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Policy Insights Paper

Local Aboriginal Land Council Powershift

Sharing the benefits of the energy transition

Professor Heidi Norman, Dr Chris Briggs, Dr Ed Langham, Therese Apolonio, Dr Saori Miyake, Dr Sarah Niklas, Dr Sven Teske

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Acknowledgment of Country

The Australian Public Policy Institute acknowledges the Gadigal people of the Eora Nation upon whose ancestral lands our Institute stands. We pay respect to Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands. We celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.

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About the authors

Professor Heidi Norman (UNSW) is a descendant of the Gomeroi people of north-western NSW. She is a leading researcher in the field of Australian Aboriginal political history, the Director of the Indigenous Land and Justice Research Group and recently contributed to the development of the Australian Government's First Nations Clean Energy Strategy.

Dr Chris Briggs is the Program Lead for the Energy Futures group at the Institute for Sustainable Futures (ISF), University of Technology Sydney, Technical Director for the Business Renewables Centre-Australia and board member of the Australian Alliance for Energy Productivity.

Dr Ed Langham, Research Director at the ISF, is a specialist in low-carbon energy transitions, with over two decades of experience working with new and emerging energy market players to develop consumer energy resources to accelerate climate action.

Therese Apolonio is a researcher at UNSW specialising in Aboriginal history and policy.

Dr Saori Miyake is an environmental scientist and Senior Research Consultant at the ISF.

Dr Sarah Niklas is a Senior Research Consultant at the ISF.

Dr Sven Teske is an Associate Professor and Research Director at the ISF with a focus on energy decarbonisation pathways for countries, regions, urban environments, and specific industry sectors towards Net Zero by 2050.

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For further information, please contact: h.norman@unsw.edu.au.

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Executive summary

The Aboriginal land council estate presents a significant opportunity for the NSW Government to achieve its renewable energy targets. Across New South Wales (NSW), there is huge potential for Aboriginal land to be part of rapid renewable energy development. Local Aboriginal Land Councils (Aboriginal land councils) control most of the Aboriginal land estate in NSW, but much of the land estate is remote and difficult to service with existing power networks. Many land councils express increasing interest in hosting energy projects on their lands to achieve a range of social and economic outcomes.

To date, the Aboriginal land council estate in NSW has not been actively used in the energy transition. This has limited both Aboriginal participation in the renewable energy transition and the realisation of social and economic benefits for Aboriginal communities.

Activating the renewable energy potential of the Aboriginal land council estate would create a new avenue for renewable development in NSW and meet the aspirations of the NSW Electricity Infrastructure Roadmap and its associated First Nations Guidelines. Aboriginal land council participation is critical to the delivery of the Australian Government's *First Nations Clean Energy Strategy 2024–2030* and the *National Agreement on Closing the Gap* (Closing the Gap).

Aboriginal land councils in NSW own and manage 447km^2 of land estate, with future Aboriginal land claims amounting to 7,438km^2. From a technical perspective, the entire current land estate (447km^2) is suitable for solar, which is equivalent to 11GW of renewable energy (installed capacity) while 326km^2 is suitable for wind energy projects equivalent to 1.6GW of renewable energy potential (installed capacity).[1] If outstanding Aboriginal land claims are granted, the renewable energy potential of the Aboriginal land council estate will increase by approximately 19 times for solar energy projects, and approximately 22 times for wind energy projects.

The primary barriers to Aboriginal land council participation in the energy transition are the limited capacity and resources within land councils, restricted networks to support land council-led planning and governance, and a lack of incentives for proponents to partner with Aboriginal land councils and utilise their land for energy projects. Prolonged delays in the processing of Aboriginal land claims continues to be a structural barrier for land councils. Not only do undetermined land claims prevent Aboriginal access and use of land which they are entitled to under the *Aboriginal Land Rights Act (1983) NSW*, it also

restricts the use of prime land for renewable energy development by creating uncertainty about the status of vacant Crown Land.

Case studies of three land councils (in Tibooburra, Hay and Brewarrina) demonstrate the potential for the NSW Aboriginal land estate to assist in driving the NSW Government's renewable energy efforts and bring economic and social benefits to Aboriginal communities. The case studies demonstrate that the participation of individual Aboriginal land councils in the renewable energy transition is contingent on several factors:

- the land council's unique land asset portfolio, geography and proximity to energy infrastructure,
- the demographics of the land council's membership and the local Aboriginal community, and
- local social and economic conditions.

'Edge-of-grid' settings like Brewarrina and Tibooburra Aboriginal land councils are located away from the main electricity grid and key electricity infrastructure. Local communities frequently face challenges related to energy reliability, resilience, and security. The geospatial research conducted during this study revealed that for these edge-of-grid land councils, there is land suitable for small-scale and mid-scale renewable energy projects, microgrids, and batteries that could address local energy supply issues.

The study also revealed the potential for mid- to large-scale renewable energy projects. Hay Local Aboriginal Land Council is located in a Renewable Energy Zone (REZ). In this area, new renewable energy projects, storage facilities, and high-voltage transmission lines will be constructed to supply energy to NSW, South Australia, and Victoria. Geospatial analysis identified land under claim that is suitable for mid- to large-scale renewable energy.

The three case studies provide lessons for land councils located inside and outside of existing REZs and highlight the significant potential for Aboriginal participation in the transformation of the NSW electricity system.

There is a range of practical steps that the NSW Government could take to support Aboriginal land councils in both edge-of-grid and REZ settings to participate in - and benefit from - the energy transition. This paper identifies policy actions to realise the energy transition aspirations of Aboriginal land councils.

Policy opportunities – at a glance

Increase resources and build capacity for land councils to manage clean energy opportunities and risks on their landholdings

1. Establish a dedicated team to support interested land councils
2. Provide funding for land councils to enter the renewable energy sector
3. Establish a NSW Aboriginal renewable energy research and resource centre

Enable microgrid collaborations with Electricity Networks and land councils

4. Investigate options to ensure land council-owned land is considered and preferenced for siting energy infrastructure
5. Assist land councils with microgrid development partnerships

Enable development of mid- and large-scale renewable energy projects

6. Partner with land councils for planning approval processes to 'de-risk' large-scale renewable energy projects on land council land
7. Implement a pilot program to demonstrate large-scale renewable energy projects on land council-owned land and its benefits
8. Implement a pilot program to demonstrate mid-scale renewable energy projects on land council-owned land and its benefits

Strengthen Aboriginal rights recognition to unlock the renewable energy potential of Aboriginal land

9. Expedite land claims and land transfers to support renewable energy projects on land council land
10. Incentivise cooperation between land councils and Traditional Owners to realise renewable energy aspirations
11. Introduce standalone Aboriginal cultural heritage protection that aligns planning and development with best practice principles in cultural heritage

Background: Boosting First Nations engagement in the energy transition

The Australian Government's *First Nations Clean Energy Strategy 2024–2030* is a national plan for realising benefits for First Nations peoples from the clean energy transition. The Strategy identifies three goals with supporting actions:

- power First Nations communities with clean energy.
- enable equitable partnerships.
- achieve economic benefits with First Nations peoples.[2]

The NSW Government is driving the transition from coal-fired power to renewable energy. The *Electricity Infrastructure and Investment Act (2020) NSW* created the NSW Electricity Infrastructure Roadmap ('the Roadmap'), which has a target of at least 12GW from new renewable energy projects and 2GW in long-duration storage by 2030.[3] The NSW Government has defined five Renewable Energy Zones (REZ) to coordinate investment in transmission, renewable energy generation, and storage to deliver the Roadmap.[4]

The Roadmap requires each REZ to create First Nations Guidelines that set out the aspirations of the Aboriginal community in that region. These Guidelines are determined by Aboriginal Working Groups, comprised of land councils and other Aboriginal organisations in that REZ. The Guidelines for the South-West REZ, for example, prioritise energy projects hosted on Aboriginal land and equity partnerships. Under the *Electricity Infrastructure Investment Act (2020) NSW*, the Minister for Energy and Consumer Trustee must use the Guidelines in decision-making.

The Guidelines have informed the renewable energy tenders underway in the state, which have been designed to create competition between renewable energy projects bidding for contracts to supply to the grid. These tenders are assessed on merit criteria, including First Nations engagement, involvement and benefits. The Guidelines also recommend that project proponents prepare an Industry and Aboriginal Participation Plan (IAPP) as part of their renewable energy tender bids, documenting their approach to Aboriginal engagement and commitments to Aboriginal stakeholders.

The NSW Electricity Infrastructure Roadmap requires the holders of Long-Term Energy Supply Agreements (LTESAs) to develop projects that meet First Nations employment and procurement participation targets.[5] The Commonwealth Capacity Investment Scheme (CIS), which links to NSW procurement processes,

requires proponents to demonstrate First Nations engagement. Its criteria incentivise renewable energy proponents to engage with First Nations communities, including through equity partnerships.[6]

The policy provisions to increase First Nations involvement in renewable energy are new and emergent. First Peoples' participation in NSW energy projects has been limited to date. Employment and procurement targets have not been met, and no equity and/or ownership examples exist at the time of writing.[7]

1) The Aboriginal land estate

As the energy transition creates new opportunities for Aboriginal communities to realise economic and social benefits, it is important to foreground the different rights and interests within the Indigenous land estate.

Under various state, Northern Territory and Commonwealth laws, the Indigenous estate refers to land recovered by Aboriginal and Torres Strait Islander communities. It includes land purchased, vested, reserved for, or leased on behalf of an Indigenous group. Across the federation of Australian states and territories, a patchwork of laws has created a spatially uneven and complex system of land rights. Multiple arrangements that recognise Indigenous interests and rights in their land have developed over time in different jurisdictions, as well as political recognition and cultural heritage protection.[8]

In NSW, Aboriginal land interests are predominantly realised through the NSW *Aboriginal Land Rights Act 1983* (ALRA), although lands have also been returned under the provisions of the *Native Title Act 1993 (Cth)*. The research presented in this paper focused on the land council network and land recovery made possible by the ALRA.

Aboriginal land councils exist across NSW and are member-based organisations that make collective decisions about their freehold land estate and represent rights and interests in the area. Importantly, while Native Title lands are tied to cultural heritage provisions, land returned under the ALRA is freehold land. This enables the relevant Aboriginal land council to make commercial and other land-use decisions, subject to planning and heritage overlays.

Less than one per cent of land in NSW has been returned to Aboriginal people since the ALRA took effect 42 years ago. As of August 2024, 56,157 land claims have been lodged with the Registrar of the *Aboriginal Land Rights Act 1983*. Of those, 4,741 have been granted, 1,050 have been partly granted, and 39,939 are outstanding (undetermined or part undetermined).[9] The outstanding or future

land claims are equivalent to 70 per cent of the entire land claims lodged over the last 42 years; the future land estate covers approximately 1.12 million hectares of Crown land.[10]

The land claim determination process is improving. In 2023–24, 474 Aboriginal land claims were resolved, with 296 claims returned partly or fully and 178 refused or withdrawn.[11] Of the 178 claims refused or withdrawn, 65 were refused because the land was returned in another claim (multiple claims over the same parcel of land). As a result, a total of 1,989 hectares of land is in the process of being returned to 55 different Aboriginal land councils.[12] However, this represents a small proportion of the entire NSW land estate.

Recent changes to the First Nations Guidelines for NSW place new emphasis on the use of Aboriginal land for renewable energy projects and encourage co-ownership and shared equity arrangements between local Aboriginal community and renewable energy proponents.[13]

2) Local Aboriginal Land Councils

Local Aboriginal Land Councils are key stakeholders in the transition to clean energy. At the time of writing, 120 Aboriginal land councils operate across NSW and are responsible for ownership and management of collectively held land. A priority is generating wealth by activating their land.

Land councils are places where Aboriginal people collectively decide the terms to negotiate collective, place-based futures on country. Each Aboriginal land council's functions are guided by its members and expressed in Community Land and Business Plans (CLBPs).[14] While the area of land returned to Aboriginal communities in NSW has historically been small, the Aboriginal land council network is a critical element in Aboriginal people's capacity to organise themselves to participate in energy transitions.

The shift to clean, renewable energy presents a unique opportunity for Aboriginal interests to be realised – not only as users of clean energy but as landholders. Nationally, it is estimated that 43 per cent of the renewable energy infrastructure needed to reach Net Zero by 2060 will be developed on First Peoples' collectively held estate.[15] In this context, Aboriginal land councils play an important role in representing their communities' rights and interests and acting as intermediaries with energy developers and renewable energy proponents. This presents an opportunity to align local Aboriginal aspirations for economic and social benefits with the NSW Government's commitments to the renewable energy transition.

3) Closing the Gap

The NSW Government's *2022–2024 NSW Implementation Plan for Closing the Gap*, developed in partnership with the NSW Coalition of Aboriginal Peak Organisations (NSW CAPO), identifies five Priority Reforms and 17 Socio-Economic Outcomes. These reforms aim to transform how governments work with Aboriginal communities, shifting to a partnership approach "to be more responsive to the needs and aspirations of Aboriginal people".[16]

Enabling participation of Aboriginal land councils in the energy transition aligns with the NSW Implementation Plan and its five priority reform areas:

- formal partnerships and shared decision-making.
- building a community-controlled sector.
- transforming government organisations.
- shared access to data and information at a regional level.
- employment, business growth and economic prosperity.[17]

Aboriginal land council participation in the energy transition could achieve four of the 17 Socio-Economic Outcomes:

- economic participation and development of Aboriginal people and communities (Outcome 8).
- all Aboriginal households receive quality essential services (Outcome 9).
- Aboriginal people maintain a distinctive cultural, spiritual, physical and economic relationship with their land and waters (Outcome 15).
- Aboriginal people have access to information and services, enabling participation in informed decision-making regarding their own lives (Outcome 17).[18]

Future *Closing the Gap* targets are expected to include a measure for energy access, as recommended in the *First Nations Clean Energy Strategy 2024-2030.*

Methodology

The research investigated the opportunities and barriers for Aboriginal land council participation in the renewable energy transition by selecting three land councils as case studies. Hay Local Aboriginal Land Council is in the South-West Renewable Energy Zone (REZ), with large-scale renewable energy development activity.

Brewarrina and Tibooburra Local Aboriginal Land Councils are outside the REZ areas. They are remote, edge-of-grid locations where small or mid-scale renewable energy and micro-grids offer a solution to chronic energy insecurity and high energy bills.

Research stages

The research for each case study was undertaken in three stages:

Stage 1: Desktop analysis of the 'current land estate' and 'future land estate'

Data provided by NSW Crown Lands and spatial data provided by the NSW Aboriginal Land Council were used to map the 'current Aboriginal land estate' and the 'future Aboriginal land estate' for 120 land councils in NSW.[19]

A spatial analysis using Geographic Information Systems (GIS) was then conducted to identify suitable land for solar and onshore wind projects. The current and future land estate for each of the three selected land councils were assessed against a set of defined constraints, including land use, protected areas, topography/slope, and solar irradiation (direct normal irradiation, DNI) for solar energy potential sites, or wind speed data at a height of 100m for onshore wind potential sites.[20]

Grey literature was also reviewed, including each land council's Community Land and Business Plan to understand its values, plans and aspirations for land and community. Each land council's current land portfolio was assessed, including plans for landholdings, properties and assets; current energy legislation, policies, programs and economic development plans to identify current and future energy infrastructure; how economic activity might impact energy usage and demand; and demographic information to assess current and future energy needs, and broader place-based issues including housing, income, education, training and employment opportunities related to the energy transition.

Stage 2: Knowledge exchange with land council members

Between May and October 2024, workshops were held with land council members in each case study location to discuss energy needs, land council priorities and interests, and the suitability of lands for energy projects.[21] At the workshops, researchers provided land councils with background information on renewable energy, presenting GIS analysis of the current and future land estate, and possible renewable options for land identified as suitable for solar and/or onshore wind. Land councils, in turn, reviewed the findings of GIS analysis and discussed the land council's criteria for selecting renewable energy sites, considering factors such as cultural heritage, land use preferences and the actions required to gain community consent. Site visits were then conducted to verify the condition of the land against maps and assess land features such as slope, vegetation, flood risks, proximity to grid infrastructure, and the presence of energy or other infrastructure.

Stage 3: Detailed reporting for each land council

The final stage involved preparing individual reports for each land council that identified renewable energy options for that location. These reports included a refined map of land assets and renewable energy potential based on the current and future Aboriginal land estate, suitable energy infrastructure locations, options for models and funding, and the next steps for land councils.

Case study findings

Common insights

Across the three case study locations (Hay, Brewarrina and Tibooburra), there were common themes. All three Aboriginal land councils identified the need for:

- access to reliable, affordable energy and energy security in a climate-changing world;
- benefits for the 'whole community', not just direct benefits for Aboriginal people or individuals; and
- alignments with each land council's collective aspirations, such as a revenue stream to reinvest into projects and programs nominated by the land council's membership and creating opportunities for land council members and families to live and work on Country.

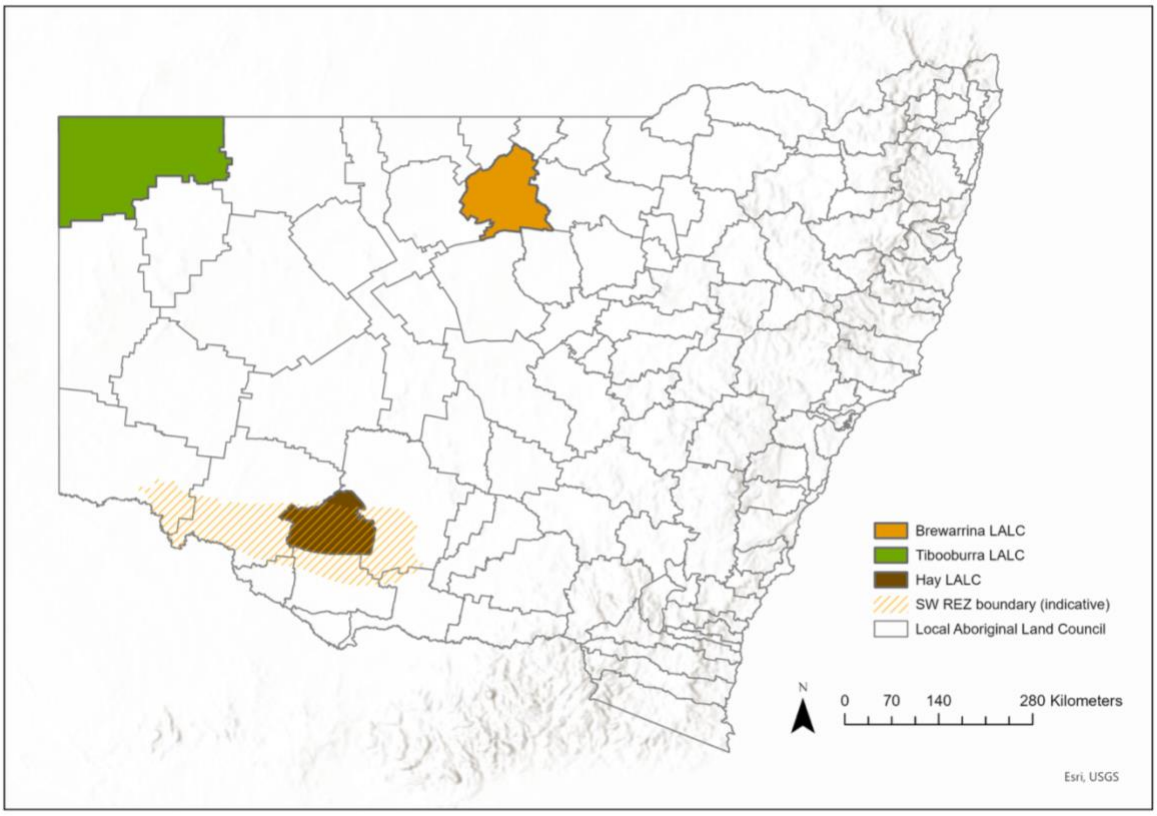
Across all the sites, it was clear that the character of land councils' land and land-use constraints will determine how they can mobilise their land for renewable energy projects.

Various factors determine how Aboriginal land councils define the use of their landholdings for renewable energy:

- community needs, interests and aspirations;
- distance to/from and capacity of grid connection points;
- land availability;
- culture and heritage; and
- community benefit.

The case studies reveal that knowledge exchange workshops are an effective way for land council members and staff to develop a strategic approach to the energy transition and agree on collective objectives. Once land councils received a basic overview of renewable energy concepts and policy in NSW, they quickly comprehend the potential opportunities, policy levers, and programs available for Aboriginal people and the renewable energy options for land council-owned land. This generates the right conditions for engagement and partnership with energy proponents and other stakeholders.

Figure 1: Location of case study land councils



In addition to the common themes that were evident across all three locations, each land council had its own distinct features that shaped potential options for renewable energy: land, properties, assets, and a distinct sociocultural and economic context.

Tibooburra Local Aboriginal Land Council

Tibooburra LALC represents a small population dispersed over a large geographical area. Some land claims have been returned to the land council and some Native Title is recognised within the land council's boundaries.[22] It experiences seasonal weather extremes. It has nine houses, and most are equipped with solar panels that reportedly perform at an acceptable level of energy efficiency.

The Aboriginal land council reports high employment among its Aboriginal members and a trend towards ongoing employment in middle-level jobs.[23] Given the small and declining resident population in the township of Tibooburra (95 residents, with 11 per cent identifying as Indigenous),[24] there can be difficulties filling job vacancies, especially for low-level and casual jobs. The area increasingly hosts visiting tourists to Corner Country and far western NSW, and population levels fluctuate significantly according to the seasons.

The study identified the following key priorities for Tibooburra LALC in relation to the energy transition:

- **Energy cost and security:** reducing energy costs for residents and businesses and improving reliability and energy resilience.
- **Revenue stream for the land council:** generating rental returns or lease payments on suitable land council land.
- **Improved community service provision:** the land council views the energy transition in the wider context of improved essential services for its remote town and region. Examples included negotiating strategic outcomes such as accommodation for essential service providers (such as tradespeople and medical specialists) that would improve services for elderly and vulnerable community members. They see renewable energy projects as an opportunity to leverage outcomes for long-term, strategic community benefit.
- **Whole-of-community benefit:** the land council emphasises that renewable energy outcomes should benefit the whole community.

Brewarrina Local Aboriginal Land Council

Brewarrina is a majority Aboriginal populated town of c. 750 people, located on the Barwon River. It is the site of the culturally significant Brewarrina Fish Traps, which are listed on the NSW Heritage Register and, under their traditional name Baiame's Ngunnhu, the Australian National Heritage List. The land council manages the State Heritage-listed Brewarrina Aboriginal Mission Site and a significant housing portfolio.

Brewarrina experiences high energy bills, poor energy security with interrupted supply and high levels of socioeconomic disadvantage. In this context, Brewarrina LALC takes seriously its responsibility and leadership in the community. The Brewarrina Community Land and Business Plan states: "*Our LALC will be thought of as a place of integrity that our community can be proud of. The solutions for us, must begin and end with us*".[25]

The Brewarrina LALC members and community highlighted five priorities in the energy transition:

- **Energy security:** affordable, reliable renewable electricity for land council members and for the community, especially in the event of emergencies.
- **Tangible benefits:** provides tangible benefits for the land council and Aboriginal community members, including revenue from energy projects on land council land and collective and individual economic enterprises arising from the transition.
- **Aboriginal rights:** upholds Aboriginal rights and interests, including protection of culture and heritage, does not harm Country and is informed by free, prior and informed consent.
- **Futures on Country:** engages and uplifts the whole community, creating livelihoods in town and on Country for future generations.
- **Social cohesion and belonging:** renewable energy outcomes promote social cohesion and belonging and improve cross-cultural understanding. This includes engagement of all community members and embedding the energy transition in the school curriculum, supporting children's learning and family education.

Brewarrina LALC wants the energy transition to deliver real benefits for its members; contribute to climate change mitigation, adaptation and community resilience; grow the local economy; and support members in the workforce. The land council's involvement in energy systems change is seen as supporting its intention to play a leading role in the town and to be held in high esteem by the wider community.

Hay Local Aboriginal Land Council

Hay is a regional town with a longstanding irrigated agriculture economy and, increasingly, environmental regeneration. The Aboriginal community is a minority of the town population. Hay Land Council has limited land repossessed under the ALRA; it owns 10 properties in the town (nine homes and the land council office) valued at c. $3.7 million and six vacant blocks.[26] It has pursued alternative governance arrangements to advance land recovery and control over land with cultural and environmental significance and has successfully built its land interests through commercial opportunities. It has a range of enterprise activities underway and takes a strategic and long-term approach to managing property assets. The land council works in concert with its "sister organisation", Nari Nari Tribal Council Ltd, as leading land regeneration and environmental managers, and runs agriculture enterprises on their properties.[27]

Hay Land Council envisages renewable energy projects as integrated and complementary to its existing enterprises and land regeneration work, creating supply chain enterprises that can grow and diversify its workforce through its Indigenous Ranger Program. It views access to capital and global Indigenous networks as critical to realising equity in energy projects, envisaging cross-investment by Canadian and Australian First Nations peoples in projects to support growth and diversification of risk.

Hay LALC identifies six priorities in the energy transition:

- **Energy security:** affordable, reliable renewable electricity for land council members and for the community, especially in the event of emergencies.
- **Ownership and equity:** equity in renewable projects and hosting projects on land council-owned land are considered the best strategy to drive benefits for its community.
- **Enterprise diversification:** renewable energy projects to complement and extend existing land council enterprises, including the work of the Indigenous Ranger Program.
- **Environmental stewardship:** renewable energy projects support and contribute to land regeneration and environmental management.
- **Access to capital:** land council access to capital for equity in projects is critical in Australia and could be realised by growing global Indigenous solidarity networks.
- **Civic uplift:** for example, using renewable energy to heat the local pool throughout the year to extend its use for the community. This underscores the land council's understanding of their role in the wider community.

The renewable energy potential of the Aboriginal land estate

The research demonstrates the high potential for renewable energy installations in the current and future Aboriginal land estate - particularly solar and wind energy capacity.

As Table 1 shows, an estimated 447km^2 of the current NSW Aboriginal land estate has potential for **solar energy** and could provide up to 11,177MW of installed capacity. The future NSW Aboriginal land estate has 8,302km^2 of suitable land, translating to 207,557MW of installed capacity.

An estimated 326km^2 of the current Aboriginal land estate is suitable for **onshore wind generation**, providing up to 1,630 MW of installed capacity. The future land estate contains suitable areas of 7,252km^2, which could produce up to 36,259MW installed capacity.

Resolving outstanding Aboriginal land claims would increase the amount of land suitable for renewable energy projects by a factor of 18.6 for solar and 22.2 for wind.

Table 1: The renewable energy potential of the NSW Aboriginal land estate

Solar energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate*	447	11,177
Land under outstanding claim	7,885	196,380
Total: Future Estate	8,302	207,557

Wind energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate*	326	1,630
Land under outstanding claim	6,926	34,629
Total: Future Estate	7,252	36,259

*This does not include 'other repossessed land'.

The three case studies illustrate the solar and wind energy potential of individual locations.

Brewarrina LALC wind and solar potential

The research found that Brewarrina Land Council's current and future Aboriginal land estate has high technical potential to host both solar and wind energy.

Table 2: Brewarrina land council's renewable energy potential

Solar energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate**	98	2,456
Land under outstanding claim	113	2,830
Total: Future Estate	211	5,286

Wind energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate **	98	491
Land under outstanding claim	112	559
Total: Future Estate	210	1,049

** This includes 'other repossessed land'.

Further details on the solar and wind potential of Brewarrina, including possible sites for renewable energy projects, can be found in Annex A.

Tibooburra LALC: wind and solar potential

Analysis of Tibooburra's land council's current and future land estate also revealed significant potential for energy projects (both solar and wind).

Table 3: Tibooburra Land Council's renewable energy potential

Solar energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate**	105	2,624
Land under outstanding claim	130	3,246
Total: Future Estate	235	5,870

Wind energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate**	105	525
Land under outstanding claim	130	649
Total: Future Estate	235	1,174

** This includes 'other repossessed land'.

Further details on the solar and wind potential of Tibooburra, including possible sites for renewable energy projects can be found in Annex B.

Hay LALC: wind and solar potential

Currently, Hay Land Council has limited land appropriate for solar and wind as 99.5 per cent of the land identified as suitable for solar and wind projects is under outstanding land claim (at the time the analysis took place). However, there is significant renewable energy potential in this location linked to land under outstanding claim (see Table 4).

Table 4: Hay Land Council's renewable energy potential

Solar energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate**	2	40
Land under outstanding claim	312	7,794
Total: Future Estate	313	7,834

Wind energy potential		
	RE Potential (area) (km2)	RE Potential (installed capacity) (MW)
Current Estate**	2	8
Land under outstanding claim	311	1,556
Total: Future Estate	313	1,564

** This includes 'other repossessed land'.

Further details on the solar and wind potential of Hay Including possible sites for renewable energy projects can be found In Annex C.

A policy agenda for NSW

Land councils could play an important role in supporting policymakers to deliver the energy transition and achieving positive outcomes for First Nations people. The study identified four broad areas for policy reform and 11 policy opportunities to advance this agenda (see Table 5). This section explores the opportunities identified and outlines how they might be realised.

Table 5: Policy areas and opportunities to advance Aboriginal participation in the renewable energy transition

Policy reform area	Policy opportunity	Key stakeholders
Increase resources and build capacity for land councils to manage clean energy opportunities and risks on their landholdings	1. Establish a dedicated team to support interested land councils.	NSW Department of Climate Change, Energy, the Environment and Water in partnership with NSW Aboriginal Land Council
	2. Provide funding for land councils to enter the renewable energy sector.	Australian Renewable Energy Agency and NSW Department of Climate Change, Energy, the Environment and Water
	3. Establish a NSW Aboriginal renewable energy research and resource centre.	NSW Department of Climate Change, Energy, the Environment and Water in partnership NSWALC
Enable microgrid collaborations with Electricity Networks and land councils	4. Investigate options to ensure land council-owned land is considered and preferenced for siting energy infrastructure.	NSW Department of Climate Change, Energy, the Environment and Water and Essential Energy
	5. Assist land councils with microgrid development partnerships.	NSW Department of Climate Change, Energy. the Environment and Water and Essential Energy
Enable development of mid- and large-scale renewable energy projects	6. Partner with land councils for planning approval processes to 'de-risk' large-scale renewable energy projects on land council land.	NSW Department of Planning, Housing and Infrastructure

	7. Implement a pilot program to demonstrate large-scale renewable energy projects on land council-owned land and its benefits.	NSW Department of Climate Change, Energy, the Environment and Water and ARENA
	8. Implement a pilot program to demonstrate mid-scale renewable energy projects on land council-owned land and its benefits.	NSW Department of Climate Change, Energy. the Environment and Water and Essential Energy
Strengthen Aboriginal rights recognition to unlock the renewable energy potential of Aboriginal land	9. Expedite land claims and land transfers to support renewable energy projects on land council land.	Crown Lands NSW
	10. Incentivise cooperation between land councils and Traditional Owners to realise renewable energy aspirations.	Aboriginal Affairs NSW and Crown Lands NSW
	11. Introduce standalone Aboriginal cultural heritage protection that aligns planning and development with best practice principles in cultural heritage.	Aboriginal Affairs NSW

Increase resources and build capacity for land councils to manage the clean energy risks and opportunities from their landholdings

Opportunity 1: Establish a dedicated team to support interested land councils

Wrap-around support is necessary as land councils prepare, build capacity and strategise for the energy transition. The NSW Government could establish a team of dedicated experts, working in partnership with NSWALC, to activate Aboriginal land for renewable energy projects. The team of experts would be responsible for the following activities:

- geospatial mapping and analysis of Aboriginal land to support land councils to locate land in the current and future Aboriginal land estate suitable for renewable energy projects. Longer-term, NSWALC and interested Aboriginal students could be trained to use GIS software, conduct geospatial analysis and interpret maps to meet the needs of the Aboriginal land council network.

- delivering knowledge-exchange workshops with land councils across NSW.
- assisting land councils to develop renewable energy position statements that elaborate the land council's aspirations, interest in renewable energy and the benefits of partnering with a land council, including access to available land council land for renewable energy projects and networks to meet Indigenous employment and business targets.
- working with interested LALCs to progress through the stages of a renewable energy project.
- providing access to expert advice, decision-making support and resources such as toolkits, guides and agreement templates (Opportunity 4).

The support delivered by the team will differ between REZ and non-REZ settings. Land councils in non-REZs are keen to understand what opportunities are possible in edge-of-grid settings. Within REZs, Aboriginal land councils urgently need resources to ensure equitable participation and negotiation with energy proponents in early-stage consultation and negotiations, as this is a crucial time to inform and co-design projects that align with community needs and aspirations.

Opportunity 2: Provide funding for land councils to enter the renewable energy sector

There is a gap in the current funding landscape to assist Aboriginal land councils to participate in the energy transition. The case studies show that despite a strong desire to participate in renewable energy initiatives, land councils have limited funding available to:

- develop renewable energy plans;
- undertake pre-feasibility and feasibility studies; and
- develop internal capacity to either become a project developer or find a project developer partner.

Aboriginal land councils report that the current funding allocation from NSWALC is insufficient to cover the cost of advancing renewable energy projects on their landholdings.

In non-REZ settings, land councils are keen to access the Australian Renewable Energy Agency's (ARENA) Regional Microgrid Funding under Stream B, but the full application process requires land councils to be 'project ready'. Aboriginal land councils would benefit from time and resources to assist them in finding project partners, act as an intermediary between energy proponents and Aboriginal community members and participate in the design of renewable energy projects including site selection and the negotiation of co-benefits.

Within the REZ, Hay LALC's experience shows that upfront capital, advanced negotiation and networking skills, and capacity, are needed to participate in the renewable energy transition. In Hay, current activity in the renewable energy sector is only possible through income generated from a long-standing and thriving conservation and land management enterprise and other forms of revenue-raising.

While Aboriginal land councils have ample land assets, they often have no equity or capacity to take on debt to invest in energy project opportunities. Recent amendments to the *Aboriginal and Torres Strait Islander Act (2005) Cth* (November 2024) aim to support the Commonwealth Government's Future Made in Australia agenda. These changes have expanded the remit of Indigenous Business Australia (IBA) to enable it to borrow and raise capital that can be used to invest in Aboriginal and Torres Strait Islander businesses and communities and to partner with government and entities to deliver programs for First Nations ventures. In the context of NSW's renewable energy transition, the IBA could act as a lender to Aboriginal land councils, making it easier to attract finance to enable an Aboriginal ownership stake in potential projects.

This new model is yet to be applied, but given its potential for realising Aboriginal ownership stakes in renewable energy projects, the NSW Government could support early applications of IBA debt instruments. This could be supplemented with other revenue-raising and facilitation mechanisms, such as brokering investor forums on access to capital and equity ownership that introduce Aboriginal land councils to philanthropic and investor finance or support new models for collaborative finance.

Opportunity 3: Establish an NSW Aboriginal renewable energy research and resource centre

The NSW Government could establish a research and resource centre that:

- Provides a range of expertise to support land councils in undertaking pre-feasibility and feasibility studies.
- Conducts training to build Aboriginal community capacity in the renewable energy transition (such as in Opportunity 1).
- Establishes a clearinghouse for resources: toolkits, agreement resources to support Aboriginal land councils to equitably engage with energy proponents.
- Provides a central information portal about programs and funding for Aboriginal communities.
- Runs relevant seminars for the Aboriginal community and renewable energy sector

- Provides policy and technical advice.
- Undertakes applied research, such as mapping future industries arising from the energy transition in NSW regions against land council assets, aspirations and community profile.
- Elevates First Nations voices in clean energy program development and decision-making.
- Serves as an incubator for Aboriginal land council energy projects, lending support and expertise to pilots (see Opportunity 8 and Opportunity 10).

Enable microgrid collaborations with Electricity Networks and land councils

Regional electricity networks are currently pursuing opportunities for microgrid development to provide their customers with cheaper, more reliable energy.[28] The highest priority projects are financially justified as cost-effective under current energy rules and revenue determinations by the distribution network, based on reduced compensation payments to customers when minimum reliability standards are not met. In such cases, network businesses can proceed with financing and installing microgrid assets as part of their regulated asset base, such as town-scale batteries or renewable energy generation infrastructure, provided they can secure land to house the assets.[29] This is the case in Tibooburra, where a microgrid is under investigation by Essential Energy, requiring a 4MWh battery and 600kW of new solar generation. However, in Brewarrina, reliability improvements alone do not currently justify the investment required for a microgrid or battery storage. In Hay, it was reported that there may be a case for a town-scale battery to improve feeder reliability, but this is not yet confirmed by Essential Energy. The case studies show there are opportunities for partnerships between land councils and energy networks, ranging from providing land for network upgrades to delivering energy upgrades.

Opportunity 4: Investigate options to ensure land council-owned land is considered and preferenced for siting energy infrastructure

In Tibooburra, Essential Energy is proceeding with a microgrid that is technically and financially viable under the existing energy and revenue determination rules that govern network expenditure. The default approach appears to be for networks to utilise Crown land, which is a missed opportunity for realising co-benefits through the siting of assets on Aboriginal land council landholdings.

Consultation processes also often lack direct engagement with Aboriginal land councils. Although networks engage with members of the local community to develop some projects, there is no directive or incentive to engage with land councils. Distributed Network Service Providers (DNSPs) are required to develop least-cost solutions under energy rules, but the current process may miss opportunities to use Aboriginal land council land assets where they are comparable or more suitable to alternative options and deliver benefits to local First Nations peoples.

Options could be investigated to ensure Aboriginal land councils are consulted and preferenced when local energy initiatives are being explored and prior to infrastructure siting decisions. Ideally, networks would develop and implement such processes.

The NSW Government could require network businesses to consult with Aboriginal land councils to consider suitable land parcels (current or pending land claims) and any associated social, economic or environmental co-benefits that may be delivered through such arrangements, as alternatives to Crown land and/or establish a target for network assets involving Aboriginal land council land parcels. This approach may also unlock additional renewable energy generation or storage investments beyond the scale that can be justified by the network business solely through internal, regulated business cases.

Opportunity 5: Assist land councils with microgrid development partnerships

In circumstances where the network business does not have a regulated business case to develop microgrid or other clean energy assets, there is no 'default' institution to drive renewable energy opportunities. Even where the network *is* driving a microgrid, such as in Tibooburra, the Aboriginal land council may lack sufficient knowledge or support to determine its potential role and stake in the project. Pilot projects could therefore help develop a process template for planning and delivering collaborative microgrid projects that utilise Aboriginal land council land assets.

Since 2021, ARENA has funded regional microgrid pilot projects under the Regional Australia Microgrid Pilots Program (RAMPP, worth $50 million). In 2023, ARENA allocated $75 million to Aboriginal communities and organisations, including land councils, to implement microgrids under the Stream B – First Nations Community Microgrids.[30] The grants cover 50 per cent of the total project costs and require industry partnerships to raise the remaining 50 per cent.[31] Such co-funding requirements are challenging for Aboriginal land

councils when they have limited access to capital and no access to expertise to assess the viability of the opportunity.

A targeted initiative to support early-stage partnerships for microgrids and related assets on land council land could bridge this gap - either as part of the Commonwealth First Nations Clean Energy Strategy or through a funding stream developed by the NSW Government. This would involve seed funding and pre-competitive facilitation (such as through a government-facilitated EOI process) to pair Aboriginal land councils with evaluation and development partners that have a genuine project stake, such as DNSPs, renewable energy and storage developers, financiers and ARENA.

The process would aim to generate viable ARENA Stream B project applications. This approach would be similar to other NSW Government community energy programs and the approach taken by the Victorian Department of Energy, Environment and Climate Action (DEECA) in pursuing community batteries when there were limited implementation-ready projects available.

The initiative could focus on increasing longer-term climate change resilience by reducing the risk of critical infrastructure outages and minimising the time needed to recover from extreme weather events such as floods, bushfires, storms and heat stress.

Enable the development of mid- and large-scale renewable energy projects

As with microgrids, although provisions exist within the Capacity Investment Scheme (CIS) and the NSW Long-Term Energy Service Agreements bid process to encourage partnerships with First Nations people, complementary measures are required to develop large-scale renewable energy and storage projects on Aboriginal land council land assets. Enabling land councils to develop large-scale renewable energy would demonstrate how the energy transition can deliver significant impact for First Nations peoples. As it has not been done before, it will require funding, project facilitation, collaboration and planning reforms. These measures should aim to catalyse the development of First Nations renewable energy projects that can bid for contracts through the CIS or for power purchase agreements from retailers or corporate buyers. While the scope of this project has involved research through engagement with land councils, the effectiveness of these demand mechanisms should be monitored and may also require the development of specific mechanisms to enable land council-owned renewable energy.

The NSW Government's current approach to REZ development does not include mechanisms for mid-scale renewable energy development in the 0.5 – 5 MW range that can integrate cost-effectively within the distribution network. These smaller projects may have greater capacity to secure social license within the community. They would also require a level of investment that better aligns with local stakeholders' capacity to invest and participate and could form part of microgrid initiatives in edge-of-grid contexts.

This model could suit some of the Aboriginal land council areas assessed, including solar farms in Tibooburra and Hay. A recent report released by Energy Networks Australia highlights the potential of mid-scale projects to improve the utilisation of grid assets and reduce average network prices.[32] Associated opportunities, such as battery storage on Aboriginal land council land, could provide long-term income and increase the resilience and stability of energy provision.

Opportunity 6: Partner with land councils for planning approval processes to 'de-risk' large-scale renewable energy projects on land council land

The REZ case study (Hay Aboriginal land council) highlights the potential for large-scale renewable energy on land council-owned land. However, developers are likely to consider Aboriginal land council sites as higher risk than alternative sites and, thus, are less likely to pursue a development on this land. In several international jurisdictions, governments have encouraged investment in renewable energy projects or regions by de-risking sites through the preparation of planning and connection approvals. For example, the International Energy Agency has captured examples of governments organising land acquisition, planning approvals and enabling infrastructure for solar parks in India.

A similar approach could be adopted for Aboriginal land council land assets. NSW Government funding and expertise could be provided to work with Aboriginal land councils to organise relevant assessments and approvals (e.g. native title, cultural and heritage assessment, environmental assessments, etc.) and expedite relevant land claims. Collaboration between Aboriginal land councils and NSW planning officials would deliver helpful insights to both parties on the requirements for project success.

A selected Aboriginal land council could pilot this approach and, depending on its outcomes, an ongoing service for other land councils could then be developed. As part of the pilot to de-risk a land council site, the NSW Government could investigate if other parallel planning reforms are required. This could include an Aboriginal Renewable Energy State Environmental

Planning Policy (SEPP). This would be a useful exemplar for other land councils, demonstrating the advantages of partnering with a land council for project development. A SEPP could also build the cultural capability of renewable energy proponents - comprehension of land council aspirations and ways of working – and help de-risk future projects by clarifying the implementation process.

Opportunity 7: Implement a pilot program to demonstrate large-scale renewable energy projects on land council-owned land and its benefits

Even with a partnership to de-risk Aboriginal land council assets for large-scale renewable energy through the planning approval process, it is likely to be challenging for a first-of-kind land council project to compete with the large field of more advanced, large-scale renewable energy projects. First-of-kind energy projects are typically more expensive, and this is unlikely to be different. While there is a mechanism to fund large-scale renewable energy projects in the form of NSW Long-Term Energy Supply Agreements, a specific program is needed to support and fund the development of several demonstration projects.

The Clean Energy Finance Corporation and ARENA have previously successfully unlocked new classes of projects (e.g., large-scale solar) through specific programs, including grants and/or concessional finance, and other support, to demonstrate project feasibility and reduce risk perceptions and ratings among financiers, project developers, and other stakeholders.

ARENA and/or CEFC could be provided with funding to launch a program for Aboriginal land council-developer partnerships for large-scale renewable projects on land council land. The first round would provide seed funding for early-stage feasibility studies and access to technical expertise for project development to a group of projects, alongside facilitating planning and land approval. The second round would select a smaller group of projects for support (e.g. grants and/or concessional finance) to improve project finances and create incentives for developers to pursue partnerships. The program aims to enable demonstration projects that can spark wider development of land council-initiated large-scale renewable energy projects.

Opportunity 8: Implement a pilot program to demonstrate mid-scale renewable energy projects on land council-owned land and its benefits

A 'mid-scale' round of competitive program funding could target smaller projects on land council-owned lands, either behind-the-meter or mid-scale grid-connected projects, unlocking new opportunities. Mid-scale projects face distinct challenges to large-scale projects and involve different types of project

developers. Government funding and support would encourage participation in the program for mid-scale, grid-connected projects, while behind-the-meter projects could be undertaken through a tender process seeking suppliers to work with Aboriginal land councils. The call-out would be aided by active participation from the distribution network to support bidders in identifying optimal locations for grid integration of mid-scale projects. The pilot would aim to demonstrate effective project models, build capacity and act as a catalyst for future partnerships between Aboriginal land councils and project developers.

Enabling Aboriginal land use to unlock renewable energy potential

Opportunity 9: Expedite land claims and land transfers to support renewable energy projects on land council land

Land successfully repossessed by land councils under the ALRA, along with purchased properties, is vital to achieving Aboriginal self-determination, including the realisation of economic autonomy through energy systems change. There are longstanding frustrations with the land claim determinations process under the ALRA. The study identified significant land council land suitable for hosting energy projects, but 95 per cent of suitable sites are part of the future estate, that is, undetermined land claims.

The Aboriginal Land Agreement, at Section 36AA of the ALRA, includes a provision to negotiate the return of land subject to claim and other lands. The ALA could be used to determine land claims and other land where land councils seek to host renewable energy projects.

Opportunity 10: Incentivise cooperation between land councils and Traditional Owners to realise renewable energy aspirations

The overlay of Native Title rights and interests on the land council land estate has long neutralised the ability for Aboriginal land councils to deal in their land, adding time and complexity to land council land development proposals. Where Native Title and land under the ALRA interact over a potential renewable energy development, the government could incentivise negotiation and agreement between Traditional Owners and Aboriginal land councils to produce beneficial outcomes for both parties.

Opportunity 11: Introduce standalone Aboriginal cultural heritage protection that aligns planning and development with best practice principles in cultural heritage

As the energy transition expands, it is imperative that more effective Aboriginal cultural heritage laws are introduced to prevent the destruction of precious cultural heritage. Renewable energy development must avoid destruction to Aboriginal cultural heritage as seen in other land developments.

Conclusion

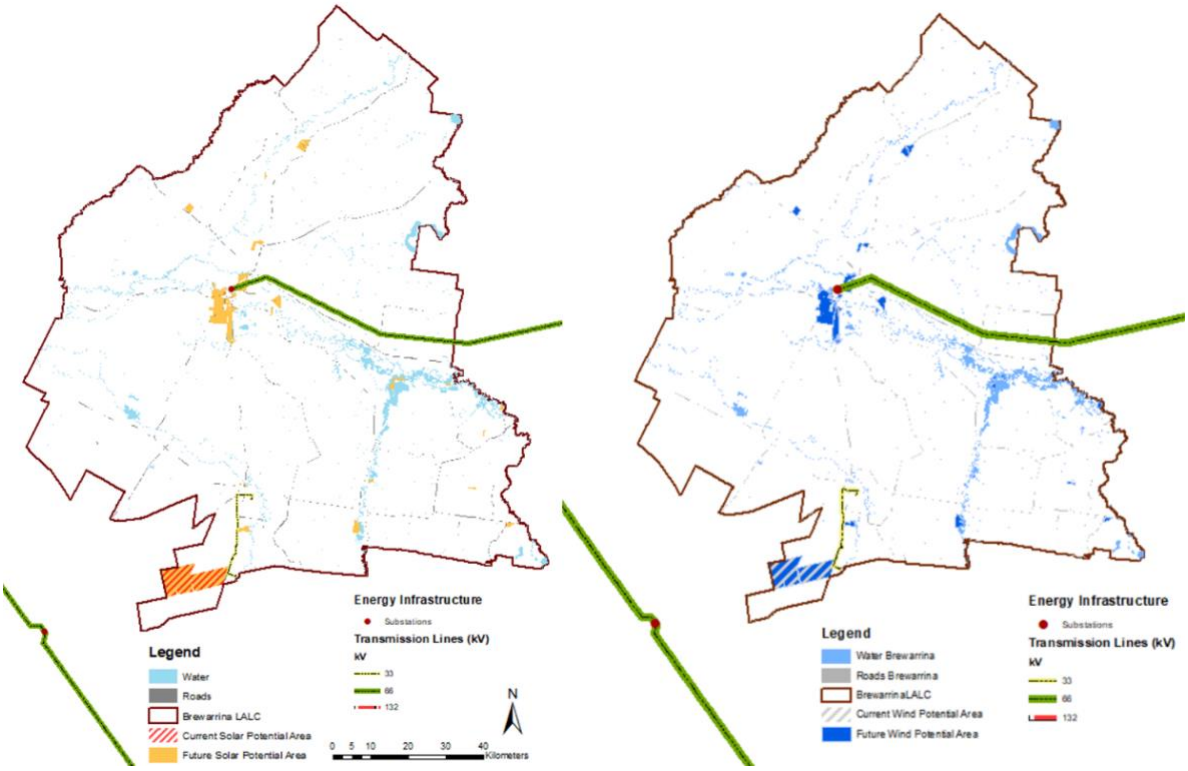
Aboriginal land councils want to contribute to, and benefit from, the energy transition. As the future land council land estate has suitable landholdings to realise these ambitions, multiple actions can unlock this renewable energy potential. These include steps to improve Aboriginal land council resources and capacity, enabling renewable energy projects on land council land, and expediting land claims and land use approvals.

These actions will enable the NSW Government to achieve dual objectives: advancing the transition to renewable energy and generating significant economic opportunities and empowerment for Aboriginal communities.

Annex A: Detailed Brewarrina case study

Figure 2 shows the renewable energy potential sites on Brewarrina's current and future land estate.

Figure 2: The solar and onshore wind potential on the Brewarrina land council's current and future land estate



Brewarrina is remote and has low energy demand. It has no transmission capability to export to the wider grid. Therefore, local, mid-scale energy is a viable option at Brewarrina.

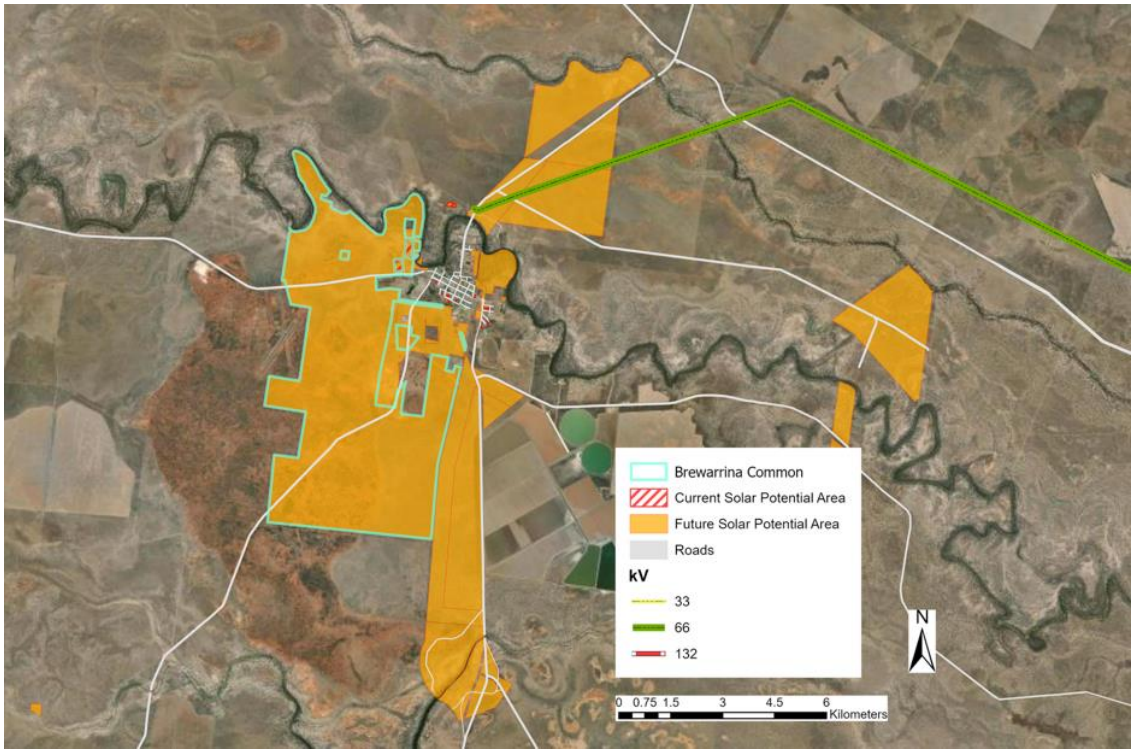
The Brewarrina land council has sites in its current land estate and future land estate that could be used for a mid-scale renewable energy project, microgrid, or battery storage.

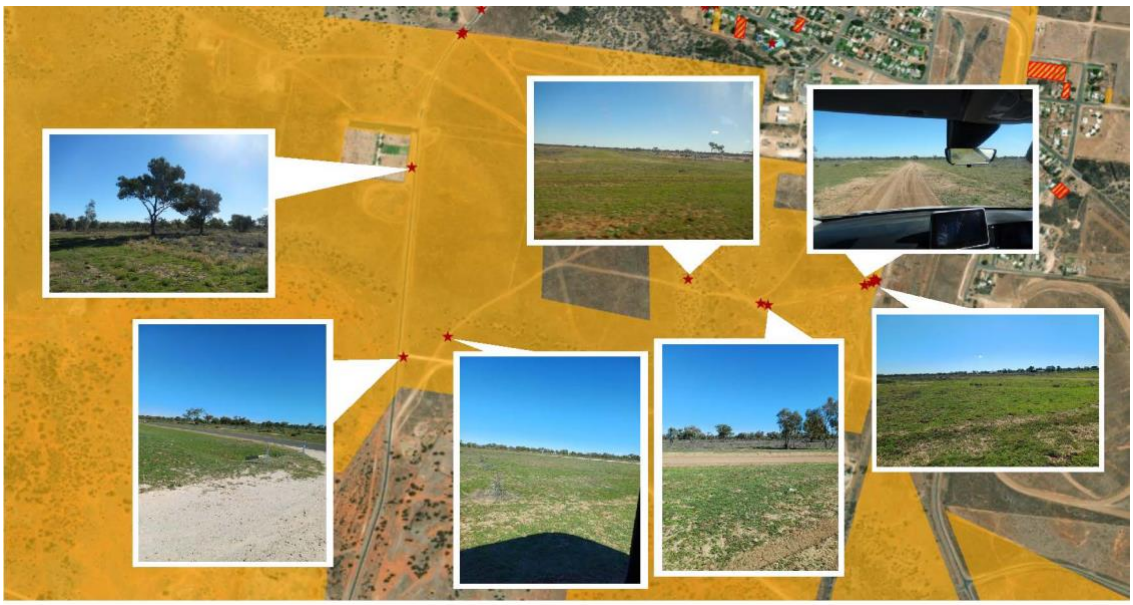
Figure 3 shows the Brewarrina Common, the oldest land claim in NSW (1984) that was resolved in August 2024 and covers 35km^2 in total. The potential installed capacity for this site is up to 871MW of solar energy and 174MW for wind energy. It is located west of the town centre.

The land council identified this site as suitable for a future energy project, specifically a microgrid. The exact location of the infrastructure would need to

be carefully selected to account for its proximity to the main distribution line (66kV) and to avoid flood risk areas along the Barwon River.

Figure 3: Brewarrina Common land parcel showing potential renewable energy areas and grid connection (green line)



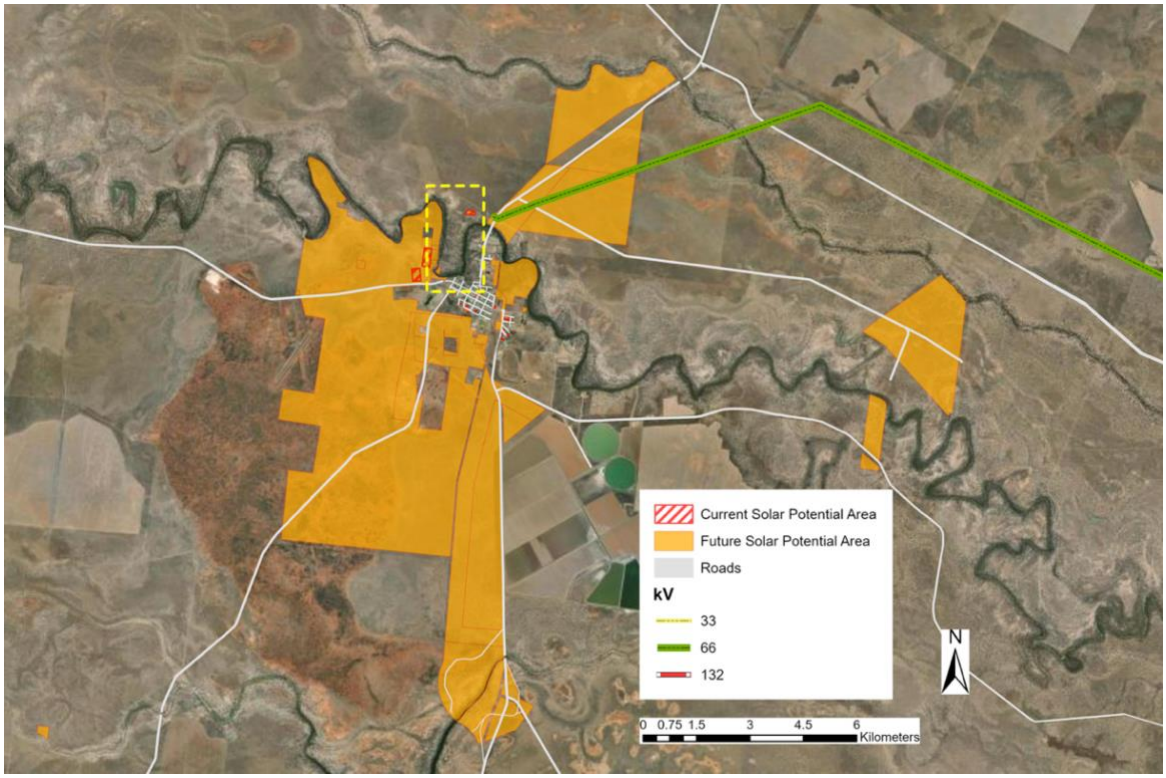


In addition, two sites in Brewarrina's current land estate were identified as suitable for both solar and wind projects. A site located northwest of the town centre covers approximately 0.5km^2 (498,441m^2), and the potential installed

capacity is estimated to be 12MW of solar energy and 2MW for wind energy. The site is located within 1km of a transmission line and substation. It could be a potential location for a mid-scale renewable energy and storage project as part of a town-scale microgrid approach.

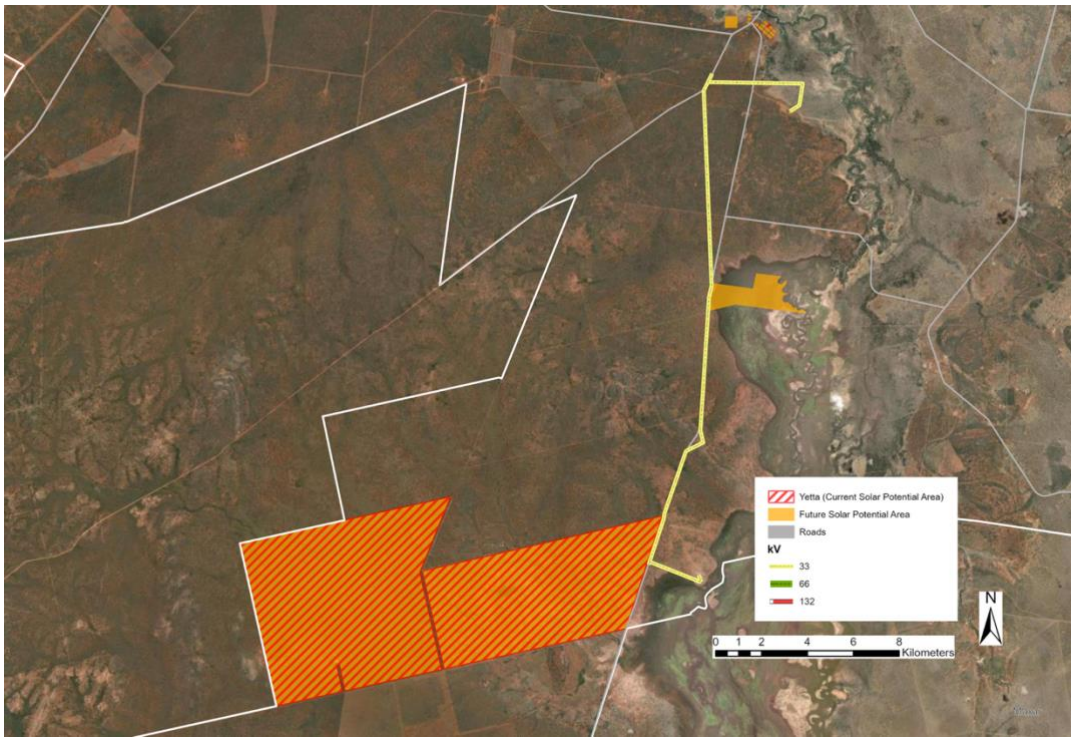
The site is located close to land council housing, and Brewarrina land council emphasised that any renewable energy project on this site must deliver direct and tangible benefits for their Aboriginal residents, including more affordable and reliable energy, community education, training and onsite employment opportunities.[33]

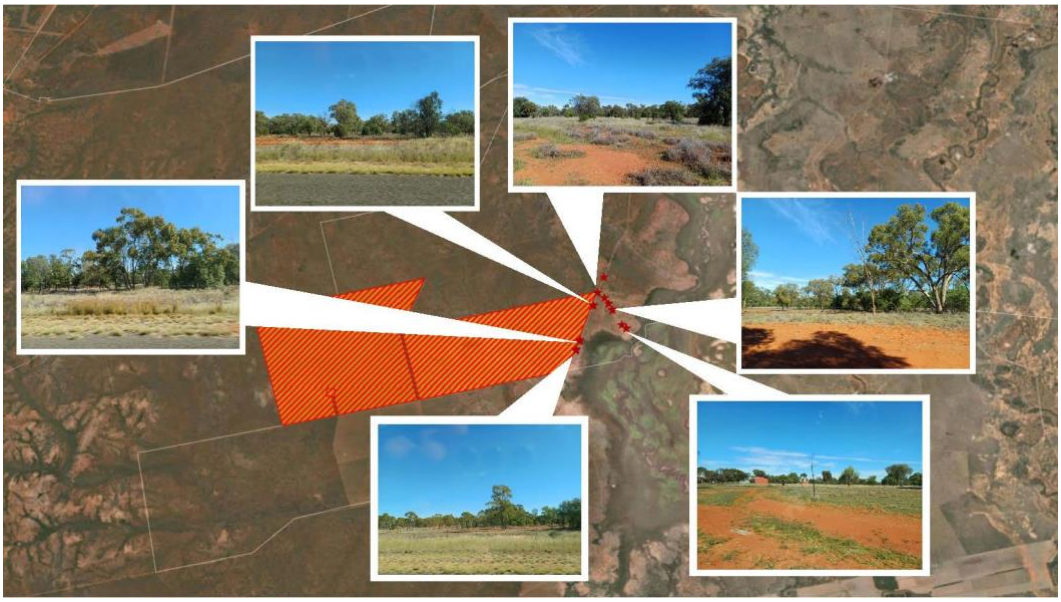
Figure 4: Renewable potential areas located in the north-west of town



The other potential site in Brewarrina land council's current land estate is Yetta, located 77km from the town centre and covering 98km^2 (Figure 5). Yetta could have up to 2,449MW of solar energy installed capacity and 490MW of wind energy installed capacity, which could power surrounding small towns. The current low-voltage transmission line (33kV) will need significant upgrades.

Figure 5: Location of Yetta, a renewable potential area in Brewarrina land council's current land estate

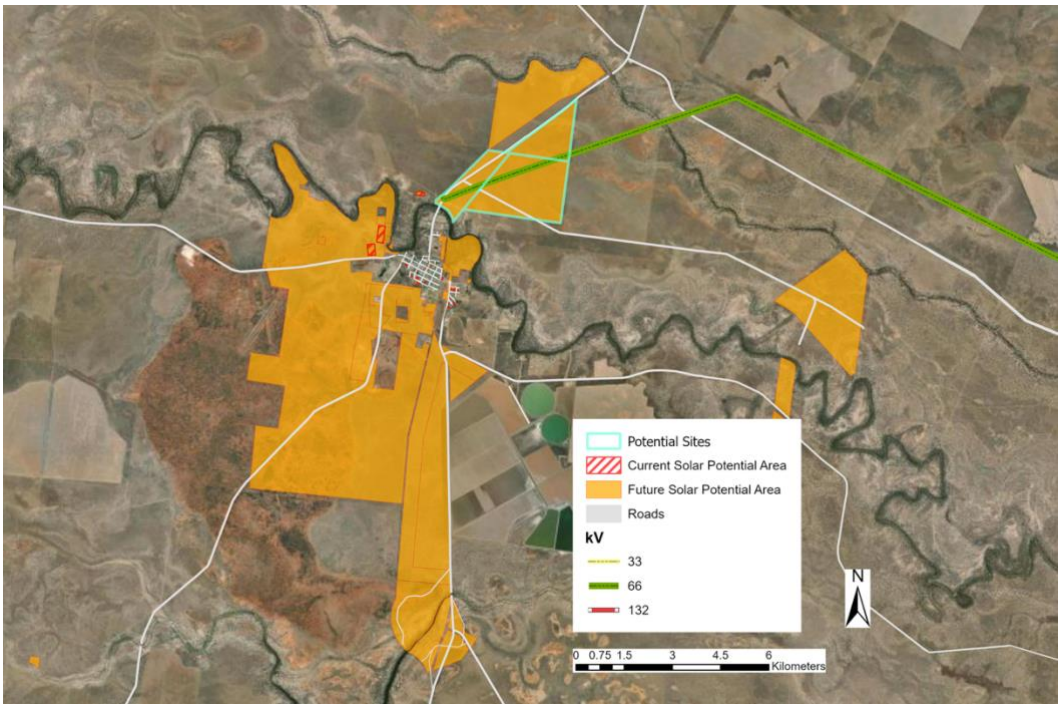




There are also a few favourable sites at the entrance of the Brewarrina Aboriginal Mission (16 km northwest of the town centre) because of the proximity to the 66kV line and town centre, shown in Figure 6. These sites are lands under outstanding claim and could potentially be part of Brewarrina's future land estate.

With the resolution of outstanding land claims, the amount of LALC land with renewable energy potential in Brewarrina could more than double.

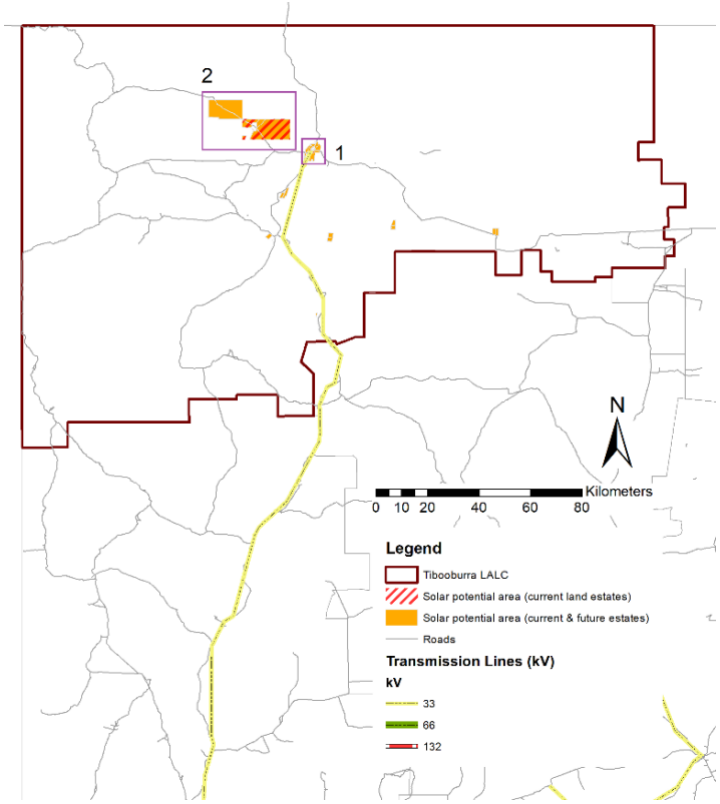
Figure 6: Land under claim at the entrance to the Brewarrina Aboriginal Mission, which is part of Brewarrina land council's future land estate

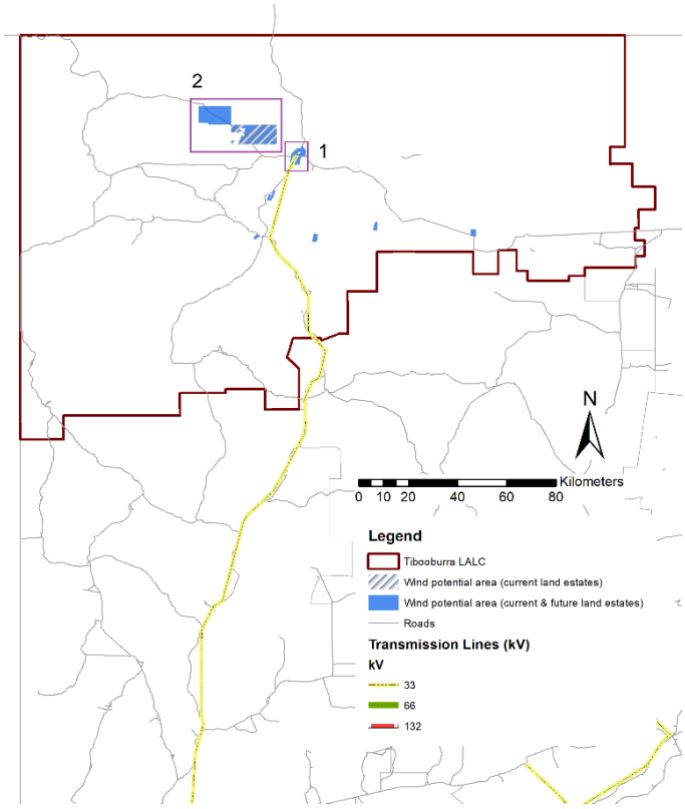


Annex B: Detailed Tibooburra case study

The renewable energy potential areas in Tibooburra land council's current and future land estate are shown in Figure 7.

Figure 7: Areas identified as suitable for solar and onshore wind on Tibooburra land council's current and future land estate.



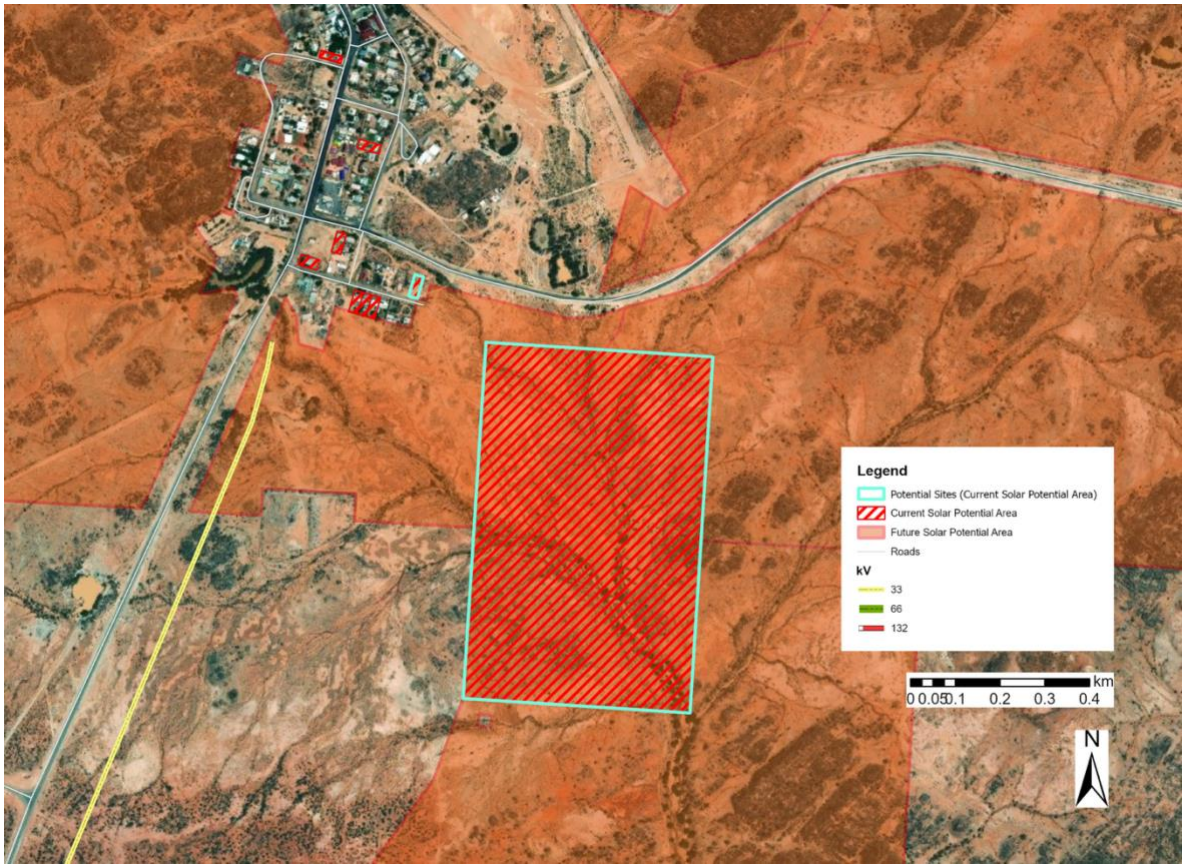


Two sites in Tibooburra's current land estate were identified as suitable for renewable energy projects. One site, shown in Figure 8, is located 1km southeast of the township near Tibooburra land council's campground and Racecourse Creek, and could be used for a community-scale solar project for a microgrid being planned by Essential Energy to power key facilities and infrastructure in the township. A nearby small lot, (marked in Figure 8), could be used as a site for the community battery also planned by Essential Energy.

The sites cover approximately 19 km^2 in total and could have 471 MW of installed capacity for solar energy and 94 MW for wind energy. These are favourable due to their proximity to both the township and the transmission line (33kV).

Tibooburra land council indicated interest in partnering with Essential Energy on a renewable energy project and confirmed that both sites identified in the study are appropriate for renewable energy development since they are unlikely to impact cultural heritage and are not subject to a Native Title determination.

Figure 8: The campgrounds near Racecourse Creek have solar potential and are part of Tibooburra land council's current estate

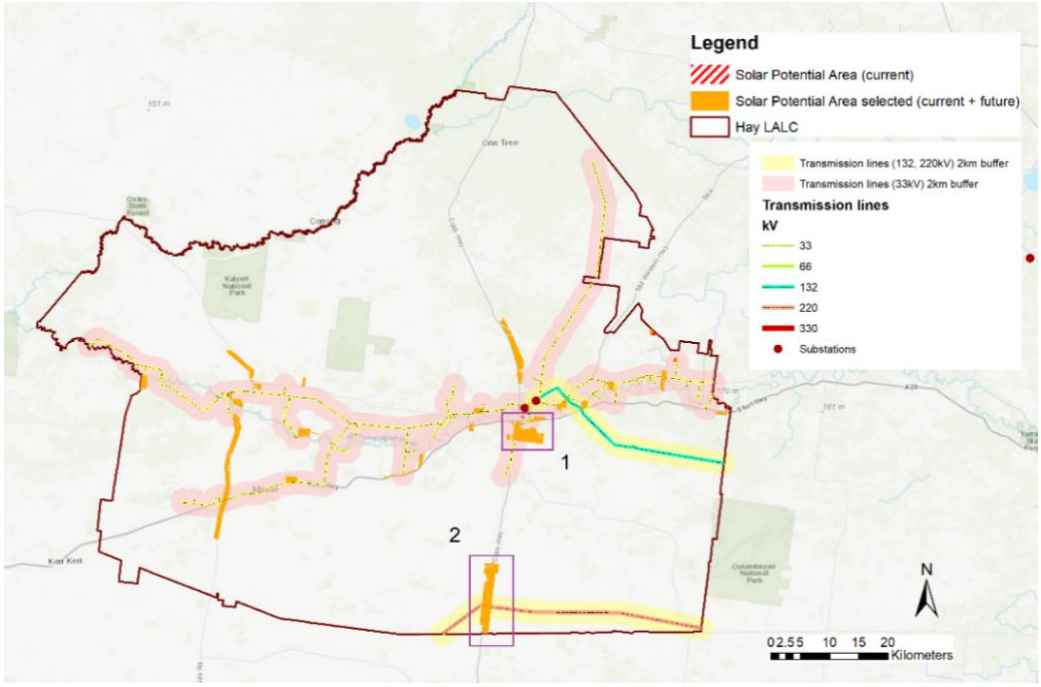


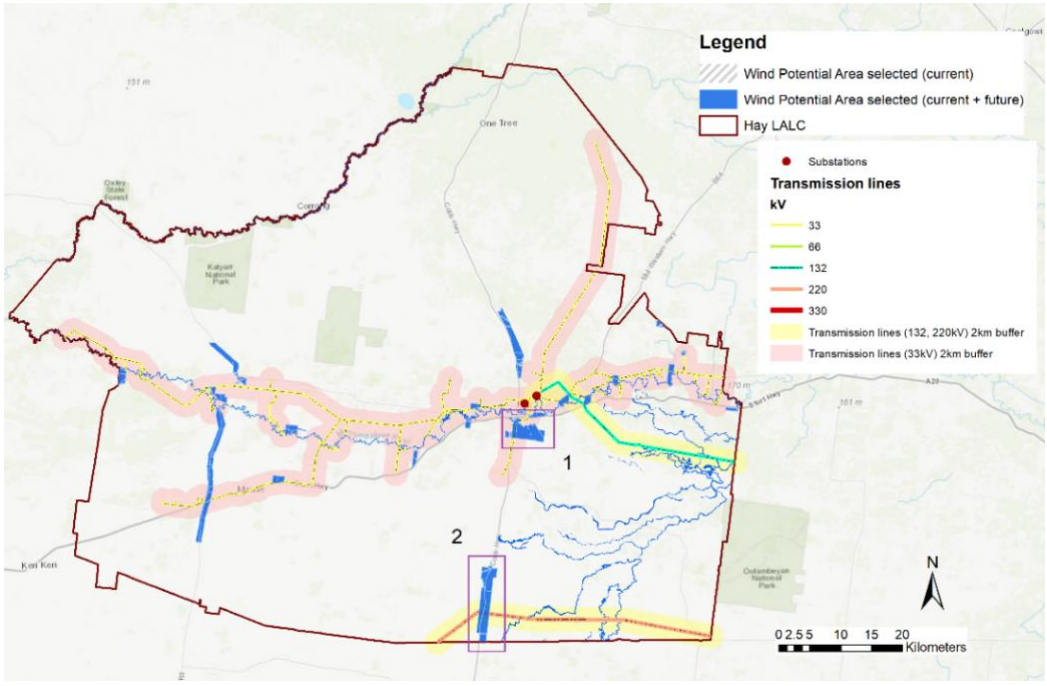
Currently, 44.7 per cent of both solar and onshore wind energy potential areas are part of Tibooburra land council's current land estate, more than 55 per cent is still under claim.

Annex C: Detailed Hay case study

Figure 9 shows the renewable energy potential sites on Hay land council's current and future land estate.

Figure 9: Current and future onshore wind potential on the Aboriginal land estates

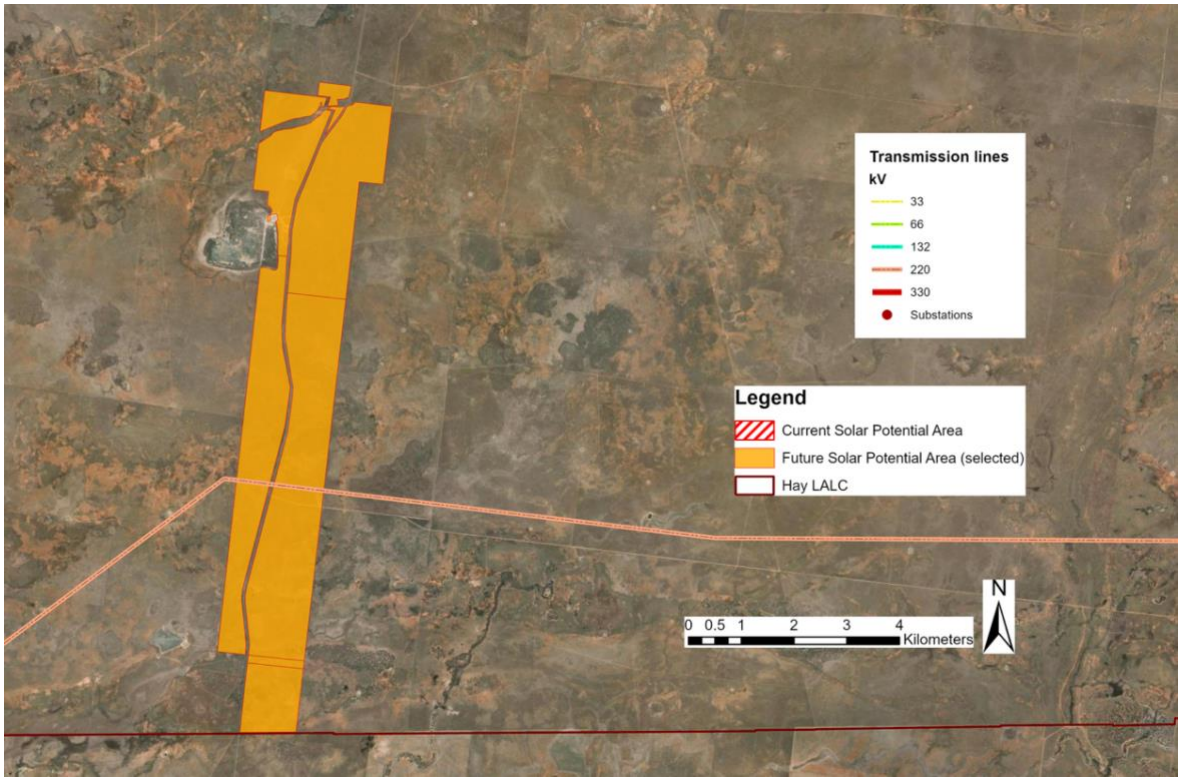


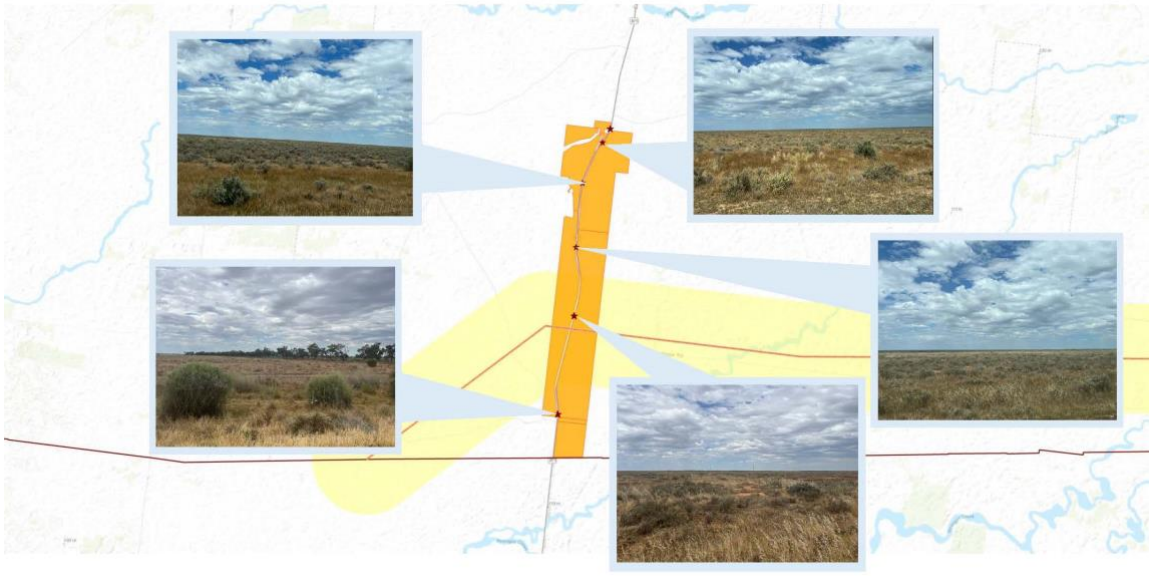


The two most favourable sites for renewable energy projects are under outstanding land claim. The settlement of Aboriginal land claims is a precondition for the use of these lands in energy developments.

The first site identified is the Long Paddock, located on the Cobb Highway and situated in the NSW South-West Renewable Energy Zone (SWREZ). This is the most favourable option to host a large-scale energy project for Hay land council, especially a solar farm.[34] As shown in Figure 10, the site is adjacent to the high-voltage transmission line (220kV), which is due to be upgraded to 330kV under Project EnergyConnect. It is located 30–40km south of the town centre and covers an area of approximately 19.5 km2 in total, which could produce up to 488MW of installed capacity for solar energy and 98MW for wind energy. It is a flat site with low levels of vegetation and no alternative economic uses.

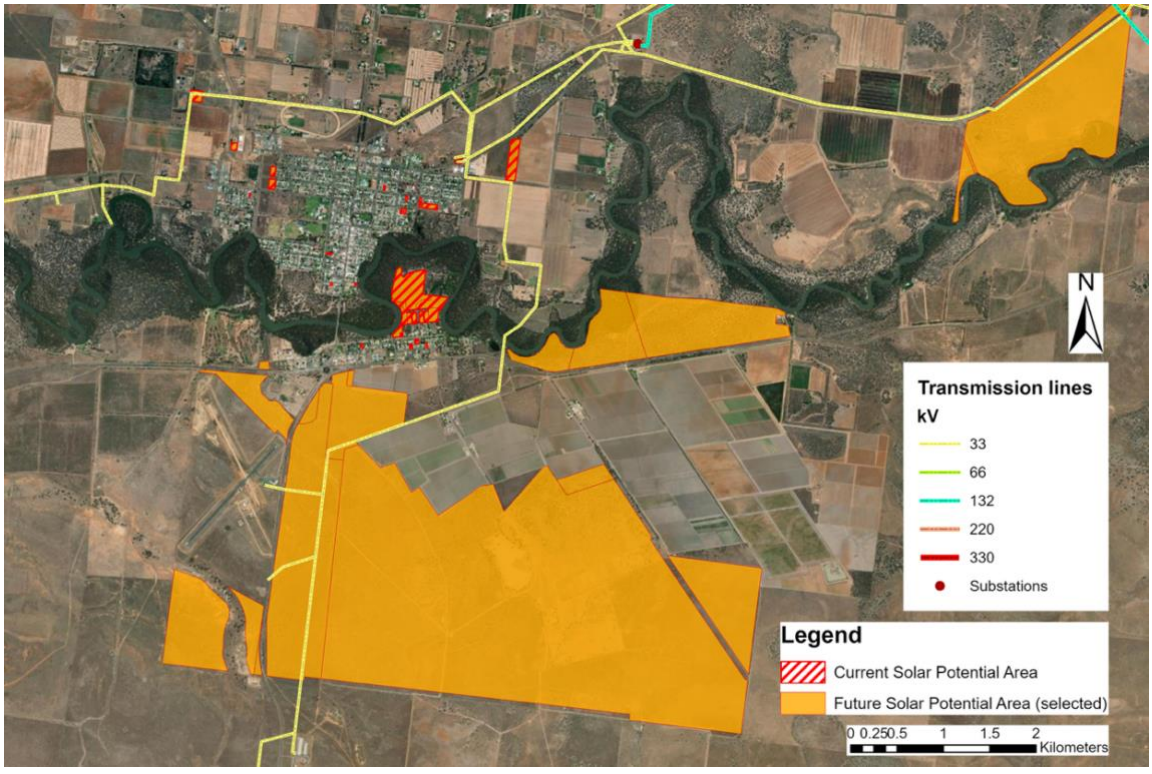
Figure 10: Long Paddock site adjacent to a planned high-voltage transmission line planned to be upgraded under Project EnergyConnect





The other site, shown in Figure 11, is located south of the town centre and 5km south of the main 132kV line, comprising multiple plots with outstanding claims. This could be suitable for hosting a mid-scale solar project to power the town. The sites cover an area of approximately 13 km^2 in total and could have up to 322 MW of installed capacity for solar energy and up to 64 MW for wind energy.

Figure 11: Land located South of Hay town centre



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[1] Crown Lands NSW, *Schedule 1 Log 126712 ALC Extract [data set]*, granted on 23 August 2021.

[2] Australian Government, *First Nations Clean Energy Strategy 2024-2030* (Canberra, Australian Government, 2024), https://www.energy.gov.au/sites/default/files/2024-12/First%20Nations%20Clean%20Energy%20Strategy.pdf.

[3] NSW Climate and Energy Action, Electricity Infrastructure Roadmap, https://www.energy.nsw.gov.au/nsw-plans-and-progress/major-state-projects/electricity-infrastructure-roadmap, accessed 20 December 2024.

[4] *Electricity Infrastructure Investment Act 2020 (NSW).*

[5] NSW Consumer Trustee, *LTESA and Access Right Tender Rules,* (Australia, AEMO Services, 2024), https://aemoservices.com.au/tenders/-/media/5ab4eb9dd8254b9ba2dbb69042b04ba8.ashx?la=en.

[6] Australian Government Department of Climate Change, Energy, the Environment and Water, Consultation and engagement, https://www.dcceew.gov.au/energy/renewable/capacity-investment-scheme/consultation-engagement. accessed 30 January 2025; Incentives for proponents to partner with First Nations communities are being introduced gradually. For example, in the Capacity Investment Scheme Tender 4 a First Nations eligibility criterion was added; Merit Criteria in relation to First Nations Engagement and First Nations Commitments have been strengthened; there is a commitment to developing a First Nations revenue and equity set aside in 2025 which will apply to tenders in 2026 see: Department of Climate Change, Energy, the Environment and Water, Capacity Investment Scheme Market Brief Tender 4: National Electricity Market – Generation (DCCEEW, 28 November 2024): https://aemoservices.com.au/tenders/-/media/8d1884e40e904a97bf3a1bd22f8d6858.ashx?la=en.

[7] Tim Stevenson, 'Aboriginal Community Benefit in the Energy Transformation: Central-West Orana and the NSWALC' in Heidi Norman (ed.), *Land Back: Aboriginal land rights in New South Wales, today and always* (Sydney: Newsouth Publishing, 2025), 194.

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[10] Ibid.

[11] Crown Lands NSW, Email to Therese Apolonio regarding ALRA Key Facts and Figures, 27 July 2024.

[12] Ibid.

[13] NSW Department of Climate Change, Energy, the Environment and Water, *First Nations Guidelines for the NSW Electricity Infrastructure Roadmap* (NSW Government, May 2025), https://www.energy.nsw.gov.au/sites/default/files/2025-05/Revised-General-First-Nations-Guidelines_May-2025.pdf..

[14] *The Aboriginal Land Rights Act 1983 (NSW),* s. 52.

[15] Net Zero Australia, *How to make net zero happen: Mobilisation* (Carlton: Net Zero Australia, 2023), 52.

[16] NSW Government and the NSW Coalition of Peak Aboriginal Organisations (CAPO), *2022-2024 NSW Implementation Plan for Closing the Gap* (Sydney: NSW Government, 2022), 4, https://www.nsw.gov.au/sites/default/files/noindex/public%3A//2024-05/NSW-Closing-the-Gap-

Implementation-Plan-2022-2024-%284%29-accessible-Updated-%281%29_0.pdfNSW-Closing-the-Gap-Implementation-Plan-2022-2024-%284%29-accessible-Updated-%281%29.pdf.

[17] Ibid.

[18] Ibid. 6-8.

[19] For the purpose of this study the Aboriginal land estate is grouped into four types. These are:

- Current Aboriginal land estate – lands granted to land councils through the ALRA land claims process.
- Land under outstanding claim – lands that have been claimed by land councils but are not yet determined.
- Other repossessed lands refers to land recovered by LALCs outside the ALRA land claims process. This includes land purchased by a land council on the open market, land that has been divested to the land council (for example, through the Indigenous Land and Sea Corporation [ILSC]), land that has been bequeathed to a land council or has been transferred to a land council by government (such as with the dissolution of government departments that managed Aboriginal lands, or handover). Examples include land held by the Aborigines Welfare Board (1940–1969) and Aboriginal Lands Trust (1973–1983) that was transferred to land councils at commencement of the ALRA.
- Future Aboriginal land estate aggregates the current Aboriginal land estate, land under outstanding claim and other repossessed lands (where dataset is available); Crown Lands NSW, Schedule 1 Log 126712 ALC Extract [data set], granted on 23 August 2021; NSWALC on behalf of Tibooburra LALC, Tibooburra LALC [data set], accessed 3 November 2022; Hay LALC, Hay LALC [data set], accessed 28 August 2024; NSWALC on behalf of Brewarrina LALC, Brewarrina LALC [data set], 17 August 2023.

[20] The GIS analysis for this study used the following data sets: NSW Department of Climate Change, Energy, the Environment and Water, *NSW Land Use 2007* [data set], 2007, https://datasets.seed.nsw.gov.au/dataset/nsw-landuseac11c; UNEP-WCMC. Protected Area Profile for Australia from the World Database on Protected Areas [data set], January 2025, www.protectedplanet.net; NASA/CGIAR. SRTM Digital Elevation Data Version 4 [data set], n.d., https://developers.google.com/earth-engine/datasets/catalog/CGIAR_SRTM90_V4#citations; Global Solar Atlas, Direct Solar Irradiation [data set], n.d., https://globalsolaratlas.info/download/australia; Global Wind Atlas, Direct Wind Atlas, Wind Energy Layers [data set], n.d., https://globalwindatlas.info/en/area/Australia.

[21] Brewarrina Local Aboriginal Land Council Energy Summit (20 May 2024), Brewarrina, NSW; Tibooburra Local Aboriginal Land Council (3 September 2024), Video conference; Hay Local Aborignal Land Council Renewable Energy Workshop (14 October 2024), Hay, NSW.

[22] Heidi Norman, Ed Langham, Saori Miyake, Therese Apolonio, Sven Teske and Sarah Niklas, *Renewable Tibooburra: Options for LALC-led Renewable Energy Projects* (Sydney: Tibooburra LALC, UNSW Indigenous Land and Justice Research Group and UTS Institute for Sustainable Futures, 2025).

[23] Rocky Robertson, Tibooburra LALC workshop, 3 September 2024.

[24] Australian Bureau of Statistics, "Tibooburra: 2021 Census All persons QuickStats," https://abs.gov.au/census/find-census-data/quickstats/2021/SAL13877, accessed 12 June 2025.

[25] Brewarrina LALC, Community Land and Business Plan.

[26] Hay LALC, *Hay Local Aboriginal Land Council Community Land and Business Plan 2023-2028 (CLBP)* (Hay: Hay LALC, 2023), 4.

[27] Hay LALC, Hay LALC workshop, 14 October.

[28] See Essential Energy (2023) DER Integration Strategy 2024 – 2029, https://www.aer.gov.au/system/files/Essential%20Energy%20-%207.01%20DER%20Integration%20Strategy%20-%20Jan23%20-%20Public.pdf.

[29] The development of community-scale renewable energy local generation is commonly also needed to support the operation of a local microgrid. While network businesses can apply to the regulator for an exemption to invest in generation, it is generally considered to be the purview of renewable energy developers or other local actors.

[30] Australian Renewable Energy Agency, New funding for energy in First Nations Communities, https://arena.gov.au/news/new-funding-for-renewable-energy-in-first-nations-communities/, accessed 12 December 2024.

[31] Australian Renewable Energy Agency, New funding for energy in First Nations Communities, https://arena.gov.au/news/new-funding-for-renewable-energy-in-first-nations-communities/, accessed 12 December 2024/

[32] Energy Networks Australia and LEK Consulting, *The Time is Now: Getting smarter with the grid*, (Energy Networks Australia and LEK Consulting, 2024), https://www.energynetworks.com.au/assets/uploads/The-Time-is-Now-Report-ENA-LEK-August-2024.pdf.

[33] Heidi Norman, Chris Briggs, Ed Langham, Therese Apolonio, Saori Miyake, Sven Teske, and Sarah Niklas, *Renewable Brewarrina: Local Aboriginal Land Council-led Energy Systems Change* (Sydney: Brewarrina LALC, UNSW Indigenous Land and Justice Research Group and UTS Institute for Sustainable Futures, 2025).

[34] Heidi Norman, Chris Briggs, Ed Langham, Therese Apolonio, Saori Miyake and Sarah Niklas, *Renewable Hay: Local Aboriginal Land Council-led energy systems transformation* (Sydney: Hay LALC, UNSW Sydney, UTS Institute for Sustainable Futures, unpublished 2025).

APPI
Australian Public Policy Institute

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15 Castlereagh Street
Sydney NSW 2000 Australia

E info@appi.org.au | **W** appi.org.au