



# OPPORTUNITIES FOR GROWTH

Driving forces creating economic  
opportunities for Queensland  
companies over the coming decade

Claire Naughtin, John McLaughlin  
and Stefan Hajkowicz

December 2017

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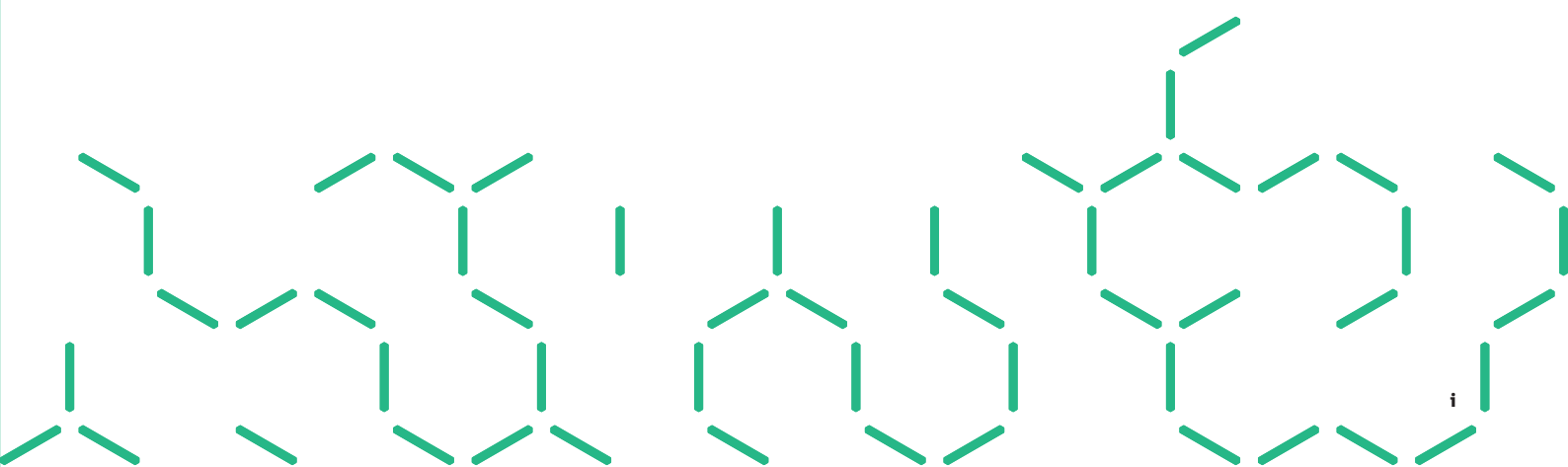


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## QUEENSLAND FUTURES INSTITUTE PARTNERS

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# FOREWORD

The release of the ‘Opportunities for Growth’ report is a major milestone for the Queensland Futures Institute (QFI). It is the result of a significant investment by its partners and indicative of the strong belief that they have in a positive future for Queensland.

Moreover, and importantly, ‘Opportunities for Growth’ has been developed using evidence-based research, undertaken by CSIRO’s Data61 – Australia’s leading, independent research provider. The report’s findings are based upon and backed by current data, trends and information.

This approach, along with engagement with a number of Queensland’s academic, business, community, industry and research organisation leaders, provides many findings that are representative of issues common to a broad cross-section of the Queensland community. We believe that the robustness of the approach will see the findings more readily implemented.

The release of the report is the start of what we expect will be an ongoing discussion and the start of a range of subsequent initiatives further exploring growth opportunities. The evidence-based findings in the report will generate a variety of views, some supportive, some questioning, some opposed. It is this ‘contention of policy ideas’ that is sometimes lacking in Queensland’s policy process and something that the QFI has strived to stimulate.

The Next Steps outlined in the report foreshadow a clear path forward. Queensland’s growth will occur through clear prioritisation, coordination and the creation of a new independent, apolitical process to drive ongoing research, policy support and community engagement.

We commend the report to you and invite your participation in taking advantage of Queensland’s Future Opportunities for Growth.



**CEO**  
**Steve Greenwood**

**President**  
**Julieanne Alroe**

## ABOUT THE QUEENSLAND FUTURES INSTITUTE

Established in 2014, the Queensland Futures Institute (QFI) is a unique partnership of academic, business, community, industry and research organisations that seek faster economic and social growth for Queensland. We seek to work alongside government and the community to create an innovative, robust and thriving economy to enhance the social well-being and quality of life of all Queenslanders.

# QUEENSLAND'S NEW ECONOMY

## OPPORTUNITIES FOR GROWTH

1

An increasingly differentiated investment package



Queensland's liveability, affordability and good conditions for doing business make it competitive on price and quality.

2

A growing natural advantage



Queensland's strengths in resources and energy sectors place it in a strong position to become the energy hub of Australia and meet rising global demand for resources.

3

An 'advanced' advanced services sector economy



Queensland can further diversify its economy by growing its services industries, transforming existing industries and creating new ones.

4

Queensland's got what future Asia wants



Queensland is close to Asia and can meet its emerging consumer demands, but it is also competing globally for this market.

5

Using digital technologies to transform old into new



Queensland has grown and diversified some industries, but existing digital skill and infrastructure gaps hinder future growth and innovation.



Defining a shared narrative for Queensland's future economic opportunities



Using technology and leveraging Queensland's strengths to diversify its economy



Equipping Queensland with the skills and talent it needs to grow and diversify its economy



Managing environmental and social barriers to growing Queensland's sectors



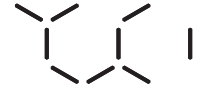
Supporting regional growth through connectivity, digital literacy and education

**STRATEGIC FOUNDATIONS - ENABLING QUEENSLAND TO GROW**





# EXECUTIVE SUMMARY



Queensland is in a strong position for growth. It is a great place to live, work and holiday, with its natural beauty, beaches, climate and attractive lifestyle qualities. And thanks to well-established industries in agriculture, resources, tourism and construction, Queensland has built a strong economy for current and future generations to enjoy. But Queensland, like many other economies, is operating in an ever-changing world impacted by factors such as technology, globalisation and changing business environments. To navigate these changes, it will be important for Queensland to position itself effectively for growth.

Informed by consultations with industry leaders across the private, not-for-profit and research sectors, this report explores the driving forces that are shaping Queensland's economy. It examines opportunities to leverage the state's competitive advantages, diversify traditional industries, and create new sectors that meet emerging global demand, while also flagging the potential for missed opportunities. Its findings aim to provide a narrative for Queensland's new economy and inform future strategic, business and policy decisions.

## Opportunities for growth

An 'Opportunity for Growth' is an overarching trajectory of change that is likely to impact supply and/or demand in a market, thereby creating opportunities to sell products and services to new consumer segments and/or to reach new markets through lower production costs or more efficient value chains. This report identifies five Opportunities for Growth for Queensland:

### 1. An increasingly differentiated investment package.

Queensland's natural beauty, diversity and cost of living have made it a go-to destination for people not only to holiday but to live and work, raise a family or retire. Its current competitive advantages over other destinations – in Australia and beyond – are likely to grow, presenting opportunities to:

- Attract the next wave of interstate migration from New South Wales, which has recently seen its median house prices growing about four times as quickly as in Queensland.<sup>1</sup>
- Transform Brisbane into the new gateway into Australia for passengers travelling from China, Japan and India, and better connect Queensland's regions and the goods they produce globally.

- Become a headquarters capital, as Queensland offers the lowest payroll tax in Australia, competitive rent prices<sup>2</sup> in its capital city and a highly skilled workforce.

**2. A growing natural advantage.** Queensland is a resource-rich state with strong mining and renewable energy sectors and commodity export markets. There are great opportunities for Queensland to become the energy hub of Australia and the Asia Pacific, supplying in-demand resources and developing sustainable, low-carbon solutions for economies facing similar challenges:

- Meet the rising demand in the Asia Pacific region for resources such as high-quality thermal and metallurgical coal, and renewable energy solutions.<sup>3</sup>
- Diversify into rare earth elements such as scandium, tantalum, niobium and cobalt, for which future technology developments will create growing global demand.
- Develop more innovative waste management processes, which have economic as well as environmental benefits – for every 10,000 tonnes of waste, 9.2 jobs are generated for the recycling sector compared to 2.8 jobs for landfill.<sup>4</sup>

### 3. An 'advanced' advanced services sector economy.

Queensland is refocusing its exports from commodities to advanced services, with recent growth in areas such as life sciences, health care and social assistance and mining equipment, technology and services (METS). This presents opportunities for Queensland to:

- Strengthen its transition towards a more knowledge-based economy, which is associated with enhanced economic growth and productivity.<sup>5</sup>
- Drive Australia's space industry, given its closer proximity to the equator than other Australian states. Growth in this industry could also help to diversify Queensland's higher degree enrolments.
- Become the capital of Australia's METS sector, in which Queensland already holds strong expertise and talent. As global demand for resources grows, innovative technology solutions and processes will be required for improved cost efficiencies.

**4. Queensland's got what future Asia wants.** Queensland is in a good position to meet emerging consumer demands from Asia's expanding middle class, given its geographical location and capacity in areas such as tourism, health, education and food. While these global markets are becoming increasingly competitive, they present opportunities for Queensland to:

- Expand its service exports to Asia: currently, Queensland accounts for less than 2 percent of China's total service imports,<sup>6,7</sup> which suggests it is missing opportunities it can exploit in the future.
- Move from basic commodities to high-value nutrition products. Queensland's strengths in agriculture, particularly organic farming, place it in a strong position to meet demand from Asian consumers.
- Grow its international student enrolments, which are currently falling behind the national average. Employability will be a key factor in securing future international students and harnessing the benefits they bring, both direct (e.g. jobs, expenditure) and indirect (e.g. future tourism).

**5. Using digital technologies to transform old into new.** Queensland has demonstrated its ability to embrace digital technology and draw on its existing expertise to harness new markets and develop new products and services. Queensland will need to address connectivity gaps and build digital capabilities to capitalise on opportunities to:

- Lead Australia's AgTech sector, which is predicted to be worth \$100 billion by 2030,<sup>8</sup> to meet rising global demand for innovative agriculture processes to improve efficiencies and crop yields.
- Drive growth through productivity gains from improved digital connectivity in regional communities that are currently least digitally developed and rate their telecommunication services poorly.<sup>9</sup>
- Improve economic resilience by building the digital capability of small businesses – the vast majority of all businesses in Queensland,<sup>10</sup> which also tend to be the least digitally adept.

## Strategic foundations

How do Queensland companies harness these opportunities and mitigate the risks?

**Defining a shared narrative for Queensland's future economy.** Queensland needs a clear and powerful narrative that reflects its strengths and positions the state for new and emerging growth opportunities. A vision is important for communicating Queensland's future direction externally, to the rest of Australia and the world, and also internally within the state. It will be important for Queensland to:

- Attract talent and business, in a mutually reinforcing cycle: talent is a good incentive for businesses to relocate, and employment opportunities are good for attracting people to work and study.
- Address strains that a rising population is placing on existing infrastructure: traffic congestion, for example, is a growing problem and is expected to cost Brisbane \$3 billion by 2020.<sup>11</sup>

**Playing to Queensland's strengths.** Queensland's strong traditional industries can be leveraged to diversify its economy and reduce economic reliance on a small selection of sectors. Transforming well-established industries can present new economic opportunities, particularly for regional areas which house much of the knowledge and experience in these industries. This could be enabled by:

- Digital technology, which has helped transform industries such as financial services (FinTech) and agriculture (AgTech). Technology could help Queensland diversify into emerging domains in food, education, energy, minerals, tourism and health.
- Tourism, which can also help to diversify industries such as agriculture, medicine and wellness. While Queensland might not be globally competitive on cost, the convergence between tourism and other industries could give rise to new niche premium markets, particularly in the Asia Pacific region.
- Access to cheap, reliable energy, which is important for keeping costs down in many industries, including agriculture and horticulture, and maintaining Queensland's competitive advantage.

### **Equipping Queensland with skills for the future.**

Access to talent with high quality skills is a prerequisite for growing Queensland's workforce and economy. To advance its knowledge-intensive industries, Queensland will need to get the skills balance right and provide appropriate education and training structures that help workers adapt to changing workforce requirements. This could be enabled by:

- Developing more flexible education models, offering 'micro-credentials', to allow workers to upskill and engage in active learning beyond the classroom.
- Identifying transition pathways for job seekers and workers, particularly those whose jobs are at risk of future disruption by automation or other factors.

### **Managing environmental and social barriers to growth.**

Queensland's rich supply of resources and strengths in the resources and energy sectors point towards a key role for the state in supplying Australia and the Asia Pacific with energy, research and expertise. For this to happen, key environmental and social barriers to growth need to be managed. This could be enabled by:

- A long-term, evidence-based energy strategy that aligns with Queensland's international environmental commitments. Future energy and resource supply will require a diverse resource mix that promotes emission reductions, meets consumer needs and incentivises investment.
- Strengthening Queensland's energy mix, growing its renewable energy sector and assisting workers in translating their skills to low-carbon jobs to ensure that the state keeps up with global shifts.
- A strong focus on maintaining community support and preserving the energy and resources sectors' social license to operate.

### **Supporting inclusive growth in Queensland's regions.**

Queensland's regional economies are at greater risk of disruption if they rely heavily on a single industry for growth. While the experience and expertise housed in these communities places them well for Queensland's future growth opportunities, they may struggle to diversify into unfamiliar areas. Regional communities could benefit from:

- Improved physical and digital connectivity of people and goods to international markets, which will encourage investment, both domestically and internationally.
- Greater capabilities in digital literacy to ensure regional communities can actively participate in the digital economy.
- Education opportunities, given that students who study in regional areas are more likely to stay in regional areas (65.7 percent) than move to an urban area (34.3 percent).<sup>12</sup>

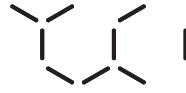
## **Next steps**

While the opportunities identified in this report are there for the taking, harnessing them will require deliberate action and a shift away from business as usual. This will involve:

- **Prioritising opportunities for growth.** Global competition for emerging markets is increasing. To be competitive, Queensland needs to be specific in the areas it chooses to focus on.
- **Forming a coordinated approach to growth.** Many of Queensland's future opportunities are multisector. A coordinated approach is needed to provide strong industry leadership for smaller players, and a unified approach to capability development, implementation and investment.
- **Develop an independent, non-partisan process to drive future growth.** There is a need for an unbiased process that can provide ongoing research, policy support and community engagement. This will help ensure future strategies remain relevant to changing operating environments.



# 1 OPPORTUNITIES FOR GROWTH



An ‘Opportunity for Growth’ is an overarching trajectory that reflects a cluster of smaller trends. Individually these trends might be specific to a particular issue, industry or point in time, but they are interrelated in ways that are likely to impact future supply and/or demand in a market. A shift in demand creates an opportunity to sell new products and services to new consumer segments. A shift in supply creates an opportunity to reach new markets through lower production costs or more efficient value chains. This report identifies five Opportunities for Growth that are set to shape Queensland’s economy over the next 10 years.

## An increasingly differentiated investment package

Queensland’s reputation as a liveable state is arguably one of its key assets, putting it in a strong position to attract people and grow its population. Its natural wonders and beaches, good climate, diversity and affordable housing prices have made it a go-to destination for people not only to holiday but to live, whether for work, retirement or raising a family. A similar competitive edge exists for doing business in Queensland, relative to other capital cities in Australia. Aviation infrastructure developments in the pipeline look set to further strengthen Queensland’s appeal for tourism and business, and could position Brisbane as the new gateway to Australia. The existing differentials in price and quality between destinations in Queensland and those elsewhere in Australia and the world are likely to widen.

This Opportunity for Growth is characterised by the following trends:

- **Queensland’s natural beauty and affordable housing enhance its liveability.** Queensland is home to five of Australia’s 12 World Heritage natural sites.<sup>13</sup> Its median housing price has risen by only 16.4 percent from 2012 to 2017 relative to growth of 62.1 and 41.7 percent in New South Wales and Victoria, respectively.<sup>1</sup>
- **Affordable housing could drive the next wave of interstate migration to Queensland.** While flows to Queensland have plateaued in recent years (see Figure 1), rising house prices in New South Wales and Victoria could drive interstate migration north, provided there are viable employment opportunities for people looking to move.<sup>14</sup>

- **Brisbane is developing an attractive environment for big business.** Its rent prices for office space are competitive,<sup>2</sup> and Queensland offers the lowest payroll tax rate in the country,<sup>16</sup> access to skilled workers, strong economic prospects and a stable public policy environment.
- **Airport developments are enabling greater flows of people and goods to Queensland.** Improved air travel infrastructure could transform Brisbane into the new gateway into Australia for passengers travelling from China, Japan and India<sup>17</sup> and connect Queensland’s regions and their goods globally.<sup>18</sup>
- **Queensland is quickly becoming more culturally diverse.** In 2016, almost one in four Queenslanders were born outside of Australia, up by 18 percent from 2006.<sup>19,20</sup> Cultural diversity can benefit workforce participation, productivity and per capita growth.<sup>21</sup>
- **Queensland’s labour market is attracting more female participation.** In line with national trends, female participation in Queensland’s labour market has increased gradually over the past few decades.<sup>22</sup> Greater diversity in the workforce is associated with enhanced creativity,<sup>24</sup> improved profits, increased sales and more customers.<sup>23</sup>

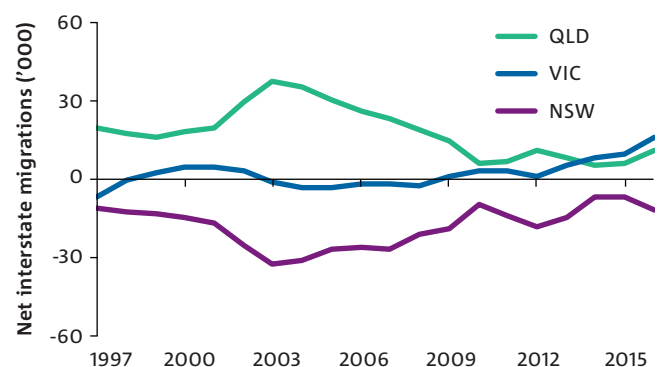


Figure 1. Net interstate migrations in Queensland, New South Wales and Victoria

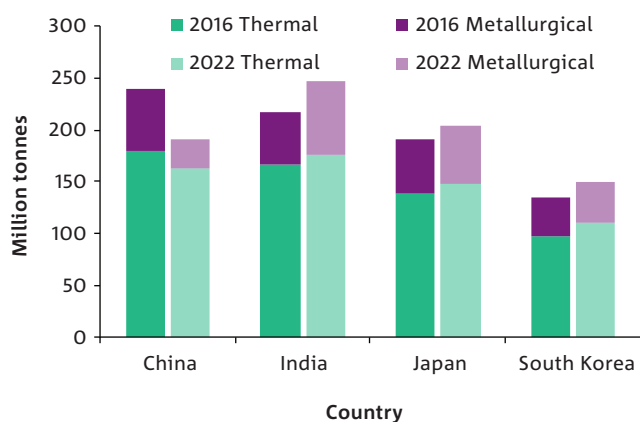
Data source: Australian Bureau of Statistics<sup>15</sup>

## A growing natural advantage

In an increasingly resource-constrained world, Queensland is in a strong position to meet global demand for natural resources. Continued demand for steel and rising energy consumption in parts of the Asia Pacific look set to sustain demand for Queensland's high-quality thermal and metallurgical coal in the medium-term. However, like many parts of the world, Queensland faces significant environmental challenges – notably the rate of waste production and extreme weather events. These challenges create opportunities for Queensland to develop more sustainable, low-carbon solutions, and export its knowledge and products to other economies. There is potential for Queensland to position itself as the energy hub of Australia, with opportunities to grow its resources and energy sectors through diversification.

This Opportunity for Growth is characterised by the following trends:

**Rising regional demands for Queensland's high-quality thermal coal and metallurgical coal.** A global divide has emerged for coal consumption, with declines in Europe and North America and increases in developing countries in the Asia Pacific.<sup>25</sup> While there is a great deal of uncertainty around future coal demand, demand for high-quality thermal and metallurgical coal from India, Japan and South Korea looks to continue at least in the medium-term (see Figure 2).



**Figure 2. Import demand for thermal and metallurgical coal across Asia Pacific regions**

Data source. Office of the Chief Economist<sup>3</sup>

- Queensland's minerals could fuel future technology developments.** Recent explorations have identified sites in Queensland containing highly sought-after rare earth elements,<sup>26</sup> which are commonly used in a range of advanced technologies such as fuel cells (scandium), mobile phones (tantalum), super-conducting magnets (niobium) and hybrid vehicle batteries (cobalt).<sup>26</sup>
- Growing the Sunshine State could generate more net jobs for the energy sector.** Queensland has the largest proportion in Australia of dwellings fitted with solar photovoltaic systems.<sup>27</sup> Under a scenario in which 50 percent of energy comes from renewable sources, it is predicted that Queensland could experience a net increase of 6,000 jobs from 2014 to 2030.<sup>28</sup>
- Opportunities to turn Queensland's waste into wealth.** It is estimated that for every 10,000 tonnes of waste, 9.2 jobs are directly generated for the recycling sector compared to 2.8 jobs for landfill.<sup>4</sup> In addition to the environmental benefits, Queensland therefore has an opportunity to create jobs by developing innovative ways to encourage greater recycling behaviour and reuse of resources.
- Growing the coal seam gas industry's exports and social license to operate.** Coal seam gas production in Queensland more than doubled between 2014-15 and 2015-16.<sup>29</sup> The industry has also been relatively successful in maintaining its social license to operate, with the majority of the Western Downs community accepting (35 percent) or tolerant (33 percent) of this development.<sup>30</sup>
- Managing impacts of climate change on the Great Barrier Reef is key for sustainable tourism.** It is estimated that the Great Barrier Reef contributed \$3.9 billion and 33,000 jobs to Queensland's economy in 2015-2016.<sup>31</sup> But this natural asset is under threat: between 1985 and 2012, coral cover declined from 28 percent to 13.8 percent due to tropical cyclones, natural predators and coral bleaching.<sup>32</sup>
- Developing better ways to manage extreme weather events could have huge savings for Queensland.** The 2011 Cyclone Yasi alone cost the tourism and agriculture industries \$600 million and \$1.6 billion respectively.<sup>33</sup> The costs of extreme weather events to Queensland's economy and environment require more effective risk management and crisis response strategies.



- **Australia’s environmental performance reflects a strong regulatory framework.** Australia is second only to New Zealand with regard to environmental policy performance in the Asia Pacific region.<sup>34</sup> Having a strong environmental reputation internationally will be an important competitive edge for Queensland as consumers increase their demand for more sustainable products and services.

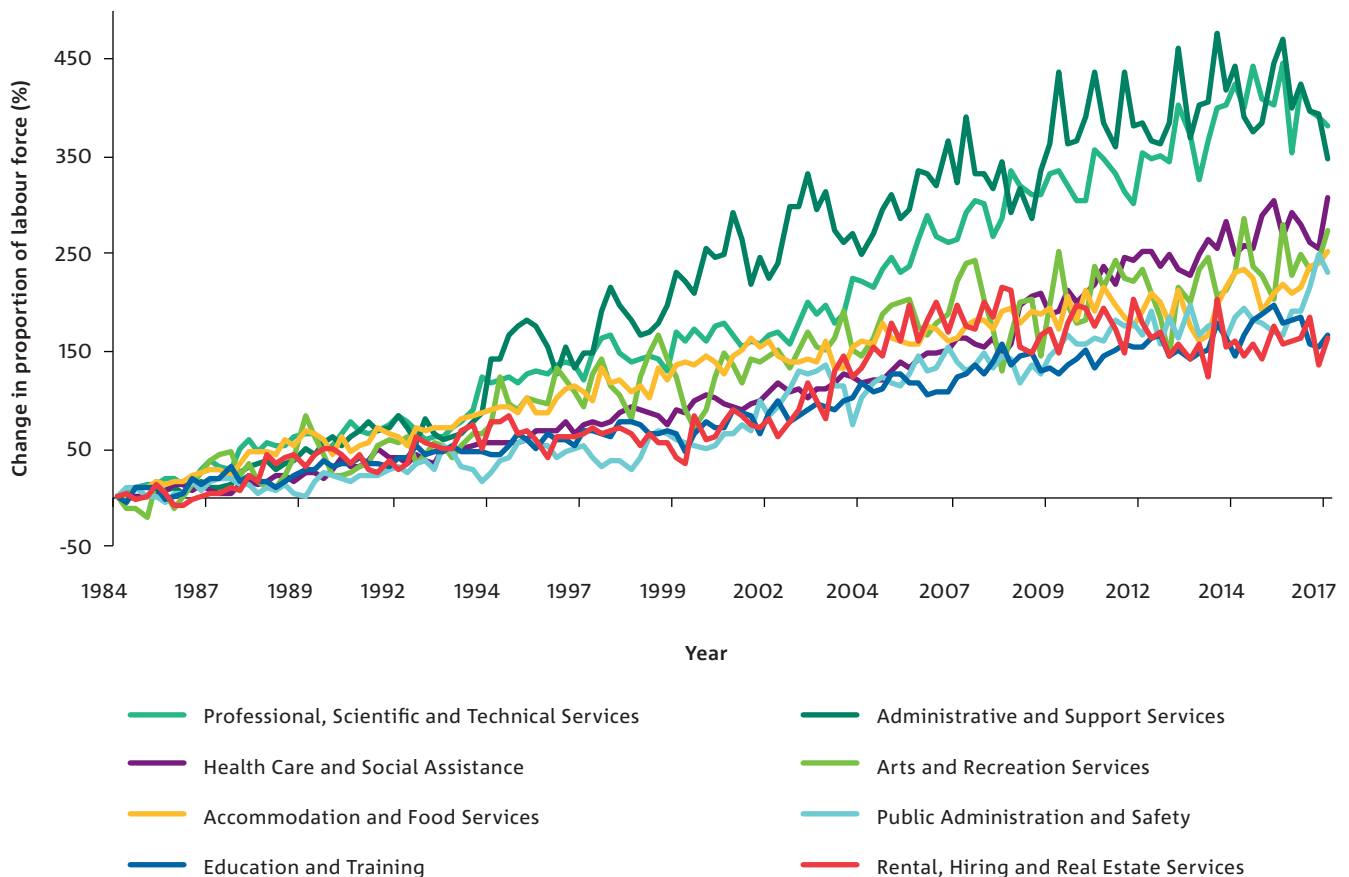
## An ‘advanced’ advanced services sector economy

With the downturn of the resources boom, Queensland is transitioning from a focus on exporting commodities to exporting advanced services, capitalising on new growth and job creation opportunities in knowledge-intensive and services industries. Professional services have been a key driver of growth in the state’s services sector, and in the rising number of technology startups in the state. Driven in part by its decentralised population, Queensland has the greatest proportion of startups and knowledge-intensive outputs outside of its capital city in Australia. If Queensland is to continue to grow its knowledge-intensive industries, it will need to ensure its education system keeps pace with evolving skill requirements and provides sufficient access to talent.

This Opportunity for Growth is characterised by the following trends:

- **Service industries are growing in Queensland.** Professional, scientific and technical services, administrative and support services, and health care and social assistance are among Queensland’s fastest-growing service industries (see Figure 3). The transition to a more knowledge-based economy is a positive sign, given its association with economic growth and productivity.<sup>5</sup>
- **Queensland is well-positioned to become the capital of Australia’s METS (mining equipment, technology and services) sector.** There is growing global demand for efficient and sustainable mining products and processes. Queensland has strong capabilities in this space, as evidenced by the Australian Government’s decision to base the new Australian METS Industry Growth Centre at the Queensland University of Technology.<sup>35</sup>
- **Queensland is moving up the technology startup ladder in Australia.** Queensland is home to the second-largest number of startup founders in Australia, with the greatest regional spread.<sup>36</sup> Continuing to foster innovation and entrepreneurialism across Queensland will be important in growing and diversifying its economy.
- **Queensland’s biomedical and life sciences industry has potential to grow.** Queensland has a rich and thriving life sciences industry: it employed 9,440 people in 2015-2016, and this is expected to grow to 12,420 by 2026 - an industry that the state government has prioritised growth in.<sup>37</sup> However, overcoming challenges such as commercialisation of research will be needed to leverage its full potential.
- **Queensland is the optimal location to kick-start Australia’s journey into space.** Queensland’s proximity to the equator puts it in a strong position to drive Australia’s space industry.<sup>38</sup> To capitalise on this opportunity, though, it will have to ensure sufficient access to skilled engineers – currently, engineering accounts for only 8 percent of higher education enrolments.<sup>39</sup>
- **Opportunities for education and training beyond the classroom.** With people retiring later in life,<sup>40</sup> and the changing nature of work and occupation requirements, there is an increasing need for flexible and adaptable forms of education and training. The ability to learn beyond the classroom is also important to employers, who rate active learning as the most important skill for their workforce.<sup>41</sup>





**Figure 3. Change in employment across the top eight employing service industries in Queensland, indexed to 1984 values**

Data source: Australian Bureau of Statistics<sup>42</sup>

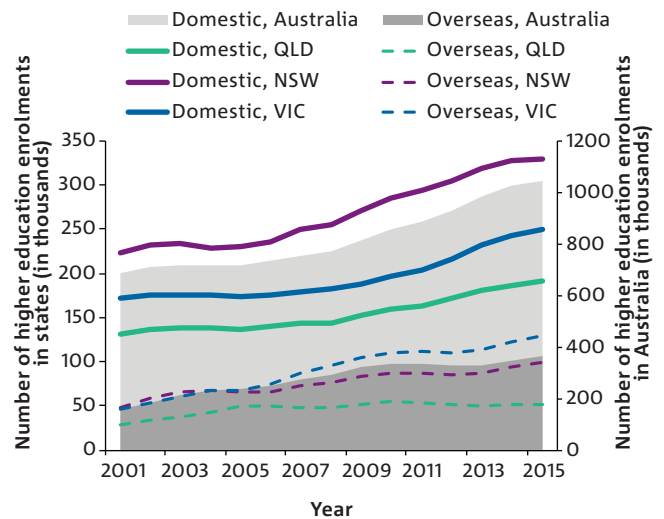
## Queensland’s got what future Asia wants

The Asia Pacific region continues to grow its share of the global economy, with more of its population moving from low- to middle-income brackets. The growth in Asian economies presents significant opportunities for Queensland to expand its market and meet emerging consumer demands in areas such as tourism, minerals, health, education and food. Queensland has existing capacity and a competitive advantage from its close proximity to Asian population centres, but it faces competition from other countries which are investing significantly in growth areas such as tourism and international education. If Queensland is to remain a dominant player in these markets, it will need to be competitive on cost or quality of products and services.

This Opportunity for Growth is characterised by the following trends:

- Asia continues to dominate the global economy.** The Asia Pacific accounted for approximately two-fifths of the global gross domestic product in 2015, an increase of 11 percentage points since 2000.<sup>43</sup> The world’s economic centre of gravity is continuing to shift east – having been over the Atlantic in 1980, it is predicted to fall between India and China by 2050.<sup>44</sup>
- The expansion of the Asian middle class remains strong.** Asia is expected to account for 66 percent of the global middle-class population by 2030.<sup>45</sup> The average disposable income in China rose from around \$3,600 in 2013 to \$4,300 per person in 2015.<sup>46</sup>

- **There is room to expand Queensland's service exports to Asia.** Queensland has increased the value generated by its service exports, with China showing the fastest growth.<sup>7</sup> But there are likely further opportunities to exploit: China's service imports in 2016 were valued at approximately \$594.3 billion,<sup>6</sup> of which only \$11.2 billion came from Queensland.<sup>7</sup>
- **Regional opportunities for high-value nutrition products.** Rising food safety concerns,<sup>47</sup> chronic illnesses,<sup>48</sup> and rapidly aging populations<sup>49</sup> have driven demand for high-value nutrition products in emerging markets. Queensland is well-positioned to supply them, given its geographical location, large number of organic producers and large area of certified organic farmland.<sup>50</sup>
- **The global tourism market is evolving and becoming much more competitive.** Australia is investing less in its tourism infrastructure than other countries: China, for instance, will increase its tourism investment from \$180.7 billion to \$379 billion between 2016 and 2027,<sup>51</sup> compared to Australia's increase from \$21.7 billion to \$27.6 billion.<sup>52</sup>
- **There is great value in growing Queensland's international higher degree enrolments.** Queensland is falling behind other states in the number of international enrolments in higher education (see Figure 4). This is a missed opportunity, given the direct economic benefits that international students bring to the economy,<sup>53</sup> and indirect benefits to the future tourism pipeline.<sup>54</sup>
- **Employability will be a key factor in securing future international students.** International students increasingly expect education institutions in their host country to provide viable career and employment outcomes.<sup>55</sup> This warrants attention, as Queensland's universities are behind those of other states in global employability rankings.<sup>56</sup>



**Figure 4. Number of higher education enrolments across Australia and within Queensland, New South Wales and Victoria**

Data source: Department of Education and Training<sup>39</sup>

## Using digital technologies to transform old into new

Queensland has embraced digital technologies to its benefit in several areas, including the AgTech sector: digital technologies have transformed traditional agriculture industry practices, making processes more efficient and improving their environmental impact. On broadband network coverage and speed, however, Australia fares poorly compared to other countries in the Asia Pacific. Queensland's regions tend to be especially disadvantaged, a problem exacerbated by poor digital literacy. This is a particular challenge for small businesses which need to embrace digital technologies to compete with larger players. Task automation will likely affect Queensland's future workforce in all industries, though there is much uncertainty about how and to what extent.

This Opportunity for Growth is characterised by the following trends:

- **Queensland is leading Australia in the provision of digital health care services.** Key milestones were the opening of Australia’s first digital hospital in Hervey Bay<sup>57</sup> and the transformation of Brisbane’s Princess Alexandra hospital to become Australia’s first large-scale digital hospital.<sup>58</sup> Digital technologies will likely drive future health care services.
- **Queensland’s AgTech industry is growing in line with global trends.** Innovation and technological adoption in AgTech could see it become Australia’s next \$100 billion industry by 2030.<sup>8</sup> Queensland is keeping pace with this growing trend, with 17 percent of its regional startups focused on agriculture.<sup>59</sup>
- **Business information modelling could foster a more efficient construction industry in Queensland.** It has the potential to drive efficiency, value for money, productivity, innovation and safety.<sup>60</sup> As construction is one of Queensland’s largest industries,<sup>61</sup> it could generate huge time and cost savings.
- **Improving Australia’s broadband network would better connect Queensland globally.** Australia has the poorest broadband internet in the Asia Pacific, ranked in 8<sup>th</sup> place behind countries including New Zealand, Singapore and Thailand.<sup>62</sup> Reliable access to the internet is important for connecting regional areas to city centres, providing critical services over distance and enabling more flexible work models.
- **Improving mobile and internet services would drive productivity in rural and regional Queensland.** Telecommunication services in rural and regional locations are rated more poorly in Queensland than the rest of Australia.<sup>63</sup> Addressing internet services yields the highest productivity gains in regional areas which are less digitally developed.<sup>9</sup>
- **Digital literacy needs to be improved to address digital inclusion.** Digital inclusion is important because it is closely related to social and economic participation in the modern world.<sup>64</sup> The extent of the digital divide between Queensland’s regions and its capital city is largely driven by low levels of digital ability.<sup>64</sup>

- **Small businesses – the backbone of Queensland’s economy – need to be more digitally capable.** Small businesses, which make up 97.4 percent of Queensland’s businesses,<sup>10</sup> are less likely to have a web or social media presence or to place and receive orders online.<sup>65</sup> Building capacity among small businesses would be beneficial in enabling them to compete in a global market.
- **Skills in complex, non-routine problem solving will be safest from future automation.** While there are many uncertainties around the future impact of task automation on Queensland’s workforce, it will likely impact both ‘blue’ and ‘white’ collar industries.<sup>66</sup> Advances in technology are predicted to place greater emphasis on human skills in the non-routine, complex and unstructured aspects of occupations.<sup>67</sup>
- **Attracting investment could help fuel Queensland’s culture of innovation and entrepreneurialism.** Access to finance, particularly for early-stage startups, is a key barrier to Australia’s propensity for innovation.<sup>68</sup> This has been in part driven by a paucity of venture capital and later stage private equity, which have remained stubbornly low in Queensland (see Figure 5).

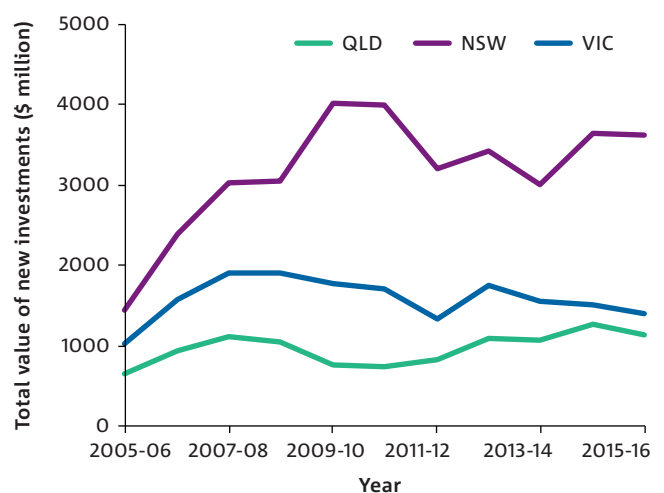
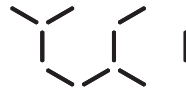


Figure 5. Total value of new investments across Queensland, New South Wales and Victoria

Data Source: Australian Bureau of Statistics<sup>69</sup>



# 2 STRATEGIC FOUNDATIONS



The Opportunities for Growth point to many plausible future directions for Queensland, identifying areas of competitive advantage which could provide new sources of economic growth, encourage investment and generate jobs. But how do Queensland companies harness these opportunities and mitigate the risks? Informed by consultations with industry leaders, this section explores the strategic foundations that will enable Queensland to capitalise on these future growth opportunities, and how industry can drive change.

## Defining a shared narrative for Queensland's future economy

Queensland has been marketed in a range of different ways over the years, but these campaigns have not provided a long-term vision. Taking advantage of the new and emerging growth opportunities presented in this report depends on creating a clear and powerful narrative that reflects Queensland's strengths and communicates its future direction both within the state and externally, to the rest of Australia and the world.

### FUTURE DIRECTIONS FOR GROWTH

**Attracting talent and business.** Queensland does not have a strong base of large businesses, with its companies making up only 6 percent of the ASX's \$1.7 trillion total market capitalisation.<sup>70</sup> However, Queensland offers multiple incentives for companies to base their headquarters in South East Queensland or other major regional centres. Emphasising these in Queensland's narrative could help the state to attract businesses and talent in industries it is looking to grow. This, in turn, could also entice more international students to study in Queensland – an area where enrolments have stagnated in recent years.

Queensland could further improve its ability to attract talent and business by:

- Supporting diversity of employment models and shorter core business hours to enable greater flexibility around when workers perform their duties. This could accentuate the lifestyle benefits of working in Queensland and reduce strain on infrastructure during peak times.

- Encouraging businesses to invest more in corporate social responsibility, which not only improves a company's competitive advantage, reputation and performance,<sup>71</sup> but is also attractive to job seekers.<sup>72</sup>

**Addressing traffic bottlenecks.** Attracting more people to Queensland comes with the risk of increasing strain on existing infrastructure. Some industry leaders identified transportation as a current limitation on Queensland's ability to grow its economy: the total social cost of congestion in Brisbane is predicted to rise from \$1.3 billion in 2006 to \$3.0 billion by 2020.<sup>11</sup> Tackling traffic bottlenecks will be a key part of incentivising people to relocate to Queensland to live and work.

## Playing to Queensland's strengths

Queensland's economic strengths – notably resources, tourism, agriculture, construction, and education and training – have provided a strong foundation for its economy. However, many of these industries depend not only on population growth and the environment but also on global export markets, making them susceptible to 'boom and bust' patterns. Diversifying existing industries and creating new ones can help spread economic activity and reduce reliance on any one industry for growth. Transforming well-established industries can present new economic opportunities, particularly for regional areas which house much of the knowledge and experience in these industries. Queensland has been successful in building the knowledge-intensive components of mining (METS) and agriculture (AgTech), but can further leverage its strengths here.

### FUTURE DIRECTIONS FOR GROWTH

**Technological innovation.** Technological innovation can transform existing industries. For example, Sydney is now home to 59 percent of Australia's financial and technology services companies.<sup>73</sup> Key drivers of Sydney's success included its access to talent, government and regulatory support, a robust financial services industry and technology startup network, availability of funding for startups, and strong industry leadership for a FinTech hub.<sup>74</sup>

Similar strengths exist in Queensland's agriculture (AgTech) and mining sectors (METS), as highlighted in Chapter 1 (*using digital technologies to transform old into new*). However, to realise the potential of technology to transform its existing industries, Queensland will need to develop a global brand for these industries and address issues around access to workers with the right skills mix.<sup>59,8</sup> Strong industry leadership could help provide a clear vision and assist in attracting talent and investment to Queensland.

**Using tourism to diversify.** Like digital technology, tourism has the potential to transform Queensland's existing industries. Two possible examples include:

- Agri-tourism, which can help regional communities expand agricultural activities and provide new sources of employment.<sup>75</sup> It can also increase awareness of the need to protect natural resources and amenities (*a growing natural advantage*).<sup>76</sup> Food safety and security concerns in Asia (*Queensland's got what future Asia wants*) suggests there could be strong demand for agri-tourism in the future.
- Wellness and medical tourism: the rise in chronic diseases has increased demand for high-value nutrition products, and could also fuel demand for high-quality health services. There is already strong global and domestic (i.e. Melbourne) competition for health tourism.<sup>77</sup> While Queensland will not be competitive on price, it could be competitive on quality, offering premium medical tourism services.<sup>78</sup>

**Energy costs.** Cheap electricity used to be a key value proposition for Queensland, but this competitive advantage is diminishing. While rising energy costs affect all industries to some extent, they have a greater impact on energy-intensive industries such as agriculture and horticulture.<sup>79</sup> The ability of these industries to grasp future growth opportunities and remain competitive in global markets will depend upon how well they can manage operating costs.

## Equipping Queensland with skills for the future

Access to talent with high quality skills is a key barrier to innovation for Australian businesses.<sup>80</sup> Addressing this barrier relies in part on aligning the skills people gain

from education and training providers with those being demanded by employers. If Queensland is to continue to advance its knowledge-intensive and services industries, it will need to get the skills balance right and provide education and training structures that allow workers to adapt their skills to changing workforce requirements.

## FUTURE DIRECTIONS FOR GROWTH

**More flexible education models.** Industry leaders felt current education models were poorly focused on relevant skills development or were out of sync with business cycles. There is a need for more agile education models, offering 'micro-credentials' through which individuals can upskill in specific clusters of skills required for their work. The vocational education and training sector could fill this need, presenting an opportunity to boost its enrolment levels, which are currently stagnant in Queensland and other states.<sup>81</sup>

**Transition pathways for workers.** It will be critical that Queensland supports people in transferring their skills to meet employment needs being created by new and growing industries. The need for employment options that assist disadvantaged or low-skilled communities, in particular, could become increasingly important with the introduction of the Australian Government's National Disability Insurance Scheme. The not-for-profit sector already plays a key role in providing employment opportunities for disadvantaged or low-skilled members of the community through community recycling enterprises,<sup>82</sup> and this could increase in the future.

## Managing environmental and social barriers to growth

*A growing natural advantage* illustrated the strengths of Queensland's resources and energy sectors and the opportunities that can come from addressing the state's key environmental challenges. These challenges are not unique to Queensland – many other states and countries are grappling with them, too. To leverage these new growth opportunities, Queensland needs to get the fundamentals right by developing a long-term strategy for the energy sector, managing its international environmental commitments and securing community support for industry developments.

## FUTURE DIRECTIONS FOR GROWTH

**A long-term energy strategy that aligns with environmental commitments.** If Queensland is to become the energy hub of Australia and the Asia Pacific, it will require a long-term, evidence-based strategy for the resources and energy sectors. At present, industry leaders feel these sectors' strategic direction is disjointed, which can limit new developments, long-term industry planning and the ability to attract foreign investment. A long-term energy strategy will need to take into account Australia's international commitments to reduce its national emissions by 26-28 percent of 2005 levels by 2030.<sup>83</sup>

**Growing the energy mix.** *Queensland's got what future Asia wants* envisaged promising medium-term demand for Queensland's high-quality thermal and metallurgical coal in Japan, India and South Korea. There is great uncertainty around future thermal coal demands, however, particularly from developed countries. This emphasises the importance for Queensland to continue to diversify its energy mix, grow its renewable energy sector and assist workers in translating their skills to low-carbon jobs.

**Preserving social license to operate.** The success of Queensland's resources and energy sectors will depend on public sentiment. Queensland's resources industry is more than just thermal coal and coal seam gas: it also has a strong base in metallurgical coal and minerals, which both have promising future growth prospects. Raising public awareness of the range of ways in which the resources sector contributes to the economy, as well as having a long-term energy strategy, could help improve the sector's social license to operate.

## Supporting inclusive growth in Queensland's regions

While focusing on a single industry has put regional economies at risk of 'boom and bust' patterns, it has also allowed many regions to develop strong expertise and experience in traditional industries – many of which feature in future growth opportunities for Queensland. It can be a challenge for regions to diversify their economies, however, and pursue new and unfamiliar growth opportunities.

## FUTURE DIRECTIONS FOR GROWTH

**Connectivity, both physical and digital.** Using drivers such as technology and tourism to diversify Queensland's existing industries relies on good digital infrastructure. Efforts are already being made to improve digital connectivity in regional Queensland through the provision of what will be Australia's largest public Wi-Fi network.<sup>84</sup> This initiative, driven by six local government areas in Central Western Queensland, aims to enable businesses and tourism operators to better understand their visitor markets and anticipate future demand, and enable visitors to find tourist attractions and share their experiences online.<sup>85</sup>

Physical connectivity is equally important. Lack of streamlined infrastructure between road, rail and ports is a significant pain point for many industries that rely on efficient logistics, limiting their ability to diversify and access new markets. Some industry leaders feel that common industry benefits could come from investment in infrastructure such as cruise ship terminals and airports, but these might not be well communicated. Support for future developments could be gained by clear messaging about how people and businesses across sectors stand to benefit.

**Improve digital inclusion.** *Using digital technologies to transform old into new* pointed to digital ability as a key barrier for people in regional areas and small businesses adopting digital technologies. In response to these challenges, the Australian Digital Inclusion Alliance was established in 2017 to raise awareness and drive collective action around issues of digital inclusion including digital access, affordability and abilities.<sup>86</sup> There could be a role for private and not-for-profit organisations in driving a similar initiative in Queensland.

**Tertiary education in regional areas.** The location of tertiary education can impact the prosperity of regional communities. Students who study in regional areas are more likely to remain (65.7 percent) than move to an urban area (34.3 percent), demonstrating the importance of higher education options for ensuring the economic sustainability of these communities.<sup>12</sup>





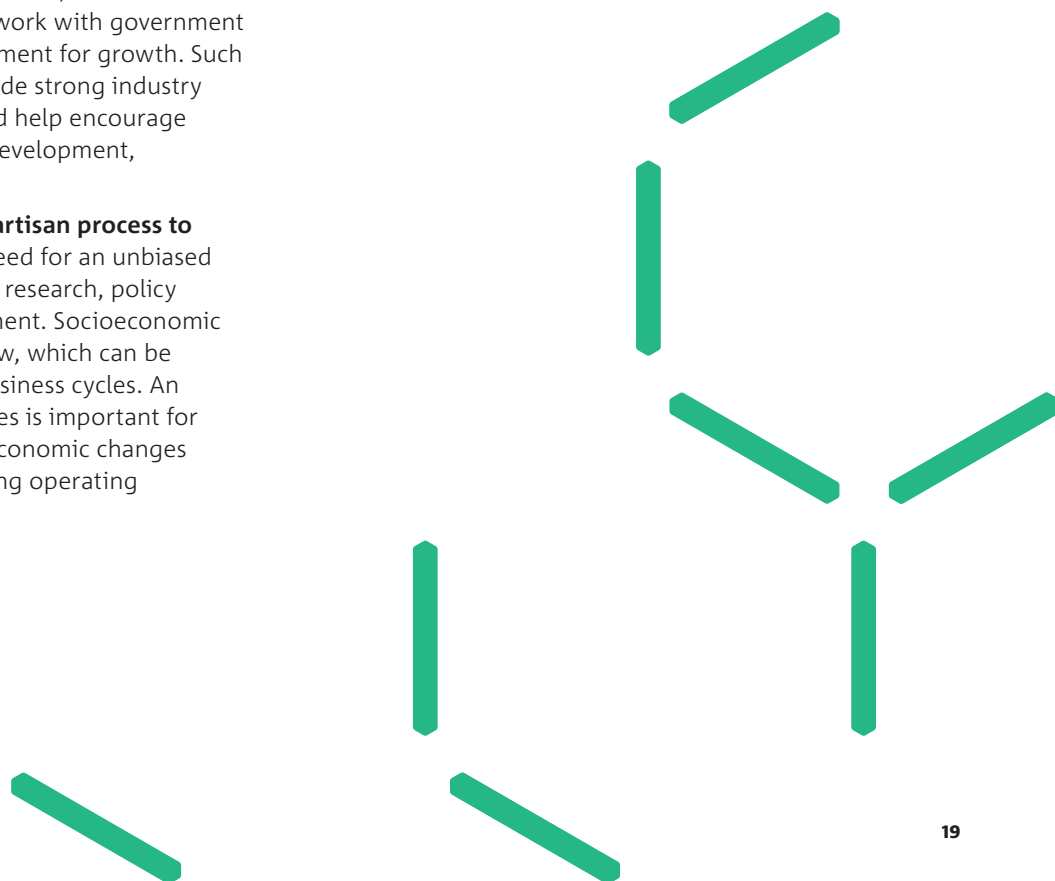
# 3 NEXT STEPS



A multitude of factors shape plausible future trajectories for Queensland, from its ageing population to the burgeoning consumer markets of the Asia Pacific. All trends point to a period of transformation for Queensland and its economy: over the coming decade, it will become increasingly important to adapt to change and identify new ways to grow and diversify Queensland's industries and employment options. While opportunities are there for the taking, there is the need to shift away from business as usual and take deliberate action to ensure that Queensland is able to harness its new options to grow its economy. Queensland needs to:

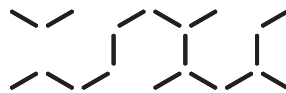
- **Prioritise opportunities for growth.** Which of the many opportunities to diversify and grow its economy should Queensland pursue? Global competition for emerging markets is increasing, and to be competitive, Queensland needs to be specific in the areas it chooses to focus on. This is a direction that industry can champion. The chosen opportunities for growth will ultimately guide the broader vision for Queensland's future direction, and help to signal confidence for future talent, business and investment.
- **Form a coordinated approach to growth.** Many of Queensland's future opportunities do not rest on any single industry or sector. They will require collaboration between industry, research institutions, education providers and communities, and work with government to create the appropriate environment for growth. Such a coordinated approach can provide strong industry leadership for smaller players, and help encourage a unified approach to capability development, implementation and investment.
- **Develop an independent, non-partisan process to drive future growth.** There is a need for an unbiased process that can provide ongoing research, policy support and community engagement. Socioeconomic progress requires a long-term view, which can be a challenge given political and business cycles. An ongoing review of future strategies is important for adapting to political, social and economic changes and remaining relevant to changing operating environments.

The Queensland economy of 2027 will likely look different from today – and it is in a strong position for future growth. This report shows the intersections between different industry sector needs in Queensland and the opportunities for Queensland to harness its existing expertise and strengths to diversify its industries and make the economy more resilient. With new markets come new competitors and other challenges, emphasising the need to take calculated risks and investments. With a clear vision for growth, Queensland is well placed to succeed in the decades to come.





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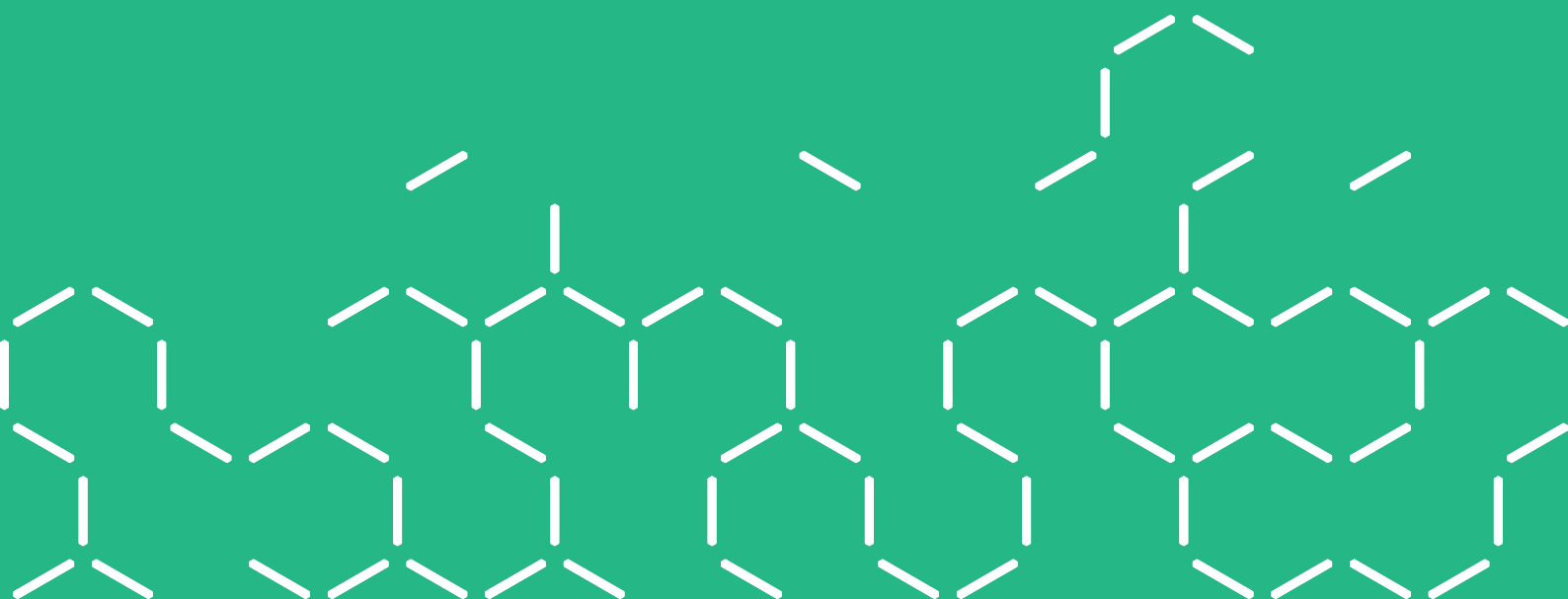


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