



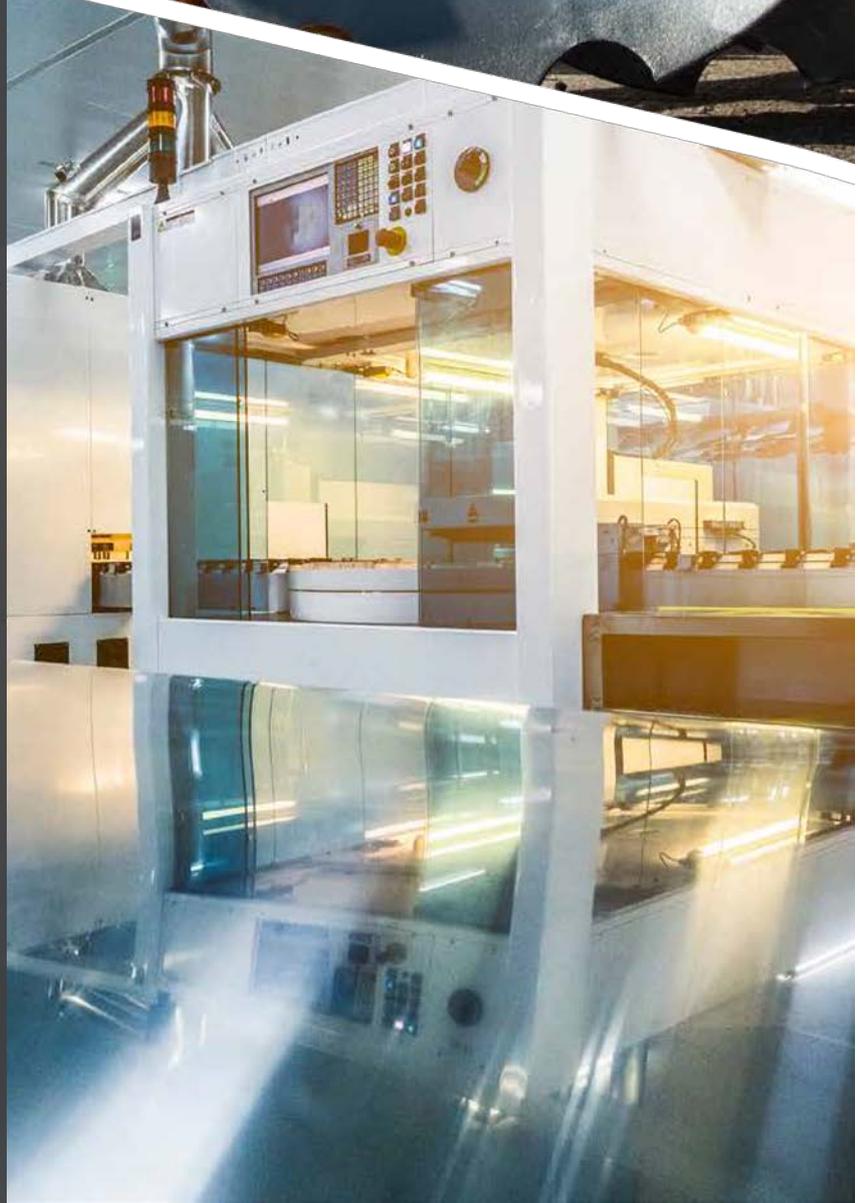
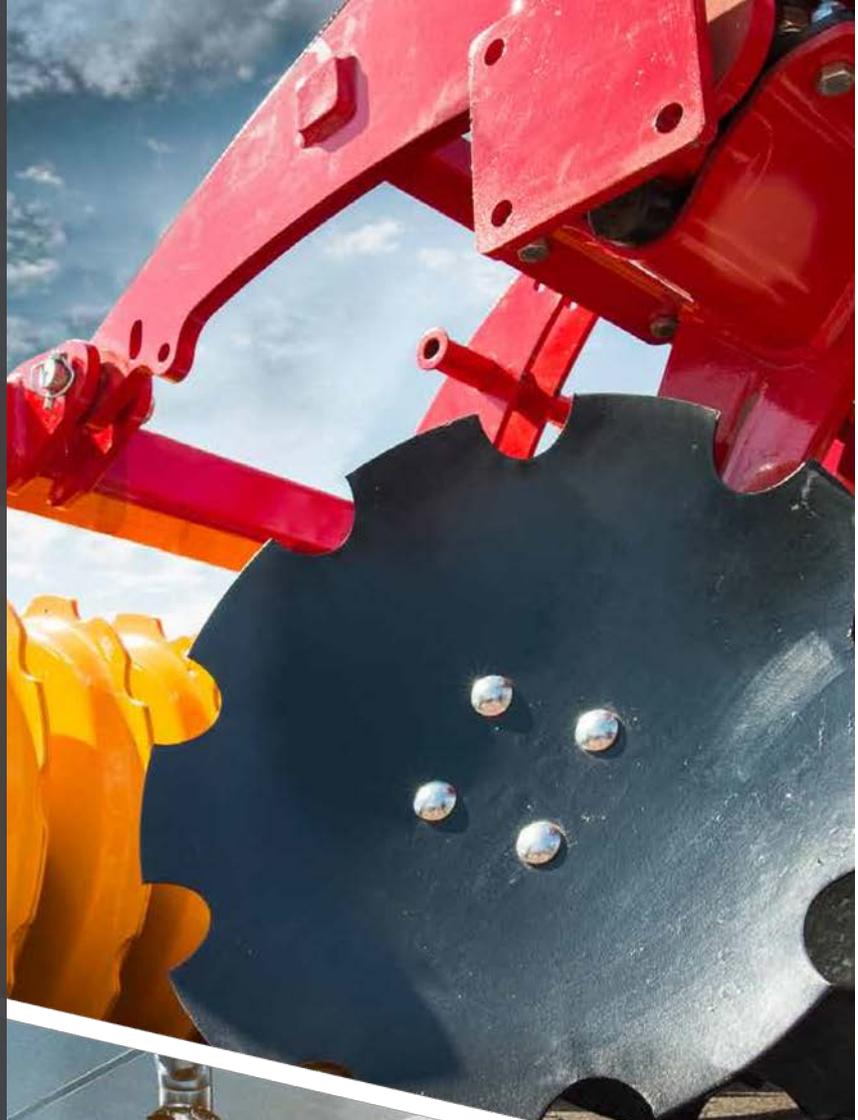
2017

SUMMARY REPORT

Manufacturing in Queensland



Foreword	3
Manufacturing inquiry	4
The Commission's approach	4
Manufacturing in Queensland	5
What is the inquiry about?	5
Manufacturing is a strong and diverse sector in Queensland	6
The sector faces significant pressures	7
Despite these pressures, many Queensland manufacturing firms are prosperous	8
The Queensland Government can support the manufacturing sector through broad-based policy reform	10
There is no magic bullet in terms of policy levers for the Queensland Government	11
Manufacturing: Policy Action Plan	12
Ensure policies and regulation do not place upward pressure on energy prices	13
Reform the state tax system	13
Improve regulatory outcomes through targeted stocktakes	14
Facilitate access to a quality workforce	14
Careful implementation of the new procurement policy	15
Make it easy for business to relocate to Queensland and do business here	16
Set framework conditions to allow innovation to occur	17
Ensuring government programs are effective and efficient through design, implementation evaluation and monitoring	17
Assist workers to transition to new employment and remove barriers to labour mobility	18
Recommendations	20



Foreword

Queensland enjoys the benefits of a healthy and diverse manufacturing sector despite an observable contraction. This contraction reflects a decline in manufacturing's share of Australian and global gross domestic product. We consider that the Queensland Government has opportunities to further improve the manufacturing environment.

Manufacturing is a significant contributor to Queensland's economy. It generates approximately \$20 billion in gross value added per year and employs around 168,000 workers.

In September 2016, the Queensland Government asked the Queensland Productivity Commission to conduct an inquiry into manufacturing to identify policies to improve the sector's productivity and competitiveness.

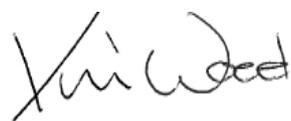
This final report sets out a policy action plan to support a strong and diverse manufacturing sector.

The inquiry has found that policy settings can be shifted from predominantly sector-based programs towards broad-based reform of the business environment.

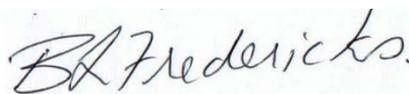
While many of the proposed reforms transcend the manufacturing sector and will require a sustained effort to implement, we believe that broad based reform will better address the key concerns of manufacturers in Queensland—energy, skills and training, tax, procurement, red tape and barriers to innovation, and benefit the wider Queensland economy.

The inquiry been aided by discussions and submissions from manufacturers, unions, peak business bodies, government agencies, academics and innovation experts. The Commission is grateful to all stakeholders who contributed to this inquiry.

The Commissioners would like to thank the staff who worked on this report—Kristy Bogaards, Richard Clarke, Peter Coombes, Matt Geck, Ann Jones and Steve Williams.



Kim Wood
Principal Commissioner
(Presiding Commissioner)



Bronwyn Fredericks
Commissioner

31 October 2017

Manufacturing inquiry

In 2016, the Treasurer asked the Queensland Productivity Commission (the Commission) to investigate and report on manufacturing in Queensland—identifying policy options to improve the productivity and competitiveness of the sector.

This final report sets out the Commission's key findings and proposes a Manufacturing: Policy Action Plan, built on broad-based policy reform—to address cost pressures, increase productivity and improve government programs—and supported by effective implementation.

The Commission's approach

The Commission operates under a public inquiry model. This provides for stakeholders to submit their evidence and views, and for the Commission's own analysis and recommendations to be publicly considered and tested. This helps the Commission to identify and explore issues to inform and strengthen its advice.

During the Manufacturing Inquiry, consultation took on various forms:

- discussions with around 100 stakeholders—meetings with manufacturing firms, government agencies, unions, industry associations and individuals, as well as undertaking site visits to manufacturing firms across Queensland
- 23 written submissions—13 in response to the issues paper and 10 in response to the draft report
- public forums in Brisbane, Ipswich, Townsville, Bundaberg and Gladstone
- roundtable discussions on innovation and structural adjustment, as well as participating in an industry-led discussion on the textile, clothing and footwear industry.

The Commission also considered other relevant reviews and programs, including the work undertaken by Jobs Queensland and the Advanced Manufacturing 10-Year Roadmap and Action Plan.

Key dates

Issues paper released

9 November 2016

Initial consultation

late 2016 – February 2017

Release of the draft report

July 2017

Further consultation

July–September 2017

Final report submitted to the Government

31 October 2017

The Queensland Productivity Commission is an independent statutory body that provides independent advice on complex economic and regulatory issues.

The Commission has an advisory role and operates independently from the Queensland Government—its views, findings and recommendations are based on its own analysis and judgments.

After undertaking a public inquiry, the Commission provides a written report to the Treasurer who must provide a written response within six months. Following this, the Commission publishes the Final Report.

Further information on the Commission and its functions can be obtained from the Commission's website www.qpc.qld.gov.au

Manufacturing in Queensland

This overview summarises the key findings and recommendations from the final report.

Although manufacturing is declining as a share of economic activity, it is a strong and diverse sector in Queensland, thriving where it can leverage comparative advantages, exploit niche markets or quickly deliver bespoke products.

Ultimately, manufacturing firms and their workers will drive competitiveness and growth in the sector. The Queensland Government can better support the manufacturing sector through broad-based policy reform—to address cost pressures, increase productivity and improve programs.

What is the inquiry about?

Queensland's manufacturing sector is a significant source of employment and regional and economic activity within the state. Manufacturing links to:

- a wide range of domestic businesses as a supplier and purchaser of goods and services
- associated services such as applied research, engineering, industrial design, process improvement, logistics and client support
- communities as a key employer, particularly in some regional cities and towns
- export markets.

However, the sector's share of Queensland economic activity has almost halved since 1989–90.

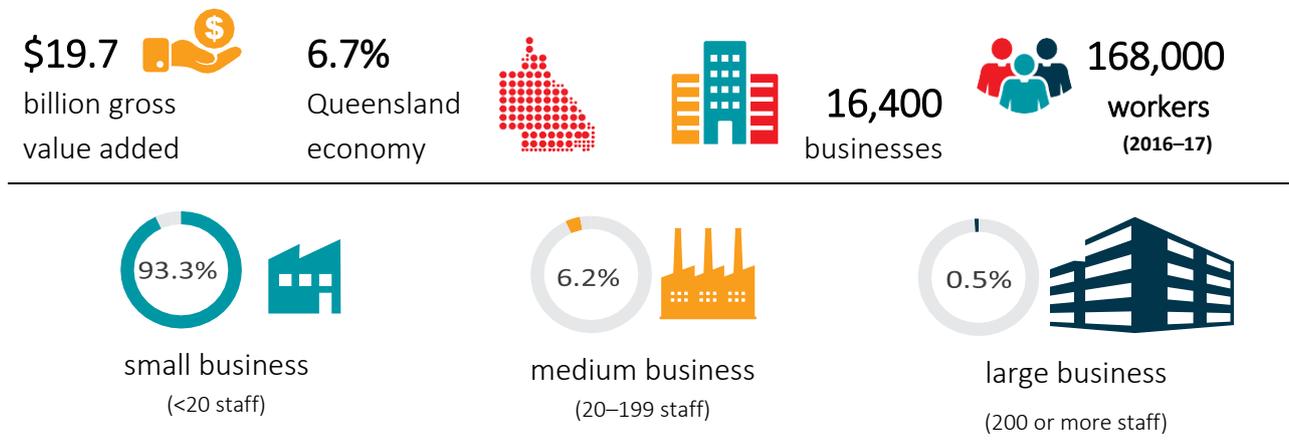
There has been much debate about the changing nature of Queensland's manufacturing sector and its prospects. One view is that strong international competition and rising business costs will see a further shift away from manufacturing in Queensland.

Another is that greater access to global supply chains and markets, natural endowments and sophisticated service inputs provides rich opportunities.

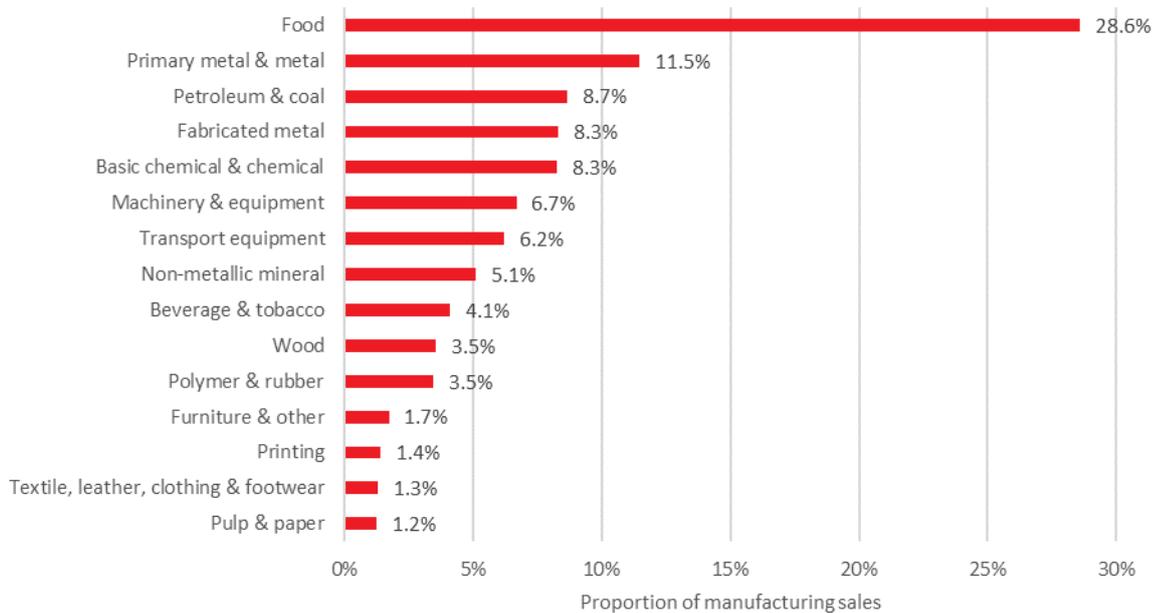
Within this context, the Treasurer requested the Queensland Productivity Commission undertake an inquiry into the state's manufacturing sector to identify policies to improve the productivity and competitiveness of the sector.

Manufacturing is a strong and diverse sector in Queensland

Manufacturing in 2015–16



Manufacturing sales by industry subsector, 2015–16, Queensland



The sector faces significant pressures

High input costs

For manufacturers, input costs are the major determinant of production costs and product price. Many stakeholders expressed concerns about rising input costs, particularly energy and labour.

Growth in unit labour costs in Australia between 1998 and 2015 was the second highest of OECD countries.

Electricity prices in Queensland have increased by 4.9 per cent and gas prices by 3.4 per cent each year on average, between 1998–99 and 2016–17. As most firms are unable to diversify their energy source, this presents a significant commercial risk for energy-intensive manufacturers.

Recently, Rio Tinto's Boyne Island aluminium smelter announced it would cut production and shed jobs in response to high wholesale electricity prices.

Difficulties maintaining workforce size and quality

Manufacturers in Queensland reported difficulties in attracting and retaining staff, particularly in regional areas. They also expressed concerns about the quality of skills at all levels. Some manufacturing firms and workers indicated education and training did not leave workers 'job-ready'—an issue that will be compounded further as new technology changes the nature of manufacturing jobs and forces workers to adapt and acquire new skills.

Strong domestic and international competition

Removing tariffs and other forms of protection on Australian manufactured goods has exposed the sector to greater international competition.

While many Queensland manufacturers have benefited from more open markets, trade barriers still exist. Many countries levy tariffs on imported products and some foreign governments provide direct financial assistance to key industries.

Changing consumption trends and new production technologies

An ageing population, increased urbanisation and rising demand from Asia are driving changes in consumer demand. As the market for new products has expanded, the demand for more traditional manufactured goods has diminished. This may compel some domestic firms to reassess what they are producing and consider alternative opportunities.

In general, manufacturing has become increasingly fragmented, specialised and globalised. It has transformed from a vertically integrated structure into one dominated by fragmented segments that are centrally coordinated. Modern manufacturing is characterised by global value chains comprising networks of businesses, workers and consumers.

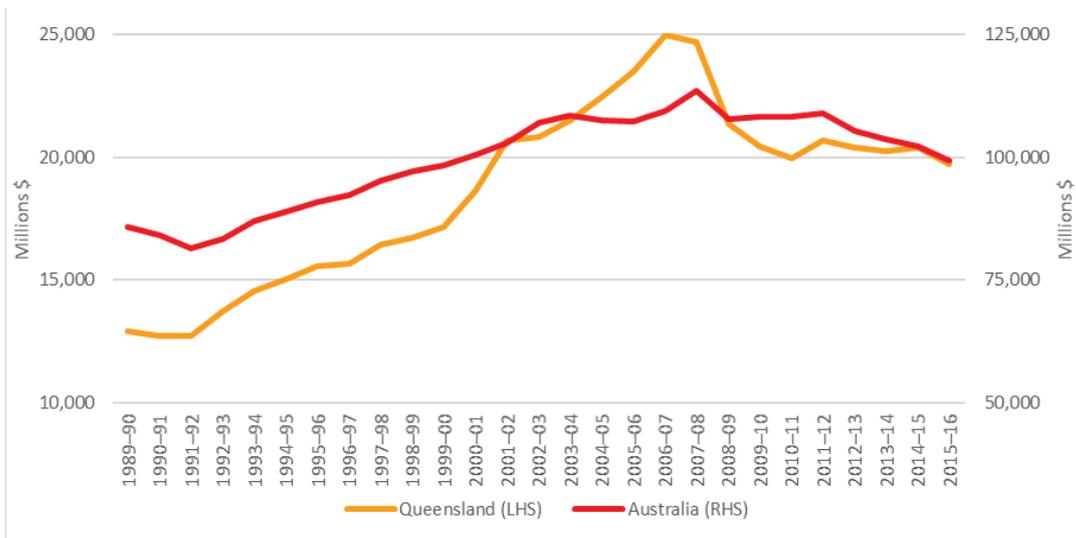
Increasingly, emerging technologies are producing new products that are spurring a new industrial revolution, changing production processes and business models. Advanced manufacturing and automation of low-value production improve product quality and reduce the need for a large workforce.

Declining output—a state, national and global trend

Globally, between 1995 and 2014, manufacturing as a share of world gross domestic product fell 6.3 percentage points. Over the same period, it fell 4.4 percentage points in Queensland.

Between 2006–07 and 2010–11, manufacturing output in Queensland contracted by about 20 per cent. Since then, output has fluctuated.

Real manufacturing output—Queensland and Australia



Despite these pressures, many Queensland manufacturing firms are prosperous

Aggregate industry data tend to mask the relative performance and prospects of subsectors and individual firms. For instance, several Queensland textile, leather, clothing and footwear firms are internationally competitive, despite significant rationalisation in their sector. Leading-edge technology, superior design or customisation, high levels of productivity and/or a focus on customer service are important factors.

Although some rationalisation and restructuring will continue, those manufacturers that can respond to challenges have a range of opportunities.

Manufacturers, realising they need to adapt, have developed strengths, including:

- targeting niche markets, producing unique or customised products
- responding to fast changes in preferences by shortening the lead time from factory to retailer and customer
- using innovation to drive quality and efficiency
- bundling manufactured goods with services such as maintenance, financing, distribution and insurance, to add value for the customer
- leveraging their proximity to key raw materials and other comparative advantages.

There are many Queensland manufacturers who have leveraged these and other strengths to develop their competitive advantage (see Box 1 for a small sample of some of these firms).

Box 1: Manufacturers in Queensland

PACKER LEATHER

Established in 1891, Packer Leather is the last remaining leather tannery in Queensland. It is recognised worldwide for its locally sourced, high-performance kangaroo leathers, which provide superior strength and softness while being naturally thin. The fibre's unique properties have allowed the company to establish a market niche for itself in fit-for-purpose products, including footwear, garments and gloves. While competitors now also produce kangaroo skins, Packer Leather has maintained its market lead with a reputation for quality and innovation, based on its exclusive tanning technologies that complement the natural characteristics of the leather. New technologies have enabled the company to produce with better moisture management, abrasion resistance, fire retardants and anti-microbial protection.

Packer Leather exports to 19 countries and supplies world-leading shoe brands. Prior to shipment, it tests products in its in-house laboratory to ensure they are fit for purpose and meet relevant international specifications.

The company is committed to protecting the environment by using a renewable natural resource and meeting rigorous environmental standards that are independently audited. Technology, quality and exports have been the keys to the firm's survival and success.

It also uses solar power to reduce its energy consumption and recycles at least 40 per cent of the water used in production.

WATKINS STEEL

Watkins Steel is a family-owned steel manufacturer operating since 1968.

It specialises in structural steel and metalwork fabrications, serving the manufacturing, mining and construction industries. The company employs 70 staff to undertake steel detailing, fabricating, drafting, 3D scanning and design estimating and installation services.

It recognised a lack of accuracy was costly, both to itself (in the need to undertake reworks) and its customers (in downtime and lost production) and developed a unique end-to-end digital workflow for measurement, fabrication and installation.

Watkins Steel is currently exploring augmented reality as its next technology step.

By combining 3D technology with advanced robotics, it largely eliminated human error.

Its four-step linked process involves:

- 3D laser scan of the site to ensure accurate measurements
- 2D shop drawings and 3D modelling
- automated and precise steel fabrication using robotics
- a station set out for on-site installation.

Many of Watkins Steel's employees who were previously tradesmen, such as boilermakers, have now been trained to operate new technology. While the business remains a steel fabrication and installation company at its core, the value-added benefits afforded to customers have allowed the company to provide specialist design and 3D laser scanning services.

The Queensland Government can support the manufacturing sector through broad-based policy reform

Manufacturing businesses and workers benefit from a broad suite of Queensland Government policies and programs.

Advance Queensland	
Industry Accelerator program	Knowledge Transfer Partnerships program
Platform Technology program	Innovation Partnerships program
Ignite Ideas fund	Commercialisation Partnership program
Business Development fund	Industry Attraction fund
Growing Queensland's Companies	Queensland Startup Events and Activities fund
Advancing Small Business Queensland Strategy 2016–20	
Mentoring for Growth program	Small Business Digital Grants program
Accelerate Small Business Grants program	Small Business Entrepreneur Grants program
Queensland Trade and Investment Strategy 2017–2022	
Developing future leaders	Strengthening regional businesses and economies
Improving the client experience	Expanding international presence
Supporting businesses	Promoting Queensland globally
Advancing Education: An Action Plan for Education in Queensland	
The Schools of the Future STEM Strategy	#codingcounts: A Plan for Coding and Robotics
Annual VET Investment Plan	
Certificate 3 Guarantee	User Choice program
Higher Levels Skills program	VET in Schools
Foundation Skills Training	
Jobs and Regional Growth Package	
Made in Queensland	Jobs and Regional Growth fund
Skilling Queenslanders for Work	
Back to Work	
Queensland Procurement Policy	Queensland Charter for Local Content
Powering Queensland Plan	
Cover cost of the Solar Bonus Scheme	Return Swanbank E to service
Investigate restructure of government-owned gencos	Deliver the Powering North Queensland Plan
50 per cent renewable energy target by 2030	Facilitate next wave of diversified renewable energy
Improve large-scale renewable project facilitation	Establish Queensland Energy Security Taskforce
Implement Queensland Gas Action Plan	Seek integrated national climate and energy policies

The Queensland Government also provides significant assistance to manufacturers through tax concessions that are available to all Queensland businesses.

There is no magic bullet in terms of policy levers for the Queensland Government

- Many of the underlying issues are outside the influence of government.
- The Australian Government controls key policies and the underlying policy instruments.
- 'Picking winners' has generally come at a cost to the community.

Manufacturing policy should not be used to promote a specific sector or firm as an end in itself. There is a long history of missteps and failures when governments have sought to do so, at a cost to the economy, community and, in many cases, the manufacturing sector (Box 2).

Box 2: Providing targeted assistance—caution required

Governments often attempt to target specific industries or attract investment to increase employment and generate economic growth. However, empirical evidence and reported outcomes do not suggest any convincing link between governments targeting an industry and the performance of that industry.

History details some costly failures. For example:

- The Queensland and Australian governments provided assistance to the Australian Magnesium Corporation to establish the world's largest magnesium smelter near Rockhampton. Both governments foresaw large and beneficial impacts for employment (of up to 7,000 jobs) and investment (\$4.5 billion). However, the project was not viable and work ceased in June 2003, with the Australian Government required to fulfil its loan guarantee of \$90 million, and the Queensland Government losing \$70 million to the project.
- The South Australian and Australian governments provided \$100 million of assistance to Arrium's Whyalla steelworks. This included royalty concessions, procurement policies, and antidumping duties (before Arrium entered voluntary administration) and prospective financial assistance to upgrade infrastructure and improve energy efficiency and productivity (post-administration).

- At the national level, the Australian Government supported the Australian automobile manufacturing industry for more than a century. About \$30 billion (2011–12 dollars) in net combined assistance provided to the industry between 1997 and 2012 failed to produce a sustainable manufacturing plant.

Internationally:

- In the late 1950s, the Japanese Government decided to subsidise petroleum and petrochemicals industries while at the same time hindering Sony's transistor technology venture because it was 'unpromising'.
- In the United States, the Obama administration had several high-profile failures from funding alternative energy companies, with total losses as of November 2014 estimated at US\$2.2 billion.
- Many countries have tried to establish a semiconductor sector as a key industry. The McKinsey Global Institute identified countries that have attempted but failed to create a sustainable industry since the 1980s. These include Singapore (US\$5–16 billion in subsidies), China (US\$6–17 billion), Japan (US\$19–54 billion), Germany (US\$2–7 billion) and Malaysia (US\$1–3 billion).

Government measures to facilitate a competitive industry are best directed at providing a favourable business environment. This means minimising impediments to efficiency and competitiveness, and ensuring government programs and procurement are effective. The following action plan sets out a broad-based program for reform.

Manufacturing: Policy Action Plan

Where are we now?

Manufacturing in Queensland generates around \$20 billion a year in gross value added for the Queensland economy. It employs 168,000 workers in 16,400 businesses. Manufacturers face pressure from high input costs and strong competition.

There are many government policies and programs for manufacturing. The sector is often unaware of government policies and what they aim to achieve. There is often limited information available to evaluate program effectiveness or value for money.

What's the aim?

A competitive and productive manufacturing sector will best support economic growth and improve long term living standards in Queensland.

Government action should effectively and efficiently:

- target market and government failures
- simplify and consolidate programs
- focus on performance and results.

How to get there?

The Queensland Government can best achieve its objectives through three key actions:

1 Address cost pressures

- Avoid upward pressure on energy prices by ensuring energy policy and regulation are efficient (Recommendations 11 and 12).
- Create a competitive business environment through a more efficient tax system (Recommendation 16).
- Reduce costs on business and improve regulatory outcomes by reducing red tape through stocktake reviews (Recommendation 8).

2 Increase productivity

- Lift the pool of workers with the right skills by improving the VET framework with a focus on the right incentives to providers, students and businesses (Recommendations 6 and 7).
- Expand competition for procurement by simplifying the process and carefully implement the Queensland Procurement Policy 2017 (Recommendation 13).
- Support manufacturers, regions and workers, by improving adjustment assistance and removing barriers to labour mobility to assist workers to transition to new jobs (Recommendations 9 and 10).

3 Improve government programs

- Create a business environment to facilitate innovation (Recommendations 1 to 5).
- Make it easier for businesses to locate and do business here by streamlining government processes and offering comprehensive information to all businesses (Recommendation 14).
- Avoid providing attraction incentives to individual firms, but if provided, transparently report the costs and benefits (Recommendation 15).

The Queensland Government should assign responsibility and authority to an appropriate body to implement the Manufacturing: Policy Action Plan (Recommendation 17).

An action plan built on broad-based policy reform will address the main concerns of the manufacturing sector and:

- avoid perverse outcomes associated with manufacturing-specific policies
- establish a clear policy with fewer programs that achieve more
- provide the greatest opportunity for manufacturing—and all Queensland businesses—to compete and grow.

Ensure policies and regulation do not place upward pressure on energy prices

Energy markets are the focus of considerable policy attention, with several national reviews either recently completed or underway in addition to state-based studies. The Commission also completed an inquiry on electricity prices in 2016.

The challenge is to avoid policy or regulatory changes that place upward pressure on energy prices. The temptation to seek regulatory 'fixes' should be resisted. Such responses may distort or discourage commercial investment, leading to higher energy prices in the long term.

For electricity, the Queensland Government should prioritise:

- the Governance Review and Improvement Project, to develop policy and governance arrangements that maximise the efficiency of government-owned electricity network corporations' capital and operating expenditure
- additional policy options to limit any potential misuse of market power by government-owned generators in the wholesale electricity market
- its review of policy options to improve value for electricity customers in regional Queensland.

In the case of natural gas, LNG exports from Queensland are transforming Australia into the world's second-largest gas exporter and the major gas supplier for East Asian markets. Local consumers are experiencing cost pressures as gas prices rise towards export parity. The Australian Energy Market Operator (AEMO) forecasts the delivered wholesale price of gas in Australia will increase by 48 per cent by 2036, with step changes in 2018 and 2023 as significant contracts expire.

Rising gas prices and uncertainty about future prices and availability can especially affect heavy users of natural gas that are trade-exposed and cannot switch to alternative energy sources.

Queensland manufacturing—with its significant metal, mineral, energy and chemical subsectors—is particularly exposed. AEMO projects that by 2021 gas consumed by large industrial users in Queensland will fall by 24.9 per cent (27.3 petajoules).

Some argue the case for gas to be reserved for local users, so they can access gas while being sheltered to some extent from higher prices. However, evidence shows reservation policies are ineffective and impose costs.

The most efficient solution to meet supply objectives of price, quality, reliability and security is likely to involve a combination of options. An approach that reduces regulatory impediments to supply will be challenging to deliver but is more likely to be effective in the long term. The Queensland Government has indicated it intends to release its gas action plan in 2017. This plan should remove barriers to supply by:

- paring back costs and removing impediments to gas exploration
- setting out a pathway to resolve land-use conflicts arising from gas activities (including through education and planning)
- increasing transparency to improve market efficiency.

Reform the state tax system

Queensland (like other states) relies on payroll tax, land tax on the unimproved value of land, transfer duties, insurance taxes and gambling duties. Payroll tax (28.7 per cent of total tax revenue in 2017–18) is the largest source of state taxation revenue, followed by transfer duty (24.0 per cent), motor vehicle registration fees (13.1 per cent), other duties (11.2 per cent), land tax (9.0 per cent) and gambling taxes and levies (8.9 per cent).

Competition between states has focused on taxation thresholds and exemptions as well as on tax levels. This has contributed to inefficient tax structures and concessions that can create distortions as people change their decisions to take advantage of concessions. Concessions also reduced revenue by an estimated almost \$5.3 billion in 2016–17. Compliance costs, which are proportionately higher for small businesses, increase as tax systems become more complicated.

While there is limited evidence about the specific impacts of state taxes on manufacturing, there is consensus that state tax systems can be improved. Recent reviews provide a strong foundation for economy-wide, rather than sectoral, state reform but this has not yet happened.

Land tax has lower efficiency costs than other taxes, because if properly designed it has little impact on people's decisions about working, saving or investing. In theory, payroll tax has low efficiency costs compared with other taxes but in practice the costs are higher because tax-free thresholds and other exemptions reduce the tax base.

There is a strong economic argument for Queensland to generate more revenue from land tax and, to a lesser extent, from payroll tax, as well as abolishing or reducing more distortionary taxes. Land and payroll tax rates could be set at lower levels by reducing or removing the exemptions and concessions that currently apply.

To maximise the net benefits, the reforms should have regard for the distributional and transitional impacts of changes.

Improve regulatory outcomes through targeted stocktakes

Queensland manufacturers comply with multiple layers of regulation that can cut across different aspects of their activities and influence industry performance, productivity and competitiveness.

While it can be difficult to quantify the costs (or benefits) of regulation to Queensland manufacturing, the regulatory burden on firms and workers can be significant and is not declining.

This may include having unnecessarily complex and restrictive nature of some regulations; poor regulatory processes; and the 'cumulative effect' of complying with regulations across all levels of government.

Delivering high quality outcomes requires governments to ensure regulations are justified and well-designed. This is important for any new regulations. However, there is also an opportunity to look more closely at the current stock of regulation—to ensure that policy delivery continues to match intent.

A regulatory stocktake is a comprehensive, systematic way to better understand how the existing regulatory framework affects Queensland manufacturers and workers.

As a starting point, the Commission has identified three priority subsectors—food, machinery and equipment, and chemicals manufacturing—for review. Focusing on these subsectors will provide the kind of information about regulatory burdens, the extent to which regulation is achieving intended outcomes, and ways in which to improve regulation, that would not be revealed by broader, sector-wide analysis.

Facilitate access to a quality workforce

A diverse range of disciplines and levels of skill are required for Queensland manufacturers to succeed. Skilled workers strengthen the ability of manufacturers to innovate and grow—and firm, worker and industry outcomes will suffer unless existing skills gaps are addressed.

As the sector evolves, manufacturing firms and workers have found:

- New and emerging technologies are changing the tasks and activities undertaken and the associated skill sets required. This provides opportunities for some, but poses significant risks for others.
- It can be difficult to find, or replace, and retain skilled staff when:
 - workers with desirable skills and talents do not seek manufacturing jobs
 - the skills and qualifications profile of the manufacturing workforce does not align with current or anticipated needs.

These issues are not new—and are not unique to manufacturing. They reflect the challenges facing the Queensland economy as it shifts to more knowledge-intensive industries.

Efforts to improve workplace skills will benefit workers and firms, including those manufacturing businesses looking to move to more advanced processes with more highly skilled workers. In practice, addressing education and training issues is a shared task being undertaken at the state and national level across the school, vocational education and training (VET) and higher education levels.

A robust and flexible VET sector plays a key role, given the important role VET plays in skilling, upskilling and cross-skilling the manufacturing workforce.

The Queensland and Australian governments have implemented substantial VET reforms and continue to undertake significant VET reform initiatives. It is important to continue reform and development of VET in Queensland, including ensuring funding and regulatory arrangements that better serves students, business and the wider community.

Careful implementation of the new procurement policy

Queensland Government departments spent more than \$17 billion in 2016–17 on procuring supplies and services. The Commission has not found data on how much was spent on locally manufactured goods, but about 70 per cent of government expenditure is with local suppliers.

Some Queensland manufacturers are concerned procurement arrangements do not provide a level playing field for them to compete with interstate or overseas businesses. Small firms may be intimidated by complex or prescriptive tendering processes or have difficulty participating when government tenders aggregate procurement to create purchasing economies. Some stakeholders consider local suppliers should be given preferential treatment over those from interstate or overseas.

The government provides or supports services that help local businesses to participate in procurement processes. For example, Industry Capability Network Queensland (ICNQ), a not-for-profit organisation supported by the Queensland Government, helps to link project proponents with capable local suppliers. There is a sound rationale for such services, as enabling local firms to participate in procurement processes can improve value for money by increasing the number of potential suppliers.

There is less evidence for preferential procurement of local content as it may lead to the rejection of supply offers with the best quality–price combination, consequently increasing costs to Queensland taxpayers.

Moreover, procurement agencies are unlikely to have the sophisticated skills and information required to achieve the multiple objectives put forward by proponents of preferential procurement.

The Queensland Government introduced a new Queensland Procurement Policy (QPP) in September 2017, which focuses on 'putting Queenslanders first when securing value for money'. Under the policy, local suppliers receive a local weighting of up to 30 per cent on any tender lodged for a significant procurement and at least one local or regional supplier and one other Queensland-based business must be invited to quote or tender for every procurement opportunity offered. The Department of Housing and Public Works will make resources available to support procurement agencies before the policy is fully implemented in March 2018.

To ensure that policies promoting opportunities for local suppliers do not add inefficient costs, the focus should be on those aspects of the policy that are likely to be unambiguously welfare enhancing. For example, removing impediments to local firms participating in procurement by:

- simplifying tendering requirements
- improving public sector procurement capability
- publishing a pipeline of supply opportunities.

Beyond this, government should ensure the QPP is implemented in the most cost-effective way, including by:

- providing guidance about how the local benefits test will be used to apply the value for money principle and minimise the addition to the cost of government procurement
- clarifying the definitions of 'local' and 'significant' in the new procurement policy
- minimising inconsistencies between the policy and the Australia New Zealand Government Procurement Agreement
- commencing monitoring and data collection so decision-makers and the Queensland community can better assess the impacts of the QPP.

Make it easy for business to relocate to Queensland and do business here

Many factors influence business location decisions. Often, firms are mobile because important factors of production (such as raw materials or skilled labour) are available in many places. Governments compete for mobile investment through:

- investment facilitation, which can involve:
 - providing information about legislative and regulatory requirements
 - assisting with site identification
 - identifying infrastructure and utility needs
 - coordinating and brokering development approval processes
 - assisting with business development programs
 - introductions to industry networks

- investment assistance, through financial incentives that increase the return on investment in a specific location.

Multiple Queensland agencies, including Trade and Investment Queensland (TIQ) and the Department of State Development (DSD), as well as the Australian and local governments, provide facilitation services.

The Commission has not found a clear statement of the outcomes that investment facilitation is intended to achieve, and there is limited convincing evidence about its impacts and the effectiveness of current government expenditure on it. As services are provided without charge, some users may value them less than it costs taxpayers to provide them.

Reorganising facilitation activities towards addressing information barriers for all firms, rather than selected firms, is likely to produce greater benefits. In addition, gathering and publishing information about which government processes are most challenging for investors could identify opportunities for the government to simplify regulatory processes without undermining outcomes.

Box 3: Reshoring

Reshoring of manufacturing involves transferring an activity, commonly a production process, from an overseas location back to a country of origin.

Around the world, there has been a growing interest in reshoring as a corporate strategy and public policy objective, along with some high-profile cases of firms reshoring to the United States and United Kingdom.

However, the quantitative evidence on the extent and opportunities for reshoring overall is mixed. The employment gains from foreign direct investment in the United States have been steadily outstripping the number of jobs created by reshored production for some time.

Few firms have returned production to Queensland. It is likely the factors driving reshoring elsewhere—low energy costs, closer proximity to large domestic markets—are less relevant for Queensland manufacturers.

There is a lack of publicly available information on the effectiveness of government reshoring policies, both in terms of the direct benefits (such as the number of companies that repatriated production and the number of jobs created) and the cost of those policies.

Reshore UK, Britain's high-profile government initiative to reshore manufacturing production, closed in 2016.

On balance, the evidence suggests reshoring will occur if it is in the financial interest of the manufacturer. The primary role for government is to ensure firms have accurate and accessible information to make location decisions.

This would help to address the information barriers to firms locating in Queensland or relocating. It would also reduce and streamline regulation so there is a less complex and lower-cost system for potential investors to navigate.

Evidence suggests financial incentives to attract investment are unlikely to provide a net benefit to the Queensland community. However, if the government decides to provide a financial incentive, then these factors should be publicly reported:

- the criteria for allocating grants
- the number, names and size of firms assisted
- the value of assistance provided
- expected outcomes and an evaluation against those outcomes.

Set framework conditions to allow innovation to occur

Innovation is a key driver of productivity and performance of many manufacturing firms. Most manufacturers are attempting to innovate, but success depends on their capacity to innovate as well as overcome external barriers.

Key concerns include:

- a lack of access to finance, especially for small and medium-size businesses
- differences in leadership, management and entrepreneurship capabilities and capacity
- low levels of collaboration between businesses and universities and within business networks
- a disconnect between available skills and industry needs
- regulation that distorts business decisions.

Ultimately, businesses and the people within them will drive manufacturing innovation. Government also influences outcomes through taxation, education, training, energy policy, regulation, grants, subsidies and concessions. While some policies support innovation, other policies may impede it, often unintentionally.

The Queensland Government has over 50 innovation and entrepreneurship programs and activities as part of its Advance Queensland program. They are generally targeted at businesses and people broadly, rather than manufacturing exclusively. This is in addition to over 100 Australian Government innovation programs.

Innovation programs are difficult to design, measure and evaluate, complicating policy development. That said, not all programs appear to have a strong rationale and supporting evidence.

There is scope to better design and evaluate innovation programs by, for example, directly addressing barriers to innovation, rather than providing grants, and reducing the number of programs to do fewer things, but do them better.

Ensuring government programs are effective and efficient through design, implementation evaluation and monitoring

Many government policies and programs across all levels of government affect manufacturers. These include broad framework policies (such as taxation and employment relations) as well as targeted policies such as grants and subsidies, and industry facilitation, and support programs to bolster research, increase collaboration and accelerate commercialisation.

In Queensland, manufacturers can access programs that support small business (Advancing Small Business Queensland Strategy), encourage innovation (Advance Queensland), improve education and training outcomes (Advancing Education and Annual VET Investment Plan) and support employment and regional growth (Jobs and Regional Growth Package).

Specific to manufacturing, the Queensland Government recently announced three key initiatives:

- Ten-year roadmaps and action plans have been developed for biofutures, mining equipment, technology and services and for advanced manufacturing, with implementation underway. Roadmaps for aerospace, biomedical and life sciences and defence are also being developed.
- An Industry and Manufacturing Advisory Group will help to develop and implement the 10-year plans.
- The Made in Queensland program provides funding to improve business capabilities and adopt innovative processes and technologies.

It is too early to assess the effectiveness of the new Queensland Government programs, however, good program design principles and feedback from stakeholders suggest some improvements can be made.

Although there is a sound basis for some programs, such as the positive spillovers generated by research

and development (R&D), there is limited evidence to support others. Few have specific or measurable objectives for the community to judge their success.

Many manufacturing firms participating in this inquiry indicated they tend to avoid government programs based on a view the programs would not be useful, or the costs of navigating, applying for and complying with the program were too high compared with the expected benefits. Some firms were either not aware of the available programs or found it too difficult to find the program that suited their needs.

Given the alternative uses for program funding, especially with tight fiscal conditions, it is imperative that government initiatives achieve what they are designed for. If program beneficiaries find the landscape too complex to access, and agencies are unable to transparently and easily demonstrate performance, there is a question as to whether the programs should continue to be pursued.

Good policy outcomes are also more likely where there is effective evaluation and monitoring to assess and identify opportunities for improvement and foster policy learning.

Assist workers to transition to new employment and remove barriers to labour mobility

Structural change has been a prominent feature of Australia's manufacturing industry after tariffs were removed on manufacturing imports in the 1980s and 1990s. While structural change ultimately results in a better use of the community's scarce resources, it can result in significant financial and social costs for workers, firms and communities as the economy transitions from industries in decline.

Queensland's manufacturing sector is smaller and more diverse than in other states. Given this diversity, and a relative absence of sectors that were previously supported by high trade barriers, Queensland's manufacturing sector has been less exposed to many of the structural shocks that have beset manufacturers elsewhere.

It is difficult to identify with certainty the Queensland industries or regions more likely to be affected by structural change and when problems may emerge.

In the short term, those with the greatest exposure to risk would appear to be:

- energy-intensive industries where higher energy prices are continuing to erode their financial position and, ultimately, commercial sustainability
- communities or regions that rely heavily on a major business as a primary source of employment.

Over a longer-term horizon, technology, such as advanced manufacturing, will affect established firms in terms of the level of capital investment, the manner in which they produce, the amount of labour they employ, and their ability to compete with domestic and international rivals. It will also have an impact on workers in affected firms.

Between 2000 and 2012, governments around Australia spent more than \$88 billion on structural adjustment programs. There are few publicly available reviews of how effective past adjustment assistance has been. However, analysis suggests the programs tended to have a high cost per job, insignificantly affected overall long-term regional employment trends, and did not enhance regional performance relative to other regions that lost a major employer but did not receive assistance.

As a result, although adjustment assistance has the potential to play a role in facilitating change and easing the adverse transitional impacts of adjustment, it needs to be justified, well-targeted and effective.

Where government adjustment assistance is warranted, these actions will likely have benefits:

- Directly target workers who face significant barriers to re-employment, such as older manufacturing workers with low or non-transferable skills.
- Before planned closures, extend non-financial assistance measures to affected workers to make them 'job-ready' and smooth the transition to alternative employment.
- Establish a longitudinal study of retrenched workers who received assistance, to determine which programs best led to permanent reemployment.

Geographic labour mobility is an important mechanism in adapting to labour market shocks associated with structural change. Labour mobility improves community wellbeing by enabling workers to move to locations where they are more productive and highly valued. This can increase employment and incomes across the state.

The Queensland Government should remove state-based barriers to geographic labour mobility, including:

- improving land-use planning processes to expedite the release of land for residential development that would otherwise limit the supply of housing
- removing unnecessary occupational and/or business licensing and ensure the remaining regulation is the minimum necessary to achieve consumer protection, safety or environment objectives

- reforming stamp duty to reduce the additional costs on property transfers.

The Queensland Government could also consider, as part of any structural adjustment package, the provision of financial support for relocation such as a one-off allowance and time-limited rental assistance.

The way forward

The key finding emerging from this inquiry is that manufacturing firms and their workers will drive competitiveness and growth in the sector. The Queensland Government can best support this outcome by reforming the business policy environment. The Commission has set out an action plan, comprising 16 recommended measures—to address cost pressures, increase productivity and improve government programs.

The Queensland Government should assign responsibility and authority for implementing this plan to a Minister or group of Ministers, who would:

- establish a clear commitment and timetable
- specify and allocate tasks for implementing the plan
- ensure that the tasks are carried out and achieve their intended results
- develop measures to review performance of the plan
- evaluate its effectiveness.

Recommendations

INNOVATION

Barriers to finance

1 Where programs are established on the basis of mitigating capital market failures, the Queensland Government should consider providing assistance through loans and equity investment rather than grants.

Management skills

2 To improve management skills, the Queensland Government should, in conjunction with industry associations:

- identify management and leadership courses available to managers within established SMEs
- determine whether the current suite of courses effectively and efficiently deliver management skills (including accessibility and post-training performance)
- create a single portal for management, mentoring and leadership courses provided by government or with government support, and courses from other credible providers, to reduce search costs and improve access.

Commercialisation

3 The Queensland Government should redesign innovation commercialisation programs to incentivise all businesses and universities to collaborate on commercialisation, rather than targeting business sizes, models, technologies, sectors or science priorities.

The Department of Science, Information Technology and Innovation should, in conjunction with industry associations, develop and provide information and case study resources on intellectual property and commercialisation to Queensland businesses, including for traditionally lower technology industries.

Improving policy design and evaluation

4 The Department of Science, Information Technology and Innovation should continue to collaborate with the Australian Bureau of Statistics and request the redesign and public release of state-based business innovation data. This data should include access to the Business Longitudinal Analysis Data Environment and Business Longitudinal Database and the Innovation in Australian Business publication.

5 To improve the efficacy of innovation policy, the Queensland Government should consolidate its more than 50 innovation and entrepreneurial programs and transparently report on its innovation policy. The consolidated set of programs should target three key areas—beneficial knowledge spillovers, access to information, and coordination problems.

For each program, the Queensland Government should publicly and transparently:

- develop a clear program logic targeting identified problems
- establish measurable objectives in relation to mitigating or offsetting the identified problems
- measure and monitor the program for performance from commencement
- evaluate outcomes within three years and regularly thereafter, balancing precision with administrative and compliance costs. This evaluation should cover: administration costs; whether the program achieved its objectives (effectiveness); and whether the benefits exceeded the costs (efficiency).

SKILLS AND TRAINING

6 To better serve manufacturing firms, students and the wider economy, the Queensland Government should continue to reform and develop the VET framework, with a focus on the effectiveness and efficiency of the VET sector. The Queensland Government should:

- finalise its strategy for vocational education and training in Queensland (Advancing skills for the future), having regard to issues raised in response to the consultation draft

- implement the Queensland VET Quality Framework—and measure and report results
- ensure the regulatory and funding system:
 - accommodates changing firm and worker needs, choice and thin markets
 - establishes the right incentives for providers—including public and private sector providers—to provide relevant training in an effective and efficient way.

7 As a priority under the Queensland VET Quality Framework, the Department of Education and Training should implement a VET funding model based on government subsidy levels that:

- reflect the spillover benefits from VET to create the right price signals for an efficient and responsive VET sector
- provide the right level of support for training with a high proportion of public benefits and minimise incentives to provide/undertake training that has low or negative returns
- remove barriers to upskilling and retraining and choice of program and delivery modes
- transparently provide for equity-related matters, including for high-needs learners and access for rural or regional participants.

REGULATION

8 To improve regulatory outcomes, the Queensland Government should commission stocktakes of the regulations that affect:

- food manufacturers
- machinery and equipment manufacturers
- basic chemical and chemical products manufacturers.

The three stocktakes should be undertaken sequentially by an independent body (such as the Better Regulation Taskforce or the Office of Best Practice Regulation) and completed as soon as possible.

The three stocktakes should identify priority areas for reform that will contribute to improved productivity for Queensland manufacturers as well as the wider Queensland economy. This includes areas where there is the most scope to:

- reduce unnecessary regulatory burden and pursue regulatory objectives in more efficient (least cost) ways
- better coordinate action across (Australian, state and local) governments to reduce unnecessary overlaps.

STRUCTURAL ADJUSTMENT

9 To assist in the development of future structural adjustment policies, the Queensland Government should establish a longitudinal study of retrenched workers who previously received assistance, to identify those programs that have successfully resulted in permanent re-employment.

10 To minimise the social and economic costs associated with structural adjustment in the manufacturing sector, the Queensland Government should:

- provide early training assistance as required where there are planned firm closures
 - remove regulatory barriers to labour mobility across regions in Queensland, particularly in relation to housing, occupational/business licensing and stamp duty, and consider, as part of any structural adjustment package, providing support for relocation in the form of a one-off allowance and time-limited rental assistance
 - work with the Australian Manufacturing Workers' Union and other key industry stakeholders, including Jobs Queensland, to identify employment opportunities for older, low-skilled manufacturing workers who are displaced.
-

FRAMEWORK POLICIES

Energy

11 To promote the long-term interest of electricity consumers, the Queensland Government should avoid policy or regulatory changes that impede the efficiency of the electricity market and place upward pressure on energy prices. It should:

- complete and implement the Governance Review and Improvement Project as a priority, to develop policy and governance arrangements that maximise the efficiency of government-owned electricity network corporations' capital and operating expenditure
- progress additional policy options to limit any potential misuse of market power by government-owned generators in the wholesale electricity market, particularly in relation to their rebidding strategies
- encourage manufacturers to pursue demand management opportunities with government-owned electricity network corporations
- conclude its review of policy options to improve value for electricity customers in regional Queensland as soon as possible.

12 To remove gas supply barriers while balancing the needs of landholders and environmental safeguards, the Queensland Government should structure its Gas Action Plan to:

- reduce the costs and impediments to gas exploration and development through, for example, measures to improve land release and tenure management, and cooperation between different mineral and energy regulators
- improve processes to resolve land-use conflicts arising from gas activities (including through providing better information and fair compensation to landholders and an evidence-based approach to regulation)
- increase transparency to improve market efficiency, through measures such as reporting on sector-wide performance and regulatory compliance.

Procurement

13 Procurement policy should deliver the best price-quality outcome for the Queensland community. In implementing the Queensland Procurement Policy 2017, the Queensland Government should:

- remove impediments to local firms participating in procurement, including by:
 - simplifying tendering requirements
 - improving public sector procurement capability
 - publishing a pipeline of supply opportunities
- develop guidelines for implementing the local benefits test that provide clear advice about how it will be used to apply the value for money principle
- clarify the definitions of 'local' and 'significant' and provide training to procurement agencies about the new framework
- seek to minimise inconsistencies between the policy and the Australia – New Zealand Government Procurement Agreement
- collect and publish information on procurement outcomes to assess the impact of the policy.

Investment facilitation

14 To ensure that the investment facilitation activities of government agencies, including Trade and Investment Queensland and the Department of State Development, maximise their contribution to investment in Queensland, the Queensland Government should assess the benefits from:

- producing and publishing costs and other relevant information for all firms to access in order to assist them in deciding whether to do business in Queensland
- establishing a single Queensland Government business advisory entity
- leveraging facilitation services to identify opportunities to improve government processes, programs and regulation so that there are fewer government requirements to navigate, at a lower cost.

Investment assistance

15 To ensure net benefits from investment attraction activities, the Queensland Government should avoid providing attraction incentives to individual firms or projects unless it can be demonstrated that there are likely spillovers that would otherwise not occur. If the Queensland Government does provide incentives, it should:

- publish the criteria for allocating grants to attract mobile investors
- provide assistance transparently, rather than through less transparent forms such as tax concessions
- link grants to measurable outputs
- publish the number, names and size of firms assisted, the value of assistance provided to each firm, and the details of contracts with individual firms
- report annually the expected outcomes and performance milestones agreed in the case of each grant and the performance of each project against these milestones.

- further develop and coordinate implementation of the plan
 - specify and allocate tasks for implementing the plan
 - ensure that the plan is implemented and achieves intended results
 - develop measures to review the performance of the plan
 - evaluate its effectiveness.
-

State taxation

16 To improve the business environment, the Queensland Government should establish a roadmap that sets out reform of the state tax system that:

- removes or reduces distortionary taxes (such as stamp duties and insurance levies) and moves towards less distortionary taxes (such as broad-based land taxes)
 - has regard for the economic, distributional and transitional impacts of proposed changes, and considers whether all changes should be introduced at once or spread over time.
-

IMPLEMENTATION

17 The Queensland Government should assign direct responsibility and authority to a Minister or group of Ministers to implement the Manufacturing: Policy Action Plan. The responsible body should:

- establish a clear commitment and timetable for implementing change

