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Dear Ms Falcon

AEMO Draft 2026 Integrated System Plan (ISP) – Submission

1. Ark Energy

Ark Energy is one of Australia's leading renewable energy companies and specialises in the greenfield development of utility-scale wind and solar energy generation and battery energy storage systems. It is an Australian subsidiary of Korea Zinc, a top-tier nonferrous metal company with a 25-year history in Australia through Sun Metals Corporation in Townsville.

Ark Energy is committed to leading and facilitating the renewable energy transition, including decarbonising Sun Metals and Korea Zinc and contributing meaningfully to the transition of Australia's national electricity market (NEM) in accordance with AEMO's Integrated System Plan.

Ark Energy's team has an unrivalled track record in developing utility-scale wind and solar energy generation projects in Australia through the acquisition of Epuron in 2022. Founded in 2003, Epuron led the growth in Australia's renewable energy market for two decades including some of the earliest, highest yielding and largest wind farms in Australia, as well as a range of large-scale grid connected and off-grid solar projects.

To date, Ark Energy's team has developed and secured approval for 21 major projects, including 12 wind farms and 9 solar farms across the NEM. This represents up to 8 GW of capacity under development and almost 5 GW of installed capacity – or more than 20% of the operating wind and solar generation currently in the NEM.

Ark Energy Projects

Now operating:

- Cullerin Range, NSW (30 MW, operational 2009)
- Gullen Range, NSW (165 MW, operational 2013)
- White Rock Stage 1, NSW (175 MW, operational 2017)
- Sun Metals Solar, Qld (121 MW AC, operational 2018)
- Nevertire Solar, NSW (105 MW AC, operational 2019)
- Clermont Solar, Qld (75 MW AC, operational 2019)
- Silverton, NSW (200 MW, operational 2020)
- Rye Park, NSW (396 MW, operational 2024)
- MacIntyre, Qld (923 MW, operational 2024)

Under construction:

- Boulder Creek, Qld (228 MW, expected operations 2027)
- Lotus Creek, Qld (285 MW, expected operations 2027)

Approved or in pre-construction:

- Liverpool Range, NSW (962 MW)
- Yass Valley (Coppabella), NSW (289 MW)
- Richmond Valley Solar & BESS, NSW (up to 435 MW AC & 475 MW/2,200 MWh BESS)
- Bowmans Creek Stage 1, NSW (up to 335 MW)
- Specimen Hill, Qld (up to 380 MW)
- St Patricks Plains, Tas (up to 300 MW)

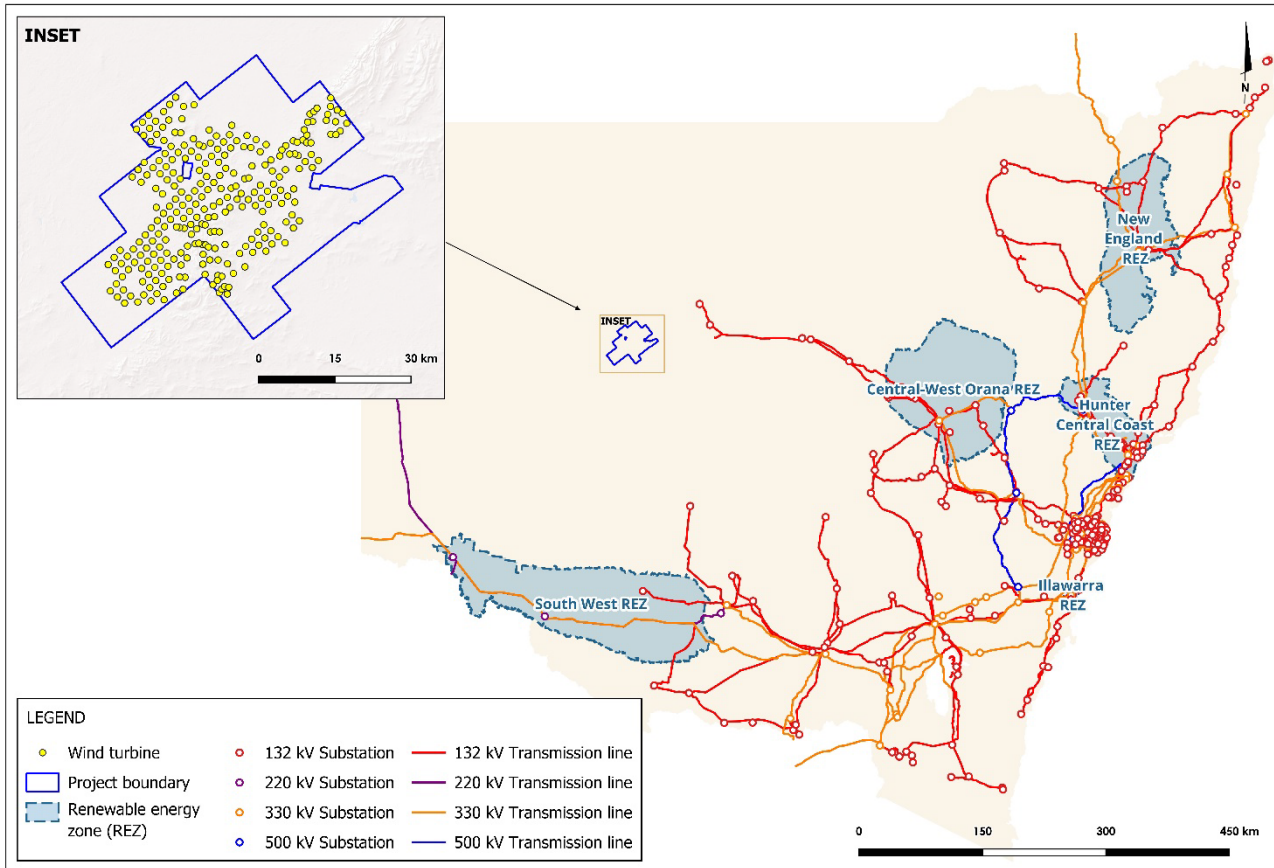
Under development:

- Bowmans Creek Stage 2, NSW (up to 120 MW)
- Burrendong, NSW (up to 500 MW)
- Boomer Green Energy Hub, Qld (up to 1,000 MW)
- Collinsville Green Energy Hub, Qld
- Guildford, Tas (up to 450 MW)

2. Copper Plains Wind Farm

Ark Energy is undertaking feasibility studies for a large-scale renewable energy generation and storage project, proposed to be located approximately 80 km west of Cobar in central New South Wales (see map).

Wind monitoring and initial studies indicate the Copper Plains Wind Farm would comprise up to 265 wind turbines, each with a generation capacity of up to 9 megawatts (MW), as well as up to 500 MW of solar generation and a battery energy storage system (BESS) capable of providing a power capacity of up to 500 MW.



Combined, the project has the potential to contribute up to **2.5 GW** to NSW's renewable energy capacity. The capital investment value is estimated at \$10–15 billion for the generation and storage components.

Importantly, Ark Energy has secured almost 500,000 hectares of suitable land for the project under licence and a heads of agreement with NSW Crown Lands which was executed in late 2025.

Ark Energy is currently completing a Scoping Report for the Copper Plains Wind Farm prior to preparing a detailed Environmental Impact Statement (EIS) and seeking planning approval from the NSW Government. At this stage, Ark Energy is planning to submit the Scoping Report for the project to the NSW Department of Planning, Housing and Infrastructure in late 2026.

The target completion date for the Copper Plains Wind Farm is as soon as **2032**, depending on transmission availability and forecast energy demand including coal plant closures and electrification of the NSW economy.

3. Candidate Renewable Energy Zone (REZ)

Ark Energy's Copper Plains Wind Farm is located close to (or within):

- the 'South Cobar' Candidate REZ identified by AEMO in the 2025 Electricity Network Options Report; and
- the 'Noona' Remote Inland Renewable Energy Opportunity Area identified by Transgrid in the 2025 Transmission Annual Planning Report.

Both the AEMO and Transgrid reports present 'conceptual' major network augmentation to connect the candidate renewable energy zones in Western NSW. This includes conceptual connections from the Central-West Orana REZ (ie

Elong Elong energy hub) and/or leveraging the VNI West 500 kV transmission backbone to extend the transmission system north from Dinawan substation.

However, while this opportunity has now been in AEMO and Transgrid planning documents for some years, it remains unclear about the process for progressing candidate REZs and unlocking the enormous renewable energy generation potential that exists in Western NSW.

In Ark Energy's view, strengthening transmission into Western NSW is in the 'long-term interests of consumers' as it represents the least-cost pathway to meeting the national and state targets for reliable and affordable renewable energy, as described in more detail below.

4. Industry Collaboration

To develop Western NSW as a new renewable energy precinct (which we are calling the 'NSW Inland Renewable Energy Region'), Ark Energy has joined an industry collaboration group of leading renewable energy businesses - Acciona Energía, Iberdrola Australia, Tilt Renewables, Squadron Energy and Voyager Renewables - which are actively seeking to develop large-scale wind, solar and battery projects similar to Ark Energy's Copper Plains project in Western NSW.

Collectively, the combined portfolios of the industry collaboration group have the potential to deliver over **10 GW of firming renewable energy** in the long term which can be rapidly advanced once new transmission capacity is secured.

This breadth of capability enables the industry group to play a leading role in unlocking the renewable potential of the NSW Inland Renewable Energy Region. The industry group have already advanced early environmental, technical, regulatory, design and engagement work, reducing risk and positioning the initiative for timely delivery.

Representatives of these organisations have also been meeting with a range of NSW and Commonwealth Government stakeholders and regulators over the last 12 months to outline how this opportunity in Western NSW can provide a dependable, resilient and scalable source of renewable energy capable of materially contributing to NSW's and Australia's future supply as coal retires.

The combined financial strength, development capability and experience with major renewable and transmission projects of the industry collaboration group provides a high degree of delivery confidence at a pivotal moment for NSW.

5. Transmission Link

Network Design

A new high-capacity inland transmission link is central to unlocking the NSW Inland Renewable Energy Region. Technical studies undertaken by members of the industry group confirm that multiple HVAC and HVDC configurations would be capable of transferring **3 to 4 GW in the initial stage by 2035, with at least 6 GW achievable by 2040.**

As mentioned above, with appropriate transmission, the region has long-term potential to exceed 10 GW, establishing a major inland corridor supporting future interconnection with South Australia, Queensland and potentially Victoria.

In regard to HVAC, potential connection points under investigation include Mt Piper, Bannaby and the Central-West Orana REZ (Elong Elong/Merotherie) - all of which offer credible integration pathways into the existing network. As the corridor expands, further stages could align with future interconnection opportunities within NSW and into other States identified in the ISP.

In regard to HVDC, there are credible options to connect directly into Western Sydney using predominantly existing transmission corridors all the way from Western NSW. The key advantage of HVDC is that it would allow data centres and other energy intensive industry in Western Sydney or the Hunter Region (such as the Tomago Aluminium Smelter) to be directly connected to large-scale renewable energy generation in Western NSW without the need for further augmentation and integration with the existing high-voltage network.

Feasibility Studies

Extensive preparatory work has been undertaken across resource assessment, land access, environmental analysis, technical studies, regulatory pathways and stakeholder engagement, substantially de-risking early development.

Multi-year wind and solar measurements confirm exceptional resource quality across the region, while corridor identification and environmental constraints mapping provide a solid foundation for refining route options.

Many of the industry collaboration group have already secured exclusivity over suitable land for renewable energy development, creating a development-ready footprint for multi-GW projects – noting there are established processes for Western Lands Lease arrangements, option agreements and easement registrations further enable large-scale development across the Western Division of NSW.

Complementary power-system studies—including thermal limits, voltage performance, system strength and stability—confirm the technical viability of proposed connection points and the scalability of the inland corridor.

Ongoing engagement with the NSW Government, Cobar Shire Council, Local MPs, pastoralists, mining companies and Traditional Owners, demonstrates strong social licence, supported by compatible land uses and low population density.

In contrast to other REZs, this work positions the NSW Inland Renewable Energy Region to be able to progress rapidly once transmission commitments are made, with secured land, proven resources, feasible transmission pathways and a highly supportive regional context.

6. Strategic Context

Transformational Opportunity

Unlocking a large inland renewable region provides significant strategic value to both NSW and the broader NEM. The area's strong wind and solar profiles complement coastal generation, improve diversity, and help manage reliability risks arising from delays to major east-coast projects.

High-capacity-factor inland resources enable better utilisation of the network and reduce long-term system costs. The corridor also supports the growth of new industries—including critical minerals, green metals and data centres—and preserves flexibility for future interconnection with Queensland, South Australia and Victoria. This flexibility is critical to meeting the step-change build rates needed for 2035 and 2050 decarbonisation targets.

At the same time, reliability risks are intensifying as coal retires, particularly if major projects such as the Hunter Transmission Project, Southern Sydney Ring and HumeLink developments face delays. Existing REZs are also constrained by social licence, land-use and hosting-capacity limitations, while offshore wind faces high costs, fundamental technical challenges and long lead times.

These factors underscore the need to unlock new inland regions with strong fundamentals and lower development barriers to achieve AEMO's broader network development strategy.

In Ark Energy's view, the NSW Inland Renewable Energy Region provides a credible, early deliverable alternative pathway when coastal REZs, offshore wind or major augmentations face further delays – and would enhance system resilience, diversify supply and support the step change build rates required through the 2030s and 2040s.

Strategic Advantages of Western NSW

The Inland Renewable Energy Region offers unique advantages for large-scale renewable development, including:

- high-quality wind and solar resources comparable with Australia's strongest renewable areas - 7 to 9 m/s wind speed (confirmed by on-site SoDAR and LiDAR measurements), up to 40% wind capacity factors and high solar capacity factors;
- highly complementary temporal profile - inland wind performs strongly during evening and overnight periods, and inland output surpasses other REZs across night, morning and daytime hours; and
- low correlation with east-coast NSW renewable regions enhances portfolio firmness and reduces drought and curtailment risk.

Land use, environmental and development conditions are also highly favourable - characterised by very low population density, low agricultural productivity and relatively low biodiversity sensitivity.

Regional stakeholders, including Councils, Local MPs, DNSPs, landholders, mining companies and First Nations communities have all shown strong support and can see the significant regional economic and energy security benefits of developing a major renewable energy precinct in Western NSW.

Combined, these strategic advantages suggest the region can deliver new large-scale generation and transmission earlier and with significantly less community concerns than other REZs in NSW.

Unlocking inland resources delivers major system-wide benefits, including geographic diversity which reduces the frequency and severity of energy-drought events, improves reliability as coal retires, and lowers overall system costs through access to high-utilisation, low-correlation generation. The inland corridor also eases pressure on existing REZs—such as the South-West REZ—by reducing correlated output, curtailment and congestion.

Crucially, the inland corridor establishes a platform for future expansion and enhanced interconnection, increasing transfer capacity between NSW, Queensland, South Australia and potentially Victoria. This improves whole-of-system reliability, operational flexibility and the efficient sharing of firming resources across regions.

7. Risks to the Optimal Development Pathway

By 2050, AEMO's Optimal Development Pathway in the Draft ISP would see the NEM with a total of 120 GW of grid-scale wind and solar, 40 GW of grid-scale storage and hydro, 14 GW of flexible gas-powered generation and an additional 6,000 km of transmission.

The Optimal Development Pathway would require grid-scale wind and solar capacity to rise from its current 23 GW to 58 GW by 2030, then double to 120 GW by 2050. Large-scale solar capacity would need to reach 32 GW by 2030, 38 GW by 2035, and 63 GW by 2050 – and wind energy would need to reach 26 GW by 2030, 40 GW by 2035, and 57 GW by 2050.

To achieve this ambitious capacity roll-out, more than 4 GW of new wind and solar farms must be commissioned every year for the next 25 years. This is likely to be a significant challenge in NSW (particularly in regard to wind energy) for a number of reasons, including the fact that:

- the rate of wind farm development has been slowing in recent years with no new wind farms reaching financial close and only one new large-scale wind farm commencing construction during 2025 in NSW (i.e. Ungula Wind Farm, near Wellington);
- the majority of new large-scale wind farms rely on the completion of the REZ transmission projects in order to reach final investment decisions and there have been significant delays in developing the transmission necessary to connect the REZs in NSW; and
- offshore wind in NSW faces significant challenges from high costs, technical difficulties associated with floating platform technology, social licence issues, and political uncertainty – with no companies seeking an exploration licence in the Commonwealth's offshore wind zones off the coast of NSW to date.

The Optimal Development Pathway also relies on the completion of five transmission projects in NSW by 2029, namely - Project EnergyConnect, HumeLink, Hunter Transmission Project, Hunter Central-Coast REZ and Central-West Orana REZ – as well as the completion of the New England REZ Network Infrastructure Project by 2032.

However, there remain significant technical, regulatory, land access, environmental and social licence risks around meeting these timeframes – with a later completion date for each of these projects being included in each successive version of the ISP.

Ark Energy fully recognises the challenge of a once-in-a-generation transformation of our energy system, but considers it is vital to incorporate a more conservative and realistic timeframe for energisation and subsequent connection of large-scale renewables which takes into account these ongoing challenges and the likelihood of further delays to those in the Draft ISP.

At the same time as there are risks to delivering the Optimal Development Pathway, there have also been significant growth in demand across the NEM. This demand growth is being driven by electrification, data centres, and new industrial loads, including the Tomago Aluminium Smelter.

AEMO states that it has updated its methodology for forecasting, and its forecasts of consumer demands, which is improving its prediction of large loads in the coming years, including from prospective industrial loads and data centres.

However, in December 2025, the Clean Energy Finance Corporation (CEFC) published a report prepared by Baringa in regard to the growth of data centres and the energy transition. The report found that data centre capacity in the NEM is expected to grow by 4.7 GW under the base case scenario and 7.4 GW under the high growth scenario by 2035.

Similarly, Transgrid forecasts that Sydney alone will require over 23 GW of new wind and solar by 2035 to meet demand principally being driven by data centres in Western Sydney.

Energy Ministers around Australia are aware of the need for a better understanding of the growth and ramifications of data centre demand on the grid and ensuring “new firm generation enters the market as data centre energy demand increases”. In light of work commencing by officials at the instruction of the ECMC on this matter as of December 2025, it is timely for AEMO to consider the location and comparative advantages of an inland or new REZ, where generator activity and scale is known, quantifiable and coordinated.

There are also emerging challenges in the NEM in regard to decarbonisation of energy-intensive industries with the most recent example of Tomago Aluminium Smelter indicating up to 8 TWh of reliable renewable energy is required by 2028 for the smelter to remain viable.

Given the inherent uncertainty in regard to the scale and timing of both generation and demand across the NEM, Ark Energy considers early progression of the Inland Renewable Energy Region presents an opportunity for high-quality inland renewable resources to be brought online in time to de-risk the Optimal Development Pathway and address the emerging system needs in NSW and beyond.

8. Long Term Interest of Consumers

Ark Energy recognises the importance of AEMO’s least-cost framework and the requirement that new transmission investments deliver net market benefits. The NSW Inland Renewable Energy Region has been developed with these principles in mind and is designed to support a cost-efficient, resilient and scalable transition of the NEM.

Although formal least-cost testing is yet to occur, preliminary analysis indicates strong alignment with least-cost outcomes. The region’s exceptional resource quality and development scale enable high utilisation of new transmission assets, while inland wind and solar contribute to lower whole-of-system costs through improved diversity, strong capacity factors and reliable performance during periods of system risk. The initiative also aligns closely with government electrification and decarbonisation objectives, further supporting compatibility with AEMO’s framework.

Early comparative analysis by Rennie Advisory indicates that the Inland Renewable Energy Region may deliver competitive—or lower—levelised energy costs (estimated at \$86 to \$98/MWh) relative to other major transmission-linked projects, including the Central-West Orana and New England REZs in NSW. These indicative results provide confidence that detailed assessment will demonstrate a robust net-benefit case once formal modelling commences.

Ark Energy and the members of the industry collaboration group are ready to work closely with AEMO on the formal least-cost assessment, ensuring all inputs, assumptions and development options are evaluated rigorously and transparently, consistent with AEMO’s market-benefit framework and ISP expectations.

9. Timely Investment

AEMO’s Draft 2026 ISP highlights increasing congestion risks across the NSW network in the absence of additional early transmission investment. Without timely action to unlock new renewable zones, NSW faces a growing likelihood of curtailment, reduced project viability and higher long-term system costs. Early commitment to the inland corridor would help alleviate pressure on existing REZs, reduce the need for emergency procurement and support the orderly retirement of ageing coal-fired power stations.

Urgency is amplified by rapid growth in new load—including large data centres, industrial electrification and new processing industries—which is materially increasing winter and shoulder season demand. Inland wind and solar, with strong temporal diversity and evening performance, are well suited to meeting this evolving load profile.

Timely investment is also critical to managing reliability risks associated with the scheduled closure of Eraring in 2029, which will remove a major source of dispatchable capacity from the NSW system. Additional inland transmission capacity can help ensure replacement renewable and storage resources are available to maintain reliability through the late 2020s and early 2030s.

Progressing transmission in Western NSW now would enable the members of the industry collaboration group to advance a coordinated pipeline of generation and storage projects to financial close at a critical moment for investor confidence.

With land, resource data and early technical assessments already well developed, the NSW Inland Renewable Energy Region is one of the few large-scale opportunities capable of contributing meaningful new capacity before and into the early 2030s, when system needs are most acute.

Timely action will therefore help minimise long-term consumer costs, meet growing new demand from data centres and industrial loads, manage reliability risks associated with coal retirement, and support the accelerated decarbonisation pathway required to achieve the 2030 and 2035 targets.

10. Recommendations to AEMO

In light of the strong resource fundamentals, system benefits and the advanced stage of preparatory work, the Collaborators recommend that AEMO:

- Prioritise investment in Western NSW transmission infrastructure in the Final 2026 ISP to unlock a significant new inland renewable region supported by strong social licence and high-quality resource diversity.
- Include the Inland Renewable Energy Region transmission project in the Optimal Development Pathway recognising its ability to deliver early, low-regret benefits and provide insurance against uncertainty in the timing of other major projects including offshore wind.
- Adopt a staged development pathway, enabling initial 3 to 4 GW delivery in Stage 1 while maintaining flexibility to scale toward future interconnection opportunities with Queensland, South Australia and Victoria as NEM needs evolve.
- Ensure the regulatory and planning framework facilitates timely delivery, with clear guidance on sequencing, cost-benefit assessment and integration with existing and future ISP projects.

These recommendations are intended to assist AEMO in identifying a credible, least-regret pathway that strengthens NSW and NEM resilience while accommodating emerging demand and accelerating the energy transition.

11. Closing

We thank AEMO for the opportunity to provide feedback on the Draft 2026 ISP.

With strong resource fundamentals, advanced preparatory work and committed industry partners, the NSW Inland Renewable Energy Region represents a timely, scalable and nationally significant opportunity to help meet Australia's reliability, affordability and decarbonisation objectives.

Ark Energy would welcome continued engagement with AEMO throughout the ISP process and is ready to support further analysis, modelling and consultation as required. To this end, please feel free to contact me on 0407 511 495 or damian.vermey@arkenergy.com.au.

Yours sincerely,

Damian Vermey



Ark Energy Head of Development