



LITHGOW EMERGING ECONOMY PROJECT

Shaping the future of Lithgow

A summary of the LEEP Transition Plan





Acknowledgement of Country

We acknowledge that we live and work on the unceded lands of the Wiradjuri people.

We pay our respects to elders past and present and to other First Nations people.

We acknowledge that this always was and always will be Aboriginal Land.

About this document

The Lithgow Emerging Economy Project (LEEP) Transition Plan was prepared for Lithgow City Council and the Department of Regional NSW by Natural Capital Economics Pty Ltd (NCEconomics), Acclimate Partners, Mosaic Insights and H4CO. This document is a summary of the findings and recommendations of the LEEP Transition Plan.

Citation

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Introduction

The next decade will see significant change in Australia's energy sector. The Australian Government has committed to reduce Australia's emissions by 43 per cent below 2005 levels by 2030 and to achieve net zero by 2050, in line with worldwide action to keep global warming as close to 1.5 degrees Celsius as possible (DISER, 2022). The NSW Government has been more ambitious, committing to halve emissions by 2030 (NSW Govt, September 2021).

Nationally, development of renewable energy infrastructure is accelerating to progressively replace coal-fired power generation.

The impact of the energy transition on Lithgow will be significant. Together, coal mining and electricity supply, including the local businesses that service them, contribute almost 46 per cent of Gross Value Added (GVA) to the Lithgow economy and employ more than 16% of our workforce.

Developing new opportunities to balance the economic contribution that coal mining and coal-fired power generation brings to Lithgow is a **challenging, yet exciting task** that will require coordinated action from all three tiers of government. Work needs to begin now. The transition will require ambition, leadership and significant effort to attract new investment to expand industries and businesses, and create diverse, skilled jobs, including for young people and workers currently in the coal and energy sectors.

Lithgow City Council and the NSW Government commissioned the **Lithgow Emerging Economy Project (LEEP)** to help Lithgow plan a *successful energy transition* to become a modern, diverse economy with new job opportunities.



Lithgow City Council and the NSW Government worked with a consortium of specialists who analysed the risks and identified opportunities for a resilient future economy, undertaking:

- **rigorous analysis** of Lithgow's prospects, including its social, economic and planning profile, trends, barriers, opportunities and competitive advantages
- **engagement** with government, business and industry leaders, service providers, community, education and training organisations on the local context, planned and potential opportunities and investments, and community expectations
- **alignment** with government policy and program priorities
- **identification** of lessons from communities around the world that have undergone similar transitions.

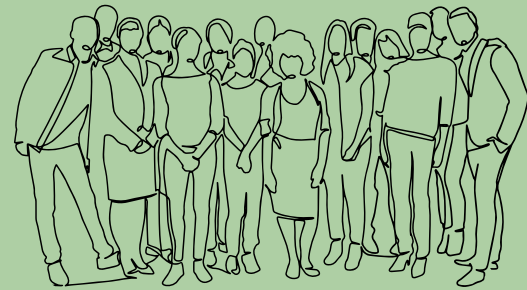
The LEEP Transition Plan outlines a set of short, medium and long-term actions and objectives to reinvent and invigorate Lithgow LGA's economy by building on our heritage of industrial innovation, our regional endowments, and our economic advantages.

This document provides a summary of the Transition Plan, which is available online at www.leep.lithgow.com.

Community Snapshot

Lithgow’s current social, economic, and planning baseline provide the foundation for its future growth.

SOCIO-DEMOGRAPHIC PROFILE



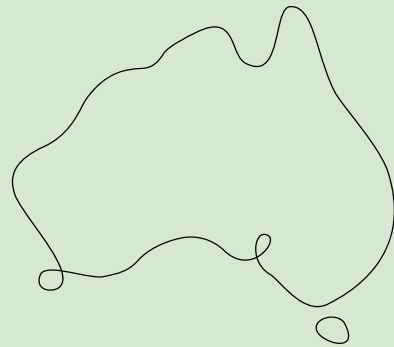
Population

Lithgow LGA’s population declined by 1.2% between 2016 and 2021. Projections expect this population to plateau in the next 20 years, with an aging demographic. This has implications for the future workforce and demand for aged care services.



Unemployment

Until recently, unemployment in Lithgow has been high relative to Regional NSW and NSW as a whole. With currently low unemployment, the workforce for growing or emerging industries will need to be drawn from existing industries or attracted from outside of the LGA.



Aboriginal and Torres Strait Islander people

People of Aboriginal and Torres Strait Islander descent make up 7.8% of the population while only 6.2% speak a language other than English at home.



Housing affordability / availability

Generally, it appears that housing is more affordable in Lithgow LGA than the wider state (including Regional NSW). This may represent a drawcard for attracting skilled workers or retaining existing skilled workers.

Community Snapshot

ECONOMIC PROFILE

The economic profile provides an indication of the sectors in which Lithgow LGA has specialised and which have historically been productive in the region, pointing to both opportunities and risks for the local economy.

Lithgow's employment is concentrated in **Health Care and Social Assistance** (14.2%), **Mining** (11.1%), and **Public Administration and Safety** (10.7%). A large proportion of the workforce in Lithgow reside and work in the LGA (76%). Lithgow workers have strong linkages with the Blue Mountains and Bathurst LGAs, with approximately 13% of the workforce travelling from those areas into Lithgow, while almost the same number of residents travel out to jobs in those LGAs. This is important for commercial and residential planning.

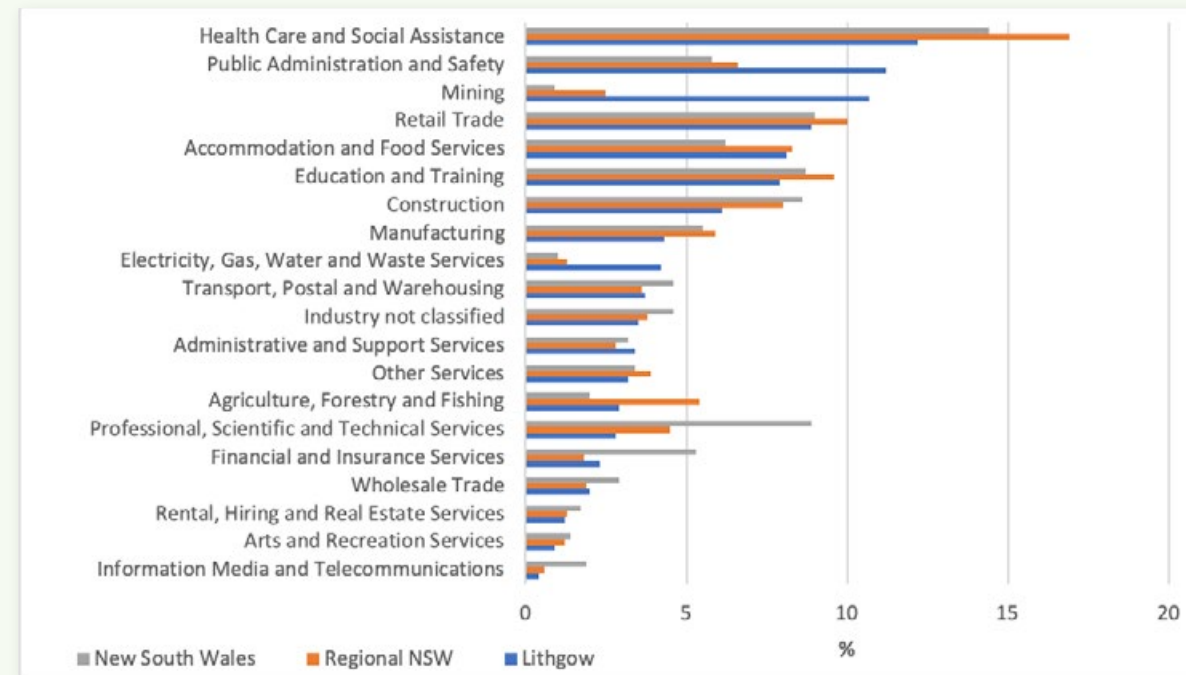


Figure 1: Employment by industry (2021 Census), Source NIEIR 2022

Lithgow's economy is highly concentrated in **Coal mining** (34.1% of GVA in 2021) and **Electricity supply** (11.7%). This makes the economy vulnerable to shocks to these subsectors as there is limited economic diversification.

The **tourism industry** is not currently a major contributor; however, offerings and activity mix undertaken are similar to the Blue Mountains. There is likely to be **incremental growth** in this sector in the future.

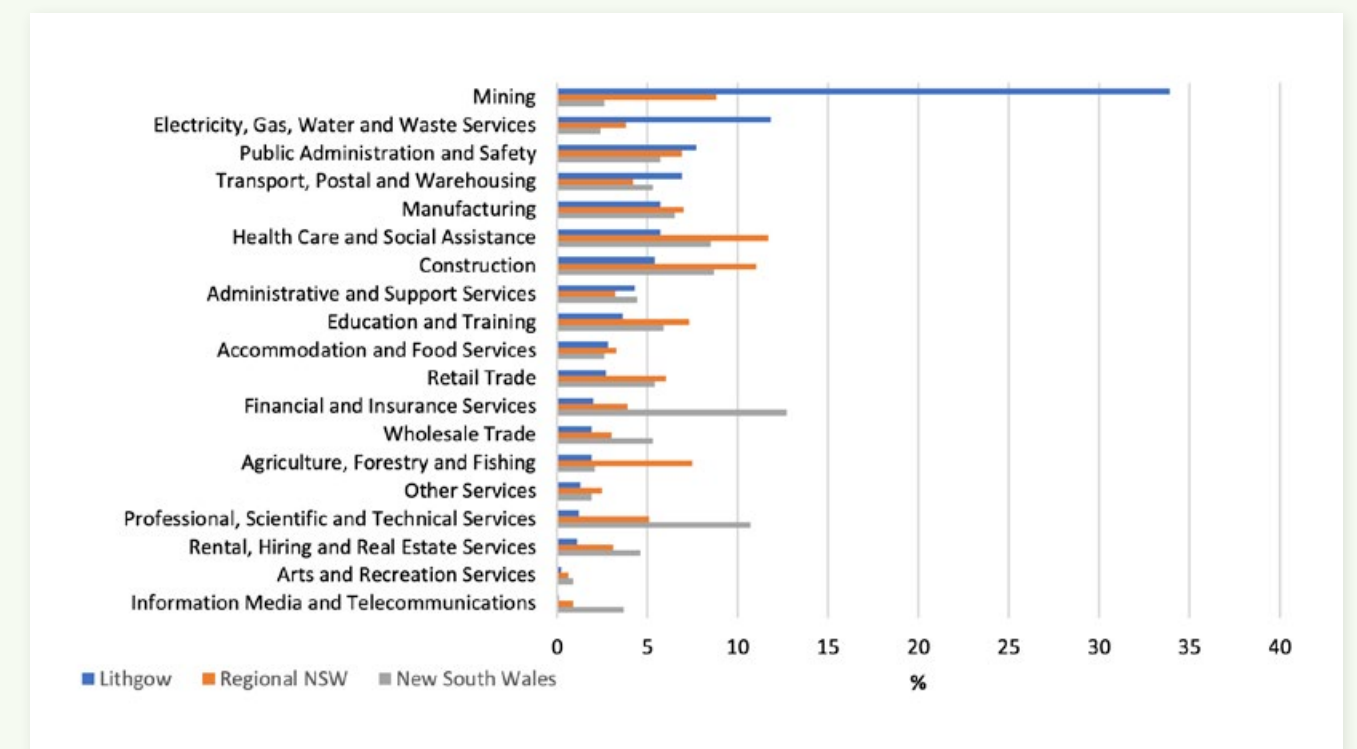


Figure 2: Value added by industry (2021 Census), Source NIEIR 2022

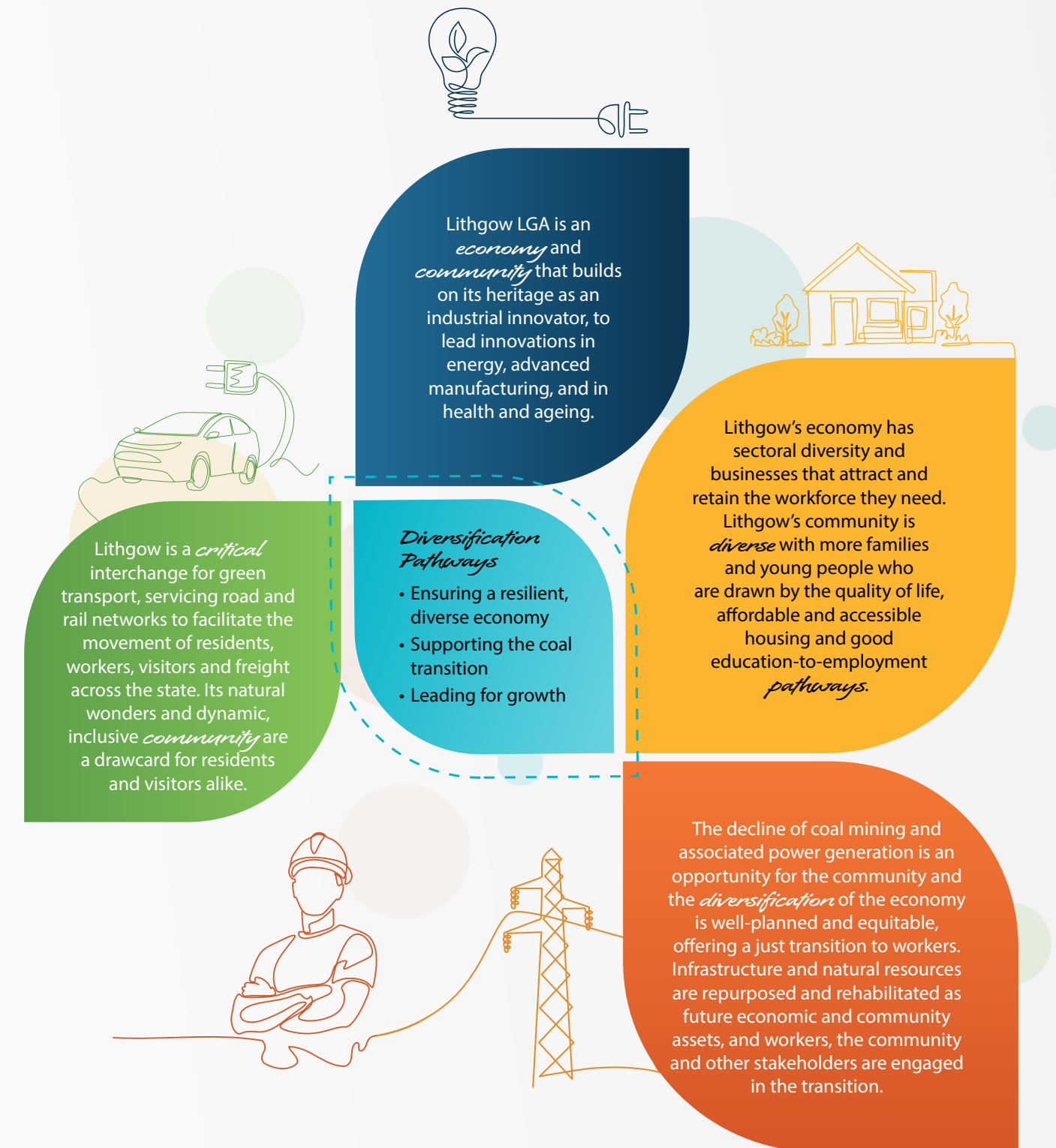
Vision: Shaping the Future of Lithgow

The Transition Plan includes a draft vision for the future of Lithgow LGA and a pathway to economic diversification, while also supporting the transition from coal mining and coal-fired power generation.

The vision draws on aspirations from the community and council outlined in documents such as the Lithgow Regional Economic Development Strategy, Lithgow's Local Strategic Planning Statement and the Community Strategic Plan.

The proposed pathway to achieving the vision for the Lithgow economy is:

- **Ensuring a resilient, diverse economy**, with early and ongoing identification and stimulus of sectors and investments with strong growth potential to replace the economic contribution of mining and coal-fired power generation.
- **Supporting the coal transition** to optimise the outcomes for the economy, workers, supply chains, local infrastructure and resources, the environment and the community.
- **Leading for growth** through adaptive leadership and clear governance and implementation arrangements, underpinned by stakeholder engagement and monitoring, evaluation, learning and reporting.



Building a Resilient, Diverse Economy

To build a resilient, diverse economy, the Transition Plan identifies sectors that align with Lithgow's:

- Demographic trends
- Historical advantages and existing specialisations
- Recent demonstrated local competitive advantage
- Comparative advantage from natural endowments, infrastructure, human capital in and around the LGA.

REGIONAL ENDOWMENTS AND ADVANTAGES

The Transition Plan highlights that Lithgow has endowments that support new forms of energy production, transport and energy distribution infrastructure, and a solid base of the right sort of human capital and know-how to support growth opportunities in a range of industries.

Lithgow LGA is in a **pivotal location** in Australia's energy and transport system, the link between the fast-growing Western Sydney to our east and the broad Central West and Orana to the west. We are well positioned to take advantage of regional economic opportunities such as the new airport in Western Sydney, inland rail and the Central-West Orana Renewable Energy Zone. The area's **rich natural, historical and cultural heritage**, including seven National Parks and more than 400 declared Aboriginal sites, also provide opportunities for growth in tourism.

PRIORITY SECTORS

The Transition Plan identifies the following priority sectors that have capacity for high and rapid growth, that are able to leverage significant capital investments, particularly in infrastructure, and create jobs:

- **Industrials: Renewable energy**, particularly solar power, pumped hydro, battery storage and green hydrogen production
- **Industrials: Manufacturing**, including:
 - o Defence and related metal fabrication and components
 - o Renewable energy components and clean technology innovation, such as green building materials
 - o Circular economy manufacturing
 - o Transport equipment manufacturing.
- **Tourism**, which includes accommodation and food services, arts and recreation services, and retail trade.

It also focuses on sectors, such as **Healthcare and Social Assistance**, and **Public Administration and Safety**, which are foundations of the local economy and significant employers in the community.

This does not mean that there will not be growth in other sectors, such as agribusiness.

Each priority sector requires a range of targeted actions to facilitate growth.

Amongst these are issues that will benefit the whole economy, including:

- Optimising **infrastructure**, particularly road and rail transport connections, repurposing transmission lines and natural resources currently used for coal and energy production, and underutilised commercial buildings
- Developing a **masterplan** to ensure access to suitably zoned land and appropriate planning approvals
- Attracting and retaining a **skilled workforce**, including reskilling existing workers in the mining and energy sectors and building a local education to employment pathway that develops science, technology, engineering, arts and maths (STEAM) skills for future jobs and for tourism and the care economy
- Ensuring an **inclusive** approach to growth
- **Placemaking** that makes Lithgow, its villages and valleys a vibrant place to live, work, study, play and visit.

Wallerawang Power Station and 330KV Substation

Industrials: Renewable Energy

PROPOSED OUTCOME

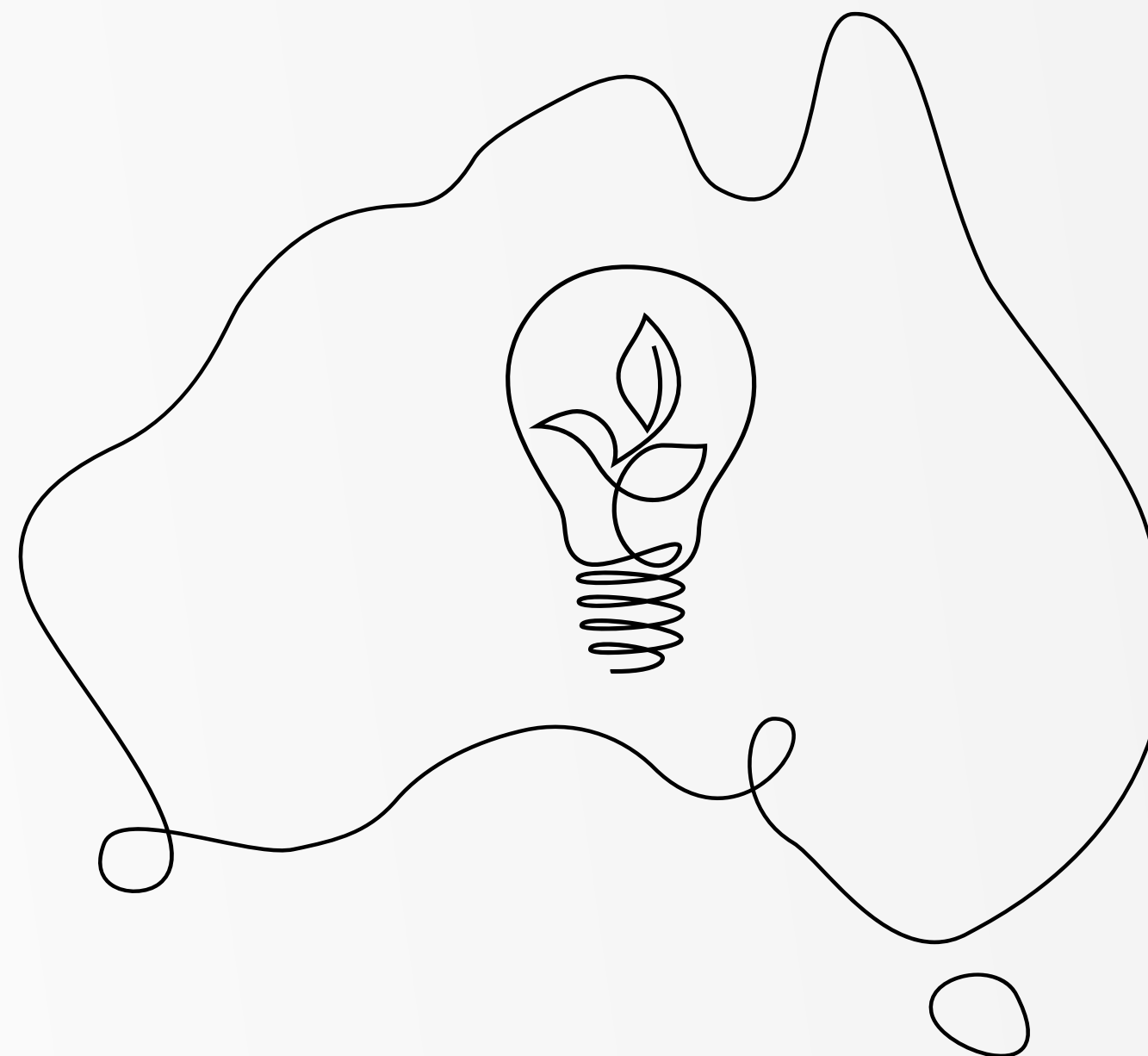
Lithgow becomes a global example of successful transition to a renewables-led, new energy economy.

CONTEXT

To achieve the Australian Government's commitment to net zero, the national Powering Australia plan is seeking to support a major increase in the proportion of renewables in the electricity system from about 33 per cent to 82 per cent by 2030. In NSW, Renewable Energy Zones (REZs) are being established to facilitate large scale investment in renewable energy 'hot spots', including building transmission infrastructure, to bring forward large-scale, low-cost and zero carbon energy to assist the decarbonisation of the NSW electricity grid.

Lithgow is well-placed to be part of the solution to the energy transition. The LGA has the advantage of existing high voltage transmission infrastructure, which can provide grid support and a critical link between the Central-West Orana REZ and Sydney. The LGA also has key natural resources that are well suited to renewable energy generation, including land, solar and water resources.

The **rapid acceleration** of the development of renewables is placing the national electricity grid, including transmission and storage capacity, under strain, while coal-fired power stations are closing more quickly than expected.



Industrials: Renewable Energy

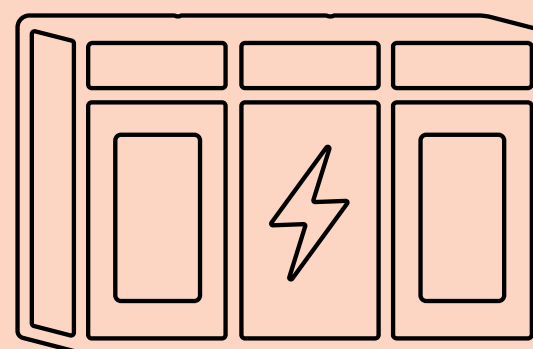
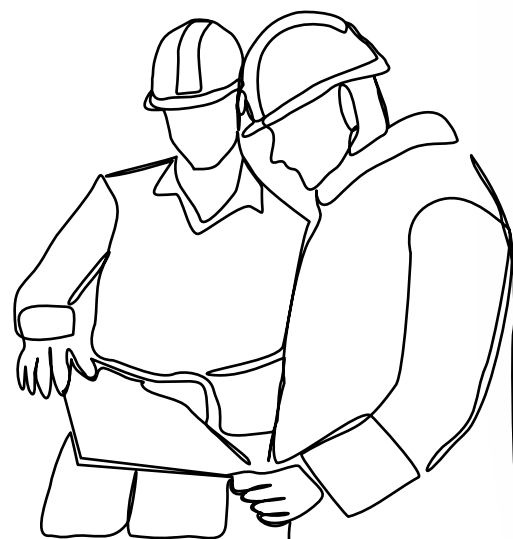
GROWTH OPPORTUNITIES

Renewable energy

Renewable energy – classified as Electricity, Water and Waste Industries – will be one of the most critical sectors for Lithgow's future growth.

However, while renewable energy projects have strong potential for economic value add and create significant high value jobs during construction, fewer roles are required in operation and maintenance.

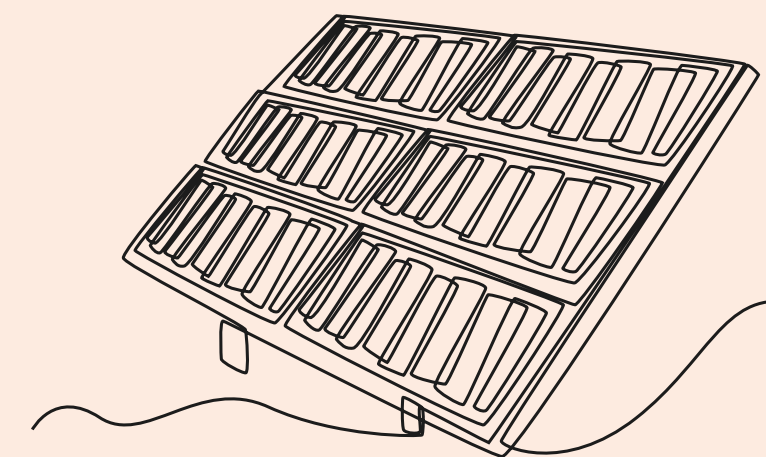
Skilled workers will also be in demand, so planning a pipeline through training and retraining will be vital, as well as ensuring school students are learning science, technology, engineering and maths (STEM) to be workforce-ready.



Batteries

One of the challenges of renewable energy is that electricity generation is affected by when resources such as sun and wind are available. This requires surplus energy to be stored to provide grid stability during low generation periods. This need will be met through a mix of battery storage and pumped hydropower.

Batteries can be deployed very quickly – within 12-18 months – and require industrial land close to transmission lines. An ambitious and achievable aim could be to invest at least 2GW of battery capacity in Lithgow LGA by 2025.



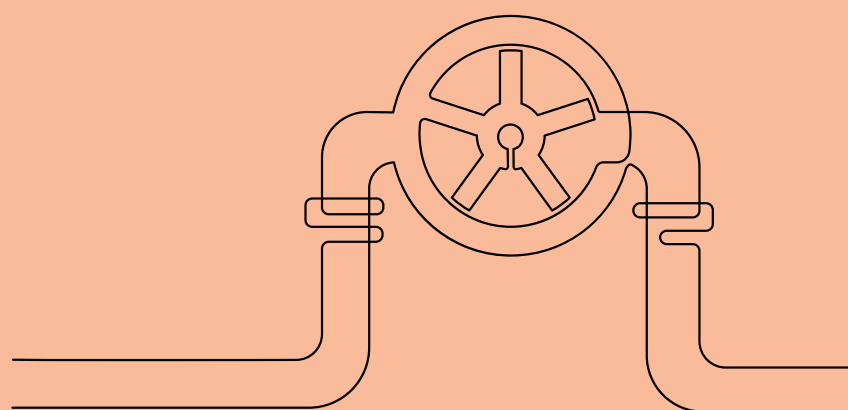
Solar

Solar is the cheapest source of power in Australia. Lithgow LGA has a number of sites that have good potential for solar power generation, due to their exposure to the sun, proximity to transmission lines, and suitable land use and land slope for solar farm construction.

Solar power generation can be an early mover that provides a platform for further diversification in renewables, such as zero carbon energy for pumped hydro, or for other sectors, such as clean manufacturing. In addition to large-scale solar farms, a virtual power plant can also be developed using rooftops and other areas of homes and businesses.

Industrials: Renewable Energy

GROWTH OPPORTUNITIES

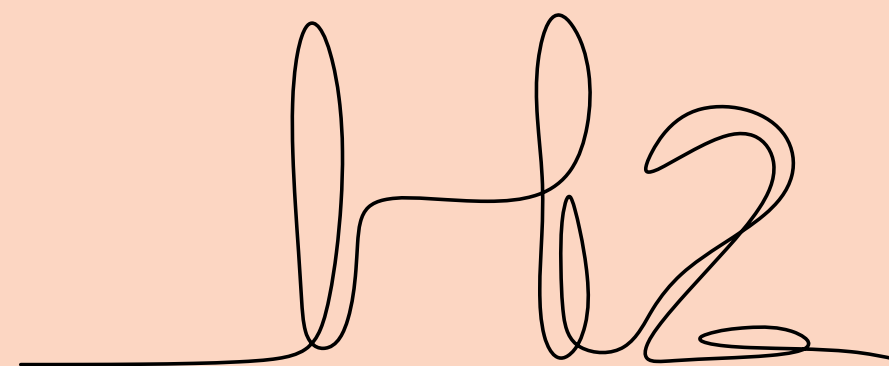


Water and pumped hydro

Lithgow LGA is at the top of the catchment and has relatively high water security compared to lower valleys and catchments. There is an abundance of opportunities for pumped hydro, including sites that are classified as Class A for best cost-effectiveness, close to transmission lines.

The most likely form of pumped hydro energy storage (PHES) in the area is to use lakes previously used for coal mining and coal-fired electricity to pump water up to dams on nearby hills, usually using cheap grid power at night. When the water is released downhill, it creates energy on-demand.

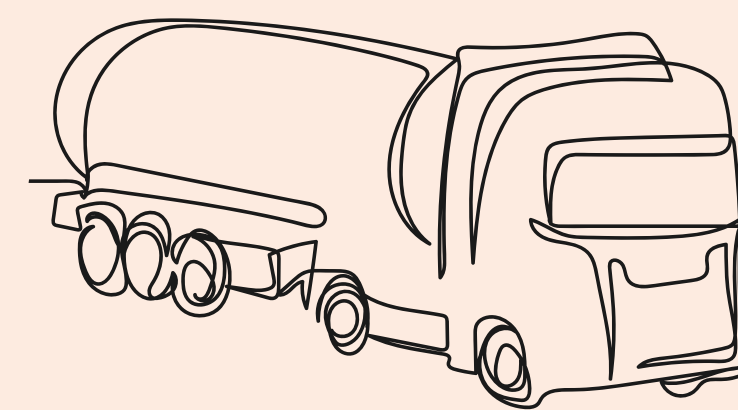
Approaches will need to consider the possible re-use of water and impacts on the catchments, communities and ecosystems that it serves, including climate change, social and cultural issues.



Green hydrogen production

Solar energy and water can be used to generate green hydrogen as the lynchpin for a pipeline of high value jobs in Lithgow and its villages.

Investment in an electrolyser plant is an important first step for conversion to green hydrogen, which can be an offtake for other industries, such as manufacturing of fertilizer and/or green metals. The use of water for green hydrogen could also stimulate better management of resources including wastewater treatment.



Green transport and logistics

Lithgow is very well placed as a gateway for future long haul transport vehicles using zero carbon powerfuels, electric vehicles and zero-carbon rail connections. Renewable hydrogen will likely be used for long haul transport using heavy vehicles and trains – rather than electric vehicles, which are more suited to passenger vehicles. The NSW Government aims to have 10,000 heavy vehicles and 20 percent of the government fleet powered by green hydrogen by 2030.

The LGA is well placed to support the development of renewable hydrogen hubs in the Hunter Valley and Illawarra regions. In particular, Lithgow could be a location for a refuelling station that links the planned East Coast hydrogen superhighway with the Hume Hydrogen Highway in western NSW.

Industrials: Renewable Energy

WHAT'S HAPPENING

Greenspot and Shell Energy will partner on the 500 MW/ 1000 MWh Battery Energy Storage System (BESS) known as Wallerawang 9, in recognition of the 8 generation units that previously operated at the old power station.

Subject to a Final Investment Decision, Shell Energy will build, own and operate the BESS in stages, connecting to the 330KV Wallerawang Substation. The \$400 million project will generate 100 jobs in construction and could be operational by 2023-24.

Other projects include:

- **EnergyAustralia** is undertaking a feasibility study to use Lake Lyell as the lower reservoir for a 335 MW PHES with around eight hours storage, enough to power over 150,000 households during peak demand. A new upper reservoir would be built on the southern flank of Mt Walker.
- **Neoen**, which built the world's first big battery at the Hornsdale Power Reserve in South Australia, is proposing a 500MW battery to be known as the Great Western Battery, to be built just north of Wallerawang and the Great Western Highway.
- **Banpu Energy** – a sister company to Centennial Coal – is proposing to develop the 130 MW Pinecrest solar farm, which would connect to Transgrid's Wallerawang Substation.



Lake Lyell

Industrials: Manufacturing Industries

PROPOSED OUTCOME

Lithgow develops an advanced, circular manufacturing sector that is an anchor of the future economy, building on the region's history of industrial innovation and leveraging its skilled workforce, transport infrastructure and potential for renewable energy production.

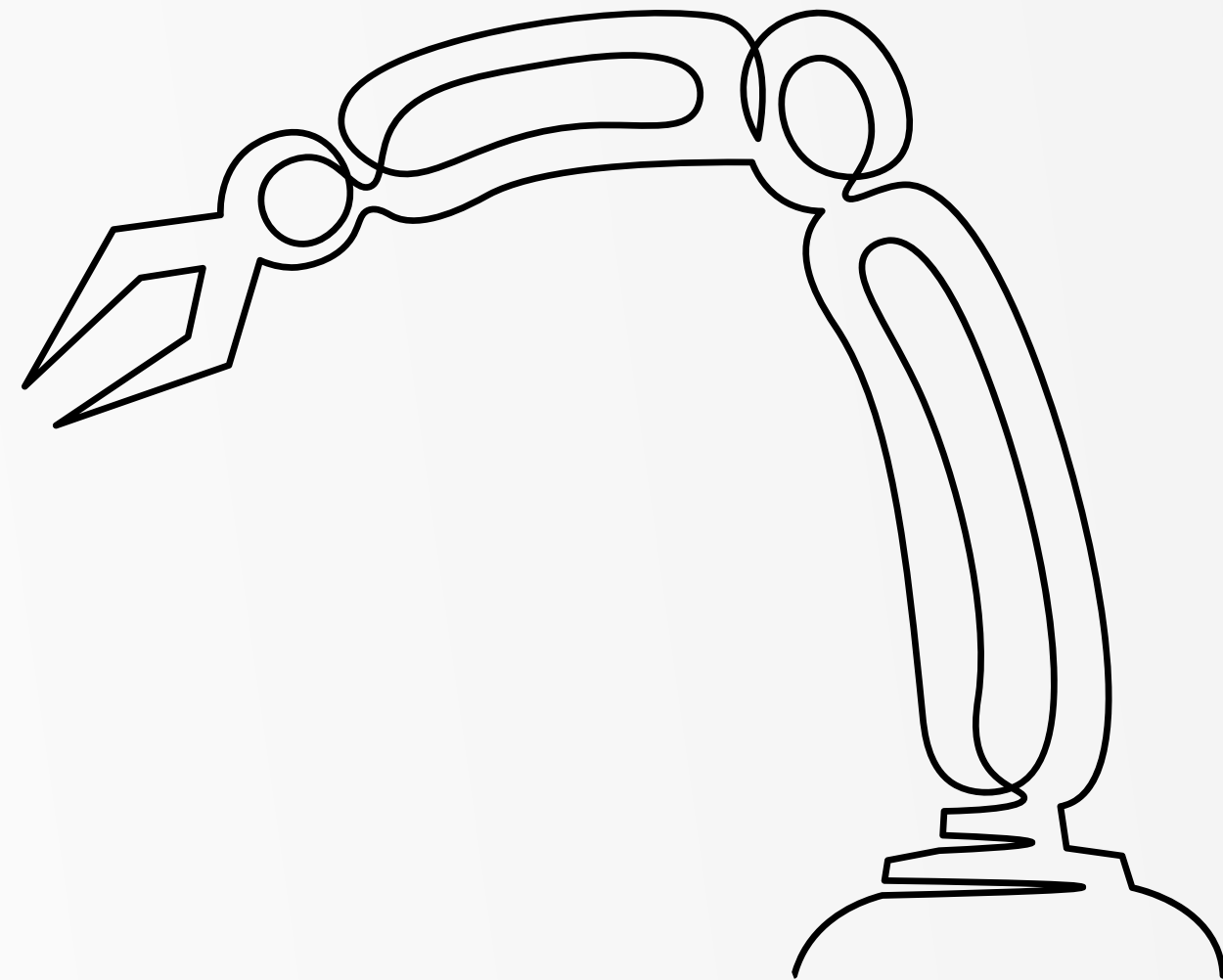
CONTEXT

Lithgow has a **proud industrial heritage** spanning more than 150 years from the first commercially viable steel mill in Australia, to cement production that Portland proudly proclaims built Sydney, to manufacturing for Australia's defence forces.

Today the Lithgow LGA is home to 46 manufacturers, some of which are large-scale, global enterprises, including Thales and Ferrero. Manufacturing in the area is focused on fabricating metal product, primarily for small arms, as well as transport equipment manufacturing. Other important manufacturing includes food product manufacturing, as well as printing and non-metallic mineral production. Manufacturing is the equal fourth largest contributor to Lithgow's economy and employs 8% of the population.

Lithgow LGA has four core areas where lands are zoned for industry and economic activity: Lithgow East and Lithgow West; Portland; Marrangaroo; and Wallerawang. However, stakeholders report challenges in accessing available and ready land that is appropriately zoned.

Manufacturing is undergoing a transformation world-wide, with a shift to advanced manufacturing, which focuses on how goods are produced to create value, driven by new technologies and business models. This includes a stronger emphasis on research and development, design, supply chain and logistics, and post-sales support and services. Manufacturing is also integrating circular economy principles into products and services – using less resources for longer through redesign, reuse and recycling.



Industrials: Manufacturing Industries

GROWTH OPPORTUNITIES

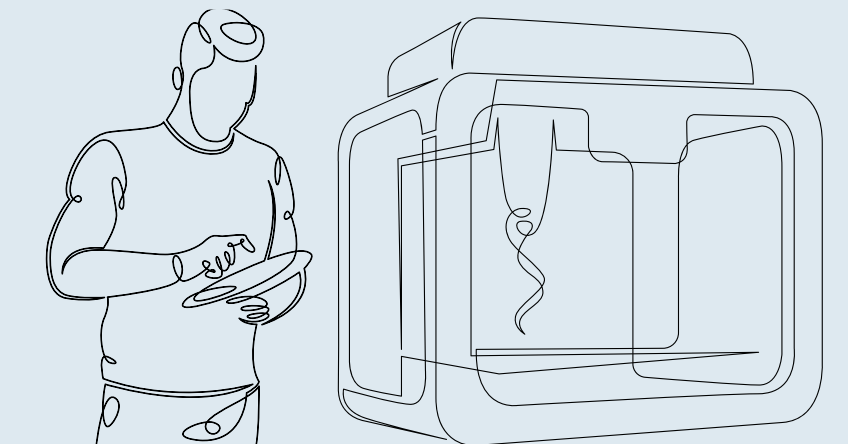
Supply chain and trade issues are prompting Australian governments to focus on building on-shore manufacturing capability. The priorities include manufacturing for defence, renewables and low emissions technologies, and transport, in which Lithgow has a competitive advantage.

Lithgow LGA offers access to affordable industrial land, water, energy and a workforce that is skilled in relevant trades. Its proximity to Western Sydney, including the new Western Sydney International Airport and Aerotropolis industry and jobs hub also presents opportunities.

Economic growth will be driven by expansion of local manufacturers and attraction of new businesses and industries, complemented by adopting advanced, clean manufacturing approaches to create high-value products and services that reach untapped markets.

In line with the NSW Government's Advanced Manufacturing Strategy and guidance from the Advanced Manufacturing Guidance Growth Centre, this will need to be supported by:

- developing precincts of related industries
- increasing collaboration and research between manufacturers and with research institutions
- promoting capital investment in advanced technologies and process improvements
- skills development.



Defence

Thales carries on a tradition of small arms manufacturing which began in Lithgow in 1912. Thales is now undertaking a modernisation of the Lithgow Small Arms site to attract associated businesses and research institutions to collaborate in the design, development and precision manufacturing of next generation weapons systems.

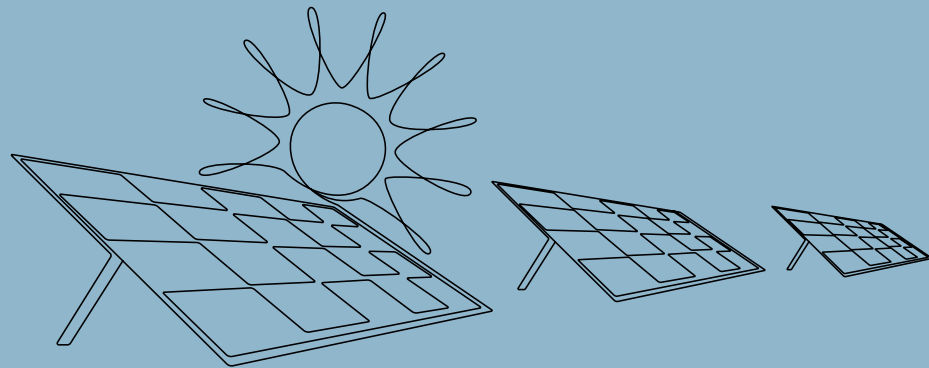
Thales has also established a Small Arms Collaboration and Cooperation Centre (C³) to help its Australian SME and industrial partners by breaking down barriers to entry and providing access to its resources, equipment, engineering skills and expertise for prototyping, test and evaluation, qualification, industrialisation and advanced manufacturing.

This expansion and modernisation lays a foundation to develop a Defence and Innovation Precinct that also attracts metal fabrication and component manufacturers and enables resource circularity.

Lithgow Railyards

Industrials: Manufacturing Industries

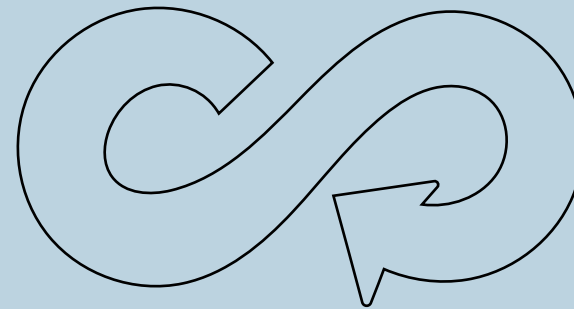
GROWTH OPPORTUNITIES



Renewable energy components and clean technologies

Proposed commercial, community and household renewable energy production in Lithgow LGA and in Renewable Energy Zones, including in Central West Orana, present opportunities to locally manufacture components required for the technology. This could include research, development, design and manufacturing of products such as solar panels and inverters, and electrolyzers for hydrogen production.

Lithgow LGA could position to become one of NSW's Clean Manufacturing Precincts to promote collaboration between new low carbon industries and decarbonising high emitters to develop and commercialise clean technologies that drive down emissions and accelerate shared access to clean infrastructure and technology. In addition to green hydrogen, this could include production of green building materials such as cement, using renewable energy and recycled materials.

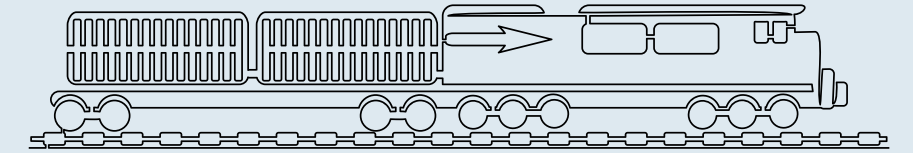


Circular economy integration

The Lithgow Community Strategic Plan 2022-32 includes a commitment to minimise the environmental footprint of the Lithgow region, live more sustainably and use resources more wisely. Key to this is developing a circular economy to minimise waste and promote reuse of resources.

High-value, innovative reprocessing of waste from local manufacturing could add economic value, such as use of ash by-product from energy production, metal and cardboard.

Other opportunities may be linked to the construction industry, such as manufacturing of household tiles made of repurposed glass and fabric. Partnerships with universities and industry, including co-location, could position this as a high-value, future industry.



Transport equipment

Lithgow LGA's location means it is well positioned to have a pivotal role as a multi-modal transport hub for the east-west transport arterials that connect Greater Sydney to the Central West of NSW.

Lithgow has opportunities to support the manufacturing of green transport solutions for the state, leveraging its historic strengths in rail rollingstock manufacturing and maintenance, and the presence of relevant companies their skilled workforces. This would be supported by projected development of hydrogen and other renewable energy production in the LGA. A Green Hydrogen Rail Conversion and maintenance facility, located on the main line, would need to be developed.

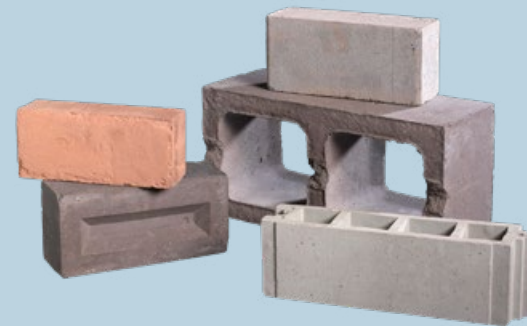
Industrials: Manufacturing Industries

WHAT'S HAPPENING

- Lithgow City Council and the Department of Regional NSW are partnering to develop a bespoke **investment prospectus** for the LGA, initially focused on advanced manufacturing for clean technologies and green construction materials.
- Thales and the NSW Government are co-funding **Stage 1 of the modernisation of the Lithgow Small Arms site**, which is expanding its world-leading precision manufacturing capability and local workforce to develop advanced equipment through innovative partnerships, to supply the Australian Defence Force, industrial partners and export customers.
- Planning is underway for the **Clarence to Wallerawang Pipeline Project** to construct a pipeline from Clarence Colliery to a new water treatment plant at Wallerawang. This will ensure a secure water supply for the Lithgow LGA into the future and provide water for future industrial growth and development, such as hydrogen production.

- EnergyAustralia** and **Nu-Rock** have collaborated to build the first commercial fully automated plant at Mt Piper that uses fly-ash by-product from the coal-fired power station to manufacture building materials such as blocks, bricks and pavers for use in residential and commercial properties and civil works.

Nu-Rock anticipates it will have its first permanent module operational in mid-2023 to produce commercial quantities, initially employing 35 full time jobs in operations and a further 60 in distribution. The sustainable process produces a carbon neutral and circular product that can be recycled at the end of life.



Nu-Rock building materials manufactured from fly-ash by-product from the Mt Piper power station. Photo courtesy of Nu-Rock



Lithgow Small Arms Factory.

Tourism

PROPOSED OUTCOME

The relevance of tourism to Lithgow's economy and the employment of young workers is enhanced by strategic investment and strong marketing initiatives that capitalize on the diversity and uniqueness of local natural, historical, and cultural tourism opportunities.

CONTEXT

Tourism's economic contribution is reflected in several sectors, including accommodation and food services, arts and recreation services, and retail trade.

Estimates indicate tourism contributes to **2% of total value** added in Lithgow (12th out of 20 industries) and provides **4% of total employment**. It supports around 204 mostly locally owned businesses in Lithgow and approximately 598,000 people visit the region annually.

Its diverse offerings range from camping facilities to luxury services, catering to tourists at facilities such as Black Gold Motel at Wallerawang, Emirates One&Only

Wolgan Valley, and Bubbletent.

Nearly two thirds of the region is national park or state forest, including Capertee (the second largest canyon in the world), Gardens of Stone, Marrangaroo, Turon and Wollemi National Parks.

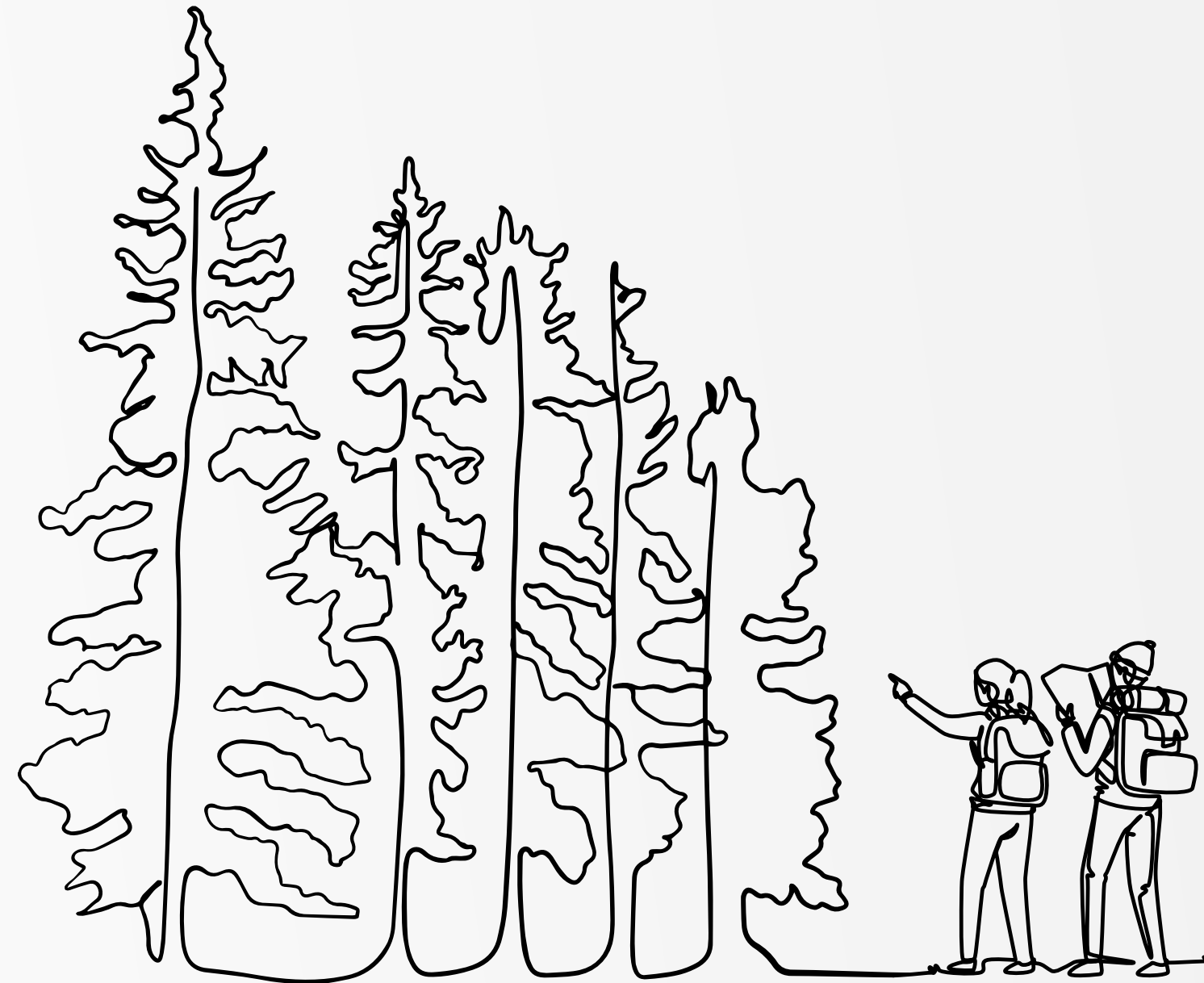
These natural assets offer outdoor activities ranging from rock climbing, bird watching, hiking, orienteering, camping and off road 4WD. This is complemented by the area's waterbodies, which offer water skiing, sailing, fishing, canoeing, swimming and dragon boat rides.

Located within the Wiradjuri Aboriginal Nation, with the Gundungurra Nation to the south and the Darug Nation to the east,

Lithgow has a rich aboriginal cultural heritage and unique tourist attractions including rock engravings and art, fish traps, carved trees, stone arrangements and spiritual sites, such as Maiyingu Marragu.

Lithgow has a growing arts and cultural movement and its long mining and industrial history is embodied in numerous tourist sites, such as The Foundations Portland and Blast Furnace.

These are increasingly featuring in a calendar of events, festivals and trails, such as the Lithgow Arts Trail, Portland Signs of Yesteryear, Ironfest, Lithglow, and Lithgow Halloween.



Tourism

GROWTH OPPORTUNITIES

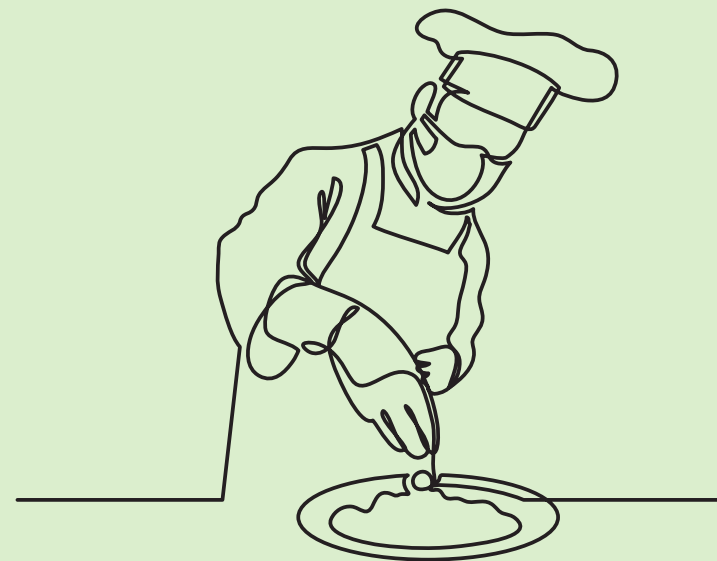
Tourism will likely play a more significant role in the future local economy. As the gateway between the Blue Mountains and the Central West, Lithgow can leverage its many regional endowments and favourable conditions for investment to develop an effective tourism strategy for coming decades.

The number of visitors to Lithgow is well below the neighbouring Blue Mountains, which receive around 2 million tourists a year – almost four times as many as Lithgow – and the cities of Bathurst and Orange, with approximately 1.2 million visits a year.

The opening of Western Sydney Airport in 2026 (100km from Lithgow) and improvements to the Great Western Highway are projected to significantly increase passenger traffic, alongside growing population trends in Sydney and the greater region, offering a demand opportunity for tourism.



The Foundations Portland



Destination of choice

Lithgow can position itself as a destination of choice for:

- **Eco-tourism**, capitalising on its natural assets for the growing and specialised naturalist market
- **Extreme sports** such as trail running and mountain biking, building on events such as the Glow Worm Trail running festival, the Lithgow Ridgy-Didge trail run, Portland Born to Run Festival and the Jetblack 24 Hour MTB in Lidsdale State Forest.
- **Regional tourism**, such as foodie trails linked to Bathurst, Orange and Mudgee.

Strategic investments and aggressive marketing will be required, potentially including joint approaches with the Blue Mountains and Central West-Orana. Growth in the tourism sector will also be dependent on:

- Placemaking initiatives to enhance the community and built environment and increase visitations
- Upgrading roads to key attractions, positioning Lithgow as the regional train interchange, and leveraging transport connections effectively, including for trail bike loops
- Improving and expanding trails, signage, mapping, bike paths, parklands, and parking at access points
- Improving regional services, such as water supply and Internet access in more remote areas
- Promotion of tourism investment opportunities, including to increase the offering of 4-5 stars accommodation, targeting high-income and international tourists
- Training the local workforce, particularly young people, and supporting Aboriginal operators, rangers and tour guides.



Tourism

WHAT'S HAPPENING

- In 2021, the NSW Government announced a plan to invest \$50 million to promote the expansion of the state conservation area around the **Gardens of Stone** and **Wollemi National Parks** and its further development as an adventure and ecotourism destination. Planning to attract 200,000 visitors a year, this project is expected to create around 200 jobs for the Lithgow area.
- Rocky Trail Destination is promoting the development of a **mountain bike tourism transformation** project in the region, in partnership with Lithgow City Council. The project will connect new and existing recreational and tourism assets in the LGA, including gravity trails at Hassans Walls and eco-tourism opportunities in the newly reserved Gardens of Stone State Conservation Area. The Lithgow MTB Transformation project will deliver crucial economic benefits for the region through increased and repeat visitation, overnight stays and spending, while also improving community wellbeing, liveability and quality of life.
- Lithgow City Council has commenced work on a **Destination Action Plan** to bring the Seven Valleys tourism brand to life by showcasing the region's unique endowments. The Seven Valleys Destination Action Plan will be a strategic roadmap to leverage state and federal government funding and identify partnership opportunities with key local stakeholders, such as tourism operators, local business chambers and government agencies.



Hassans Walls Lookout, Lithgow

Health Care and Social Assistance

PROPOSED OUTCOME

Lithgow's health care and social assistance sector remains the LGA's largest employer and provides priority specialist and general services, centred around a Health, Ageing and Innovation Precinct, to promote the health and wellbeing of the community and consumers from neighbouring areas, including ageing and vulnerable people.

CONTEXT

Although Lithgow is considered a mining town with a rich heritage in industrial innovation and development, today the health and social assistance sector, including aged care, is Lithgow's largest employer, with 14.2% of the workforce.

However, due to the nature of the health sector, its contribution to the regional economy is only equal fourth at 5.8% of GVA in 2020-21.

The epicentre of health and ageing services in the Lithgow LGA is a public-private multi-facility campus at South Bowenfels.

The site is focused around the 46-bed Lithgow Hospital, which provides district-level care for lower complexity patients, and the not-for-profit Lithgow Community Private day surgery and specialist centre.

The site also includes specialist consulting rooms, allied health services, a residential aged care facility and the Lithgow campus of the University of Notre Dame's Rural Clinical School.



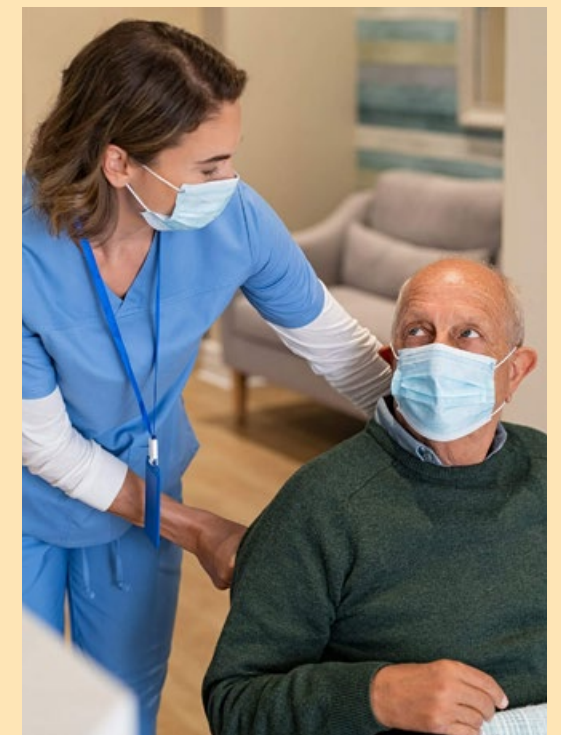
Other public health and aged care services provided by the Nepean Blue Mountains Local Health District (NBMLHD) include the Portland Tabulam Health Service and Lithgow Community Health Centre.

Primary health care in the area is supported by the Nepean Blue Mountains Primary Health Network, delivered by Wentworth Healthcare, a local not-for-profit organisation. Lithgow is also the headquarters for Westfund, a not-for-profit health insurance provider.

The LGA is well catered for in residential aged care services, including Three Tree Lodge, Portland Tabulam Health Centre and Respect Cooinda Aged People's Home. Lithgow is also home to Treeview Estates, a 160-villa retirement village, the largest across the Blue Mountains and the Central West.

Lithgow has challenges for healthcare delivery that reflect its ageing population, and lower health

outcomes experienced by First Nations people and Culturally and Linguistically Diverse (CALD) communities, the inmate and related transient population, and those experiencing socio-economic disadvantage. The area also has difficulty attracting medical professionals and care staff.



Health Care and Social Assistance

GROWTH OPPORTUNITIES

Health care and social services, including aged care, is one of the major growth sectors across the broader Australian economy.

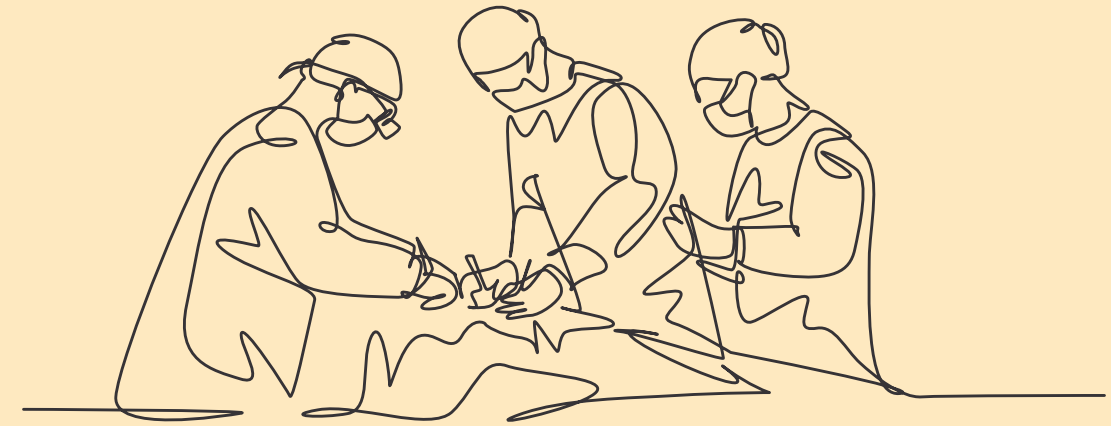
Position Lithgow at the forefront of healthy ageing

Lithgow and its villages are well placed to build on the growing demand from an ageing population, including from Western Sydney residents who may be attracted by the area's lifestyle and potential for more affordable housing, within proximity to services, family and friends in Sydney. Equally, as the gateway from the Central West and Orana, Lithgow could be positioned as enabling older residents to retain their connection to their region.

An update to Lithgow City Council's Ageing Strategy should position the LGA at the forefront of **healthy, active and better ageing** to support prolonged wellbeing and enable people to remain in their homes and communities longer. This needs to be

complemented by a focus on **new models of aged care** in people's homes, in the community and in residential aged care settings. It should also consider the particular needs of vulnerable communities who have difficulty accessing relevant services.

An innovative approach to ageing could be complemented by a **child-centric approach**, recognising that health and wellbeing outcomes throughout our lifetimes are significantly affected by childhood, particularly the first 1,000 days of a child's life. **Intergenerational connections** could also improve outcomes across generations and build community.



Local services to meet unmet demand

The development of the NBMLHD Healthcare Services Plan (HSP) 2023-28 provides an opportunity to identify unmet demand for health services that could be effectively delivered in Lithgow, rather than residents having to travel for care.

Among the issues stakeholders advocated for are:

- Expanded mental health care, including for the prison population and families, and other vulnerable groups
- More complex orthopaedics, including for the ageing community, and enhanced allied health services, rehabilitation and transitional care with dementia secure models
- Lung function tests, particularly relevant for mining and industrial-related health conditions
- More complex surgical procedures, requiring more complex anaesthetist services.

Health Care and Social Assistance

GROWTH OPPORTUNITIES



Lithgow Health, Ageing and Innovation Precinct

While a precinct has emerged organically at South Bowenfels, the updated HSP and Lithgow Ageing Strategy could inform the development of a Health, Ageing and Innovation Precinct Masterplan for the LGA with a broader footprint.

In addition to the South Bowenfels site, it could include a second campus focused on commercial ventures – such as on greenfield employment lands on the Marrangaroo site or at the nearby Thales site – as well as service delivery areas in Lithgow and Portland. This should incorporate future infrastructure and land use needs to facilitate growth.

Services and products for new models of care

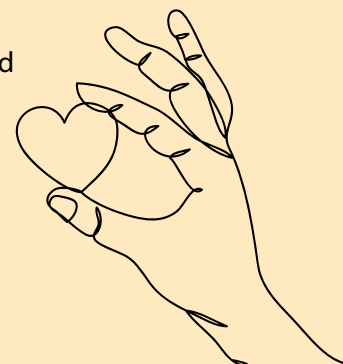
NSW Health has identified that two-thirds of the disease burden in NSW is due to conditions that could largely be managed outside the hospital setting, and that hospitalisation can exacerbate some conditions (NSW Govt, 2022).

It is working towards more people accessing service in the home, community and virtual settings, through new models of service delivery and technology. Likewise in the aged care sector, remote in-home telehealth and assistive technologies are increasingly part of the solutions enabling people to stay in their homes longer.

Economic growth in Lithgow could be supported by the attraction of manufacturers and service providers focused on providing these services, which could also benefit people with disability and other vulnerable groups.

This could include manufacturers of “smart home” products, and of equipment and home modifications, such as handrails, leveraging metal fabrication and construction material manufacturing already occurring in the LGA.

Other targets may include healthy ageing and aged care service providers, such as fitness and lifestyle services, and others aimed at providing assistance with everyday living activities and respite care, including inter-disciplinary teams.



Retirement villages, in-community ageing and residential aged care services

Lithgow LGA has strong potential for growth in retirement villages and residential aged care, given the growing ageing population in our community. As housing costs have increased in Sydney, people are increasingly selling and moving to Lithgow, its villages and valleys, particularly from the Blue Mountains and Western Sydney. There is also a potential market from Central West and Orana, such as those moving off the land who want to remain in the regions but be closer to family in Sydney.

However, as retirees increasingly prefer to stay independent, there is also the opportunity to attract targeted investment in integrated living in residential areas. For example, Council could require ageing appropriate, affordable housing that meets accessibility and technology requirements of “smart homes” to be integrated into planning or precinct controls for greenfield mixed dwelling developments.

Public Administration and Safety Industries

PROPOSED OUTCOME

Lithgow is respected as a base for decentralised government services, which provide a steady economic foundation for the community.

CONTEXT

Lithgow LGA is the base for a range of executive, service delivery, judicial, and public safety, security and defence activities of the Commonwealth and NSW Governments and Lithgow City Council, including:

- Lithgow City Council
- State Debt Recovery Centre
- Services such as the Commonwealth Department of Human Services (Centrelink, Medicare), Service NSW, NSW Department of Family and Community Services, NSW Local Land Services
- Emergency services, including the PoliceLink multi-media contact centre for NSW
- Lithgow Local Court
- Lithgow Correctional Centre maximum security facility for men
- Marrangaroo Training Area for the Australian Defence Forces.

Collectively, these services employed 930 people or 10.7% of the workforce in 2020-21. This is significantly higher than for NSW and Regional NSW where it accounted for around 6.2% of total employment.

Public administration and safety is the third largest sector in Lithgow, contributing \$110.4 million or 7.8% to GVA, significantly higher than for NSW and Regional NSW .



Lithgow City Council



Public Administration and Safety Industries

GROWTH OPPORTUNITIES

The public administration and safety sector is driven by government decisions to expand existing services and/or establish new services in Lithgow. Operating regional services hubs in a decentralised public sector can improve services and policy development, create social and economic opportunities for communities, and reduce operating costs for government.

The Australian Parliament's House of Representatives Select Committee on Regional Development and Decentralisation (2018) recommended that decentralisation be part of a broader strategy for regional development that is considered when:

- a new unit, agency or organisation is created;
- an organisation is merged or reorganised; or
- a significant property break occurs such as the termination of a lease.



State Debt Recovery Centre, Lithgow



Given Lithgow's proximity to Sydney and particularly to the growing Western City metropolis, it offers convenience to the seat of government, combined with potential for affordability.

Lithgow's potential role as a future multi-modal transport hub would also support the mobility and engagement of workers between public administration hubs in the city, the region and in Sydney.

It is recommended that services be considered that leverage existing operations, such as the contact centre capacity of PoliceLink and the State Debt Recovery Centre's processing and collection of fees and fines.

Similarly, opportunities could be sought where Lithgow's infrastructure demonstrates competitive advantage, including affordable vacant or underutilised buildings and warehousing that offers secure and government-compliant networks and storage. This could also be attractive to the private sector.

The current profile of employers is already generating a workforce with suitable skills for public administration and safety. Attraction of further government services would position Lithgow as a location for people to pursue a public service career, enabling mobility between agencies while retaining their skills within the community.



Supporting the coal transition



PROPOSED OUTCOME

Any decline in coal mining and coal-fired power generation in Lithgow is planned and equitable, offers a just transition to workers, ensures infrastructure and natural resources are repurposed or rehabilitated as future economic and community assets, and engages workers, the community and other stakeholders in shaping future opportunities.

CONTEXT

In September 2021, EnergyAustralia announced that it would “transition out of coal assets by 2040”. This brought forward the retirement date for Mt Piper to 2040, although EnergyAustralia noted that the ultimate retirement date would be determined by several factors (EnergyAustralia, 2021 a,b).

The Australian Energy Regulator requires National Electricity Market generators to provide at least 42 months’ advance notice of their intention to close, unless granted an exemption.

Consents for the major underground coal mines currently operating in the LGA – Clarence, Springvale and Airly Coal Mines – will expire in 2036, 2036 and 2042. Angus Place is currently in care and maintenance mode, however Centennial is seeking approval to extend its underground mining operations with the proposed Angus Place West Project (current consent is till 2024) (Centennial Coal, 2023).

Given the **uncertainty** of the energy transition nationally, three timeframe scenarios for closures were considered:

1. Closures in the near term (2028 to 2032) – This period broadly aligns with the 42-month minimum legal notice required for closures of power stations. This does not signal that closure will occur in 2028, but considers the impact should an announcement be made in the future to bring closure forward to this timeframe.
2. Closures in the near to medium term (2032 to 2036) – This period may represent a scenario where coal prices are sufficient to incentivise further mining, with insufficient drivers for the power station and mines to remain operational for the period to 2040.
3. Closures in the medium to long term (2036 to 2040) – This period aligns with EnergyAustralia’s most recent announcement on the closure of Mt Piper and represents an upper bound for the remaining commercial viability in the coal mining and coal-fired energy generation industries.

The impact on Lithgow in all instances is significant.

Early planning and support for industry, worker and community transition will increase the likelihood that there are no “stranded assets, stranded workers and stranded communities” in Lithgow, including if closure dates are brought forward (Briggs, C. & Mey, F., 2020).

Overall, the Mining and Electricity, Gas, Waste and Water sectors employ more than 16% of Lithgow’s workforce, with a high share of well-paying jobs. For example, the West Centennial Coalfields, which include Lithgow and Mid-Western Regional Operations, employ about 800 FTE workers plus more than 100 FTE contractor positions, primarily including machine operators, drivers, technicians and a small proportion of labourers. Each producing site in Lithgow LGA trades with an average of 73 local, 92 regional and 387 NSW supplier companies each year (Centennial Coal, 2021).

The intention is to retain as many workers and suppliers in the community in other comparable roles. Should they and their families leave, this may change demographics in Lithgow’s villages, affecting demand for services, and will result in the loss of contributions workers and their families make to their communities, including as volunteers.



Supporting the coal transition



LESSONS FROM GLOBAL TRANSITIONS

There are a growing number of communities around Australia and the world that have made or are making the transition from economies dependent on coal and coal-fired power generation to greener, lower carbon futures, based on economic diversification.

In addition to lessons on economic diversification, rehabilitation and repurposing of infrastructure and resources, and governance that are reflected elsewhere in this report, there are critical lessons on how to support workers, their families, and suppliers in a transition:

- Transitions should include a focus on “decent” work – work that is “productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, including equal opportunities in the workplace” (UN, 2015). This includes conditions that meet community standards, usually with consideration for comparable stability and earnings, the location needs and career preferences of workers.
- While individuals need to be offered alternatives, they should be empowered to make choices that suit them.
- Planning a range of options for pathways for workers to re-employment or retirement is critical, including to prevent intergenerational issues for the children of workers.
- Approaches include recognition of prior experience, retraining, labour pools, education pathways, early retirement, financial and personal counselling including for families, setting local recruitment targets for new businesses coming into the area.
- Demand for labour needs to be considered as strongly as supply.
- The impact on supply chains is also important, supporting sub-contractors to adapt their business models and customer base, including through local procurement requirements.
- Having an economic development focus at the expense of a focus on worker transition is less successful.



Supporting the coal transition



MANAGING THE TRANSITION

There are two key phases for managing the transition - **early planning** and **preparation** prior to active closure activities, and intensive transition approaches following formalisation of closure timeframes.

During the early planning and preparation phase, it will be important to establish a rapid response framework for any unplanned early closures, drawing on lessons learned from other transitions, including closure of the Wallerawang power station in 2014.

Lithgow City Council and the NSW Government will need to engage with EnergyAustralia and Centennial Coal on future closures and repurposing, with a strong focus on workforce preparation and supply chain mapping and planning. This includes monitoring implementation and lessons as EnergyAustralia prepares to close Yallourn in Victoria's Latrobe Valley in 2028.

Lithgow should also engage in the NSW and Australian Government transition responses, including engaging with the National Net Zero Authority, the Central West Expert Panel and any other transition authorities established to coordinate planning and implementation and allocate funding, such as Royalties for Rejuvenation.



Leading for growth

Leading the **diversification of Lithgow's economy**, with consideration for the social and economic enablers and consequences, will be a complex task. It will require adaptive leadership and clear governance and implementation arrangements, underpinned by stakeholder engagement and monitoring, evaluation, learning and reporting.

In partnership, Lithgow City Council, the NSW and Australian Governments will work with stakeholders to create a positive investment environment, attract new industries and support businesses to expand.

The LEEP Transition Plan recommends that a governance framework be developed outlining authority, accountability, leadership, direction and management of the Lithgow transition. It is expected that the model chosen will espouse the principles of top-down leadership that facilitates local ownership and innovation. This place-based approach will draw on local resources and stakeholders to mobilise change and investment, while learning from regional and international experiences of transitions.



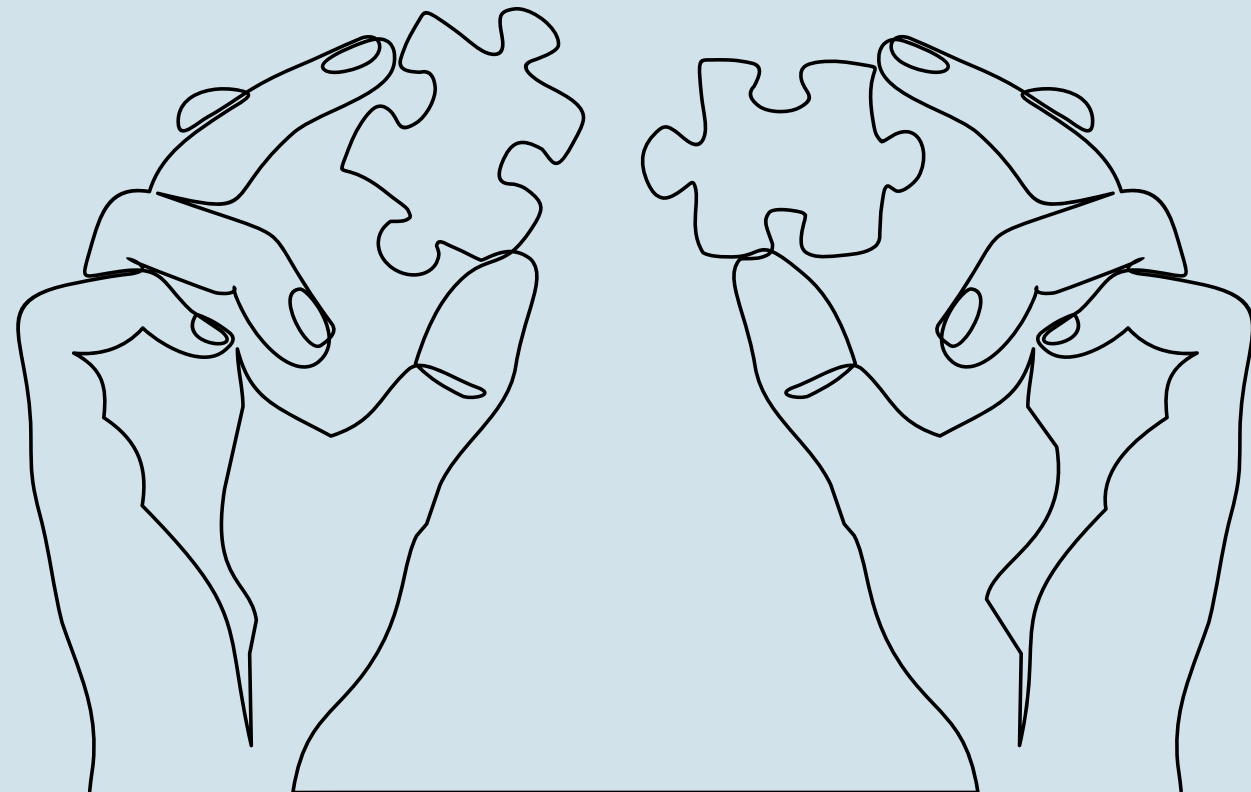
Portland

Leading for growth

ATTRACTING INVESTMENT, PLACEMAKING AND PLANNING

Economic diversification will require collaboration to implement an aspirational shared vision and key actions, new forms of engagement between employers, the workforce, and government, and new pathways to attract and retain a diverse and growing workforce.

Strong engagement with the community and benefit sharing will be critical including to ensure social licence for developments. At the same time, leadership of changes to Lithgow's local built environment will be an important symbol and visible manifestation of the program of change that the community is engaged in.



All three tiers of government will need to work together on coordinated action for:

- **proactive investment attraction** to create a positive investment environment and attract new industries within the established sectors of the economy
- addressing barriers to economic growth, including undertaking a **review of employment lands and residential zonings** to ensure suitability and addressing issues such as **housing availability and affordability**
- supporting the development of a local pipeline of skills in science, technology, engineering, arts and maths (STEAM) and **education-to-employment pathways** for the jobs of the future economy
- **inclusive placemaking**, creating quality places where people want to live, work, play, shop, learn, and visit, centred around place identity, the physical environment and people's experiences
- creating **positive social and economic change** through the transition to avoid collective feelings of loss, marginalisation, loss of value and hopelessness.

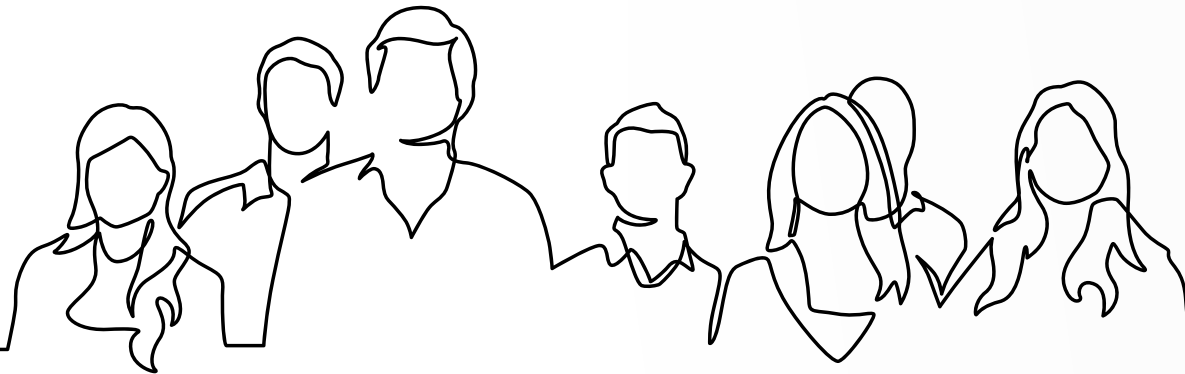
Priority actions

The **LEEP Transition Plan** outlines a set of short, medium and long-term actions and objectives to activate new opportunities for the local economy and our communities.

The following summarised actions are the priorities for the whole economy and for each sector for the first 5 years, many of which will require initial action in the first 12 months to lay a foundation for subsequent initiatives.

INDUSTRIALS: RENEWABLES AND MANUFACTURING

- Engage the community in the vision for Lithgow's industrial innovation potential and establish a platform for social licence and engagement to enable deliberative decision-making and informed consent regarding Lithgow's industrial future.
- Review existing and potential employment land zonings to ensure adequate, suitable supply, considering likely demand, serviceability, infrastructure re-use, co-location and supply chain value capture, environmental and community factors and constraints.
- Review planning instruments, including Council's development control plans, to align them with the energy sector vision.
- Plan precincts around priority industrial activities in advanced clean manufacturing, renewable energy and defence.
- Identify planning opportunities for renewable energy sites, particularly where reuse and repurposing of the region's redundant mining and coal-based energy land and built infrastructure is available.
- Engage renewable energy project developers early, through calls for expressions of interest in investigation and pre-feasibility assessment of sites that show economic, environmental and social merit.
- Promote industrial investment opportunities through publication of an investment prospectus.
- Establish capacity to evaluate project proposals against non-financial outcomes, including preparing a framework for renewable energy projects including benefit sharing with impacted communities and capturing value add into the local economy.
- Support industrial business development processes through an "open for business" approach to provide business case, due diligence and planning support to industry.
- Position Lithgow in the hydrogen economy, engaging in the NSW Government's Hydrogen Hubs initiative and establishing partnerships with shortlisted project proponents, with Lithgow as a potential off-taker.



Priority actions

TOURISM SECTOR ACTIONS

- Promote tourism investment opportunities through publication and regular updates of an investment prospectus.
- Review and update all tourism planning and strategy documents, including the Lithgow Destination Management Plan, to reflect the outcomes of the LEEP process.
- Investigate initial feasibility and develop an early business case to establish Lithgow as the regional train interchange.
- Investigate options to improve walking and cycling infrastructure around Lithgow LGA, including off-road trail routes from Lithgow down the Blue Mountains (loop with train service).
- Engage local tour operators and the community in establishing an industry-led destination marketing strategy for Lithgow.



HEALTH, SOCIAL AND PUBLIC SERVICES

- Develop a Lithgow Health, Ageing and Innovation Precinct Masterplan including an infrastructure plan to investigate, support and foster growth in the health and ageing sector.
This should include:
 - expanded and ongoing public health services
 - priority services to be delivered by Lithgow Community Private, specialists and the primary health network
 - potential expansion of Notre Dame Clinical School and research collaborations
 - commercial investment attraction.
- Incorporate future land use needs into the precinct planning process.
- Audit potential occupied and vacant buildings suitable for accommodating public services operations to position Lithgow and its towns as a viable option for future regionalisation of public services.
- Engage the health, ageing and social services sector in the update of relevant strategies, including the Nepean Blue Mountains Local Health District's Healthcare Services Plan 2023-28, LCC's Lithgow Ageing Strategy, and consideration of child-centric and intergenerational connection approaches.
- Develop a commercial investment attraction plan for life sciences manufacturing and services, new and expanded retirement villages, integrated ageing in new housing developments and residential aged care services.



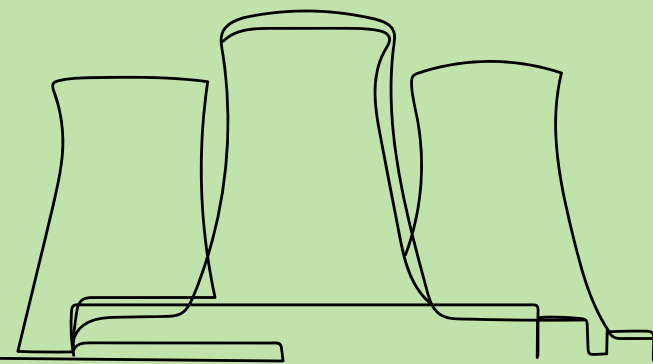
WHOLE OF ECONOMY

- Review existing residential land zonings and potential candidate sites to ensure suitability of supply considering likely demand, serviceability, environmental and community factors and constraints.
- Align developers with public infrastructure - Review (or draft and adopt) Part 7 infrastructure contribution agreements or plans for proposed residential and employment land release areas identifying key issues and barriers to development.
- Establish a regional skills baseline by undertaking a manufacturing industry skills and training audit in consultation with industry and the VET and university sectors.
- Engage industry, educators, peak bodies and unions early in regional workforce planning, and align with priority economic growth areas, identifying likely skills requirements, training and pathway gaps and opportunities, and potential disruptions.
- Focus workforce development on skills to improve adaptive capacity, by strengthening flexible, innovative and STEAM skills.
- Identify rail and road transport constraints and opportunities to enhance Lithgow's attractiveness as an investment destination, including green hydrogen conversion of rail freight.
- Engage with key agencies on electric vehicle infrastructure.
- Engage early in positioning Lithgow in the region's major transport infrastructure planning processes, including undertaking a detailed feasibility assessment for Lithgow's role in the East Coast Hydrogen Refuelling Network and exploring opportunities with NSW Government for an 'East Coast to Western NSW Hydrogen Highway Initiative'.

Priority actions

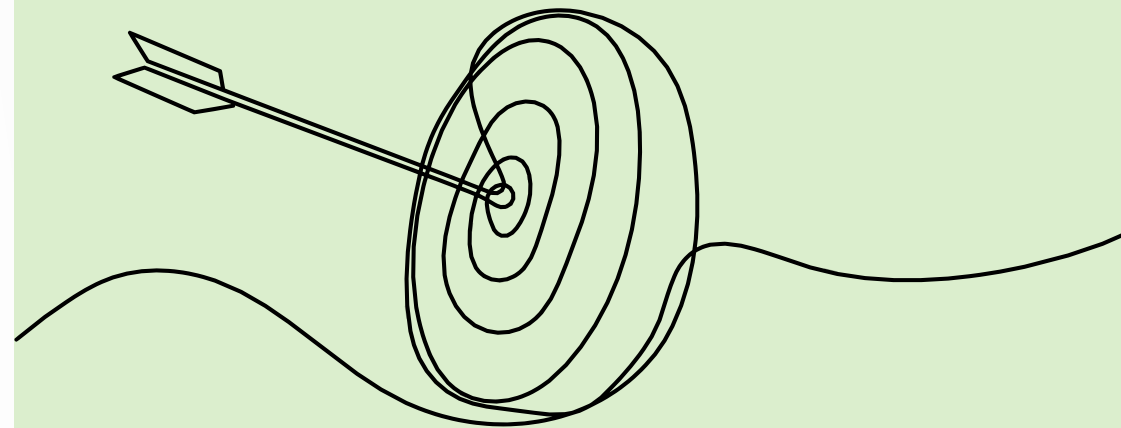
TRANSITION

- Establish a rapid response framework for any unplanned early closures, particularly for employment and other support services.
- Engage in the NSW and Australian Government transition response, including with the National Net Zero Authority, Central West Expert Panel and on strategic projects aligned with regional plans, for the benefit of Lithgow.
- Develop insights from local experiences, including lessons learned from the closure of the Wallerawang power station in 2014, and engage in peer-to-peer discussions with other local authorities in transition regions, to incorporate into transition planning.



GOVERNANCE

- Establish a governance vehicle for collaboratively managing the regional diversification initiative including actions arising from this Action Plan. Participants should include multi-government, cross-sectoral industry and knowledge sector representation. Key tasks include:
 - building and maintaining commitment to proactive, inclusive diversification
 - engaging in policy dialogue to facilitate local action
 - attracting government funding and collaboration with private interests for innovative projects
 - advising on major infrastructure sequencing, and
 - monitoring and evaluation.
- Ensure a coordinated approach for collaboration between the governance vehicle and key actors and agencies responsible for aspects of this diversification initiative.
- Set targets and objectives across key stakeholders and executive operations.



INTEGRATED PLANNING

- Integrate resilience practices across infrastructure and urban planning, to support the actions of the Lithgow Floodplain Risk Management Strategy, facilitating greater urban residential densification.
- Engage the community in master planning around Lithgow's vision of Place, to deliver on key placemaking and tourism recommendations.
- Maintain alignment of Lithgow planning and strategy documents with the regional framework.
- Ensure key actions of the City's Integrated Water Management Plan are incorporated into planning activities where appropriate, including considerations for pumped hydro energy storage (PHES) and green hydrogen.
- Engage early and take a proactive approach to environmental planning, for enabling diverse accommodation, tourism, renewables and new investment opportunities.



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