

Energy Security Board
Renewable Energy Zones Consultation Paper January 2021
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12 February 2021

**Renewable Energy Zones
Consultation Paper January 2021**

Walcha Energy would like to thank the ESB for the opportunity to submit this response for your consideration as part of the consultation process on Renewable Energy Zones January 2021.

Walcha Energy, a joint venture between Energy Estate and Mirus Wind, is developing the Walcha Energy Project, situated within the New England Renewable Energy Zone in northern New South Wales. The largest renewable energy project in the NEM, it comprises a 4GW+ portfolio of wind, solar, pumped hydro and battery storage projects, to support NSW in the transition from coal fired generation and contribute materially to the direction established by the NSW Government Electricity Infrastructure Roadmap.

New transmission and long duration storage will unlock the potential of the 8GW+ New England REZ, ensuring cheap, reliable power for NSW and create thousands of jobs for the New England region and surrounds. We have attached a brief summary presentation of the project.

We have attached our response to the questions posed in the REZ Consultation Paper January 2021. We look forward to continuing the consultation process.

Yours faithfully,



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Energy Security Board Consultation

INTERIM REZ FRAMEWORK Stage 2 - SUBMISSION OF WALCHA ENERGY

Walcha Energy has been working with the Walcha plateau community on the development of its renewable energy resources for over 15 years and holds substantial interests in land for large scale developments on the plateau. It is a key challenge for the interim REZ Framework to appropriately recognise and respect the investments already made by developers and agreements made by property owners. Also it is critical to obtain social licence for the necessary grid developments and to avoid squandering social licence already obtained.

For its Walcha plateau developments that are located within the New England REZ, Walcha Energy has structured each proposed development with a 5% community shareholding which will deliver to the neighbours and the broad community a significant share of the profits of the facility. A strong base of social licence has been established for the development of more than 4,000MW of renewable energy.

The consultation has invited comment in questions 13 and 14 of the consultation on existing developments and brownfield developments. This opening section of Walcha Energy's submission draws attention to the fact that the line between new REZ development framework and existing or brownfield development is not a simple one.

In the case of the New England REZ the size of the resource in a single community (that can be viewed as one social licence area) so greatly exceeds the capability of the existing 330kV grid that it has been impossible for the biggest and best resources for development on the plateau to progress to "committed" status. Without a well-defined and firm grid development plan, grid studies remain hypothetical.

AEMO has recently stated in its draft IASR ¹ that the existing grid (post-QNI Minor) is capable of transferring 1,310MW of generation from the Northern NSW zone to the Central NSW zone. However developers are proceeding with obtaining planning approvals for thousands of MW of generation. Of this ambition, in excess of 2,000MW intends to connect at the ISP's proposed Uralla Hub and more than another 1,600MW to the same two 330kV lines that share integrally in Inter-Regional power transfer. Transferring 8,000MW from the New England REZ to the load centre will require major new transmission. The options considered in the draft IASR each carry 2,000MW or less. ISP planning at this point is not sufficiently ambitious.

Looking only at committed projects and largely unaware of the extent and quality of the prime resource of the Walcha plateau, so comparatively close to the NEM's biggest load centre, the 2018 ISP focussed on possible solutions for NSW by means of interconnections. The 2020 ISP recognised the significance of the NSW government's selected REZs and current preparatory work for the 2022 will need to prioritise the development of the REZs to meet a potentially large emerging NSW generation shortfall from within New South Wales.

Walcha Energy has been exploring solutions to these issues in a rapidly changing environment over many years and has much to contribute. This includes concepts to address the issues in principle and an excellent knowledge of the social licence constraints that must be met in selecting grid development sites and routes for the major new grid lines required, both to connect the REZ resource and to prepare for further expansion and interconnection in Northern New South Wales.

¹ Draft 2021 Inputs, Assumptions and Scenarios Report Table 43

1 Walcha Energy Project

WalchaEnergy Pty Ltd ACN 629 271 969 is a partnership between the principals of MirusWind Pty Ltd ACN 103 586 778 (MirusWind) and Energy Estate Pty Ltd ACN 628 279 905 (Energy Estate).

MirusWind has been working for over 15 years towards development of a large area of the New England region south of Armidale and east of Tamworth in New South Wales, extending to the eastern and southern escarpments of the Walcha plateau. The relevant area is indicated in Figure 1 superimposed on the NSW Government wind resource map. The NSW Central West REZ is also indicated and the map shows the relative proximity of these REZ to the Sydney-Newcastle load centre.

The Walcha Energy project is located within the part of the New England REZ closest to the NSW load centres and to the 500kV grid at Bayswater.

The Walcha plateau has excellent renewable energy resources and is particularly amenable to renewable energy (RE) development due to its largely cleared, undulating terrain and a community broadly open to RE development. Of critical importance to the transition of the NEM to renewable energy at the present time is the very large wind resource on the plateau and the potential for PHES development on escarpments offering pumped storage heads of 500m - 700m. Land close to the existing 330kV grid lines is suitable for large solar farms.

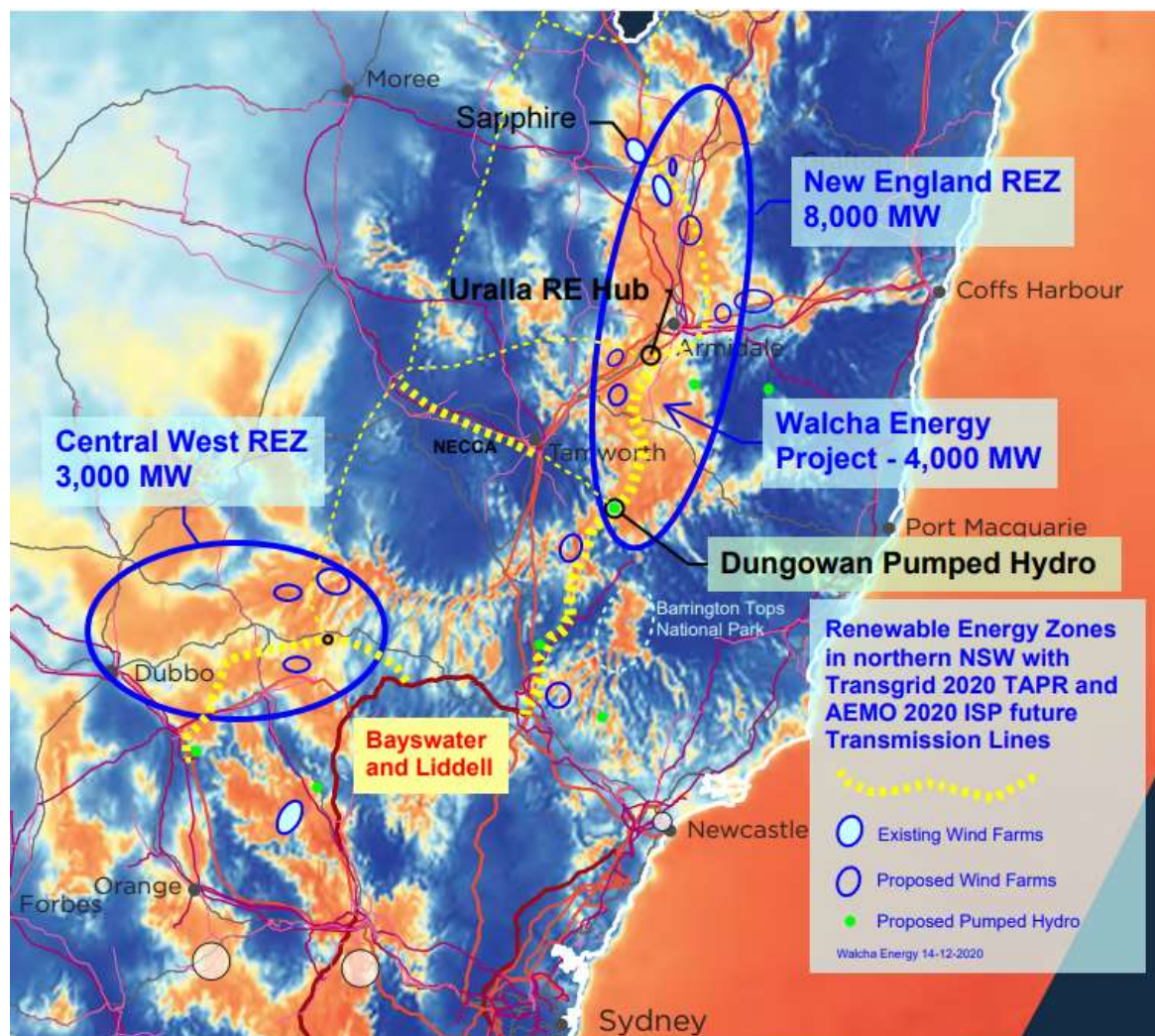


Figure 1 Walcha Energy Project and Central West REZ proximity to grid and load centres

2 Social Licence and Master Planning

Over more than a decade MirusWind has worked with the local community to obtain social licence for renewable energy developments on the Walcha plateau and with land owners to secure rights for such development. Mechanisms have been formulated to generously share the proceeds of development with the whole community. Walcha Energy is committed to develop in accord with Walcha Energy Development Principles, ensuring benefits are shared between developers, land owners and the local community. This includes commitments to local and regional content, services and employment.

Walcha Energy's strong community and stakeholder engagement includes a community ownership model and a 5% fund investing back into the community.

Aware that the extent of quality RE resource lands exceeds what can be developed with social licence, Walcha Energy has planned its developments with due regard to cumulative impacts on the plateau as well as accommodating landowner preferences in identifying development sites.

As part of its master planning for the Walcha plateau developments, Walcha Energy has liaised with other prospective developers, has been open in sharing its development plans, and has sought to optimise cumulative impacts and connections. In addition to maintaining an ongoing relationship with TransGrid, Walcha Energy has participated in AEMO's Integrated System Plan processes including REZ identification and the development of grid augmentation solutions. Walcha Energy made submissions to the NSW Government on its transmission infrastructure plan and REZ prioritisation. Walcha Energy now contributes to the consultations of the Energy Security Board.

Walcha Energy undertook studies that demonstrated the synergy of daytime solar PV on the plateau with the stronger night-time wind resource. The potential for this synergy to increase the utilisation of the grid (including augmented grid) was demonstrated.

Walcha Energy identified early the potential for Pumped Hydro Energy Storage to be developed on the escarpments of the plateau and for such developments to further enhance the effective energy transfer capability of the necessary grid augmentations. Walcha Energy selected the Dungowan area as a suitable locality for PHES development as this section of the escarpments has superior access for construction and is less constrained by reserved lands compared with many other sections of the plateau escarpments. Walcha Energy worked with Tamworth City in identifying sites that are prospective for developing PHES in the Dungowan area in pre-feasibility studies for such developments and for enhancing Tamworth's water supply. Walcha Energy is striving to deliver the optimal projects.

Walcha Energy believes its submissions and liaison have contributed substantially to the concepts for connection of the Walcha plateau RE resource, including:

- identification of the Uralla Hub site, for which Walcha Energy had acquired land rights
- inclusion of the Uralla hub (rather than Armidale) in options for QNI Medium/Large
- inclusion of the Uralla hub and New England REZ in ISP and NSW TAPR
- concepts for double circuit 330kV development across the Walcha plateau from Uralla to Liddell and north to Sapphire and/or to QLD via a more westerly route.
- recognition in the ISP of the prospective Dungowan PHES and Walcha plateau renewable energy development opportunities.

While ISP 2020 has not yet come to grips with sites and realistic routes for the 500kV development identified for the Walcha plateau, Walcha Energy has been busy negotiating with land holders for 330kV transmission lines to connect 2,000 MW of wind and solar developments to the Uralla Hub, and identifying prospective sites and routes for the needed 500kV developments.

It is submitted that the NSW Government, TransGrid under its ISP and the Energy Security Board should recognise and incorporate Walcha Energy's site-specific knowledge, and have due regard to landholder/community consultations already being undertaken by Walcha Energy into REZ development planning. This is relevant both to the initial high level concept design and to subsequent detailed line easement and sites acquisition.

3 Interests in Land and Development Planning Processes

Walcha Energy has acquired extensive interests in highly prospective land for its renewable energy developments including for projects initially proposed to connect to the existing 330kV grid at the Uralla Hub. Our land interests extend to developments in parts of the plateau that require major grid augmentation to facilitate connections. Some of the proposed wind farms would connect to the Walcha 500kV Substation proposed in the 2020 ISP while others including the first PHES may connect to a proposed Uralla – Liddell 330kV line at a Dungowan Hub or elsewhere on the plateau.

The locations of the Walcha Energy Projects within the overall New England REZ are indicated in Figure 2. Locations of RE projects announced by other developers in the REZ and its surroundings are also shown so that a more complete picture of the New England REZ projects can be appreciated.

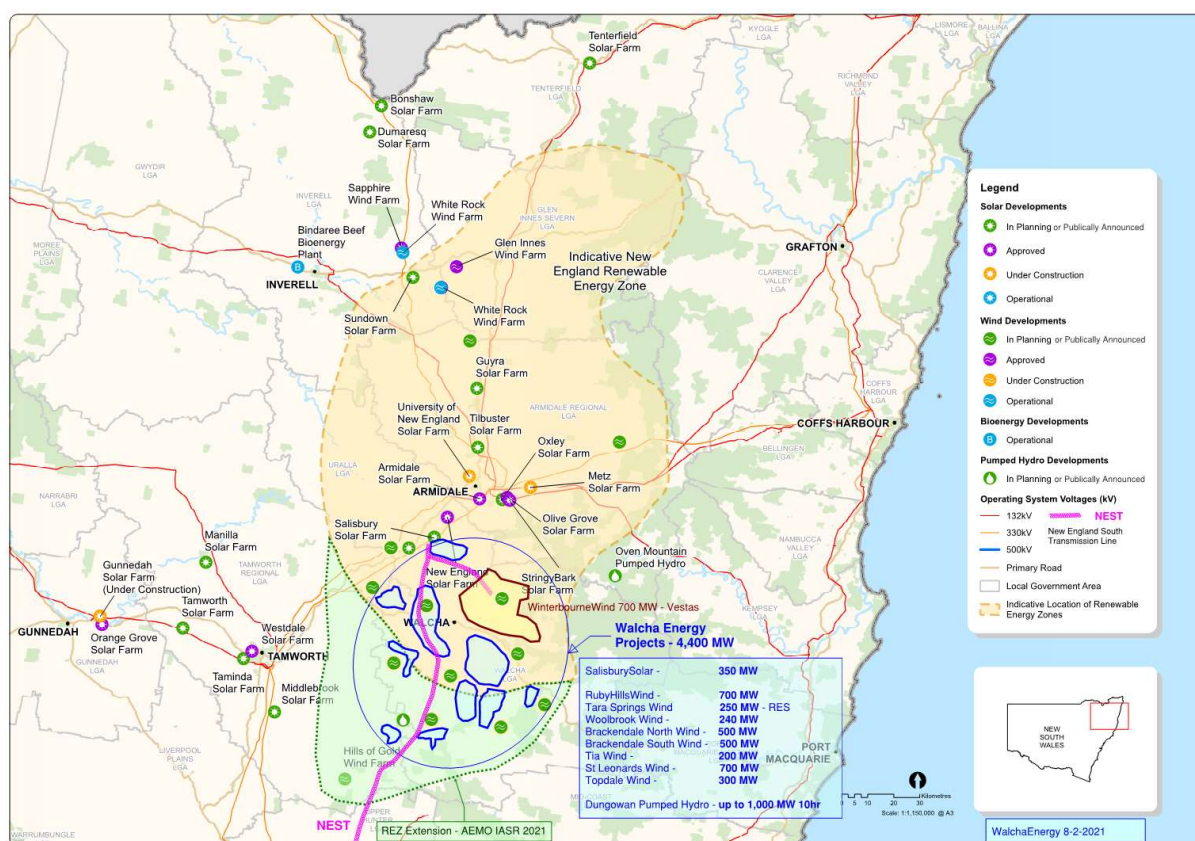


Figure 2 Renewable energy developments in New England REZ and surrounds

Indicative locations of lands that may be affected by the proposed Walcha Energy Project developments and a notional alignment of the proposed new 330kV Uralla – Liddell transmission line are shown in Figure 3, which focuses on the area south of Armidale. (Options for the proposed 500kV development including the proposed Uralla – Bayswater 500kV line are not shown on this map.)

Walcha Energy sold to Vestas the rights to a 700MW wind energy development known as Winterbourne Wind, which is to connect to the existing 330kV grid lines at the Uralla hub. Figure 2 and figure 3 include Winterbourne Wind and indicate other developments proposed in the vicinity for which public information is available. The EIS for Winterbourne Wind is in preparation by Vestas and the EIS for the

Uralla Hub and Salisbury Solar is under development by Walcha Energy. A scoping study for Ruby Hills Wind Farm is being finalised as are the proposed routes for the connections of these developments.

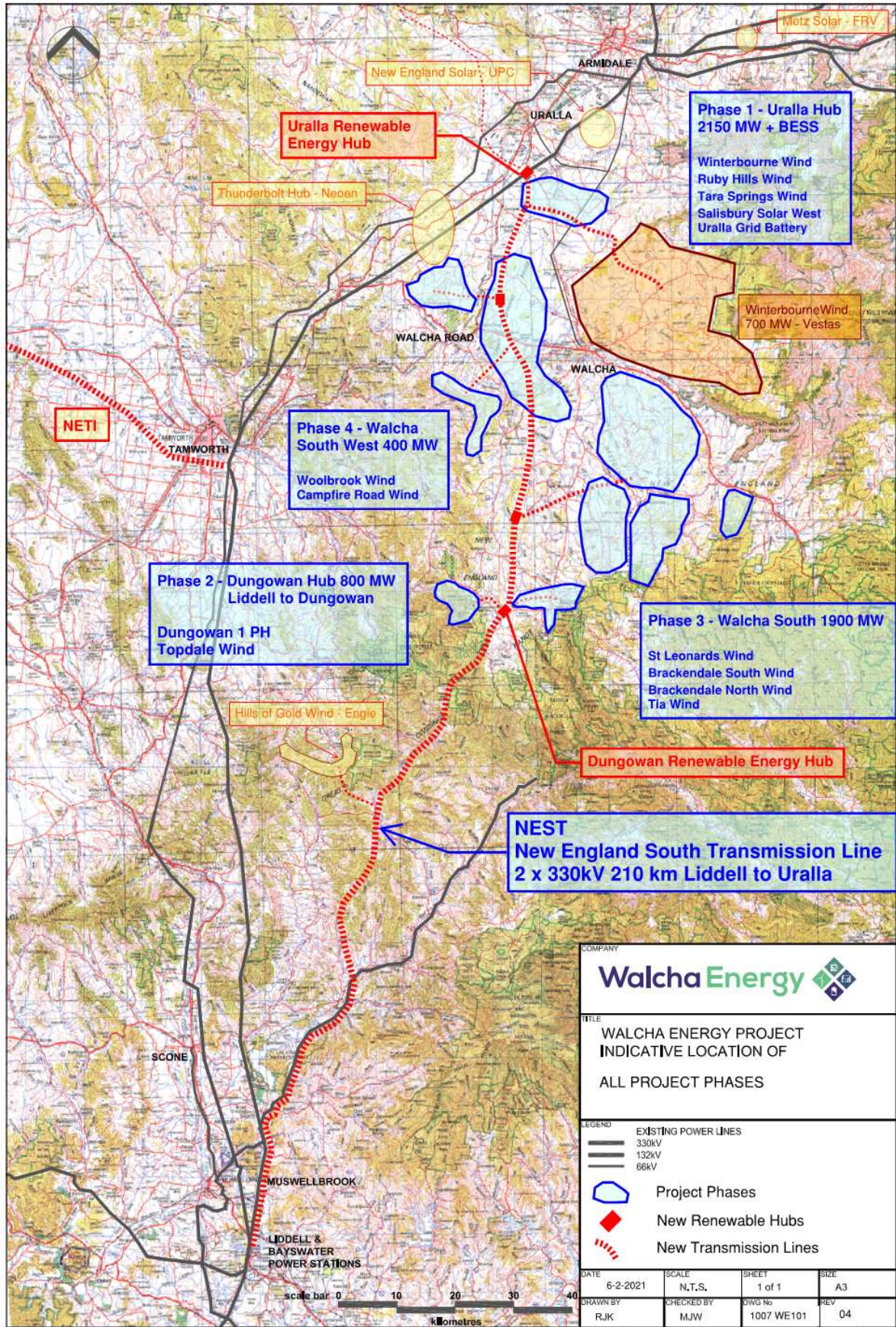


Figure 3 Walcha Energy Project, Indicative location of project phases

4 Timing of the Developments and Risk Mitigation

Walcha Energy submits that the timing of the development of the New England REZ south of Armidale should be accelerated and delivered as soon as possible, to protect New South Wales against the early closure of Vales Point Power Station, ahead of its scheduled 2029-30 closure and possibly soon after the closure of Liddell Power Station. The risk of early closure of Eraring Power Station must also be considered. As the lead time for the transmission augmentations is substantial, the initial stages of 330kV and 500kV grid augmentations to connect the Uralla Hub and the Walcha plateau to the main grid at Liddell and Bayswater respectively, need to be made actionable. The scope of this grid strengthening should accommodate initially more than the equivalent of the 2020 ISP's Stage 1 development of New England REZ connection.

Completion of the 500kV ring supplying the Sydney load centre is also required but is not the focus here as those main grid augmentations will serve all the NSW priority REZ, Snowy 2.0 and the wider NEM.

The further risk of early closure of Eraring Power Station before the end of the 2020s requires incorporation into urgent grid development planning and indicates a need to complete preparatory studies for stage 2 of the New England REZ development.

A prime risk to be addressed is that NSW may encounter uncompetitive electricity prices in the 2020s. Solutions to energy supply shortfalls via interconnection with neighbouring states may not be timely or deliver the required level of competition or resilience. These risks are multiplied if Vales Point B and Eraring Power stations retire early due to economic factors and plant reliability issues.

The need for acceleration of the southern New England REZ development and the risk of early coal plant closures are further discussed below.

As stated in AEMO's 2020 ISP ²:

The New England REZ is one of the three REZs identified as a priority in the New South Wales Electricity strategy... Across all scenarios, except for Slow Change, large transmission augmentation is projected to be required to connect the generation in New England to the Sydney load centre.

There is no doubt that this view is correct, however the ISP timing for the development looked only at optimisation of NEM investment, did not consider NSW electricity price, and in any case is already out of date. Notwithstanding these points, AEMO's statement provides comfort insofar as grid developments to serve New England REZ development will not ever be stranded.

The ISP looks only at the aggregate NEM requirements and this led to an "optimal development path" that would inevitably be economically unacceptable to New South Wales. NSW electricity prices are already higher than in neighbouring states, and the first group of fossil fuel retirements are predominantly in the NSW coal fields. The years prior to the ISP timing of grid development for the New England REZ in the optimal development path would see the retirements of more than half of the NSW coal generator fleet: Liddell 2,000MW, Vales Point 1,320MW & Eraring 2,880MW. New South Wales would be left dependent upon energy imported from interstate. The increasing price differential that would result would be disastrous for NSW.

This has been recognised by the NSW Government and addressed through its announcement on 10 July 2020 of a plan to develop 8,000MW of renewable energy in the New England REZ and 2,000 MW of storage.³ With the passage of the NSW Coalition government's *Electricity Infrastructure Investment Act 2020* in December, with support from both the Labour party and the Greens, it is clear that NSW has no

² AEMO 2020, Final 2020 Integrated System Plan, Appendix 3, Network Investments.

³ [New England to light up with second NSW Renewable Energy Zone | NSW Government](#)

intention of being left behind in its renewable energy transformation. The NSW Electricity Infrastructure Roadmap⁴ will be delivered and it is projected that \$32B of investment will be attracted.

The 2020 ISP had little time to absorb the vision of the NSW Government but recognised it in Appendix 5, section A5.3.2.3, where AEMO's initial concepts for the New England REZ development were set out with substantial 500kV connections from Uralla to Bayswater via Walcha and Uralla – Boggabri with Boggabri connected to Bayswater. Table 5 is reproduced below.

Table 5 New England REZ network expansion

| | |
|---|---|
| <p><u>Stage 1^A (Approximate 3,000-4,000 MW^B):</u></p> <ul style="list-style-type: none"> • Uprate Armidale–Tamworth 330 kV lines 85 and 86 • Establish a new Uralla 500/330 kV substation • Turn both Armidale–Tamworth 330 kV lines 85 and 86 into Uralla • A new double-circuit Uralla–Bayswater 500 kV line • Two 500/330 kV 1,500 MVA Uralla transformers • Additional reactive support | |
| <ul style="list-style-type: none"> • Establish a new 500/300 kV substation at Walcha • Cut Uralla–Bayswater 500 kV lines into Walcha • Two 500/330 kV 1,500 MVA Walcha transformers • One 500/330 kV 1,500 MVA Bayswater transformer <p>Estimated cost is ~ \$720 million to \$1,330 million</p> | <p>The diagram illustrates the proposed network expansion. It shows a vertical line of substations from Bull Creek at the top to Bayswater at the bottom. Uralla and Walcha are shown as intermediate substations. A horizontal line connects Uralla to Bayswater. A dashed line connects Boggabri to Uralla. A legend indicates: Transformer (circle with cross), Proposed augmentation (dashed line), 500 kV network (solid line), QNI interconnection (yellow arrow), and 330 kV network (solid line).</p> |
| <p><u>Stage 2:</u></p> <ul style="list-style-type: none"> • A new single-circuit Boggabri–Uralla 500 kV line^C <p>Estimated cost is ~ \$220 million to \$420 million</p> <p>Approximate capacity: 4,000-5,000 MW including stage 1^D</p> | |

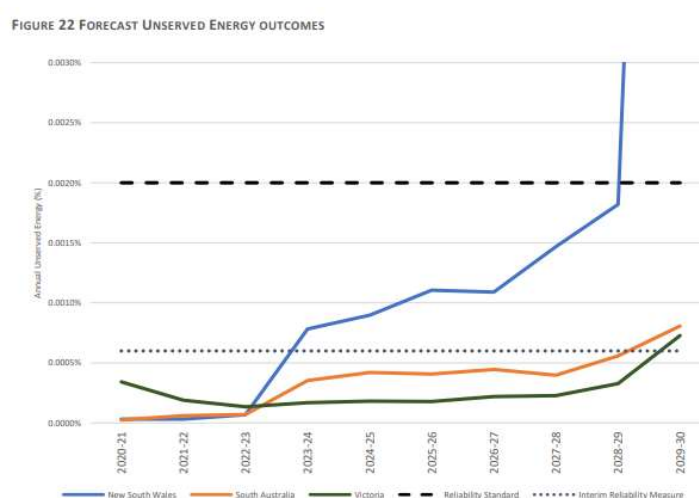
- A. In addition to the REZ expansion listed in Table 5, this assumes that the network augmentation between Bayswater, Newcastle and Sydney is in place. This augmentation is required with the increase of VRE in North West New South Wales, New England, and Central-West Orana New South Wales and due to retirement of coal generation.
- B. Capacity is dependent on the development of QNI Medium and Large, resource diversity, and network upgrades between New England and the Sydney load centre. Storage is also utilised to reduce network build requirements and store excess energy.
- C. Common between North West New South Wales REZ and New England REZ.
- D. Capacity is dependent on development of North West New South Wales REZ and QNI flow, resource diversity, and the amount of storage to connect in this area. Storage was assumed for this zone. Options to increase this to 8,000 MW to match the target from the New South Wales Government will be explored in the preparatory activities for QNI Medium and Large, North West New South Wales REZ, and New England REZ. See Appendix 3 for further details.

The delivery of New England network expansion is required from mid-2030s in the Central, and High DER scenarios and 2030-31 in the Step and Fast change scenarios when VRE projections exceed 300 MW (see Figure 7). The timing of the New England network expansion may be accelerated by the New South Wales Government as part of its announced policy to support development of VRE in this REZ¹³. On 10 July 2020, the New South Wales Government announced a \$79 million plan to develop a REZ, of 8,000 MW size, in this region. TransGrid has also announced, just before release of this ISP, a proposed approach to further accelerate the development of this REZ.

⁴ <https://energy.nsw.gov.au/government-and-regulation/electricity-infrastructure-roadmap>

It is important to recognise that the 720MW New England Solar Farm received NSW planning approval in March 2020 and subsequent to the 2020 ISP (July) it signed off on an EPC contract for development of the first 400MW. With Neoen's 500MW wind and solar development (plus battery) and the Oven Mountain PHES to be processed as critical infrastructure, the Vestas and Walcha Energy projects totalling 1,750MW, and other developments in the REZ progressing through the planning approval stages, it is clear that the grid developments envisaged in the ISP will need to be refined quickly and be made actionable to deliver the renewable energy development required by New South Wales. Both 330kV and 500kV augmentation developments are needed.

AEMO's 2020 *Electricity Statement of Opportunities* forecast Unserved Energy (USE) outcomes based on scheduled fossil fuel plant retirements. These are not likely to be delayed but are likely to occur earlier. The outcomes were presented by ESB in Figure 22 of 2020 *Health of the NEM* shown here. The unserved energy exceeds the interim reliability measure upon the Liddell closure and breaks through the reliability standard when Vales Point is retired. Earlier retirements will exacerbate the forecast USE.



SOURCE: AEMO, ELECTRICITY STATEMENT OF OPPORTUNITIES, 2020

The ESB comments: *"From 2023-24 onwards, expected USE levels increase in New South Wales, and to a lesser extent in Victoria, as coal-fired generation is projected to become less reliable as plant ages. The spike in unserved energy (Figure 22) in NSW in 2029-30 coincides with the expected retirement of Vales Point Power Station."*⁵

Although the ESB says that this closure is likely to be offset by new investment in capacity that would replace the lost output, the sufficiency of new investment would be far from certain if the Vales Point closure were to occur early, say in 2026/27 rather than in 2029-30 and stronger initiatives had not already been taken to accelerate REZ development in NSW. The aged fossil fuel plants in NSW already have the highest forced outage rate.

The 2020 ESOO forecast is based on the ISP's central scenario but current trends indicate a much faster transition. ESB in its discussion of the trend in emissions reduction says (WEP emphasis added):

*Based on the 2020 Integrated System Plan Central and Step Change scenarios by 2030 emissions are projected to be between 40 and 58 percent below 2005 levels and between 68 and 95 percent below by 2042. **At the current pace the NEM is trending at or above the Step Change scenario.** This trend in emissions reflects the continued rapid commitment to investment in renewable generation and the subsequent decline in production from coal and gas fired generation.*⁶

⁵ Health of the NEM 2020, ESB p42

⁶ The Health of the National Electricity Market 2020, Energy Security Board, p42

The 2020 ESOO indicates that exceedance of the USE interim reliability measure in NSW, predicted for 2023-24, would be corrected by the delivery of additional firm capacity from Snowy 2.0 via HumeLink in 2025-26. However HumeLink on its own will not solve a trend for the NSW coal plants to close ahead of technical expected life due to becoming uncompetitive in the market, if not due to operational limits.

On 21/02/2020 Origin's CEO stated that the company was considering various scenarios in assessing the future of the 2,880MW Eraring Power station. He said: *The energy market is moving rapidly and the company is open to retiring the facility or winding it down in a staged approach sooner than 2032.*

Continued installations of rooftop solar PV and the declining LCOE for large scale wind and solar farms will seriously threaten the capability of coal plants designed for base load or shoulder load operation. Recent announcements of massive BES installations at Liddell/Bayswater and Eraring may assist coal plants to defer early closure to some extent by helping to keep operational output of some generating units within technical capability through low demand periods of the daily load cycle.

An assessment of prospective coal plant closures undertaken by the Crawford School of Public Policy at the ANU in 2018 shows that much faster transition is needed just to achieve Australia's emissions reduction target under the Paris Agreement. The Executive summary of the report *Coal Transition in Australia*, in part, says:

New coal fired power stations would not be commercially viable in competition with renewables, and existing coal plants are likely to come under increasing economic pressure as the amount of renewable electricity generation increases. This is likely to cause accelerated closure of coal fired power plants. This report presents two scenarios for coal use in Australia. The "moderate" scenario has coal power plant capacity and coal use declining rapidly through the 2020s and 2030s. Coal use would be less than half the present level by 2030, and decline by over 90% by 2040. This scenario is based on average plant lifetimes gradually declining as renewables become still cheaper than they already are, and comprising a quickly rising share of power generation. This scenario is broadly compatible with the 2030 emissions target as per Australia's NDC to the Paris Agreement. A "faster" scenario has plant lifetimes diminishing more quickly, with coal use reduced by around 30% compared to today by 2025, reduced by two thirds by 2030, and falling to very low levels during the 2030s. It illustrates a stronger 2030 target, in line with the global objective to ratchet up national contributions towards the global "two degrees or less" goal.

The Crawford school's projections of coal generation reduction for both the "Moderate" and "Faster" transitions show all coal plants effectively closed by 2038. Walcha Energy has undertaken an approximate conversion of the Crawford School's model outcomes from coal energy generation to plant closures assuming the same order of plant closures as the AEMO ISP. The result of this analysis is shown as Figure 4 below which is a mark-up of Figure 14 of ESB's 2020 *Health of the NEM* and AEMO's Step Change scenario has also been added.

The Crawford School modelled *coal transition*. Accordingly gas closures are not seen in the figure 4 marked up time frame. The economic pressures would apply to the competitiveness of gas plants as well as coal plants, however in the 2020s and perhaps early 2030s if remuneration for dispatchable ancillary services sustains the viability of gas generation. This will depend on the rate of development of large-scale energy storage in the Regions and sub-regions of the NEM.

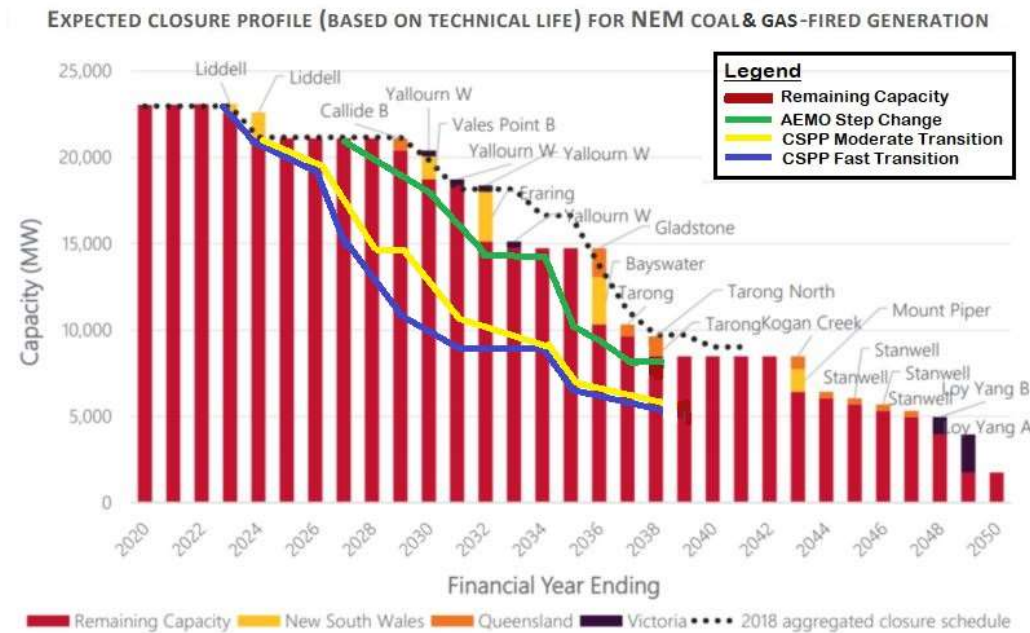


Figure 4 Possible closure profiles for fossil fuel generation

The translation of the coal transition economic scenario needs to be considered in terms of its likely expression in specific power station closures. It is imperative that AEMO undertake its own authoritative analysis of power station closures based on the economic driver that emerges under its various scenarios. Such an analysis has been undertaken by the Blueprint Institute as Part 1 of its series on *Powering the next boom*.⁷ Figure 5 demonstrates the outcome of a scenario of *coal-generation phasedown mechanism* (“CPM”) where economic factors drive coal plant retirements.

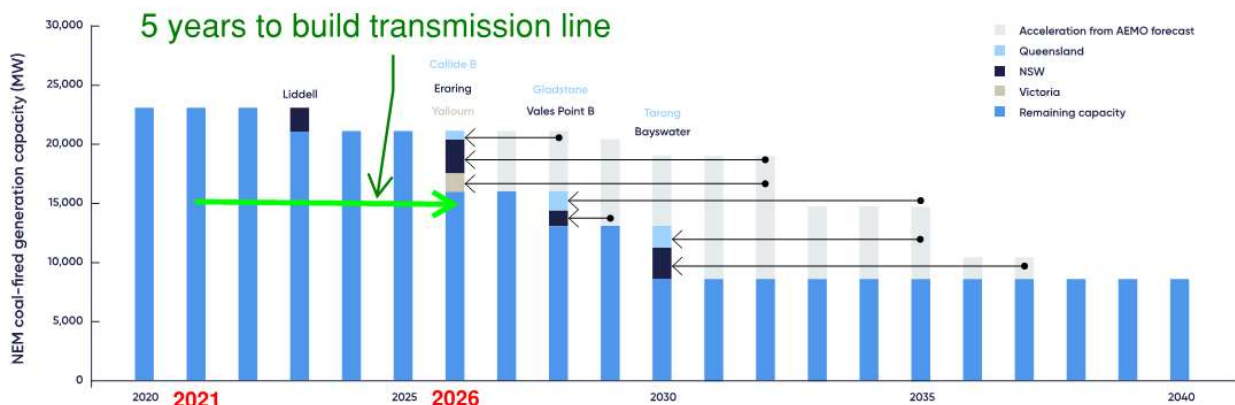


Figure 17 A worked example of Blueprint Institute's CPM and associated reduction in coal-fired capacity over time

Source AEMO; Department of Industry, Science, Energy & Resources; Clean Energy Regulator; Blueprint Institute analysis

Note Example generators have been chosen based on their short-run marginal cost and their approximate remaining life. Those with a higher short-run marginal cost and a shorter remaining life have greater incentives to take part in the auction mechanism

Figure 5 Advancement of coal-fired power station closures under an economic driver

This analysis is based on data available from the sources mentioned in the diagram. The shadow bars show expected power station retirement dates from AEMO's 2020 ISP (dates quite similar to nominal technical life). The arrows show the extent of “early” retirements, accelerated by competition based on short-run marginal cost of generation under the assumed price competition scenario. It is notable that the order of plant retirements is radically changed from the AEMO expected dates with NSW power

⁷ Phasing down gracefully, Halving electricity emissions this decade.

https://blueprintinstitute.s3-ap-southeast-2.amazonaws.com/PhasingDownGracefully_FINAL.pdf

stations, Eraring and Vales Point B, retiring in 2026 and Bayswater in 2030. This increases NSW coal plant retirements by 2030 to 8,840MW. 60% of the coal plant retirements by 2030 are in NSW.

It is of critical importance that on a generation short-run marginal cost basis Eraring may be forced to early retirement at the same time as Vales Point. In practice concurrent retirements are not likely to happen, as the NSW wholesale price increase associated with one retirement is likely to slightly delay the next power station retirement. However on the expected life basis, and very much more so for plant retirements driven by price competition, the risk to New South Wales is the prime electricity supply impact that must be mitigated.

Grid augmentations involving substantial new EHV power lines have a lead time of at least 5 years, but up to 7 years as regulated developments. The NSW Energy Roadmap aims to deliver 12,000MW of renewable generation from the New England and Central West – Orana REZ plus 2,000 MW of 8 hour or longer storage. It is a realistic scenario that all of this generation may need to be targeted to be in service by 2030. It is a critical requirement that grid development to connect a substantial proportion of this REZ generation needs to be commenced as quickly as possible.

The NSW Government is forging ahead with REZ development plans that are capable of addressing the challenges if grid development is actioned now.

5 Concluding Remarks

Economic factors are likely to lead to fossil fuel plant closures well ahead of technical life. This is likely to escalate wholesale prices to unacceptable levels in New South Wales unless renewable energy development proceeds rapidly in the NSW priority REZ and major grid reinforcement occurs in the New South Wales main grid.

Economic impacts on NSW are of major national significance.

The needs of NSW need to be met through REZ development, especially development of the New England REZ ahead of QNI Medium/Large. However grid augmentations to connect the New England REZ must be delivered in a manner compatible with future grid expansion to address wider Northern NSW development and further interconnection.

It will be necessary to proceed as quickly as possible with grid reinforcement between Armidale and the Hunter Valley and onward to the load centre. Grid capability not less than stage 1 of the New England REZ grid development outlined in the 2020 ISP is the initial most urgent task. A high capacity 330kV double circuit line from Uralla to Liddell and an easement for a 550kV double circuit line should be acquired.

A refined grid development plan for the 2020 ISP's Stage 2 New England REZ development is also needed now and must take account of at least 8,000MW of generation in the New England REZ as well as PHES development which, if appropriately located and tasked, can reduce the required ratings of resilient grid augmentation design.

Walcha Energy is keen to share with the NSW Government, AEMO and the ESB its knowledge of the resources of the Walcha plateau and its escarpments, the realistic limits to social licence with regard especially to main grid developments across the Walcha plateau as well as suggestions for further grid development in Northern NSW and interconnection with Queensland.

RESPONSES TO THE SPECIFIC MATTERS FOR CONSIDERATION FOLLOW.