

Other tools

Public procurement, technology consulting services and innovation vouchers can also be used to stimulate investment.

Public financing includes a broad range of supports for industries (see Figure 2).[18] Grants and subsidies have traditionally been the main public financing tool that the NSW Government has used to develop industries and innovation. Under the former government, much of the $703m allocated for deployment through the Future Economy Funds was due to be delivered through grants.

The NSW Government has deployed other financing tools in the past. TechVouchers allocated $3.85 million to support collaborative programs between SMEs and university researchers.[19] Payroll tax incentives have been used in the Jobs Plus program, to support companies with at least 20 full-time employees looking to expand in NSW and commit to creating 30 full-time roles. These incentives gave access to up to four years of payroll tax relief, alongside subsidised training, infrastructure, rent and assistance with planning approvals. The current NSW Government has also prioritised using its procurement mechanisms to stimulate desired industries, as shown in the appointment of a Minister for Domestic Manufacturing and Government Procurement.

Debt financing and equity financing are increasingly recognised as effective public finance tools. The Australian Parliamentary Budget Office states there are "sound policy reasons for using alternative funding arrangements to fund particular government policies." It notes that there has been an increase in their use in recent times, greater than during the global financial crisis, and with support from all major parties.[20] The OECD reports that alternative financing tools have been used by the vast majority of OECD countries (including sub-national governments) to support SME access to finance.[21]

The appropriateness of alternative financing tools depends on the specific policy challenge. Reasons for their use include limited or costly financing by the market and the need for temporary intervention (such as the COVID-19-induced shock). Compared to grants, they offer a greater ability to return government funds and potentially increased accountability associated with regular investment monitoring.

The NSW Government has experimented with a few different types of debt and equity public financing tools in the past – see Table 2 for examples of key programs. Products have been developed across a broad spectrum, from repayable grants to loans to equity, with varied levels of risk for the NSW Government.

Table 2: Examples of NSW debt and equity public financing initiatives

Financing	Details	Impact
Medical Devices Fund	Repayable grants to progress new and innovative medical devices and related technologies from Technology Readiness Level 3 in NSW towards commercialisation. If successful, grant must be repaid.	12th round underway with $8m invested annually. Model has been followed by NSW Biosciences Fund and NSW Physical Sciences Fund.
Accelerating/Regional/ Strategic Growth Loans	Loans and guarantees to support start-ups/fast-growth SMEs with flexible loans of between $200k and $1.2m (guarantees for	Now closed. Further details not available.

Financing	Details	Impact
	up to 50% of project costs up to $5m). Targeted job creation.	
GO Equity Fund	Equity to support companies in industries with high potential for innovation, including tourism, exports to Asia, food and agribusiness and advanced manufacturing. Funded by a $50m investment by the NSW Government, alongside $100m First State investment, and managed by ROC Partners.	Announced in 2017-18, it made limited investments. The NSW Government sold its stake in May 2020 for $900,000 profit.
Silicone Quantum Computing	Direct equity investment in seed round to support new staff hires and hardware development. The NSW Government invested alongside UNSW, CBA, Telstra and the Australian Government	The NSW Government retains investment, but did not participate in future investment rounds.
Carla Zampatti Fund	Initial guidance aimed to provide equity funding to female start-up founders to grow their business. $10m initial fund budget with $2m to establish fund.	Not being further developed.

However, broader use in NSW has been relatively limited, particularly when compared to other states. Reasons may have included:

- Crowding out – concerns that government investment may be displacing private investment, which often has better information and the ability to make more informed investment decisions;
- Cost – concerns about the high cost of establishing and operating these facilities, particularly when compared to public sector standards;
- Public confidence in picking winners – concerns that government lacks the necessary skills to effectively or fairly "pick winners" and may be captured by private interests. This appears to have been a relevant factor in public commentary surrounding Breakthrough Victoria[22] and the case of GO Equity (referred to in Table 2).

NSW has an opportunity to consider how to develop a broader range of public financing tools as part of a mission-oriented public finance approach to support its industry and innovation policies. To test how this could work in practice, the next section focuses on the NSW Government's commitment to "building NSW manufacturing".

Investing in NSW manufacturing

The NSW Government has prioritised "building manufacturing" as a core pillar of its economic policy.[23]

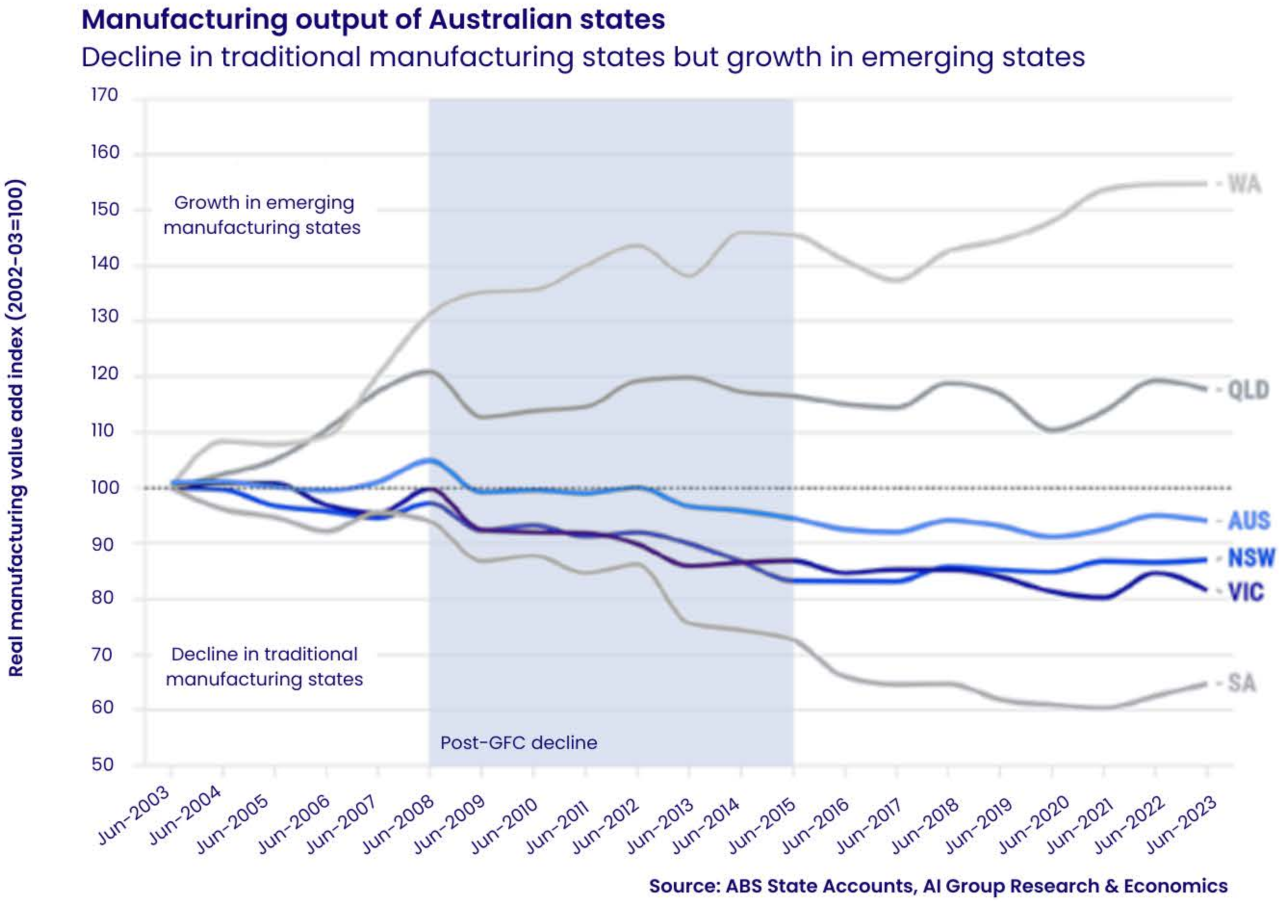
> *Our economy must have a sovereign manufacturing component at its core. We know that for every one job in manufacturing a further three-and-a-half are created in the supply chain, and we want those jobs in NSW.*
>
> The Hon. Courtney Houssos MLC, NSW Minister for Domestic Manufacturing and Government Procurement

A vibrant manufacturing industry is critical to NSW. It is a foundation of economic complexity, which supports NSW's ability to produce and export a greater diversity of products and services.[24] Boosting manufacturing could help address Australia's low ranking of economic complexity (93rd of 133 countries). Manufacturing drives innovation, with 25 per cent of all R&D being spent on manufacturing in 2021-22.[25] It is also the economic base to support new industries, and advanced manufacturing processes have generated new products in Net Zero technologies and services (such as engineering services) that support them.

Australian manufacturing has declined in the last 30 years, and NSW has followed that trend. Australia ranked last in the OECD with only six per cent of GDP attributable to manufacturing, down from 11 per cent in 2002. NSW experienced a decline from 10 per cent in 2002 to 5.8 per cent.[26] Manufacturing experienced the lowest annual average growth rate of all industries over the last 20 years to 2020-21. Its role as a key employer in NSW has also dropped from first in 1985 to 9th.[27]

Manufacturing decline is often associated with Western economies and structural forces, such as automation and outsourcing. However, such a decline is not a foregone conclusion. Recently, the Australian economy has stabilised its manufacturing with slight growth over the last five years. Queensland and Western Australia have increased the absolute size and market share of their manufacturing industries. Other countries have shown greater resilience. Singapore increased manufacturing to 20 per cent of GDP through its focus on high-value industries, and the US showed a rapid revival in manufacturing recently based on electronics and clean energy.

Figure 3: Relative manufacturing output across Australia[28]



Building manufacturing requires significant investment

Increasing NSW's manufacturing capability will require significant and long-term additional investment. Manufacturing businesses are normally more capital-intensive than other organisations, particularly service and digital businesses. Manufacturing businesses need investment to develop capital equipment, automation, energy efficiency, cyber security, technologies and undertake research and development.

The size of investment required will be substantial. The South Australian Government recently set a target for manufacturing to represent 10 per cent of the economy in 10 years, with the state building from a similar sized manufacturing base as NSW.[29] A similar target for manufacturing in NSW would require billions in additional investment capital over the next decade.

The long-term, patient and risky capital needed by manufacturing businesses has traditionally been considered unavailable from private sources. There is a relative lack of venture capital investment, particularly in Technology Readiness Level (TRL) range of 3/4 to 6/7 compared to jurisdictions such as Victoria, the UK, Canada and Singapore.[30] This type of finance has often been deemed unattractive to traditional providers, such as banks, which may perceive manufacturing to be a high-risk industry.[31]

Businesses with pre-commercial technology development may also find it difficult to access capital through Australian Government programs, as they often fall into a gap between the grants for start-ups provided by the Australian Renewable Energy Agency and the Industry Growth Fund, and the finance for commercial operations offered by the CEFC and NRF.[32]

Manufacturing businesses are also unable to finance this investment themselves. The vast majority (93 per cent) of NSW manufacturing businesses are small with less than 20 employees.[33] They do not have the retained earnings or the scale to finance themselves without resorting to providing personal guarantees. Australia lacks the volume of medium and larger manufacturing businesses to provide the “scale, innovation and finance” to develop self-sustaining ecosystems.[34]

There are three key challenges to manufacturing growth where public finance can play a critical role:

1. **Commercialising manufacturing R&D**: The rate of commercialisation of R&D in Australia and NSW continues to lag global averages,[35] and investment in R&D remains relatively low (1.8 per cent of GDP compared to 2.6 per cent OECD average).[36] Equity finance is needed to turn ideas into commercial propositions and grow manufacturing companies. While some venture capital companies are starting to invest such as Main Sequence Ventures (in deep technology) and Brandon Capital (in biomedical technology), manufacturing is generally not a target of venture capital investment. Existing government analysis highlights a need for additional investment in medical technologies, climate technologies, advanced manufacturing, agribusiness and defence technologies.
2. **Adopting technology**: Manufacturing was the fifth slowest sector to adopt new technologies in Australia in the last decade.[37] Broad adoption of Industry 4.0 technologies by firms would increase the state’s productivity growth. There is significant potential for smaller manufacturing businesses to adopt new technologies to improve operational efficiency, supply chain resilience and sustainable business practices.[38] SMEs are often impeded from investing in advanced technologies due to a lack of financial resources and difficulties in accessing credit.[39]
3. **Supporting scaled manufacturing**: Significant physical manufacturing facilities, technologies and land are needed to support scaled operations of manufacturing businesses. This applies to the transport facilities required to support the local

building of a manufacturing fleet. More emerging manufacturing industries also require higher grade technology and equipment. These significant facilities require sizable investments (above $20 million). Large financial institutions have not traditionally supported these investments, while institutional investors such as super funds have deemed them too novel, risky or small scale given their large fund size.

Mission-oriented public finance to support NSW manufacturing

Rebuilding NSW manufacturing requires significant policy interventions. *Making it in NSW* released in 2022 by the NSW Modern Manufacturing Taskforce highlights the actions required across coordination, collaboration, promotion, procurement, targeted business support, state/Commonwealth cooperation and skills and talent.[40]

Public finance is an important but underutilised policy tool, which can complement other policy approaches being used to drive a resurgence in NSW manufacturing. The Australian Government has already acknowledged the key role of public finance through its commitment to provide debt (and some equity) products through the NRF, with $1 billion committed to advanced manufacturing (or enabling technologies) and $14 billion committed across six other areas. A mission-oriented public finance approach would consider a broad range of possible public finance tools, across the whole innovation chain, with different possible roles for government in each one.

The NSW Government has existing strengths to build on. It could seek to further leverage its strengths in manufacturing infrastructure, such as the Advanced Manufacturing Research Facility and established networks, and ensure it aligns with other policy support for manufacturing such as procurement. It could seek to build on the established skilled industry and exploit the opportunities for co-investment from the Australian Government and institutional investors, as well as other assets such as its own self-financing power and international connections.

To determine how NSW mission-oriented public financing can help strengthen manufacturing, interventions are needed that can direct, invest and coordinate public finance.

There are several public finance interventions that the NSW Government could make that match these criteria, which have been identified through stakeholder research and analysis. These are presented in the remainder of the section below.

Commercialising manufacturing R&D

The NSW Government could establish an **emerging manufacturing technology venture fund** to help support the commercialisation of ideas by NSW manufacturing companies. This could build on insights from other state-based venture capital institutions (see Table 3) and target NSW priorities. It could aim to leverage other investors and direct development to not only fill investment gaps but also direct investment to important areas for NSW.

Table 3: Venture capital funds in Australian states

State	Fund	Approach
Victoria	Breakthrough Victoria	$2 billion investment into a new independent company to invest across five areas across early to later-stage investments.
Queensland	Queensland Venture Capital Development Fund	$120 million investment capital to cornerstone new funds, in response to Queensland Government priorities. Five funds committed so far.
South Australia	South Australia Venture Capital Fund	$50 million into high growth and export potential companies with at least 50 per cent assets in South Australia managed by private fund manager.
ACT	ACT Venture Capital Fund	$10 million fund managed by private managed fund focused on Canberra-located start-ups.
Western Australia	WA Venture Support pilot	Three years of operational subsidies ($100k per year) for venture capital firms to establish in Western Australia.

The proposed fund could focus on areas of interest for the NSW Government in relation to manufacturing where there are existing competitive advantages and strong reasons for domestic industry development. The specific technology areas could be developed by building on the existing R&D Roadmap and priority manufacturing industry needs identified by government: medical technologies, climate technologies, advanced manufacturing, agribusiness and defence technologies.[41] This could be complemented by consulting relevant departments to determine their future needs for products, such as NSW Health on new medical devices and the Department of Planning, Housing and Infrastructure (DPHI) and Infrastructure NSW on new housing construction technologies.

The targeted industries could extend beyond the traditional definition of ‘manufacturing’ in Division C of ANZ Standard Industrial Classifications from the Australian Bureau of Statistics. This would ensure it remains open to supporting activities that inform the design and logistics of future manufactured products and are further along the ‘smiley’ curve – how value is added across the stages of product development.[42] It could also help invest in organisations successfully using the Advanced Manufacturing Research Facility.

The types of investment could ideally include debt products and equity to support growth. Venture credit may suit founders who do not want to dilute their ownership interests and is largely lacking from the Australian market, as targeted by Invest Victoria Venture Growth Fund.

This fund could seek co-investment from federal and private sources. In order to get most bang for its buck, it could commit to sharing insights from innovations and industry within Government and across the ecosystem to accelerate market development.

In addition, international investors could be sought to bring investment capital, skills and access to future markets through **international innovation investment partnerships.** Israel and the US have established international fund partnerships to invest in innovative agriculture, clean energy and other high-tech R&D, such as BIRD Energy.[43] NSW could leverage existing trade and state-to-state relationships with markets that have technological skills valuable to Australia, such as Germany, Japan and the US. These partnerships could involve co-investment from participating state/province-level governments as a mechanism for deeper ongoing collaboration with local industries and access to export markets.

It could also develop these in partnership with large international conglomerates seeking to deepen their pool of innovation and future trading opportunities, such as through Mitsubishi Electric's corporate VC fund Global Brain. This could create opportunities to implement existing Memorandums of Understanding with foreign investors in NSW, particularly in the Western Sydney Aerotropolis, through specific investment commitments to drive future industry development.

Accelerating manufacturing technology adoption

The NSW Government can support technological adoption by manufacturing SMEs by establishing an **SME technology loan fund**. This can be built on the recently announced Engine and Emerging Industries Pilot Fund, which is allocating $5 million to provide low-interest loans of between $100,000 to $1 million to fund investment in new technologies and equipment that increase productivity and efficiency. It is currently focused on food and beverage manufacturers in regional areas.[44]

Following an evaluation, this vehicle could be expanded across the state and to a broader range of industries with potential adoption. This could provide an opportunity to build on existing innovations from businesses using the Advanced Manufacturing Research Facility.

Supporting scaled manufacturing

To increase the capital allocated to larger manufacturing infrastructure investments, the NSW Government can work to attract new investors into this asset class, particularly governments and institutional investors. The following actions could support this aim.

The NSW Government can establish a **manufacturing investment platform** to build a new appetite for investment amongst institutional investors. It could encourage different super funds to invest amounts deemed appropriate to their investment approaches. It may benefit from establishment through an agent of super funds, such as IFM Investors, and be time limited. The NSW Government could support its establishment and funding, provide initial cornerstone investments, and seek co-investment from NRF.

This platform could establish **place-based investment partnerships** to help direct investment to manage the economic transition in important manufacturing clusters. This could include the manufacturing industry within Wollongong and the Hunter regions, and other areas where significant manufacturing capability exists and where deeper and broader capability is needed. It could be governed by the Future Jobs and Investment Authorities targeted at coal-reliant communities and leverage the Net Zero Economy Authority. These partnerships could present strong cases for multiple investments into manufacturing, and the broader benefits from coordination.

The NSW Government also has access to considerable financing potential through the NSW Treasury Corporation (T Corp). T Corp has established a sustainability bond programme that issues green, social and/or sustainability bonds, helping investors contribute capital to accomplish environmental and social goals. $9.2 billion has already been issued, representing one of the largest semi-sovereign programmes in Australia.[45] It has already expanded into financing social and Aboriginal housing, and Net Zero transport. It could contribute to **sustainability bond investment in manufacturing infrastructure** to further diversify the investor base.

The role of the NSW Government in public financing of manufacturing

This case study reveals the potential ways for the NSW Government to use public finance to help support NSW manufacturing. These exist across a range of risk tolerances, company development stages, product types and investment sizes. They also involve different partners, from the Australian Government to institutional investors and potential international partners. The case study also illustrates the key roles the NSW Government could play in *directing*, *investing* and *coordinating.*

Figure 4: Public finance interventions to support manufacturing

<table>
<tr><th colspan="5">Organisation Maturity</th></tr>
<tr><th rowspan="5">Risk</th><th></th><th>Emerging</th><th>Established</th><th>Enduring</th></tr>
<tr><td rowspan="2">Low</td><td rowspan="2">International innovation investment partnerships</td><td>SME technology loan fund</td><td rowspan="2">Manufacturing investment platform</td></tr>
<tr><td rowspan="3">Place-based investment partnerships</td></tr>
<tr><td>Medium</td><td>Emerging manufacturing technology venture fund</td><td></td></tr>
<tr><td>High</td><td></td><td>Sustainability bond investment in manufacturing infrastructure</td></tr>
</table>

Investment partnership

Direct Investments

Directing finance towards clear goals or missions remains critical. Public finance tools need to target specific intended industry and innovation outcomes. However, flexibility regarding the technology and business model is also required to encourage innovation.

Investing is important because government investment provides legitimacy to new investment classes where limited information prevents the private sector from making informed decisions. By making their own investments, even if relatively small, government can demonstrate 'skin in the game', sending a powerful signal to private investors. This investing role requires different capabilities to those traditionally sought in public servants, and a different mix of capabilities to traditional private sector investing roles, as it balances assessment of risk and return with broader public policy priorities.

Coordinating is important for government, as it is viewed as the key player in bringing different parts of the industry together and ensuring the whole manufacturing industry (from small to large scale) can thrive. This can ensure that there are sufficient pathways for small companies to grow into medium and large-sized companies. It is also important to help share innovations between businesses and governments across different parts of the innovation ecosystem to promote more holistic and rapid transformation of industries.

A mission-oriented public finance approach for NSW

Public financing tools offer significant opportunities for the NSW Government to advance its industry and innovation agendas and deliver its strategic priorities. The case study on public finance to support investment in NSW manufacturing shows the scale of investment needed, the limited alternative financing options and the range of public finance approaches that the NSW Government could consider. It also highlights how government can take a mission-oriented public finance approach in directing, investing and coordinating support for local manufacturing industries, and take a holistic view considering public sector capability.

There are broader opportunities for the NSW Government to deploy public financing beyond manufacturing. As its industry policy and innovation policies develop, public financing interventions can be tailored to address emerging needs. Public financing can also be tailored to address ambitious whole-of-government goals to improve housing supply and accessibility and achieve the Net Zero transition by 2050. Long-standing fiscal challenges such as the anticipated increase in healthcare costs associated with the ageing population (highlighted in the NSW Intergenerational Report[46]) could also be important uses of public finance.

The growing global interest in mission-oriented government finance provides valuable lessons for NSW and how it may approach public finance strategically. A range of provincial government-led financial institutions have existed in Europe for decades, including the *Sparkassen* and *Landesbank* in Germany. However, new mission-oriented finance institutions are also being established and shaped. Scotland has deployed a mission-led approach in the Scottish National Investment Bank[47] and Camden Council in London is deploying public finance through its community wealth fund.[48] The NSW Government has an opportunity to develop an institutional structure to support long-term goals to develop industry and innovation to achieve its desired missions. There are various actions it can take to achieve this.

1) Endorse public finance for NSW

The use of public finance is valuable but is still perceived by many as unworkable or undesirable for NSW. Endorsing public finance for NSW could highlight that public finance provides a constructive alternative to privatisation or complete reliance on private service delivery or large pools of distributed grant funds, which can have limited long-term impact. Several avenues are available to endorse public finance.

Clear authorisation from senior Ministers of the merit of public finance as a relevant policy tool, including through future Expenditure Review Committee and budget processes. It could also be in the emerging Industry Policy and Innovation Blueprint.

The Premier's Department (Investment NSW) and Treasury could coordinate a **rapid audit of the investment needs across the NSW Government,** mapped across the availability of private finance and new federal government initiatives, such as Future Made in Australia. This would identify the broader range of policy challenges that public finance could support.

NSW Treasury could also consider **reviewing the accounting treatment of public finance** to ensure accounting processes are clear and easy to apply by the public service. In addition, NSW Treasury could explore the treatment of public finance as investments and assets rather than as expenses to help provide the fiscal space for future public financing. There could also be an opportunity to examine how 'concessionality' in public finance might be clearly defined, ensuring it is treated as an investment and its use is transparent.

2) Establish principles of public value for public finance

Public confidence is critical to the successful and sustainable deployment of public finance tools. Confidence is diminished when the public is concerned about how funds are allocated. Strong commitments to transparency and independent decision-making are required, as successful public wealth funds in Singapore, Sweden and Finland have demonstrated.[49]

To provide confidence to the public and to public officials, the NSW Government could consider establishing **principles of public value for public finance**. These can draw on existing governance approaches in NSW, such as the *Guidelines for Unsolicited Proposals*: *Guideline for Submission and Assessment*, which provide details on operationalising interaction with the private sector and use of public assets, often long-term leases for public land.[50]

The principles could also draw on global best practice from public wealth funds. They could embody the government's preferences for open and fair engagement with private investors. An outline of high-level principles is below.

Figure 5: High-level outline of principles of public value for public finance

Principles of public value for public finance

The government could deploy public finance (including debt and equity investments and other relevant public financing tools) in engaging with private investors with regard to the following ten principles:

1. Targets a specific and defined mission, goal or industry policy objective
2. Demonstrates transparency regarding its mission, investments and performance
3. Provides independent decision-making on investments
4. Shares risk and return with private investors, with openness to take greater risk than the market would provide where there is broader benefit
5. Seeks citizen and worker input and engagement
6. Takes a long-term view of economic, social and/or environmental benefits
7. Seeks to make a positive return as a portfolio of investment, where possible
8. Endeavours to leverage additional finance, including private and other government investments, and avoids crowding out
9. Shares innovations within government and supports broader market-building
10. Aims to keep costs proportionate to the opportunity

3) Deploy public finance for NSW Manufacturing

The NSW Government has committed to boost manufacturing in NSW. Significant gains will come from rebuilding the manufacturing base to support sovereign capability, enable efficiency and innovation in other sectors and direct manufacturing towards priority areas for NSW.

However, the capital needs in the next decade are significant. The investment required is long-term, patient and risky and private investors are not likely to step in on their own. The NSW Government can deploy a range of public finance interventions with different risk and market targets to address market failures and shape new markets for manufacturing investment in three priority investment areas (described in further detail above):

- **Commercialising R&D**: emerging manufacturing venture fund and international innovation investment partnerships.
- **Supporting technology adoption**: SME technology loan fund.
- **Supporting manufacturing scaling**: manufacturing investment platform, place-based investment partnerships and manufacturing sustainability bonds.

The NSW Government could consider these initiatives in the further development of industry policy and future manufacturing strategy, and in engagement with the NRF.

4) Establish a NSW public investment fund

Beyond manufacturing, there may be a range of different NSW challenges that public finance tools could support. These could be better understood by conducting the rapid review proposed earlier (see opportunity 1). Potential areas may include technology to support modular and more accessible public housing, approaches to decarbonised steel, and new medical technologies for use by NSW Health.

Public finance capabilities are not direct replicas of private finance. While there are some common technical skills required, public finance initiatives require consideration of a wider range of economic, social and environmental objectives, and broader awareness of developing government policies. The NSW Government has recently committed to reforms to insource core functions and capabilities[51] to reduce reliance on the outsourcing of government policy functions to external providers.

There is value in developing in-house capability to deliver public finance across a range of policy challenges and products. This could help ensure best practice, enable stronger independent decision-making and reduce costs.

NSW could consider establishing a **NSW public investment fund** to be the central investor for the NSW Government. This could be built on best practice of public wealth funds globally and apply the principles of public value for public finance proposed earlier.

The NSW public investment fund could bring together public financing tools across the government into one place. This would help ensure alignment with broader NSW Government goals and missions, provide the scale necessary to attract private investors, encourage sharing of innovation within industries and to government, limit overhead costs, and support in-house capability and expertise. Its proposed design principles are suggested below.

Figure 5: Design principles for the NSW public investment fund

Design principles for a NSW public investment fund

Key design principles could include:

1. Focus on NSW Government missions and/or strategic priorities, as identified by the NSW Government. This could include a focus on delivering the manufacturing public finance approaches mentioned in opportunity 3 (deploy public finance to support NSW manufacturing)
2. Create a permanent vehicle with flexibility to update focus areas over time
3. Deploy a range of public finance tools across debt, equity and other public financing products, and establish platforms
4. Seek to make a positive return in the long-term over the portfolio
5. Identify clear targets for leveraging additional investment capital
6. Ensure independent investment decision-making
7. Commit to transparency of objectives, investments and performance
8. Foster expert capability in issue and industry areas
9. Involve oversight and engagement by NSW public sector workers engaged in focus areas
10. Promote sharing of innovations and knowledge in focus areas

Funding could be provided through consolidated revenue. Sustainability bonds issued by T Corp could be explored as a source of additional financing. T Corp could also be directed to allocate a very limited percentage of overall capital (<1 per cent) to such illiquid public finance investments, consistent with Australian super funds allocations and other international models such as France's *Fond Solidaire*.

The strong NSW-based financial services industry and larger NSW-based industry organisations could be approached as financial or in-kind partners, as occurred in Better Society Capital's establishment in the UK and the Australian Business Growth Fund.

The new institution could be established rapidly by building on existing expertise and capability, consolidation and attracting new capability. TCorp, the Major Projects Division from NSW Treasury and relevant teams within Investment NSW could staff an initial function. Relevant expertise on specific challenges can be seconded from other departments.

Technical investment expertise could be developed through private sector partnerships, reducing over time. An independent organisation established by legislation may be appropriate in time and the Queensland Investment Corporation (QIC) may have important lessons for evolving this function in the long term.

This new institution could form a key part of the **operational governance of the NSW industry and innovation policy**, alongside the Jobs First Commissioner, NSW Innovation and Productivity Commissioner, NSW Innovation and Productivity Council, NSW Treasury and Premier's Department (Investment NSW and Office of Chief Scientist and Engineer). This new governance could be supported by officials from identified mission areas, including housing (DPHI, Building Commissioner, LandCom and Homes NSW), Net Zero (Department of Climate Change, Energy, the Environment and Water and EnergyCo) and manufacturing (Transport and Office of Health Innovation and Research).

Annex A. Experts consulted

During the project, the author consulted experts from NSW Government agencies, peer government officials, academia and industry on specific areas explored. The author is grateful for the contributions of the following:

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National Reconstruction Fund

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Australian Manufacturing Growth Centre

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AirTree Ventures

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Former NSW Modern Manufacturing Commissioner

Simon Every
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Regional NSW

Professor Marina Zhang
UTS Australia China Research Institute

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James Martin Institute for Public Policy

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Level 1, 60 Martin Place
Sydney, NSW 2000 Australia

E info@jmi.org.au | **W** jmi.org.au