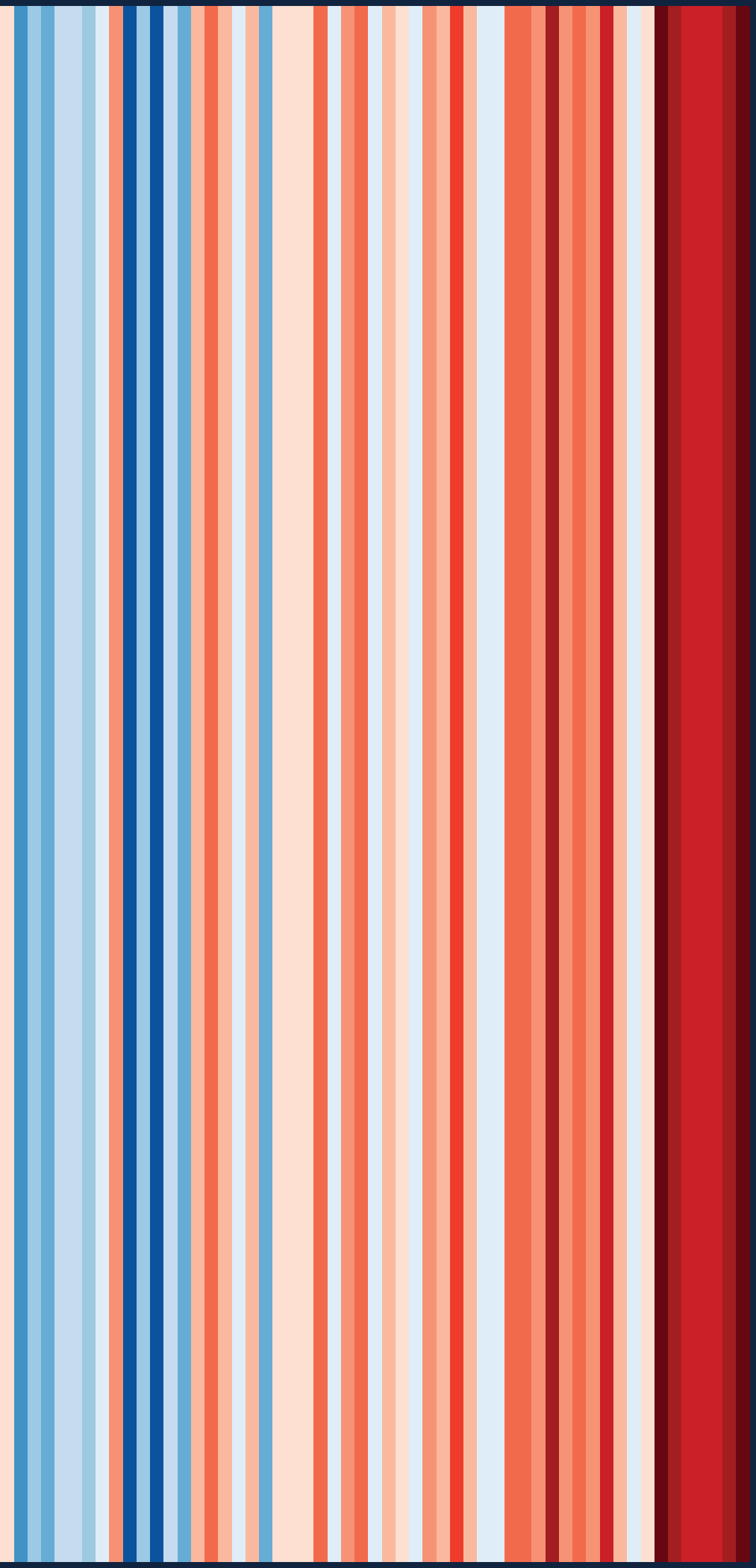


QLD MPP 2020

Queensland Major Projects Pipeline 2020

A joint initiative

QMCA

IAQ

We are proud to introduce the 2020 Queensland Major Projects Pipeline Report to you – an initiative of the Queensland Major Contractors Association (QMCA) and the Infrastructure Association of Queensland (IAQ).

Nowhere else in Australia do infrastructure peak bodies consult so closely with both their respective governments, government-owned corporations and private sector proponents to accurately chart the status of all major projects in their home state.

The outcome of this collaboration is an authoritative report which describes the scale, timing and location of all major engineering projects being considered or developed in Queensland.

For 2020 we have moved away from printing the large static report and placed greater emphasis on digital. All your detailed information and in-depth analysis can be found at our dedicated website – qldmpp.com.au – where, for the first time, you will also be able to search and sort data in the pipeline project listing.

In another first, we will issue two updates to the report during 2020. In June we will provide an update addressing projects advanced in both the State and Federal budgets and another update addressing the State election in October.

The Queensland Major Projects Pipeline Report (QMPPR) 2020 presents mixed news for the major projects industry. At just over $50b, the five-year pipeline is larger than in 2019. However, this is due to the addition of $9.4b in unfunded works, mainly backed by the private resources sector. The public sector continues to do the heavy lifting.

Globally, the pressure on governments to build more and more infrastructure and deliver services keeps growing without a sufficient income base. Queensland is one of Australia's largest states and with its growing and dispersed population, feels this burden acutely. Public spending is under pressure from competing needs with ever increasing community needs for spend on health and education as well connecting infrastructure in transport, water, energy and digital.

Queensland needs to secure more financing without placing an unsustainable burden on public borrowing or taxation. Increasing private sector spend on economic enabling public infrastructure is crucial to increase sustainability and maintain liveability.

The south east Queensland (SEQ) City Deal and a successful bid for the 2032 Olympics would be great catalysts to lift business confidence and attract more private funds.

We live in uncertain times. This year Australia has lived through one of the worst bushfire seasons in living memory. While some may question whether the bushfires are linked to climate change, the evidence that climate change is real cannot be ignored as our report cover graphically illustrates. Combined with accelerated biodiversity loss, increased natural disasters, infectious diseases, the water crisis, geopolitical tensions and technological changes, the long-term global outlook is hard to predict.

For these reasons sustainability and resilience are key themes in the report. As well as our traditional focus on the economic sustainability of the industry, we also explore issues related to environmental sustainability such as the need for action to make Queensland's existing infrastructure more resilient to natural disasters, what new infrastructure is required to combat the effects of climate change and what we can all do to address the causes and impacts of climate change.

Sincere thanks go to our partner BIS Oxford Economics for their expert guidance, compilation of the project listings and the detailed independent analysis that underpins the report. We also would like to thank our report sponsors whose support enables us to provide such in-depth analysis.

Jon Davies
Chief Executive Officer
QMCA – Queensland Major Contractors Association

Priscilla Radice
Chief Executive Officer
IAQ

Queensland Major Projects Pipeline Report 2020 is a joint initiative of QMCA and IAQ.

The creation of this report is supported by BIS Oxford Economics and Struber.

Visit the website for the full report, including an interactive database of the projects in the pipeline.

qldmpp.com.au

Online you will find the detailed analysis:
Executive summary
Interactive project list
State pipeline outlook
Regional pipeline outlook
Sustainability insights
Economic summary
Construction outlook

Supported by

JOHN HOLLAND

QLD MPP 2020

This pipeline report gathers data from 222 projects, each with a value of $50m+, organised into 11 sectors.

RIGHT
Distribution of the project pipeline by sector.

The long standing Queensland Major Projects Pipeline Report (QMPPR) is developed by the Queensland Major Contractors Association (QMCA) and the Infrastructure Association of Queensland (IAQ).

The QMPPR has become the barometer of current and future major project activity, and construction industry conditions in Queensland. The online report provides a comprehensive list of major infrastructure projects and an analysis on the corresponding level of construction activity based on both the completion of existing projects and the likelihood of potential projects proceeding.

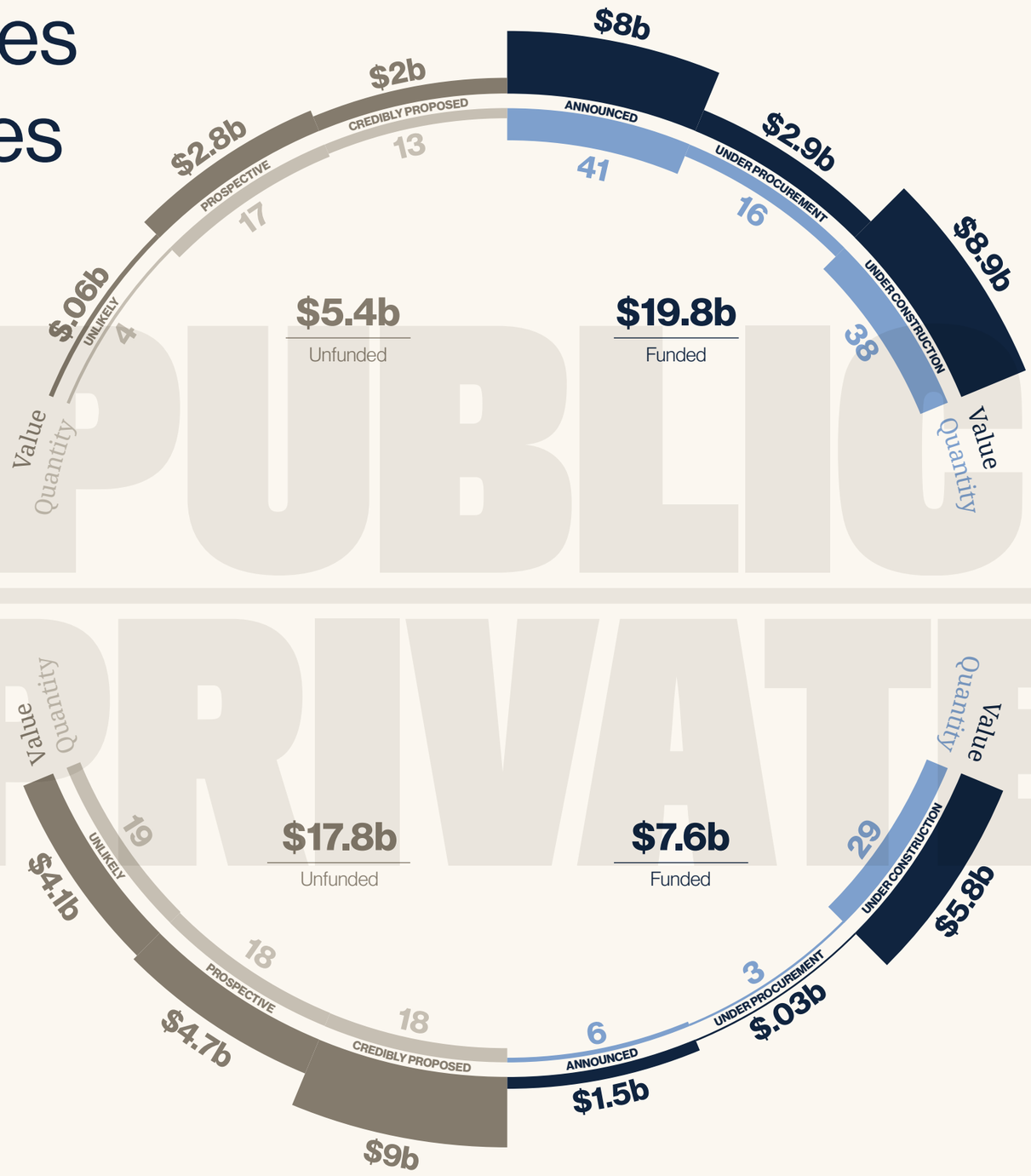
The list includes all engineering construction projects in excess of $50m. It was developed by BIS Oxford Economics with QMCA and IAQ member input throughout November 2019 to January 2020.

A complete list of major projects has been considered for this analysis (and is available online at **qldmpp.com.au**) including explicit assumptions of work done for each project.

In June we will provide an update addressing projects advanced in both the State and Federal budgets and another update addressing the State election in October.

To see the report in its complete detail and use the interactive project list, visit **qldmpp.com.au**.

Pipeline outlook
– risks, challenges and opportunities



RIGHT
Public and private pipelines distributed by stage in funding lifecycle.

There is $50.6b in total major project work in the pipeline between 2019/20 and 2023/24 inclusive. This is comprised of $27.4b in funded work and $23.2b in unfunded work.

Maintaining a growing pipeline of major project work requires shifting currently unfunded projects into the funded category, as well as growing the value of the pipeline overall. While the most likely scenario for major project work excludes “unlikely” projects, these are included to show their potential impact on major project work, particularly later in the forecast.

The analysis is based on a considered view of both funded and unfunded projects. The funded forecast view is similar to a “worst case scenario” outlook, should international developments or public sector finances deteriorate significantly, or the combination of threats to the Queensland construction industry remain unaddressed.

Unfunded categories

Unlikely
Projects considered not to occur in the next five years, even if announced. There are $4.6b in unlikely projects in the pipeline.

Prospective
Projects considered likely to occur over the next five years but not yet formally proposed. There are $7.5b in prospective projects in the pipeline.

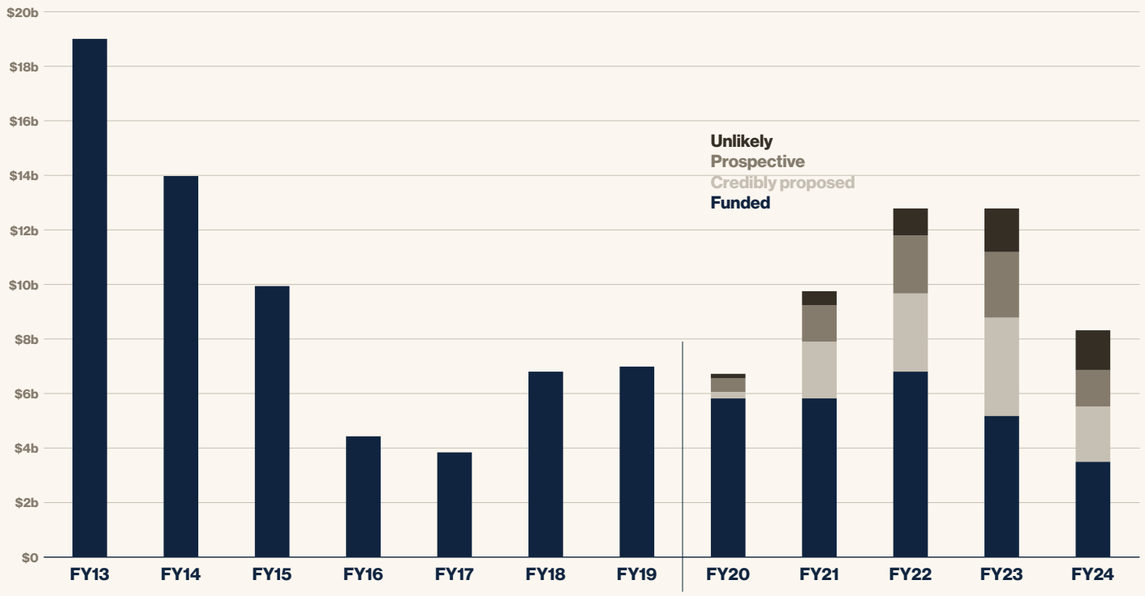
Credibly Proposed
Projects that are supported by governments and/or the private sector but still in prefeasibility/ business case mode and therefore do not have funding committed. There are $11b in credibly proposed projects in the pipeline.

Funded categories

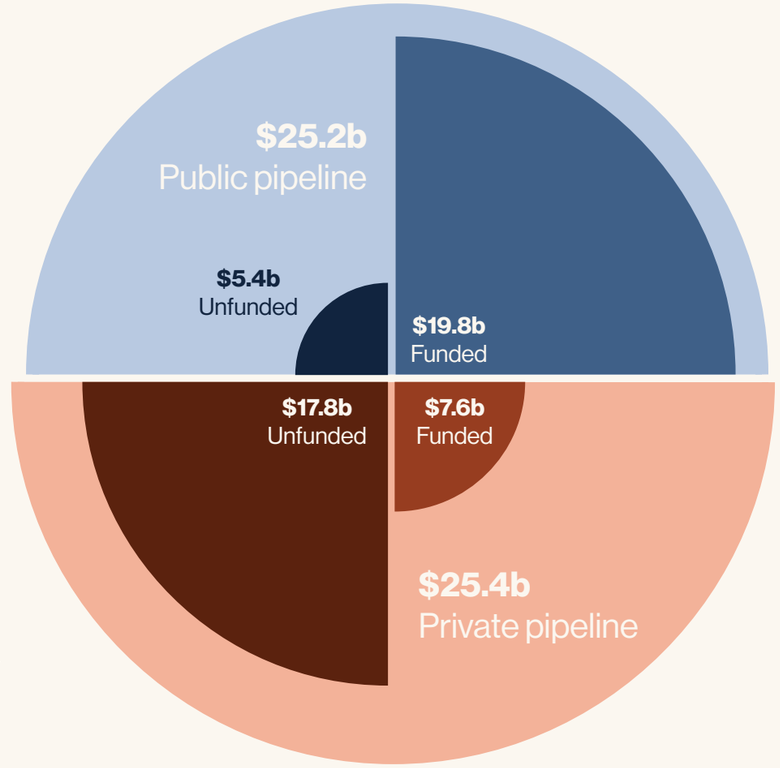
Announced
Projects which have funding support but have not yet entered the procurement stage (as at January 2020). There are $9.5b in announced projects in the pipeline.

Under Procurement
Projects in a procurement stage but have not yet started construction (as at January 2020). There are $3.2b in projects under procurement in the pipeline.

Under Construction
Projects under construction or completed in 2019/20. There are $14.7b in projects currently under construction in the pipeline.



ABOVE
Distribution of funded to unfunded projects over the next five years.



RIGHT
While totals for public and private outlooks are similar, much of the private pipeline remains unfunded.

The total size of the pipeline has increased significantly by the addition of $9.4b in unfunded work. Funding some of these projects could see funded work rise back above 2018/19 levels – and potentially much higher.

With greater visibility on upcoming projects, the total outlook for major projects has improved compared to the QMPPR 2019. The total activity forecast for 2022/23 is now $4.4b larger than the QMPPR 2019 forecast, with the expansion in major project activity to $12.9b by 2022/23. This is comprised of $5.2b in funded work and $7.7b in unfunded work.
The previously forecast setback in the current financial year has come to pass and activity in 2019/20 is expected to reach $6.6b. This is $391m lower than 2018/19 and $727m of this figure remains unfunded. While this is significant, it is unlikely to be as severe as previously predicted. The Australian Government's $1.9b transport package announced in November 2019 has expedited project timings and offset the decrease in funded projects in other sectors.
All segments except roads and bridges saw an increase in unfunded work since last year, however 72% of the increase in unfunded work ($6.7b) is from the resources and heavy industry sector, and includes major additions to the pipeline across coal, gas and minerals projects. Consequently, the large increase in resources-related unfunded work also impacts heavily on the unfunded pipeline and outlook volatility for key resources regions including Mackay-Isaac and Outback.

The strong increase in unfunded resources-related works points to work done in previous years to bring projects to feasibility stages. However, the uncertain outlook for global growth, commodities demand and prices continues to drive delays in investment decisions. While the lack of funding is concentrated heavily in resources and heavy industry, rail, roads and water projects see a similar decline in funding in the five-year pipeline. The major project construction decline in the final year of the five-year pipeline is not unusual because the infrastructure project funding horizon is closely tied to Government and large corporation budget cycles. The 2020 Pipeline reveals a number of challenges and risks, but there are also substantial opportunities and potential.

This year the strong disconnect between public and private investment is becoming more pronounced.

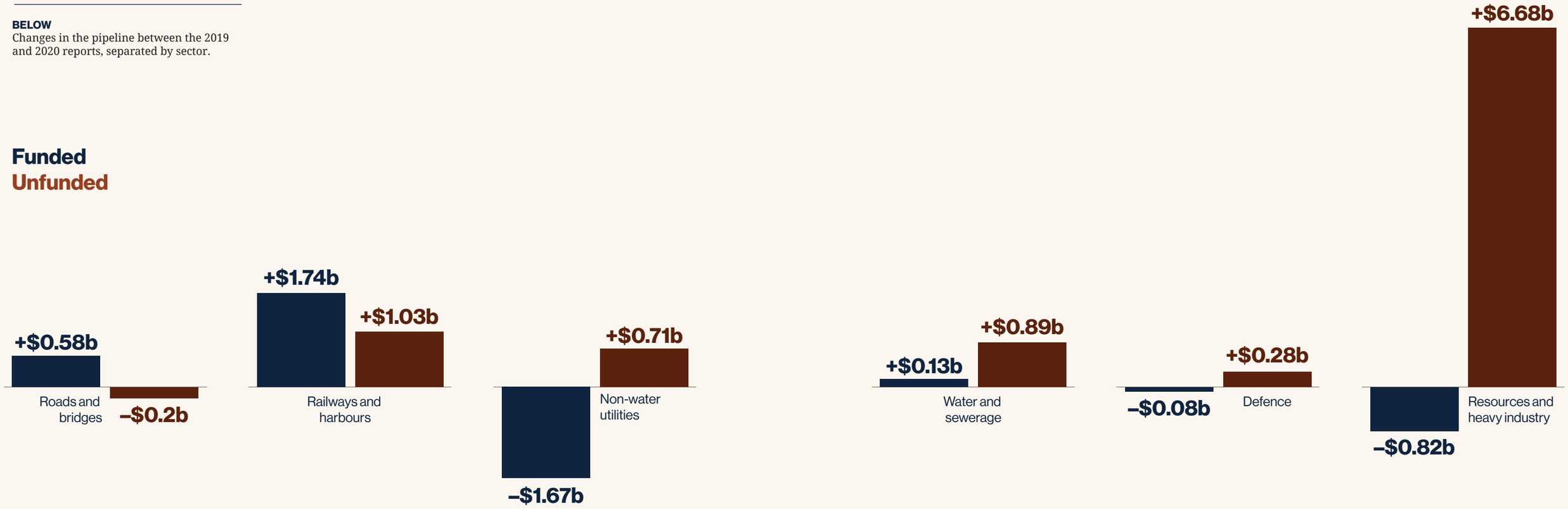
Private sector funding is a persistent weak point in the pipeline. Last year, the value of funded private sector work was $8.3b, compared to $7.6b in this report. More worryingly, the value of privately funded work announced or under procurement has nearly halved from $3.5b last year to just $1.8b this year.

The split of public to private major project activity is almost 50/50 however nearly 80% of publicly-backed major projects are funded compared to 30% for the private sector.

The number and sheer size of unfunded private sector-backed projects in the pipeline means this situation can turn quickly. But for now, the public sector is being asked to do more of the 'heavy lifting' to maintain the stability of the funded pipeline. As global economic conditions improve through the 2020s (barring further shocks), it can be expected that some of the currently unfunded resources projects will proceed. This highlights the critical importance of finding ways to attract private sector dollars into public infrastructure in Queensland and gaining community acceptance.

The largest driver of engineering construction in Queensland is publicly funded transport projects. Only four of the unfunded publicly-backed projects are considered unlikely compared to 19 projects originated by the private sector. Much of this difference lies with resources and heavy industry, where return on investment is more volatile and strongly tied to commodity prices and general economic conditions. The long term structural issues facing the thermal coal sector in particular puts a significant portion of the $8.7b unfunded coal pipeline at risk. There are also a large number of unfunded privately-backed major projects in electricity.

BELOW
Changes in the pipeline between the 2019 and 2020 reports, separated by sector.



The value of the funded pipeline is similar to last year's, but there are significant variations by sector and some sectors simply lack projects to sustain growth.

There is a growing volume of water and resources project work in the pipeline, although much of it is unfunded. Water and sewerage major project work rises from $488m in 2019/20 to $1.1b by 2022/23. Funded resources and heavy industry major work in the pipeline has declined $800m since last year, but the pipeline rises $3.6b by 2022/23. At their respective peaks, however, 67% of water and sewerage projects (principally dams) and 62% of resources and heavy industry projects remain unfunded.

The gas pipeline major project work is currently very weak – the completion of the North East Gas Interconnector in 2017/18 has left a gap in activity. The minimal construction remaining is mostly supported by the Roma East Gas Project and the Arrow Bowen Pipeline as part of the ongoing development of the coal seam gas fields and LNG processing facilities in Queensland.

Non-water utilities activity, comprising mostly electricity and telecommunications work, is expected to suffer the most. Major project activity declines from $2b in work done in 2018/19 to just $56m in 2023/24. This is a consequence of major project completions, such as the National Broadband Network (NBN), with no large replacements in the pipeline to compensate. It is also reflective of the falling work done on renewable energy generation projects since the 2018/19 peak. The considerable policy uncertainty at the Australian Government level is also likely contributing to the lower levels of investment.

It should be noted that this sector is typically more volatile than sectors such as transport and, as such, the outlook can shift quickly if new projects emerge or are funded. Given the positive outlook for new renewable generation requirements in Queensland as part of Australian Energy Market Operator's (AEMO) Draft 2020 Integrated System Plan (ISP), it is likely that new projects will originate in this sector in coming years. The Queensland Government has successfully led renewable energy investment, and has recently called on the Australian Government to support more investment in renewable energy via the Northern Australian Industry Fund. Exploring this concept has considerable merit.

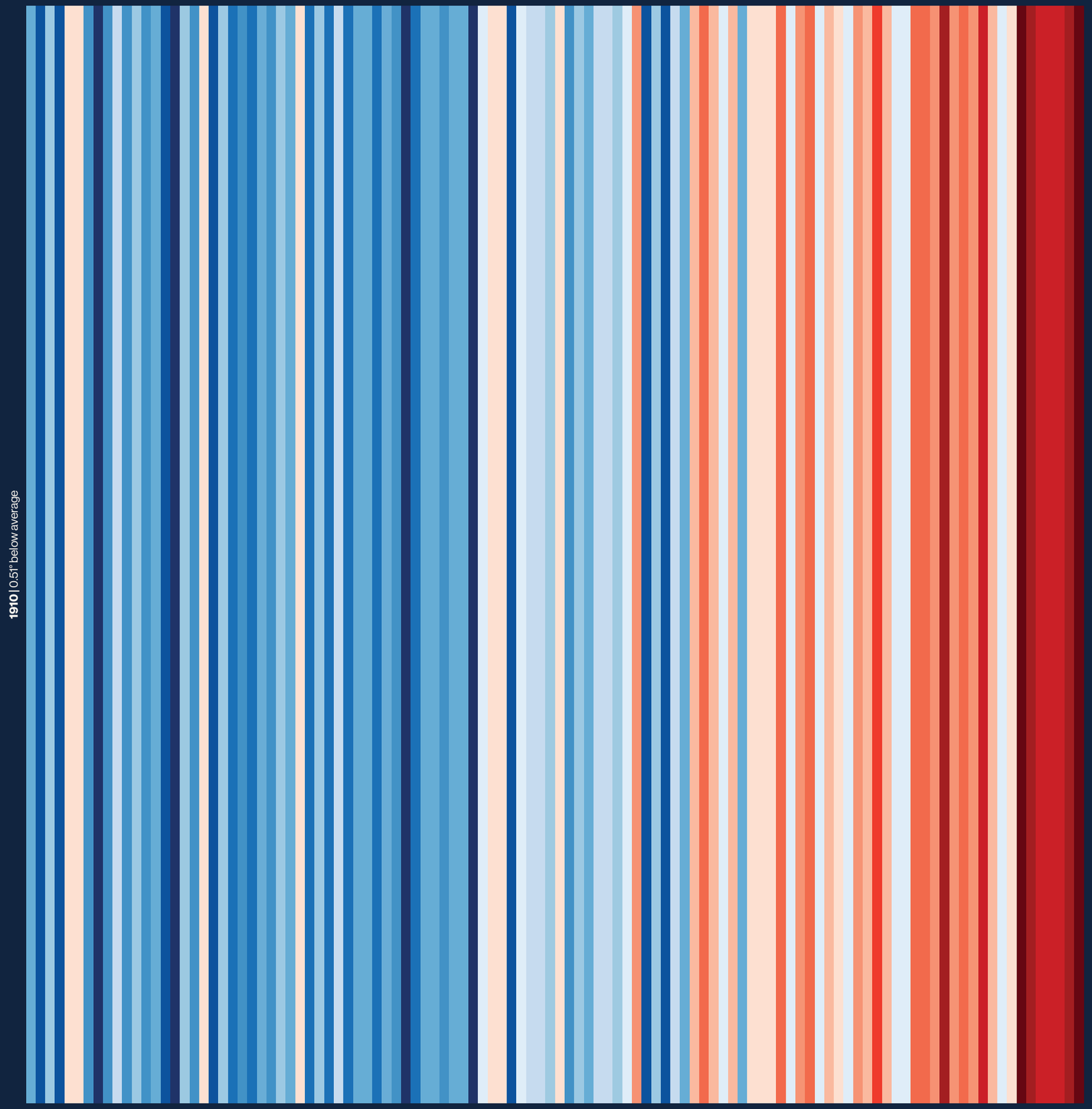
Environmental sustainability – a visceral issue for Australians

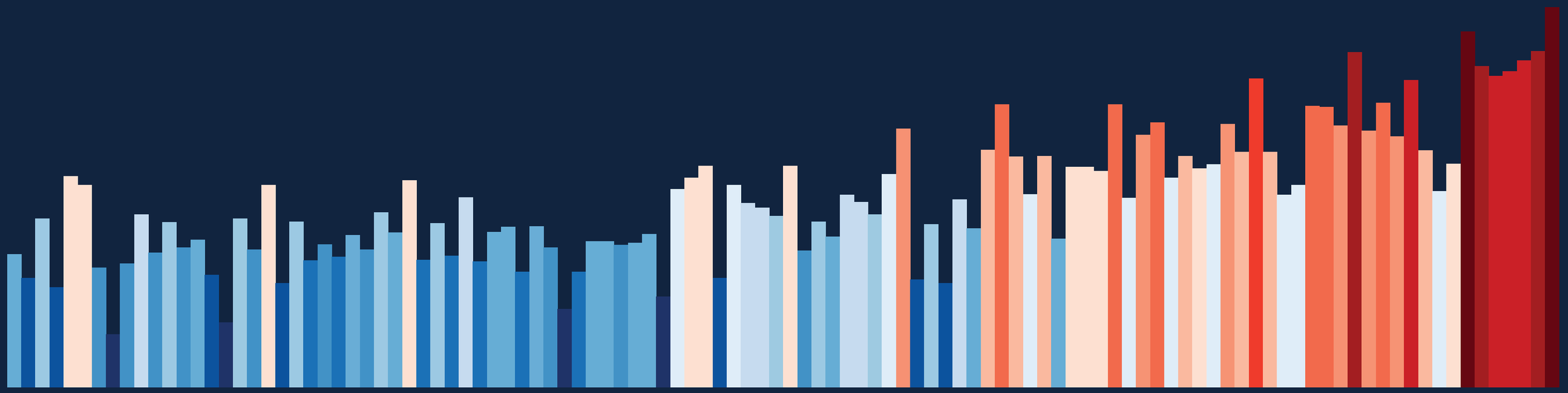
RIGHT
Queensland's mean temperature anomalies from 1910 to 2019 have risen to 1.3° above average.

Environmental sustainability is a visceral issue for many Australians, particularly with recent disastrous bushfires across eastern Australia and crippling droughts and floods. These events are highlighting the risks and challenges associated with ensuring environmental sustainability.

From an infrastructure and major projects pipeline perspective, our role includes:

- Acknowledging the risks and opportunities to the pipeline from anthropogenic (human-induced) climate change;
- Supporting structural adjustment policies and reskilling for new industries;
- Embedding impact design principles in new infrastructure, especially in coastal zones;
- Ensuring infrastructure is resilient to dangerous climate change impacts; and
- Taking steps to address root causes of anthropogenic climate change and minimising the carbon footprint of our industry.





Queenslanders are particularly exposed to the impacts of global warming and climate change.

The first step in addressing environmental sustainability is recognising the climate is indeed changing due to a build-up of greenhouse gases in the atmosphere.

Greenhouse gases (including carbon dioxide, methane, nitrous oxide, ozone and water vapour) are relatively transparent to short-wave infrared radiation (such as heat from the sun). This means that they allow sunlight to enter the atmosphere and heat the Earth's surface. These surfaces then re-radiate that heat as long-wave infrared radiation, which greenhouse gases tend to absorb rather than transmit. The result is that the long-wave infrared radiation is 'trapped' and heat accumulates in the atmosphere causing a warming process. This process is known as the 'greenhouse' effect because it is similar to the effect that glass has, trapping heat in a greenhouse[1].

Carbon dioxide is a greenhouse gas and the increase in the burning of carbon-based fossil fuels (including coal and gas) and increased deforestation since the Industrial Revolution is leading to higher rates of global warming as a result of more carbon being concentrated in the atmosphere.

Despite some uncertainty regarding the severity of the temperature response to a given increase in carbon dioxide in the atmosphere, there is a general consensus by climate scientists that[2]:

- The earth's climate has always changed over timescales ranging from thousands of years to millennia;
- Greenhouse gases from human activity are warming the world (anthropogenic); and
- Effort is needed to reduce emissions and to adapt to the changes that are likely to occur from the gases already in the atmosphere.

The Queensland economy is dependent on climate-sensitive industries such as tourism, agriculture and mining. The state is also more exposed to negative impacts such as increased heatwaves, droughts, fires, floods, cyclones and rising sea levels.

Over 60% of the total economic cost of climate-related disasters over the decade to 2016 was focused in Queensland. [3]

Unfortunately, even in an extreme scenario where all human-induced carbon emissions were to cease immediately, many decades of high anthropogenic carbon emissions has already locked in some amount of global warming. Most climate science now recognises that a best case scenario may be to limit global warming to just 1.5C above pre-industrial levels. Given slow global action on mitigating carbon emissions, it is now more likely that global warming will reach 2C above pre-industrial levels or higher[4], with catastrophic consequences not just for the environment but also the Queensland economy.

By contrast, the most current drought and bushfires have played out in the context of the current 1C of warming above pre-industrial levels. Natural disasters and extreme weather events such as heatwaves, droughts, fires, floods and cyclones are predicted by climate science to become more frequent as warming moves towards 1.5C and 2C (or higher). Warmer and more acidic seas are also expected as the climate warms, affecting coastal and ocean ecosystems and increasing coral bleaching of the Great Barrier Reef. Rising sea levels have been estimated to impact on 27,000-35,000km of road and rail assets Australia-wide, with a net replacement value of $51-67b (in 2008 dollars)[5].

Climate change is happening and Queensland is already experiencing its negative impacts.

These negative impacts will only increase in coming decades, even if global carbon emissions were to fall steeply. This means that resilience, adaptation and climate mitigation strategies need to be employed simultaneously. Resilience and adaptation strategies will need to take into account the current and potential impacts of warming, but carbon emissions reduction will be necessary to keep warming contained and minimise the costs associated with adaptation.

Importantly, Queenslanders are increasingly aware of the risks and challenges posed by climate change and want action. Following the most recent Federal election in May 2019, the ABC/Vox Pop Labs Australia Talks National Survey[6] revealed that 84% of Australians wanted at least some action on climate change. 65% of Queenslanders said that climate change was a problem personally and the single biggest issue keeping them up at night. Even in rural and regional Queensland where employment in coal and gas industries is most focused, there is only 30% support for more coal as a source of energy, with 72% and 56% supporting more solar and wind, respectively, in the energy mix.

Environmental sustainability provides Queensland with a massive economic opportunity which is potentially far greater than the fossil fuel industry.

Resilience and adaptation strategies will become an increasing part of the major projects industry, allowing the industry to lead and contribute to better outcomes.

Fundamentally higher levels of spending on infrastructure will likely be required, and this may drive a bigger major projects pipeline over time. The billions spent on desalination and recycled water in Queensland (and other states) during the millennium drought is one example of how expensive adaptation is, and how it impacts the major project industry. In general, given the very long life required of new infrastructure (typically up to 100 years), and the uncertainty of how far climate change will go (depending on the success or otherwise of mitigation strategies), infrastructure planners and builders will need to embed significant resilience principles into new infrastructure design, as well as adapting existing infrastructure to withstand potentially severe climate change impacts.

Apart from contributing to broader economy-wide CO_2 emissions reduction targets, the construction industry can also target reductions in its own carbon footprint as an environmental sustainability goal. Carbon emissions from the Australian construction industry are estimated to represent around 18% of all emissions, with energy and materials key contributors[7]. CO_2 is generated throughout the entire construction process including extraction, manufacturing, transportation, construction, maintenance and disposal.

There are a range of strategies which the Australian construction industry can employ to reduce carbon emissions, such as increased use of sustainable materials, reduced waste, increased recycling, reduced transport requirements, utilising less carbon-intensive transport, reduced on-site generators by establishing grid connections and utilising spatial technologies to minimise idling and distance travelled by construction equipment.

Optimising the use of less carbon-intensive materials is likely to be an important way of cutting embedded carbon in new infrastructure.

International studies indicate that up to half of all CO_2 emissions in the construction industry are from cement production, both in the manufacturing process and as a by-product of the chemical reactions[8]. However, a significant proportion (up to 43%) of these emissions are re-absorbed as cement ages and weathers over time in a process called carbonation[9]. This illustrates the importance of looking at the full lifecycle of construction materials in determining their carbon emissions intensity. Even so, low-carbon cements are available which are less energy-intensive to produce as they often include magnesia, enabling the absorption of carbon dioxide during curing. Other 'sustainable' materials such as timber, straw and compressed earth have lower carbon footprints than cement, as well as absorbing CO_2 while growing.

Apart from choice of materials, increasing industry productivity through new technologies and by implementing strategies and policies that result in less re-working and waste is also likely to lead to the strongest reductions in emissions over time. With productivity falling 30% over the past five years at the national level[10], a large potential benefit in terms of CO_2 emissions could be realised if previous productivity performance is restored. Consequently, achieving productivity goals not only assists with reducing costs of projects and avoiding capacity and capability constraints, but can also be a strong weapon in the fight against climate change.

Embracing circular economy principles would provide the industry a common platform for reform.

Environmental sustainability provides Queensland with a massive economic opportunity which is potentially far greater than the fossil fuel industry. Supporting the global effort to reduce emissions will benefit very important industry sectors to Queensland – tourism and agriculture – which are highly susceptible to climate change impacts.

1

Queensland can leverage from its own natural and comparative advantages to build new industries that will help drive down carbon emissions. This includes Queensland's world leading solar resources and access to “next generation” commodities including copper, lead, zinc, silver, phosphate and rare earths.

2

Queensland is already the national leader in terms of installing new renewable energy generation, particularly solar, and Australia is outpacing the world in renewable energy generation installation per capita. This illustrates how quickly a fossil fuel-dominated industry can transition to cleaner renewable energy sources given the right incentives. While the Queensland Government maintains a 50% renewable energy target, the end of the Australian Government's 2020 renewable energy target and lack of a replacement target is – alongside transmission challenges – negatively impacting the pace of new renewable installations in Queensland.

3

The development of more economic ‘green’ hydrogen production processes which utilise renewable energy also offers considerable opportunity for new Queensland jobs and exports. In 2019, the Queensland Government released a 2019-2024 Hydrogen Industry Strategy with a vision of making Queensland the leader for Australian hydrogen production by 2030[11]. This followed CSIRO’s successful demonstration of their world-first technology for refuelling fuel cell electric vehicles (FCEVs) from ammonia at the Queensland Centre for Advanced Technologies.

Financial sustainability – advocating for a healthy pipeline

Since its inception, the QMPPR has not just reported on the outlook for major project activity but has also been a strong advocate for the long term sustainability of the pipeline and the broader industry.

Sustainability can be considered in many contexts:

- Ensuring sustainable levels of infrastructure investment to meet projected needs;
- Sustainability of funding and finance for infrastructure projects;
- A financially sustainable industry that can continue to efficiently deliver long-lived infrastructure projects; and
- A visibly funded pipeline that enables the industry to invest in training and innovation that will improve productivity.

Many of the challenges associated with financial sustainability have been addressed in previous QMPPRs. Progress on meeting QMPPR's recommendations in Queensland has been mixed.

This year's QMPPR shows an increase in the value of the pipeline, with the public sector committing more funding to a range of projects – in turn, this is helping to reduce the projected downturn in major project work in 2019/20 that was forecast in last year's report.

There have been improvements ensuring the budget allocations are spent on infrastructure as planned, a greater willingness to utilise cheap debt to finance productive infrastructure investment (helping to smooth the path of investment despite economic volatility), as well as steps to develop a new SEQ City Deal.

The formation of the Infrastructure Industry Steering Committee (IISC) has resulted in discussions taking place between Government and Industry focused on increasing collaboration in areas such as pipeline of work, procurement, project delivery, management of project risk and supporting design and innovation. However, these discussions are still yet to result in the development of clear and quantifiable infrastructure investment metrics and targets, or reforming procurement and contracting relationships to reduce costs, boost productivity, and target long term value and quality infrastructure instead of minimising up front capital cost.

There is also little progress on key policy reforms and initiatives that will help sustain infrastructure investment and its efficient funding and delivery over the long term, including moving away from inefficient, pro-cyclical funding and financing streams, effective encouragement of private investment (which in funded terms, remains very low in the current QMPPR) and leveraging from other financing and funding models, such as those used successfully in New South Wales and Victoria.

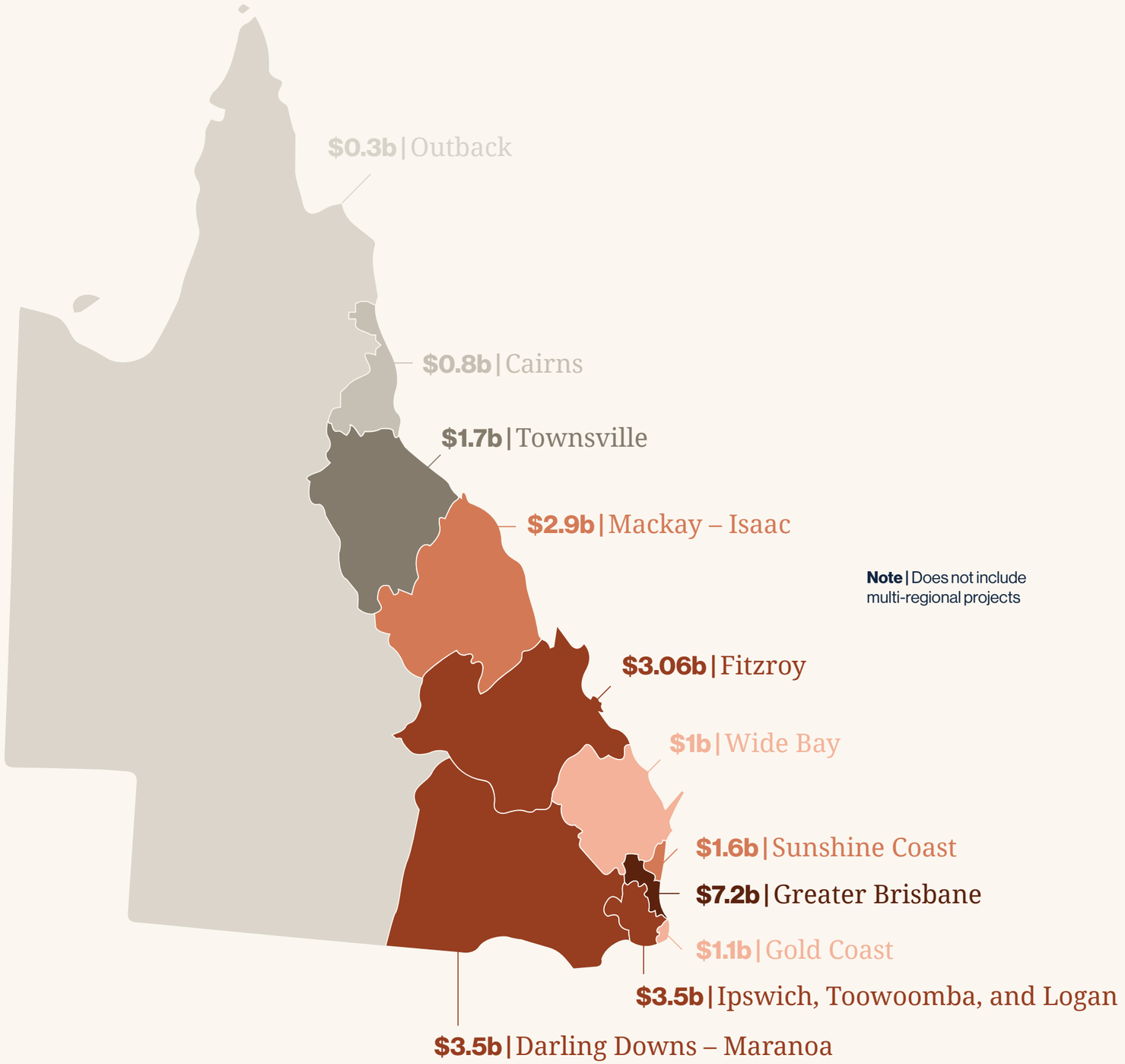
An action plan for financial sustainability

Completing these actions will see Queensland's project pipeline become robust and resilient.

1. **Governments continue to seek collaborative, long term value approaches to tendering and procurement to achieve sustainable industry outcomes.**
2. **Australian and State Governments to include resilience and adaptation work in infrastructure audits and develop a list of at risk infrastructure.**
3. **Government and industry to work with community to implement diversification strategies to enable a positive transition for regional economies currently dependent on fossil fuel industries.**
4. **Industry takes a leading role engaging with Queensland communities to achieve a greater understanding of the sustainable ways to fund and finance our growing infrastructure needs, with the aim to increase private sector investment in traditionally public sector infrastructure.**
5. **The Queensland Government to trial use of lean construction methodology on new projects and work with industry to provide necessary certainty for investment in other productivity improving tools and processes.**
6. **Government and industry to develop a suite of policies to reduce the carbon footprint of the construction industry in Queensland.**
7. **Governments to partner with industry to provide funding for further research into the impacts of climate change on the built environment.**
8. **Australian and State governments to have consistent plans to reduce carbon emissions in the spirit of the Paris Agreement.**
9. **Government and industry to focus on asset management and take-up of technology to improve productivity outcomes.**

Regional outlook – substantial disparity and mixed fortunes

RIGHT
Heat map of funded major project work in Queensland's regions.



The overall Queensland outlook has improved since the previous year's QMPPR, however, there continues to be substantial disparity between different regions in terms of activity size, growth and funding volatility.

Around 40% of all funded work in the pipeline is focused in south east Queensland with Greater Brisbane expected to see the highest levels of work. Meanwhile, more of the riskier, unfunded projects lie in the central, northern and western regions of the state where investment in resources, large water projects (such as dams) and electricity generation projects are more prominent, however typically unfunded.

Greater Brisbane

The Greater Brisbane region has a strong 99% funded pipeline with major project work expected to average $1.4b per annum.

Total pipeline value | $7.3b
Percent unfunded | 1%
Sector Driving Growth
Roads
Rail

Gold Coast

Queensland's fastest growing population will benefit greatly from publicly funded transport infrastructure over the five-year pipeline with funded major project activity averaging $212m per annum.

Total pipeline value | $1.8b
Percent unfunded | 42%
Sector Driving Growth
Roads
Rail

Sunshine Coast

With strong population growth and increasing tourism, the Sunshine Coast will mostly benefit later in the pipeline from funded transport projects with an average spend of $314m per annum.

Total pipeline value | $1.6b
Percent unfunded | 0%
Sector Driving Growth
Roads
Rail
Airport

Outback

The outback region has the lowest ratio of funded to unfunded major project work with 94% of activity in the pipeline currently unfunded and more than 50% of this considered unlikely.

Total pipeline value | $5.2b
Percent unfunded | 94%
Sectors Driving Growth
Roads
Renewables

Townsville

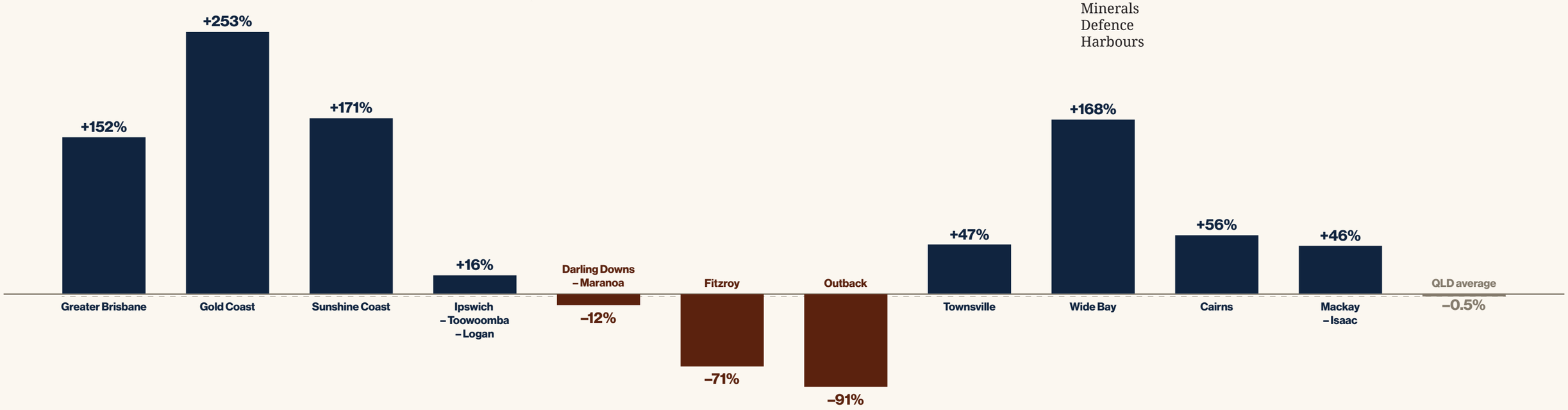
Funded activity in the Townsville region is more diverse than other regions. Currently funded work is peaking in 2019/20 ($589m) before a sharp fall in following years with 53% of the pipeline currently unfunded.

Total pipeline value | $3.6b
Percent unfunded | 53%
Sectors Driving Growth
Water
Roads
Minerals
Defence
Harbours

Wide Bay

While a large proportion (63%) of work is unfunded, this year's pipeline represents an improvement in funded transport infrastructure with an average spend of $192m per annum.

Total pipeline value | $2.6b
Percent unfunded | 63%
Sectors Driving Growth
Water
Roads



Ipswich, Toowoomba, Logan and Beaudesert

The outlook has substantially improved in the final three years of the pipeline, almost completely driven by the $3.2b Inland Rail Project which could trigger other investment, especially in logistics.

Total pipeline value | $5.3b
Percent unfunded | 34%
Sectors Driving Growth
Roads
Rail
Water

Darling Downs – Maranoa

This region has the most improved outlook since last year's report, with $3.4b and $2.7b in funded and unfunded activity respectively, supported substantially in the latter years by the $3.2b Inland Rail Project.

Total pipeline value | $6.2b
Percent unfunded | 44%
Sector Driving Growth
Resources
Rail
Renewables

Fitzroy

Fitroy's outlook goes against most regional trends – major project work is expected to continue to fall over the pipeline, yet it currently has the highest level of funded work in the pipeline ($1.04b) but the average per annum sits at almost half that ($605m).

Total pipeline value | $4.5b
Percent unfunded | 32%
Sector Driving Growth
Defence
Roads
Coal
Renewables

Cairns

Funded activity in Cairns depends entirely on transport infrastructure. Diversity could be introduced to the major project mix if unfunded projects in water and renewables were to go ahead.

Total pipeline value | $1.1b
Percent unfunded | 30%
Sectors Driving Growth
Roads
Rail
Harbours

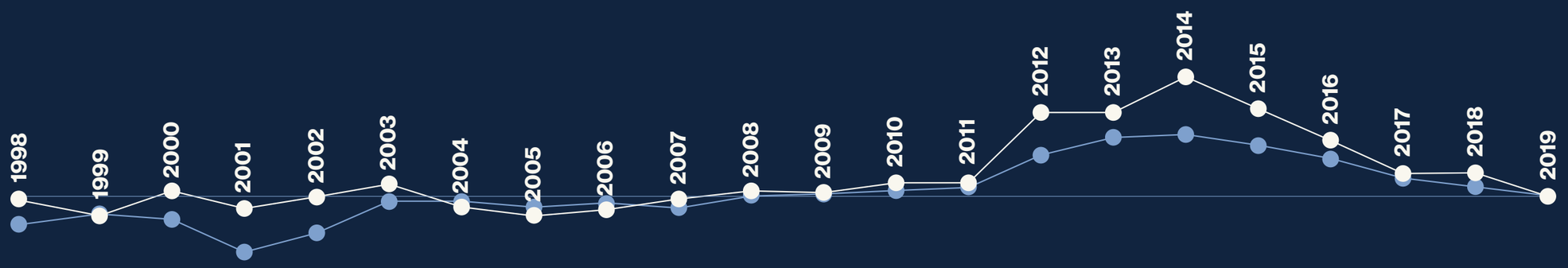
Mackay – Isaac

Funded work is expected to peak at $1.1b in 2020/21 supported by large resource and renewable projects. Mackay-Isaac has the largest unfunded major project activity of any region ($7.2b) and currently has no funded projects in 2023/24.

Total pipeline value | $10.2b
Percent unfunded | 71%
Sector Driving Growth
Coal
Rail

ABOVE
Expected growth by region in funded major project work over the next five years – compared to QMPPR 2019.

Construction outlook – productivity, capacity and capability



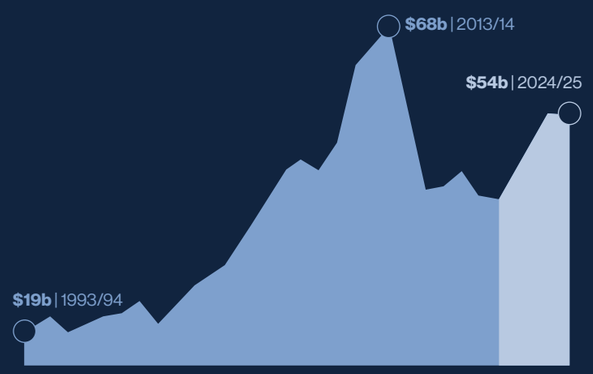
RIGHT

Queensland construction activity reached record-high levels in 2013/14 with $68.7b in work done (driven by exceptional resources investment), a figure yet to be surpassed by any other state.[12]

Construction had begun to build-up from 2000/01 and work done underwent twelve years of consecutive growth – besides a small dip in 2009/10 – to reach the peak in activity. The volatile and cyclical nature of resources activity is a factor which continues to play a significant role in determining future construction outcomes for Queensland.

The construction peak in 2013/14 was also experienced in Western Australia, similarly benefiting from the resources investment boom, and both resource rich states have experienced sharp declines in the years following. Queensland work completed fell by a cumulative 43.1% in 2014/15 and 2015/16, the decline driven by the sequential completion of multi-billion dollar LNG projects and a beyond-uninspiring thermal coal market.

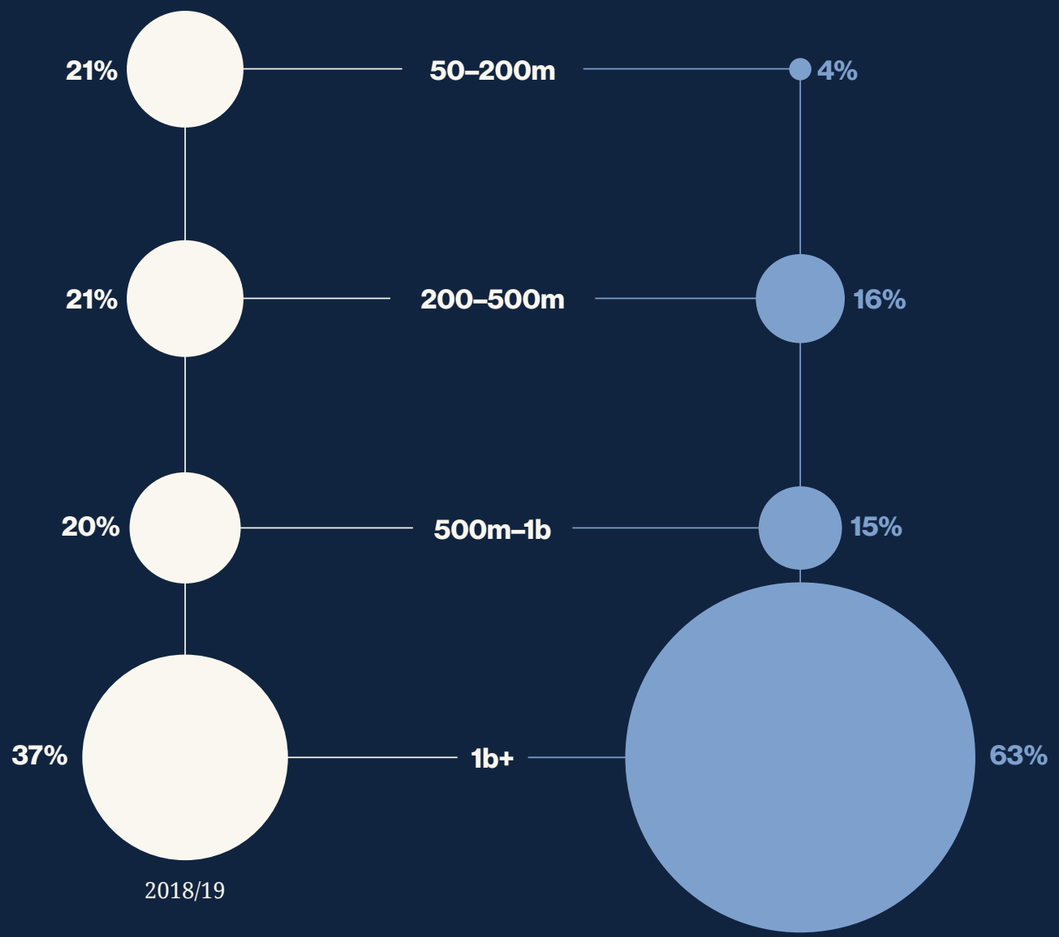
BELOW
Queensland's peak construction activity was in 2013/14 and is forecast to be building again, though not necessarily to the same heights.



Queensland construction labour productivity has seen minute historical growth, with 2018/19 productivity returning to levels seen in the early 2000s. The figure above provides a time-series of construction labour productivity since 1997/98, highlighting the lack of growth in the 20-year time span, both nationally and in Queensland.

It seems likely that there has been little structural change in construction labour productivity in the past two decades, and the peak in productivity during the second phase of the resources boom can instead be attributed to two things:

1. A possible understatement of employment growth in the industry between 2009 and 2013 due to a misclassification of construction workers as mining workers.
2. The heavy usage of offshore fabrication for construction products in the peak period had less intensive labour force requirements while generating substantial boosts in the Construction Gross Value Added (i.e. the output of the domestic construction industry in Queensland, as opposed to “work done”).



ABOVE
Megaprojects are becoming more common over the next five years.

Much of major project work remains concentrated in ‘megaprojects’ over $1b in value posing risks to capacity and capability.

In 2018/19, around 21% of major project work was on projects valued between $50-200m. By 2023/24, this falls to just 4%, with 63% of all major project activity based on projects worth over $1b. The falling share of $50-200m projects is a cause for concern considering that these projects tend to support a large number of highly competitive construction contractors which form the backbone for the industry.

Industry capacity and capability risks remain in the transport megaproject space, given the strong phase of megaproject activity nationally. Overall declining levels of major project activity indicates industry has the capacity and capability to take on new work, although some sectors (e.g. rail) may experience constraints earlier than others. A strong upswing in resources-related activity – if it does take hold – also presents capacity and capability risks for regional Queensland.

A key risk for the major projects industry in Queensland is that growth in work done in the pipeline in coming years will be increasingly competing for skills and materials from other projects – both within and outside the construction industry – presenting capacity and capability risks to project timings and costs. Already, major projects in other states, such as Sydney Metro and Sydney Light Rail have seen a significant overrun in costs, while many projects across road and rail in Victoria and New South Wales have also been delayed.

Cost overruns represent a ‘double whammy’ for the construction industry – not only does it affect industry productivity, but it absorbs funds that otherwise could have been earmarked for other projects.

While there are many causes of cost overruns, including suboptimal approaches to procurement and managing risks, separate studies by BIS Oxford Economics for road and rail sectors indicate that there remains a national shortage of key skills to deliver all transport megaprojects as mapped out by the Australian and State Governments, particularly from 2021/22 as total construction activity lifts[13] [14]. Consequently, it remains likely that projects in the QMPPR may be delayed, or be delivered at a higher cost, than reported here. The result may be a smoother, less cyclical, pipeline (and higher delivery costs) as a consequence of market necessity rather than via an effective industry plan.

Economy – the risks and opportunities

The outlook contained in this report is subject to significant upside and downside risks. The cyclical nature of work projected could increase and be further compounded by external factors.

Queensland's economy should improve in coming years, although the pace and magnitude of growth is subject to several significant risks. Queensland is blessed with natural strengths and advantages: increasing connections with the faster-growing economies of Asia, traditionally strong population growth, and high-quality natural resources which support mining, tourism and renewable energy industries.

Queensland is also exposed to local, national and global risks. The most obvious downside risk to Queensland's economic outlook relates to a further weakening in the global economy beyond the forecasts assumed in this report. Weaker than expected global growth, impacting on trade and industrial demand, has the potential to impact investment and production on Queensland resources projects particularly, as well as affecting Queensland's exports of services such as tourism. In turn, weaker export growth can potentially impact on state government revenues from royalties and other taxes, affecting public spending.

When considering Queensland's risks, it is worthwhile discussing the Queensland State Election and Early State Budget, 2020 SEQ City Deal, 2032 SEQ Olympic Bid and the growing impact of coronavirus and pandemics.

Coronavirus and pandemics

The 2020 World Economic Forum Global Risks Report[15] identifies a range of factors which could impact negatively on the global economy over the coming decade. These include climate change and accelerated biodiversity loss, increasingly nationalist and unilateralist geopolitics, economic inequality and stagnation, and health systems under pressure from rising pandemic risks.

The coronavirus (COVID-19) outbreak, which originated in China in late 2019, introduces a significant risk to Australian and global economies. Given the direct impact on production and spending in China, BIS Oxford Economics has already revised China's economic growth in the first quarter of 2020 down by more than 2 percentage points. Even if there is a rebound in the second quarter of 2020, total growth for 2020 is now forecast to be closer to 5% for 2020, compared to 6.1% in 2019.

With the spread of COVID-19 outside of China, there is potential for a more serious and long-lasting global impact. The sharp weakening in first quarter activity in China is already applying pressure to the global economy, with fears that sharp sell-offs in financial markets could expand into the real economy. A sharp contraction in global tourism and trade as COVID-19 spreads in Asia, Europe and the Americas during the first quarter is now likely. Longer term, China's substantial role in global supply chains will continue to impact production in countries outside of China, with Oxford Economics calling the first quarterly decline in global GDP since the global financial crisis.

For Australia, the earliest and most significant impacts on growth are expected to come through trade services. In 2019, almost 1.5 million Chinese people visited Australia, including approximately 165,000 students in our universities and colleges. This market is at risk from China's suspension of outbound group tours for two months, decisions in Australia to cancel flights to and from China and tougher travel restrictions introduced by the Australian Government. However, the virus epicenter of Wuhan is a significant manufacturing hub which means the longer strict virus countermeasures are in place, the greater the risk to industrial production and manufacturing – supply chain and commodity economies, such as Australia, are most likely to feel these second-round impacts.

The Queensland economy is particularly exposed to the economic risk because it is Australia's leading economy for tourism and is a key 'resources state' that exports raw commodities for Chinese manufacturing. Weaker growth will likely impact on State Government revenues (through taxes and royalties) and financial position. In this situation, there is a risk that public sector funded capital projects – such as those included in the major projects pipeline – could be delayed or cancelled to preserve the state's financial position.

2020 Queensland State Election and Early State Budget

Given the importance of the public sector in driving the major projects pipeline – whether through direct investment in transport and utilities infrastructure, or indirectly through policies designed to stimulate private investment – election years tend to introduce an extra element of risk to the major projects outlook. Politicking for the 2019 Federal election resulted in some significant infrastructure 'wins' for Queensland such as funding for Warrego, Lindesay, Carnavon and Bruce Highways upgrades, major milestones for Inland Rail and over a billion dollars for projects through the Northern Australian Infrastructure Fund.

The 2020 Queensland State Election, scheduled to be held on 31 October 2020, will likely have a significant impact on the pipeline as currently unfunded projects may be promised funding, and new projects may be proposed. Already, the 'election year' is driving an earlier than usual delivery of the Queensland State Budget – it will be handed down on the 28 April 2020 instead of in June, and before the Federal Budget in May.

The early delivery of the Queensland State Budget effectively compresses the timeframe for making strategic infrastructure decisions and project choices, which are often made in partnership with the Australian Government.

This may give rise to a misalignment between the State and Federal Budgets or could enable greater transparency.

The QMPPR will be updated after the delivery of the 2020/21 State and Federal Budgets in April and May to ensure it remains up to date with the latest project and policy developments.

City Deals

An inked SEQ City Deal could provide a catalyst for sustainable growth in infrastructure investment which could have upside potential for the current major projects pipeline. In March 2019, a Statement of Intent towards an SEQ City Deal was signed in Brisbane by the Council of SEQ Mayors (CoMSEQ), the Queensland Government, and the Australian Government. With City Deal negotiations expected to last 12-18 months, it is likely that some form of City Deal will be completed in 2020, making this the second such deal between the three tiers of government in Queensland (the first being the Townsville City Deal struck in 2016).

As highlighted in previous QMPPRs, the key benefit of a City Deal is the collaborative platform they provide between the three levels of government and the private sector.

The Townsville City Deal unlocked funding for Stage 2 of the Haughton Pipeline, subject to the outcomes of a business case assessment, as well as confirming funding for the Port of Townsville Channel Capacity Upgrade, establishment of the Townsville Industrial Development Board and acceleration of the State Development Area to explore opportunities for new industrial development, as well as confirming funding for the preservation of the Townsville Eastern Access Railway Corridor.

A SEQ City Deal could have a similar impact on confirming funding for significant transport and utilities infrastructure in the region as well as accelerating developments, particularly if a 2032 SEQ Olympics bid is successful.

2032 SEQ Olympics Bid

In December 2019, the Queensland Government announced it was considering a bid to host the 2032 Olympic Games. A 2032 SEQ Olympics would require significant capital expenditure on upgrading or rebuilding venues and enhancing transport infrastructure in the SEQ region.

A 2016 study on costs and cost overruns at all Olympic Games between 1960 and 2016 has found that the average cost has been US$5.2b and the average cost overrun has been 156% in real terms[16]. This makes the Olympics the highest average cost overrun of any type of megaproject. No city has run the Games without a cost overrun since the Los Angeles Games in 1984, while the 2020 Tokyo Olympics are currently expected to cost US$12.6b, up from a budget of US$7.3b[17].

In Queensland's favour, hosting the Commonwealth Games on the Gold Coast in 2018 has already established a significant portion of direct Games infrastructure.

If Queensland were successful in bidding for the 2032 Olympics, it is expected that there would be a positive impact on the major project pipeline, business confidence and international reputation.

The south east Queensland region, representing roughly two-thirds of the state's population, is already expected to experience strong population growth and demand for transport services in coming decades. The SEQ Regional Strategic Transport Road Map developed by CoMSEQ in conjunction with the Games Feasibility Study indicates that a winning bid would require an accelerated ('advanced') scenario for transport projects including faster rail links between Brisbane and Gold Coast, Sunshine Coast and Ipswich and an upgrade to the Logan Motorway to be delivered prior to the Games instead of in following decades. This is on top of committed base investment including Cross River Rail, Brisbane Metro, and Pacific Motorway and Bruce Highway upgrades. Here, the establishment of the National Faster Rail Agency – and a commitment to a Brisbane to Gold Coast faster rail business case – in the 2019/20 Budget is a positive step.

There is still uncertainty as to whether Queensland will bid and the timing of selection of the winning bid, which could occur anytime between 2021 and 2025. On a more positive note, assuming the current wave of rail infrastructure rolls out as planned, the completion of very large metro and other rail projects in Melbourne and Sydney could provide a legacy of newly skilled labour to utilise on faster rail initiatives.

Endnotes

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Thirsty for more detail?

See the full report online.

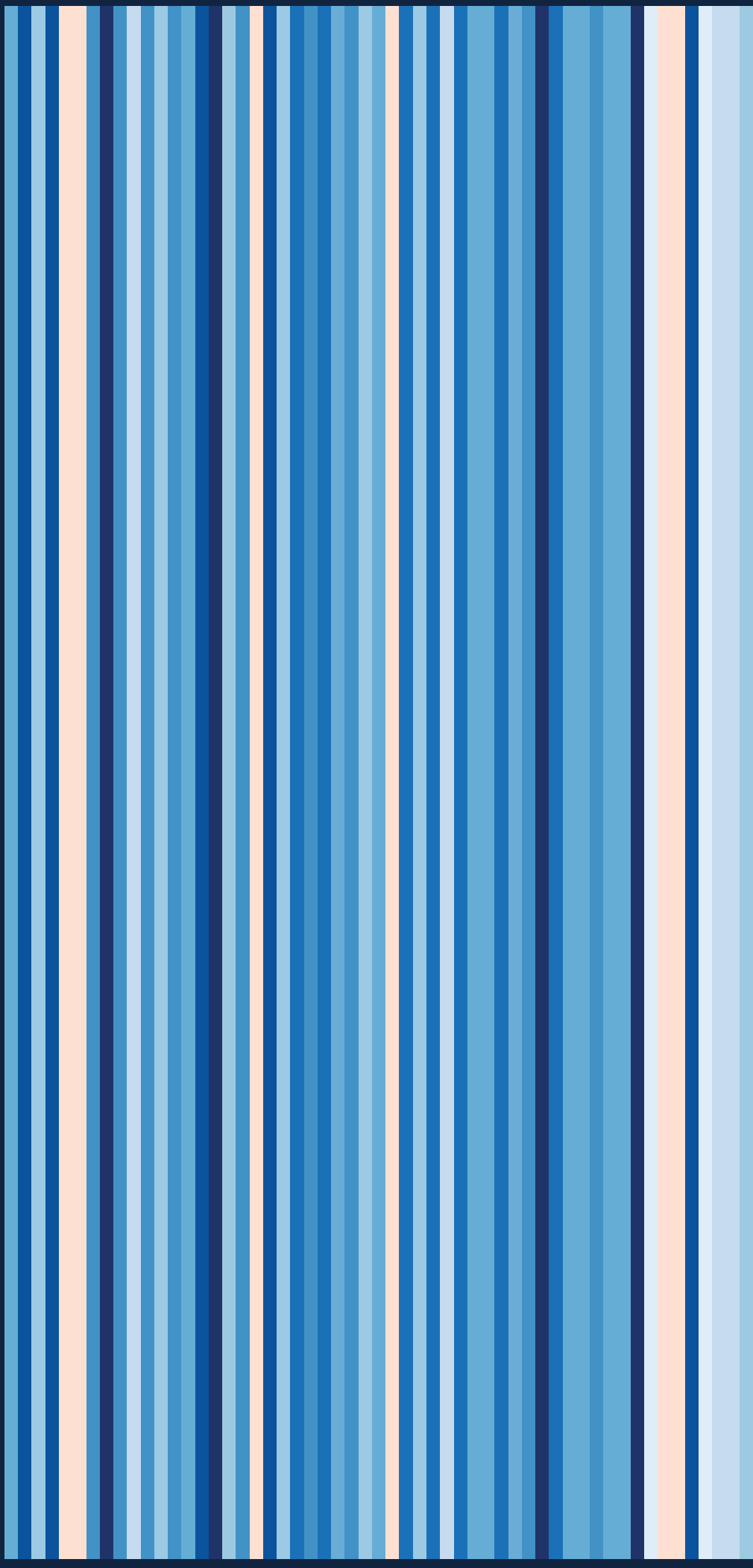
qldmpp.com.au

The online report is updated at key points throughout the year and now includes an interactive project list.

QLD MPP 2020

A joint initiative
QMCA
IAQ

What is this graphic?
This is a visual representation of fluctuations in Queensland's annual mean temperature anomalies between 1910 and 2019. Data is sourced from Bureau of Meteorology and Berkeley Earth.



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