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INQUIRY INTO IMPACT OF RENEWABLE ENERGY ZONES (REZ) ON RURAL AND REGIONAL COMMUNITIES AND INDUSTRIES IN NEW SOUTH WALES

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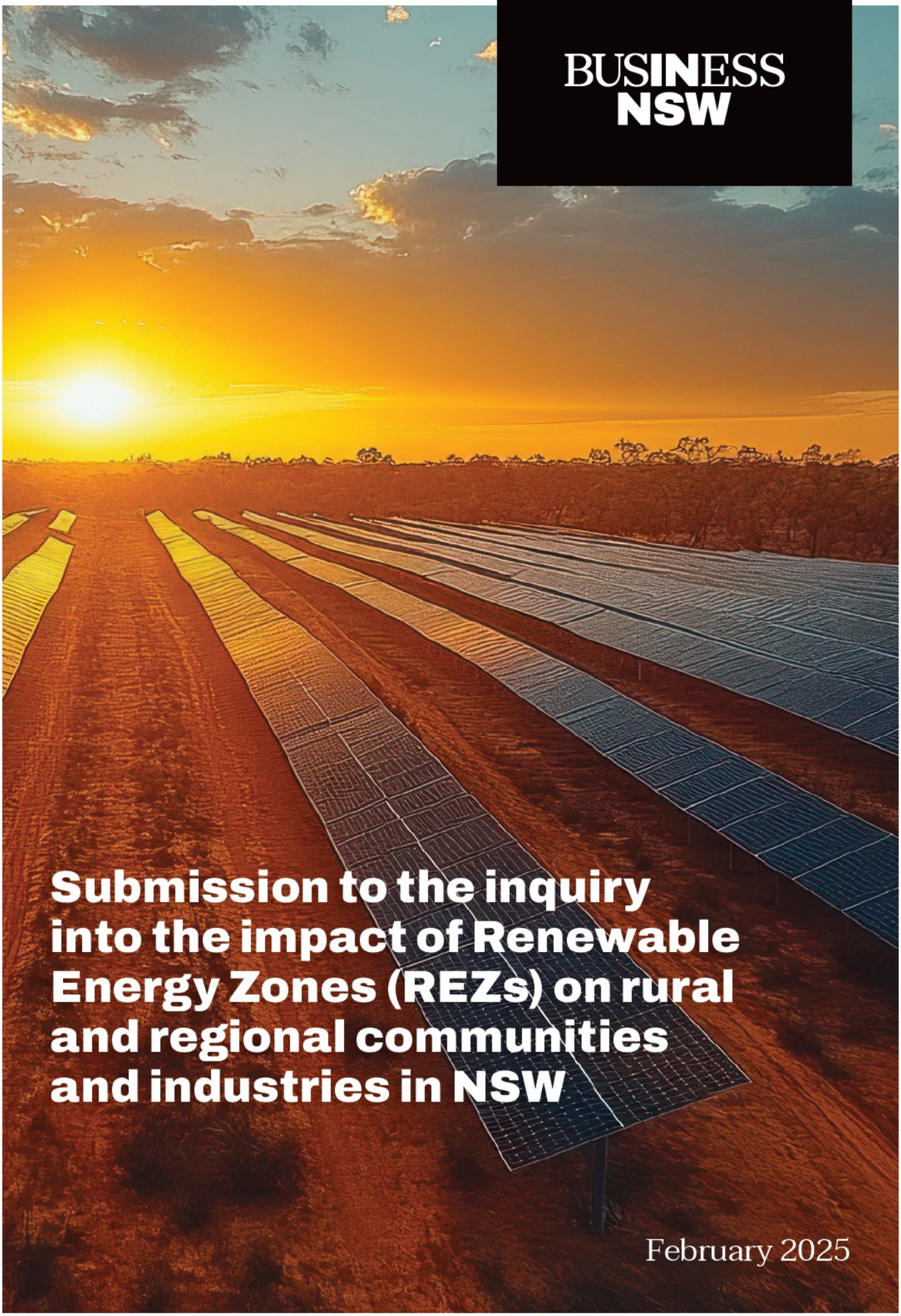

Submission to the inquiry into the impact of Renewable Energy Zones (REZs) on rural and regional communities and industries in NSW

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Contents

Business NSW is grateful for the opportunity to present a submission on the 'Inquiry into the impacts of Renewable Energy Zones (REZs) on rural and regional communities and industries in New South Wales'.

Business NSW is the state's peak business organisation with close to 50,000 member businesses. Business NSW works with businesses spanning all industry sectors, the majority of which are small or medium enterprises. Operating throughout a network in metropolitan and regional NSW, Business NSW represents the needs of business at a local, state, and federal level.

All businesses in NSW are in some form dependent on energy to operate and it can account for a large part of a business's operating costs. Energy has been a primary concern for businesses in NSW, especially it's cost. Since the sharp rises in energy prices that have occurred since 2022, energy is always one of the top concerns raised in the Business NSW's quarterly Business Conditions Survey.

Business NSW supports the NSW government's commitment to Net Zero and the NSW electricity roadmap as the pathway for the energy transition to provide businesses in NSW with affordable, reliable and sustainable energy.

Renewable Energy Zones (REZs) in NSW are a key pillar of the NSW energy transition. These REZs cluster and connect large-scale renewable energy projects to capitalise on economies of scale and deliver clean, affordable, and reliable energy. Five REZs have been declared to date including the Central West Orana (CWO), Hunter-Central Coast (HCC), New England (NE), South West (SW) and Illawarra.

This once in a generation energy transition and the delivery of the REZ's has several impacts to rural and regional communities and their businesses. For many businesses, the transition is causing disruptions to operations and new directions of growth due to the move to renewable energy reshaping supply chains, cost structures, and investment priorities. Companies that rely heavily on fossil fuels are facing increasing risk from price volatility and supply insecurity.

However, with the transition and delivery of the REZ's comes many new opportunities to the community and their businesses. The energy transition is not just about adding more renewables; it is about reshaping the entire energy system to be more efficient, resilient, and adaptable. Building on the strengths of the REZ's region's valuable natural assets, industry capability, skilled workforce and existing industry base in agriculture and mining, the development for renewable energy projects bring economic opportunities to regional NSW for new and diversified industries.

David Harding

Executive Director, Business NSW

Summary of Recommendations

Industry development

Local manufacturing

The NSW Renewable Energy Zones (REZs) will have an impact on local industry as they shift from the fossil fuel-based industries to renewable energy industries. The Central-West Orana, New England, South-West, Hunter Central Coast, and Illawarra regions of NSW are key strategic locations that are well-placed to capitalise on the emerging clean industry development. Each region's differing social, economic, and environmental endowments will open different new industry opportunities suited to that region.

The Australian manufacturing sector plays a unique role in the economy, driving growth in productivity, innovation, exports, and high-quality jobs. Manufacturing is vital to the Australian economy, and in 2023 contributed $124 billion of value-add to the Australian economy accounting for 5% of our GDP[1]. It is Australia's sixth largest industry – bigger than agriculture, retail or education and supporting nearly 900,000 jobs, or 6.1 per cent of total employment[2].

Australia's manufacturing sector has surprised sceptics in recent years by showing signs of growth. Between 2023-2024 the sector showed a 2.8% real growth rate in 2023, and output is currently higher than at any point in the last decade[1]. The sector has the potential for even greater growth amidst the delivery of the NSW REZs. Each region has the opportunity to build capacity of local manufacturing businesses to participate in emerging renewable technologies and supply chain, as well as sectors subject to current and potential future global supply chain constraints.

For example, the presence of the Parkes Special Activation Precinct (SAP) in the Central-West Orana Region and the Wagga Wagga SAP adjacent the South-West REZ provide opportunities for large scale manufacturing or assemblage. Both REZs feature road and rail freight connectivity, which benefits the importing and exporting of products.

Increasing local content in manufacturing for the renewable energy sector will reduce supply chain risks and increase the economic benefits for rural and reginal communities and the NSW Electricity Infrastructure Roadmap. It will also increase NSW, and Australia's global competitiveness in manufacturing by supporting export opportunities.

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[1] Ai Group Research & Economics. September 2024. Manufacturing in Australia - Performance benchmark report 2024. https://www.aigroup.com.au/globalassets/news/reports/2024/research-and-economics/ai_group_australian_manufacturing_benchmark_report_september_2024.pdf

[2]Jobs and skills Australia. Occupation and Industry Profiles-Manufacturing. https://www.jobsandskills.gov.au/data/occupation-and-industry-profiles/industries/manufacturing

Overcoming barriers

There are several challenges to overcome to build capacity into local manufacturing within the REZs, including labour and supply chain constraints. The committee that led the Commonwealth 2022 inquiry into Australia's transition to a 'green energy superpower' noted that 'supply chain constraints may present a significant challenge to Australia's domestic decarbonisation and pursuit of green energy export opportunities[3].

Since, 2020, there has been a significant increase in the cost of construction materials as well as longer waiting times and supply chain delays in relation to procurement. In 2021 alone, the prices of wind turbines and PV modules increased by between 10% to 25% (depending on location)[4]. Other barriers relating to the supply chains include constraints on participation by small to medium enterprises (SMEs) and regional suppliers, short timeframes that limit the opportunity for new entrants and difficulties including new suppliers in established supply chains.

The success of local manufacturing in each REZ across NSW will also depend on the location chosen for manufacturing certain products. For example, encouraging co-location of related advanced and value-added manufacturing industries to maximise efficiency and infrastructure use, decrease supply chain costs, increase economies of scale, and attract further investment.

Regional communities and industries will have differing views on optimal location for certain industries. One study done by the University of Technology Sydney (UTS) found that when it came to the optimal location for renewable energy technology manufacturing in the NSW REZs, there were differing views amongst stakeholders, especially between port facilities and inland locations such as Parkes and Wagga Wagga SAP[5].

Energy cost and emission regulations also pose significant barrier to growing local manufacturing in the regions. Energy costs together with high-cost labour, increasing insurance cost and climbing real estate prices (or rentals) has caused Australia to become very expensive for goods and services impacting our local manufacturing market and its potential. Additionally, net zero emissions will increasingly be a requirement for operating in renewable energy supply chains, limiting supply chain choices and/or adding cost.

The NSW government needs to decrease the barriers mentioned above for SME's and regional businesses as well as their financial and resource constraints. For

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[3] Joint Standing Committee on Trade and Investment Growth. 2023. *Australia's trade and investment opportunities in a global green economy.* *Australia's trade and investment opportunities in a global green economy*

[4]McCullough Robertson's Lawyers. 2024. *Emerging Issues.* https://www.mccullough.com.au/emerging-issues-for-the-australian-energy-and-resources-industry-2024/

[5] Briggs, C., Gill, J., Atherton, A., Langdon, R., Jazbec, M., Walker, T., Youren, M., Tjondro, M., Rutovitz, J., Cunningham, R., Wright, S. and Nagrath, K., 2022. Employment, Skills and Supply Chains: Renewable Energy in NSW – Final Report. Sydney: University of Technology Sydney and SGS Economics and Planning.

example, the NSW government could broker corporate renewable energy power purchase agreements (PPAs) or fund onsite renewable energy to lower costs and emissions like the Victorian government.

NSW is well-placed to overcome many of these barriers and realise key opportunities. Australia has internationally respected research in clean technology innovation and a unique opportunity to build local manufacturing in our regions. NSW Government initiatives such as the $250 million Renewable Manufacturing Fund and Special Activation Precincts can play a key role in this transition. Business NSW urges the NSW government to overcome barriers and facilitate the creation of more sustainable, localised supply chains through emerging advanced manufacturing industries that leverage the REZs region's endowments.

Recommendation 1: Build capacity of local manufacturing businesses and emerging supply chains to participate in renewable energy technologies by:

a) Identify and develop supply chain opportunities for renewable energy technologies.

b) Reduce resource, cost, regulation and supply chain barriers for small to medium enterprises (SMEs) and regional suppliers.

c) Work with Investment NSW to incorporate manufacturing investment needs in the REZs with local business attraction efforts.

d) Use a portion of REZ access scheme fees to reinvest in local manufacturing pilot programs, grants and loans.

e) Undertake a detailed cost-benefit analysis to understand the optimal location for new manufacturing associated with each REZ.

Regional businesses and employment

Renewable energy infrastructure and technologies, such as those projects to be rolled out across the NSW REZs, can generate more business and employment in their regions than fossil fuel energy sources[6].

Ensuring host communities and businesses benefit from the rollout of energy infrastructure projects is a key pillar in building social licence for renewable energy.

[6] Heidi Garrett-Peltier. Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model. Economic Modelling, Volume 61, 2017. Pages 439-447. https://doi.org/10.1016/j.econmod.2016.11.012.

In regions with declining employment opportunities and a lack of new economic development and growth, the REZs present an opportunity to revitalise regional economies. Transitioning to renewable energy will provide a range of direct and indirect benefits for host communities.

While the communities that host these developments benefit from employment and investment, they also experience the most pressure from the changes. Wider benefits of renewable energy projects are often strategic, meaning host communities, often bear the brunt of the changes, and may not experience proportionate levels of benefits from the uptake of renewable energy.

Business NSW welcomed the NSW Government 2024 release of the Benefit Sharing guideline for the NSW REZs as a solution to the impact of renewable infrastructure on REZ communities and businesses. Benefit sharing is particularly relevant to the consideration and assessment of large-scale renewable energy proposals and why it warrants a unique approach.

While there are significant steps towards local communities economically and socially benefitting from REZ delivery through the benefit sharing guidelines, they do not come far enough for benefitting supporting local businesses. Business and landholders have been grouped together in the guidelines. Benefit sharing should have a specific focus on business.

Supporting existing industries will facilitate new business and investment activity and create employment opportunities and benefits for the community. There is also an opportunity to identify new employment lands that utilise existing infrastructure, including former mines, power stations or other sites serviced by pipelines, transport access and electricity.

Labour and supply chains

Renewable energy projects have the ability to create more employment opportunities than the fossil fuel industry[6]. The development and operation of REZs creates unique and significant employment opportunities, fostering economic growth in the regions they are established.

There will be employment opportunities associated with the construction of new renewable energy infrastructure and site operations. According to EnergyCo, REZs and the Electricity Infrastructure Roadmap are expected to deliver up to $32 billion in private sector investment and support around 6,300 construction and 2,800 ongoing jobs by 2030.

While there are substantial opportunities for employment, there may also be challenges associated with workforce availability due to the significant demand for workers not just in the REZs in NSW but across NSW and Australia. Skills expected

to be in high demand with the most recruitment difficulties include construction managers, engineers, electricians, mechanical technicians, transmission line workers and crane operators[5].

A strong pipeline of construction and infrastructure projects has increased demand for labour across Australia. This increase in demand is being felt acutely in the renewables sector. In its 'Downscaling – Employment Impacts' Report (April 2023), Net Zero Australia highlights the need for a five-fold increase in the energy workforce by 2035 to decarbonise Australia's domestic energy system and identified that up to 75% of new jobs will be in regional or remote areas[7].

The Committee that led the Commonwealth 2022 inquiry into Australia's transition to a green energy superpower recommended that Australia must do more in terms of skills and education for the energy transition and that the development of a green energy workforce needs to be accelerated[3]. Whilst many green energy skills and education initiatives have been launched since 2022, Business NSW believes that these need to be accelerated to keep pace with the delivery of the NSW REZs. Additionally, there needs to be better coordination of initiatives across the state and nationally.

The existing regional economic structure and workforce in each REZ is a key factor for successful development and local benefits. If a region has a skilled and available workforce, the development of a REZ will be more straightforward. The NSW government must overcome workforce and skill barriers in a timely manner to ensure the delivery of the REZs. REZ benefit sharing should focus on business to stimulate employment and the local economy within each REZ.

Recommendation 2:	Accelerate and better coordinate development of targeted green energy skills and capabilities to ensure that the workforce can deliver NSW REZs on time.
Recommendation 3:	Supporting existing industries and employment precincts to facilitate new business and investment activity and create employment opportunities.
Recommendation 4:	Identify new employment lands that utilise existing infrastructure, including former mines, power stations or other sites serviced by pipelines, transport access and electricity.

[7] McCoy, J, Davis, D, Mayfield, E, Brear, M. 2023. 'Downscaling – Employment impacts', Net Zero Australia. https://www.netzeroaustralia.net.au/wp-content/uploads/2023/04/Downscaling-Employment-impacts.pdf

Recommendation 5: Support local SME's to be able to participate in renewable energy procurement opportunities

Tourism

Tourism Research Australia data shows regional NSW contributed a record $26 billion (49%) to the NSW visitor economy in the year ending September 2024. Tourism has the potential to play a larger role in the state's economy, labour market and export mix as it transitions away from coal and other traditional industries. However, the development and delivery of REZs in regional NSW has sparked concern among rural and reginal communities.

Many of these communities believe the delivery of renewable energy infrastructure is going have a negative impact to tourism and the local visitor economy. This stems from a belief that the proliferation of wind turbines and solar will cause noise and visual pollution, deterring visitors from the area and negatively affecting tourism revenues and development[8] [9].

However, Business NSW believes that the establishment of REZs opens up opportunities to value-add onto existing regional tourism industries and to drive new tourism opportunities, including educational tourism. Growth in regional tourism has been identified as a key project within NSW regional plans. If the tourism opportunities that REZs offer are taken up, this could be a further avenue through which to contribute to the growth in the local economy, and if this is communicated this can contribute to the building of renewable energy industry social licence.

Researchers in Europe have examined the viability of renewable energy as tourist attractions and have found that a wide range of visitors seek out renewable energy tourism due to education, sustainability and nature, technical fascination, emotion, leisure, and fun[10]. There's an important legacy in Australia of tourist attractions, tour programs, lookouts and education programs centred around coal mines and power stations. There's an interest and a need to do this for renewables now too.

[8] Mordue, Tom & Moss, Oliver & Johnston, Lorraine. (2020). *The impacts of onshore-windfarms on a UK rural tourism landscape: objective evidence, local opposition, and national politics.* Journal of Sustainable Tourism. 28. 1-23. 10.1080/09669582.2020.1769110.

[9] Tom Broekel, Christoph Alfken. 2015. *Gone with the wind? The impact of wind turbines on tourism demand*. Energy Policy, Volume 86, Pages 506-519. https://doi.org/10.1016/j.enpol.2015.08.005.

[10] Beer, Martin & Rybár, Radim & Kaľavský, Michal. 2017. Renewable energy sources as an attractive element of industrial tourism. *Current Issues in Tourism*. 21(18), 2139–2151. https://doi.org/10.1080/13683500.2017.1316971

Not only can these initiatives bolster the local tourism industry, but they also contribute to a greater sense of community pride in the local industry.

An example here in NSW can be found at Gullen Range Wind and Solar Farm, North-West of Goulburn NSW. The Gullen Range offer educational tours of wind and solar projects to the public, and particularly encourages children to visit. Project proponents in the NSW REZs have the opportunity to encourage tourism and for the public to understand more about Australia's renewable energy infrastructure. Ensuring policies, programs, investment, and engagement across all relevant government agencies and departments are coordinated to grow the visitor economies in the regions.

Recommendation 6: Investigate opportunities to streamline planning, develop new visitor experiences to drive growth of local businesses.

Planning

Land use planning

Regional and rural NSW comprises of a diverse array of land uses, including grazing, native vegetation, productive native forests and conservation areas. The construction and operation of REZs is anticipated to impact a significant amount of land in regional NSW. For example, the Central-West Orana REZ is approximately 20,000 square kilometres centred by regional towns Dubbo and Dunedoo.

An emerging challenge in the transition to clean energy in regional and rural NSW, is land-use conflict. Many rural and regional communities and businesses have been concerned about the land use and the impact to having renewable energy infrastructure on their land.' However, analysis by Farmers for Climate Action and the Clean Energy Council shows that large-scale wind and solar projects in NSW are expected to deliver between $2.6 – $3.3 billion between 2024-2050 in direct landholder payments supporting local business such as farms[11]. Additionally, the anticipated land use will not be exclusive to renewable energy development as there will be opportunities to explore co-location of high energy businesses and co-existence practices, such through agrivoltaics.

Encouraging specific high energy using businesses such as manufacturers or datacentres to locate themselves within REZs would benefit local communities and businesses, whilst providing them with cheaper energy.

Agrivoltaics, the practice of combining solar energy production and agriculture, allows for the simultaneous generation of renewable energy and food production on the same land. By providing shade and reducing heat stress for crops or grazing land, solar panels improve land resilience and potentially reduce the need for water and other inputs.

Incorporating livestock grazing on wind and solar farms not only maintains vegetation, reduces fire risks and the need for external maintenance, it also supports animal welfare through the provision of shelter and forage, embodying a more holistic approach to land management.

Farmers are also supportive of the concept of coexistence practices. Farmers for Climate Action noted that combining '… farming and solar in agrivoltaics presents a powerful path forward, increasing social licence for renewable energy developments and allowing ongoing agricultural use of productive land[11].

In a submission to the Commonwealth 2022 inquiry into Australia's transition to a 'green energy superpower', the Centre for Energy and Natural Resources Innovation

[11] Clean Energy Council & Farmers for Climate Action. 2024. Billions in the bush: Renewable energy for regional prosperity. Billions in the Bush - November 2024

and Transformation (CENRIT) highlighted the potential for agrivoltaics to be reduce land use conflict and improve benefit sharing[3]:

Agrivoltaics are seen as a technological facilitator of the energy transition while minimising negative social and technical externalities by first, enabling the co-location of food and energy production to dimmish potential land use conflicts; second, agricultural landholder income diversification and increase revenue stability; and third, the opportunity for profit-sharing models and co-benefits for agricultural communities.

Agriculture is the dominant industry and contributor to productivity in many of the REZs regions, reflecting these region's importance in producing food for the state[5]. For example, the New England REZ renewable energy projects sites are mostly land that was previously used for agriculture. This is causing concern for local communities about changes in land-use. Local communities, businesses, particularly farmers are concerned renewable energy infrastructure will reduce the land available for agriculture, impacting the local economy and supply flow-on effects. Other concerns from REZ communities are also the impact to biodiversity and tourism.

Environmental conservation is a key priority within the REZs, with a number of protected areas, such as National Parks existing within the REZ regions. Renewable energy development should avoid these areas to protect the biodiversity, water quality and reduce additional regulatory requirements.

However, for those areas where impact is unavoidable, conservoltiacs offers opportunities like agrivoltaics. Conservoltaics refers to the process of combining solar energy production and biodiversity conservation and restoration.

Succession Ecology in South Australia has initiated several conservoltiacs projects with great results. Succession Ecology works with developers to build biodiversity on mid to large-scale solar farms in the red soil country. They have successfully focused on restoring native ground cover, therefore improving biodiversity whilst also the efficiency of the solar farm as the native vegetation results in less dust and keeps the panels cooler[12].

Other early studies of co-benefits are promising, and in 2021, Clean Energy Council published the Australian Guide to Agrisolar for Large-Scale Solar that list opportunities including: improvements in the condition and structure of the ground layer vegetation; enhancement of habitat for fauna that depend on the ground

[12] Community Power Agency. 2023. Can 'conservoltaics' help relieve land-use conflict in New England's renewable energy zone? https://cpagency.org.au/can-conservoltaics-help-relieve-land-use-conflict-in-new-englands-renewable-energy-zone/

layer; improvement in extent and condition of riparian zones; and establishment of connectivity for wildlife using boundary plantings[13].

Business NSW urges the government investigates opportunities for co-existence practices when approving renewable projects in the REZ. This can maximise agricultural production and biodiversity conservation within REZs, whilst allowing businesses to realise the full economic, social and environmental benefits from these practices.

Recommendation 7: Ensure land use planning does not negatively impact REZ communities and businesses through:

a) investigating opportunities of co-existence practices to maximise agricultural production and protect biodiversity within REZs.

b) investigating opportunities of collocating of high energy using businesses with REZs

Housing and local infrastructure

The construction and operation of the different renewable energy projects across each of the REZs will have impacts on the housing and local infrastructure to the regional towns/cities in the areas. The capacity of the housing market, mix of housing and regional social infrastructure to accommodate the demand associated with REZ construction and operation, and opportunities to achieve legacy housing outcomes need to be examined better.

The housing crisis in NSW presents a policy challenge of extraordinary urgency. Business NSW advocates for new and affordable housing both in the metro and regional areas. Business NSW founded the Housing Now! initiative to support the NSW Government in its partnership with the Commonwealth to deliver essential housing. This alliance brings together businesses, unions and civil society to helpmagnify the voice of the community and the NSW Government to tackle the housing affordability crisis.

Mix of housing

The development of a REZ will create additional demand for a mixture of temporary and permanent housing. Balancing the mix of temporary and permanent housing solutions is important to avoid any negative long-term housing market impacts and

[13] Clean Energy Council. 2021. the Australian Guide to Agrisolar for Large-Scale Solar. https://assets.cleanenergycouncil.org.au/documents/resources/reports/agrisolar-guide/Australian-guide-to-agrisolar-for-large-scale-solar.pdf

support legacy outcomes. Not dissimilar to other industries, the construction workforce for REZs will require significant temporary housing.

The ongoing operational workforce for the new renewable energy infrastructure will increase the demand for permanent housing, as well as for the growing populations in these regional areas. For example, by 2041 the population of Central West and Orana is projected to grow to more than 324,943 people[14]. This equates to the need for at least an additional 21,664 new homes.

Housing supply and demand in these regions will be shaped by an aging population, an increase in single person households and a decrease in average household size – and ongoing demand for housing for key workers such as nurses or teachers, and temporary workers. Additionally, the mix of temporary workers and visitors at different times of the year add a dynamic nature to the region's communities.

Therefore, ensuring suitable housing options are available will be important to attract and retain the essential workforce needed to implement and sustain social infrastructure amid the shifting workforce dynamics of the energy transformation.

It is therefore important the government not only considers the capacity of housing and future needs but also the correct mix of housing types including affordable housing types such as modular housing. Modular housing is slowly growing in the Australian construction market due to its benefits that include cost-effectiveness, flexibility, and a number of environmental advantages[15]. Once completed, modular housing can be up to 50 percent more energy efficient compared to conventional builds and 40 percent more efficient in terms of raw material usage.

Local infrastructure

Short-term construction and longer-term increased population may adversely impact local communities and businesses, putting pressure on local infrastructure and services (e.g. childcare, health, water, local roads). Local infrastructure constraints may also present barriers during construction and impact the delivery of the REZs having an adverse impact on the region's businesses and economy.

Following on with the Central-West Orana REZ example, it covers an area of 20,000 square kilometres, including the towns of Mudgee and Dunedoo and the city of Dubbo. There are approximately 25 renewables projects identified for development within the Mid-Western Region, in addition to existing renewables projects already in the area. At their peak, the projects will bring in close to 10,000 workers and

[14] NSW Department of Planning and Environment. 2022. Central West and Orana Regional Plan 2041. https://www.planning.nsw.gov.au/sites/default/files/2023-03/central-west-and-orana-regional-plan-2041.pdf

[15] Mohammad Kamali, Kasun Hewage. 2016. Life cycle performance of modular buildings: A critical review. *Renewable and Sustainable Energy Reviews*. Volume 62, Pages 1171-1183. https://doi.org/10.1016/j.rser.2016.05.031

family members, representing a 40 per cent increase in the population in three years, according to a PwC report commissioned by Mid-Western Regional Council released in October 2024. This puts a massive strain on local and social infrastructure.

The NSW government needs to work with local councils to assess the impact of the REZ projects on local infrastructure and identify upgrades needed. Additionally, the government should ensure that any local infrastructure build for the REZ construction can be repurposed where possible, and funds for maintenance are provided to local councils. Additionally, the government needs to ensure sufficient telecommunication technology in each REZ to support business. The timely delivery of infrastructure upgrades and other infrastructure projects across the state is vital to regional businesses and to the NSW Government's regional plans to grow strategically important regional towns and cities.

NSW Regional Plans

In late 2022, the NSW Government published regional plans for seven different regions to guide the growth and development of strategically important regional towns and cities. These 20-year long plans include a strategic framework, vision and direction for land use, addressing future needs for housing, jobs, infrastructure, a healthy environment, access to green spaces and connected communities. Every regional plan that includes a REZ, considers the impacts and needs from their delivery at a high level.

However, this is rapidly evolving landscape and examining the housing and infrastructure needs should be reviewed. Regional plans are currently only updated every 5 years. For example, in late 2024 Central West Orana Zone carrying capacity was increased to 6 GW, up from the original 3 GW, to ensure enough wind, solar and storage can be hosted to help fill the gap created by the exit of coal fired generators.

The initial network capacity of the transmission infrastructure is expected to be 4.5 GW, but this will be increased to 6 GW to allow more wind and solar farms to be connected in the mid to late 2030s.

Business NSW urges the government to reassess housing and infrastructure needs within each REZ more regularly, and work with local councils to ensure there is an adequate mix of available housing and local infrastructure that can support the construction and operation of the REZ projects as well as communities and business in regional areas.

Recommendation 8: Re-examine the capacity of the housing market to accommodate the demand associated with REZ construction and operation, and opportunities to achieve legacy housing

outcomes, and update NSW regional plans to align with the findings.

Recommendation 9: Investigate and consider innovative affordable housing solutions such as modular housing to meet regional housing demand.

Recommendation 10: Undertake a local feasibility assessment in each REZ to identify any upgrades to local infrastructure that are required. (e.g. local roads or wastewater treatment plants).

Recommendation 11: Invest a portion of REZ access scheme fees in local infrastructure, including telecommunication infrastructure needed to support REZ development and their associated reginal towns/cities.

Cumulative impacts

One of the impacts to REZs that is a concern to regional and rural communities and their businesses is the cumulative impacts across each region and the at state. The most significant potential cumulative impacts for the project, in combination with other relevant projects under planning and development or in construction, are:

- Land use, property, and agriculture, including temporary construction impacts such as traffic, noise and dust.
- Burden to local infrastructure, such as exponential increase in use of local roads, water supply and sewage treatment plants.
- Visual amenity changes where multiple renewable energy projects are in construction or operation.
- Biodiversity, including cumulative impacts to local flora and fauna species and habitats.
- Aboriginal heritage, including cumulative impacts to Aboriginal heritage sites in the region as well as potential positive impacts from conservation, heritage interpretation and engagement with Aboriginal communities.
- Social, such as increased demand for social services and impacts to social cohesion due to differing community views towards renewable energy projects in the area.
- Economic, such as direct and indirect economic benefits to the region, increased demand for labour and goods and services and temporary population growth during construction.
- Noise and vibration from the transmission project and other nearby projects during construction.

The NSW government has acknowledged and listed the impacts of cumulative impacts from the sources above, however, have still not provided a solution to tracking and managing these impacts. Mitigation measures to reduce some of these cumulative impacts for the transmission project can be found in the relevant chapters of the EIS.

Under the NSW planning system, the approach to assessing cumulative impacts acknowledges that each project is required to mitigate its own impacts to acceptable levels and minimise the overall contribution to cumulative impacts.

However, EnergyCo also recognises that not all REZ-related cumulative impacts can be addressed through a project level approach alone, requiring a region-wide, collaborative approach between EnergyCo, renewable energy developers, councils and government agencies.

Business NSW recognises that EnergyCo has been carrying out extensive ongoing engagement with key stakeholders to inform how REZ-wide cumulative impacts will be managed. However, there's ambiguity on how tohow to consider, track or manage cumulative impacts.

Recommendation 12: Draft and publish a guideline with a public register for benefit sharing and/or REZs to consider and track cumulative impacts.

Planning approvals

Planning and environmental approvals processes have become a significant bottleneck slowing the delivery of critical energy infrastructure. Recommendations made in the Electricity Supply and Reliability Check Up to speed up approvals processes must be prioritised for the government's energy supply and decarbonisation ambitions to be met[16].

To streamline and fast track planning approval for the REZs, the NSW Government recently released the Renewable Energy Planning Framework. This framework is to help guide stakeholders through the transition to renewable energy, support the legislated net zero targets and secure an affordable supply of electricity for NSW. The framework provides a suite of policies that will guide the planning and assessment process for renewable energy development and infrastructure. The

[16] NSW Office of Energy and Climate Change. 2023. NSW Electricity Supply and Reliability Check Up. https://www.energy.nsw.gov.au/sites/default/files/2023-09/Electricity_Supply_and_Reliability_CheckUp_NSW_Government_Response_September_2023.pdf

renewable energy development types include solar, wind, transmission, and hydrogen.

The guidelines providing a planning framework for each renewable type, where wind energy, solar energy and battery energy storage systems have been suggested to follow State Significant Development planning and approval pathway. Only transmission lines have been identified to following the planning and approval process as a Critical State Significant Infrastructure. Whilst both processes undergo a rigorous development assessment process including extensive community consultation and a detailed consideration of any environmental, social and economic impacts, SSDs take much longer on average that CSSIs[17].

Another planning bottleneck in REZ planning and approval processes is the environmental approvals. The NSW Government should consider adopting a strategic biodiversity assessment approach for environmental approvals. The introduction of REZs as covering a landscape scale area presents an opportunity to streamline certain approvals that would assist one or a number of projects in a similar area. The Cumberland Plain Conservation Plan in Western Sydney is a good example of how upfront biodiversity approvals provided by the government streamlined and fast-tracked development for housing. This allows for the best outcomes for both development of renewable energy infrastructure projects and biodiversity conservation.

The government needs to be strategic in their reform and proposed changes to the existing biodiversity conservation framework under the Biodiversity Conservation Act 2016 (NSW) ('BC Act 2016') and Local Land Services Act 2013 (NSW) ('LLS Act 2013'). In August 2024, the government announce the Biodiversity Conservation Amendment (Biodiversity Offsets Scheme) Bill 2024 showing a range of changes to the legislation. The regulations under the Biodiversity Conservation Amendment (Biodiversity Offsets Scheme) Bill 2024 are yet to be released, causing uncertainty in how the legislation will impact development.

The current framework is complex and allows for different biodiversity outcomes depending on the proposed development or use of land. This has resulted in proponents of clean energy or transmission projects being subject to more costly offsets in circumstances where similar clearing for a different purpose (e.g. farming) does not attract the same onerous offset obligations.

[17] Clean Energy Investor Group. 2023.Delivering major clean energy projects in NSW: Review of NSW statutory planning approvals processes. https://www.ceig.org.au/wp-content/uploads/2022/07/HSF-CEIG-Report-Delivering-major-clean-energy-projects-in-NSW-14-December-202380.pdf

Recommendation 13: Planning and environmental approvals for major energy infrastructure should be streamlined in line with recommendations of the NSW Electricity Supply and Reliability Check Up in addition to:

a) Consider REZ generation projects as Critical State Significance Infrastructure (CSSI).

b) Adopt a strategic biodiversity landscape-scale assessment approach under the relevant legislation.

c) Ensure draft regulations in the under the BC Act 2016 and LLS Act 2013 is thoroughly consulted with industry before finalisation and provide a simpler most cost-effective offsetting approach.

Environment

Waste and circular economy

NSW REZs will see an exponential increase in the generation of waste from renewable energy infrastructure over the next 10-15 years. For example, Solar panel waste is expected to grow from 2000 tonnes per year in 2020 to between 34,000–63,000 tonnes by 2035, depending on life spans[18] (NSW PAPER)

The have been growing concerns from REZ communities on the environmental impacts caused by waste contamination caused from products and infrastructure such as batteries, solar panels and wind turbines[3].

Adopting a circular economy for renewable energy technologies in each REZ, presents a significant opportunity for rural and reginal communities and local business by building new economic value from industries across the renewable energy supply chain while reducing waste, emissions, and other environmental impacts.

There are circular economy opportunities to extend the life of renewable energy technology, reduce costs and minimise waste through repairing, servicing and replacement. Recycling rates will become important for exports with the EU mandating labelling on recycled content for batteries.

[18] NSW Office of Energy and Climate Change. 2023. Going circular in clean energy. https://www.energy.nsw.gov.au/sites/default/files/2023-01/202301-Going-circular-in-clean-energy-issues-paper.pdf

However, there are several barriers to overcome to achieve building a circular economy. As discussed earlier, NSW also has limited capacity to deliver key parts of the supply chain, such as material processing, manufacturing, and assembly. This also limits the influence on circular design of renewable technologies. The design of clean energy products can have significant impacts across the product lifecycle, including end of life and waste processing[18].

NSW also lacks effective and mature recovery and reuse systems for many end-of-life clean energy products. There are opportunities within REZs for co-location of local recycling, materials processing and manufacturing facilities with efficient logistics of distribution, collection and transfer of components/materials. This could occur through integration with SAPs and established recycling collection and processes (e-waste in particular).

Business NSW urges the NSW government to assess the capacity of waste facilities to accommodate renewable energy development and identify opportunities for circular economy initiatives to support local businesses and economies.

Recommendation 14: Develop and implement a circular economy framework for each REZ to build an end-of-life sector for renewable energy technologies.

Decommissioning

Decommissioning of infrastructure is a fundamental stage of any renewable energy project. The operational life of a wind or solar farm can be anywhere from 30 to 60 years, and potentially decades longer for intensive hydroelectric assets. After this time, the renewable energy developer is generally bound to decommission the infrastructure and restore the land back to its original condition or into a state that is appropriate for a future land use.

Decommissioning plans are now increasingly required by planning approval conditions and are commonly prepared in accordance with lease agreements for wind, hydroelectric, and solar projects. This presents complexities for developers and landholders requiring early consideration of their position on the decommissioning of assets, well before the infrastructure is even approved or constructed.

Budgeting for decommissioning costs can be complex for a few reasons:

- Renewable energy technologies are evolving at a rapid pace, making it difficult to estimate the type of technology and its cost for the future.

- Decommissioning techniques and associated costs are specific to the type and design of renewable infrastructure e.g. wind turbine or solar panel.
- The regulatory space for waste management in NSW is a developing landscape and therefore costs estimates are difficult for unknow future standards.
- Financial projections over extended periods of time can be difficult due to unknown inflationary sources and other cost escalations.

Quantifying these costs is an ongoing process that must be incorporated into the planning frameworks towards the end of a project's life. To date, no State or Territory Government has introduced legislation requiring renewable energy proponents to provide a security bond to cover the future decommissioning costs of a project. This contrasts with specific legislation that applies to the mining industry, requiring mining companies to provide governments with a bonds or assurances which reflects a mine's rehabilitation liability.

In NSW, the recent Renewable Energy Planning Framework, which provides a planning framework and guidelines for the development and delivery of each renewable type touches on decommissioning in the Private Agreement Guideline.

This the Guideline suggests landowners may wish to ask for security for decommissioning costs in the form of a bank guarantee. The Guideline also suggests the cost of decommissioning a wind energy project is around $480,000 per turbine. However, there is no specific statutory requirement for the developer to do so.

While there is no specific statutory obligation to provide a decommission bond to a State or Territory Government, local council or a landholder, most local councils will impose approval conditions for proposed renewable energy infrastructure development applications requiring decommissioning works to be undertaken and a security bond to be provided prior to construction. Additionally, as previously mentioned the waste and resource recovery legislation is evolving and now mandates recycling on decommission components.

Findings by the Farmers for Climate Action found a key concern of REZ communities was decommissioning and that farmers do not trust developers and called for strong regulation from government on decommissioning[19].

Business NSW believes the best path forward for Government, developers and local landholders and communities is to legislate decommissioning bonds for developers. This would reflect offshore market where the Offshore Electricity Infrastructure framework requires licence holders to provide financial security to

[19] Farmers for Climate Action. 2024. Renewable Energy in Farming Communities. https://farmersforclimateaction.org.au/wp-content/uploads/2024/11/FFCA-89DE-RenewableEnergyReport.pdf

cover decommissioning and other costs and the calls for already the NSW Upper House for the State to consider rehabilitation bonds for solar farms.

If decommissioning bonds are not going to be legislated, Government should take responsibility on decommissioning. Whilst most renewable energy contracts require the developer to decommission the project or covered by insurance, it's important to ensure that if for some reason a company could not pay for decommissioning e.g. bankruptcy that costs do not fall on local landowners, communities and businesses.

Business NSW believes that decommissioning needs to be handled in a more regulated and sustainable way to ensure that end of life the infrastructure will impact the environment, and costs will fall on local council and businesses.

Recommendation 15: Legislate security bonds for renewable energy proponents to provide a security bond to cover the future decommissioning costs of a project.

Conclusion

Business NSW and our members are supportive of the Inquiry into the impacts of Renewable Energy Zones (REZs) on rural and regional communities and industries in New South Wales to provide affordable, reliable and sustainable energy in the long term but also to ensure that the NSW government supports the realisation of all direct and indirect benefits for host communities and businesses.

For further information:

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