

# Bowmans Creek Wind Farm

## Independent Planning Commission Briefing

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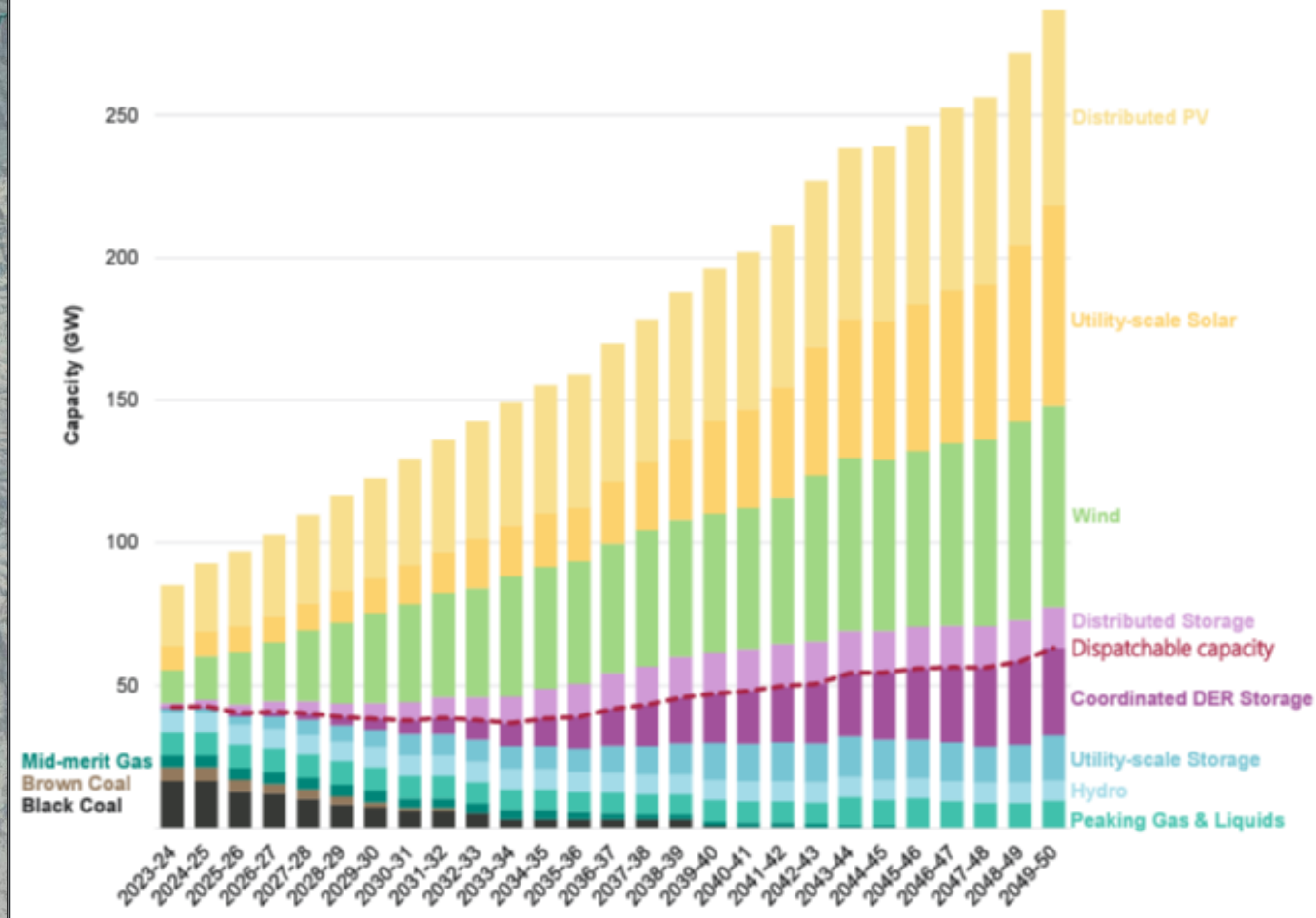
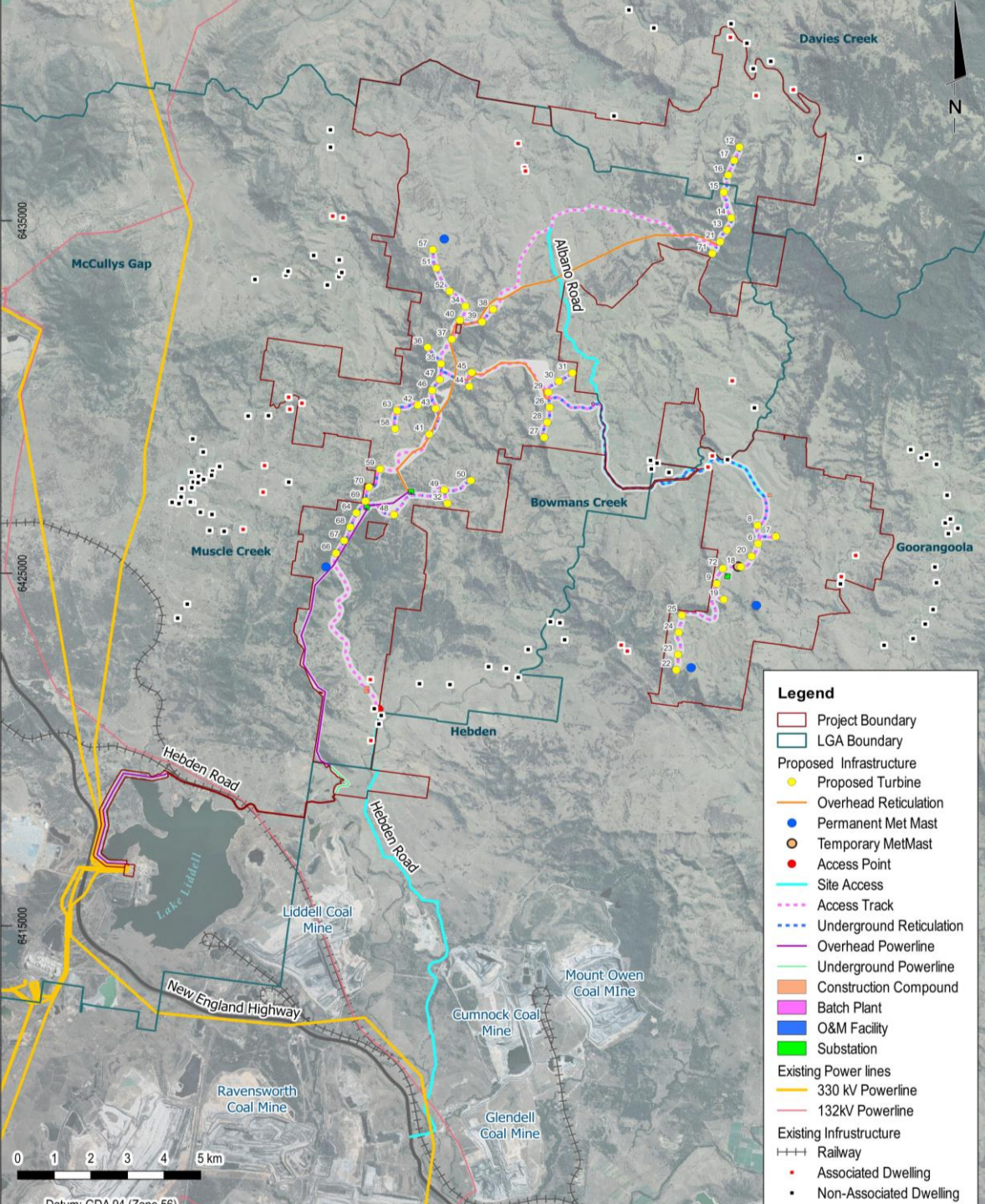
28 November 2023

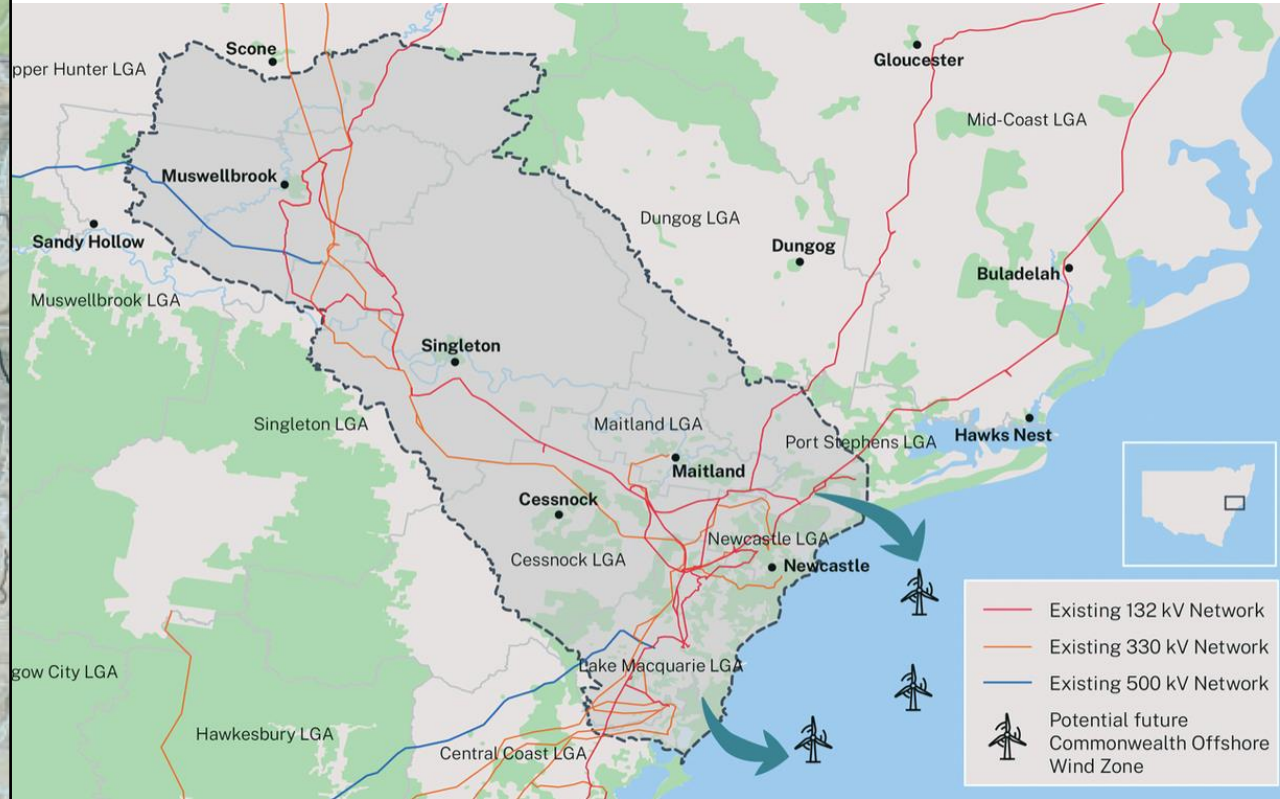
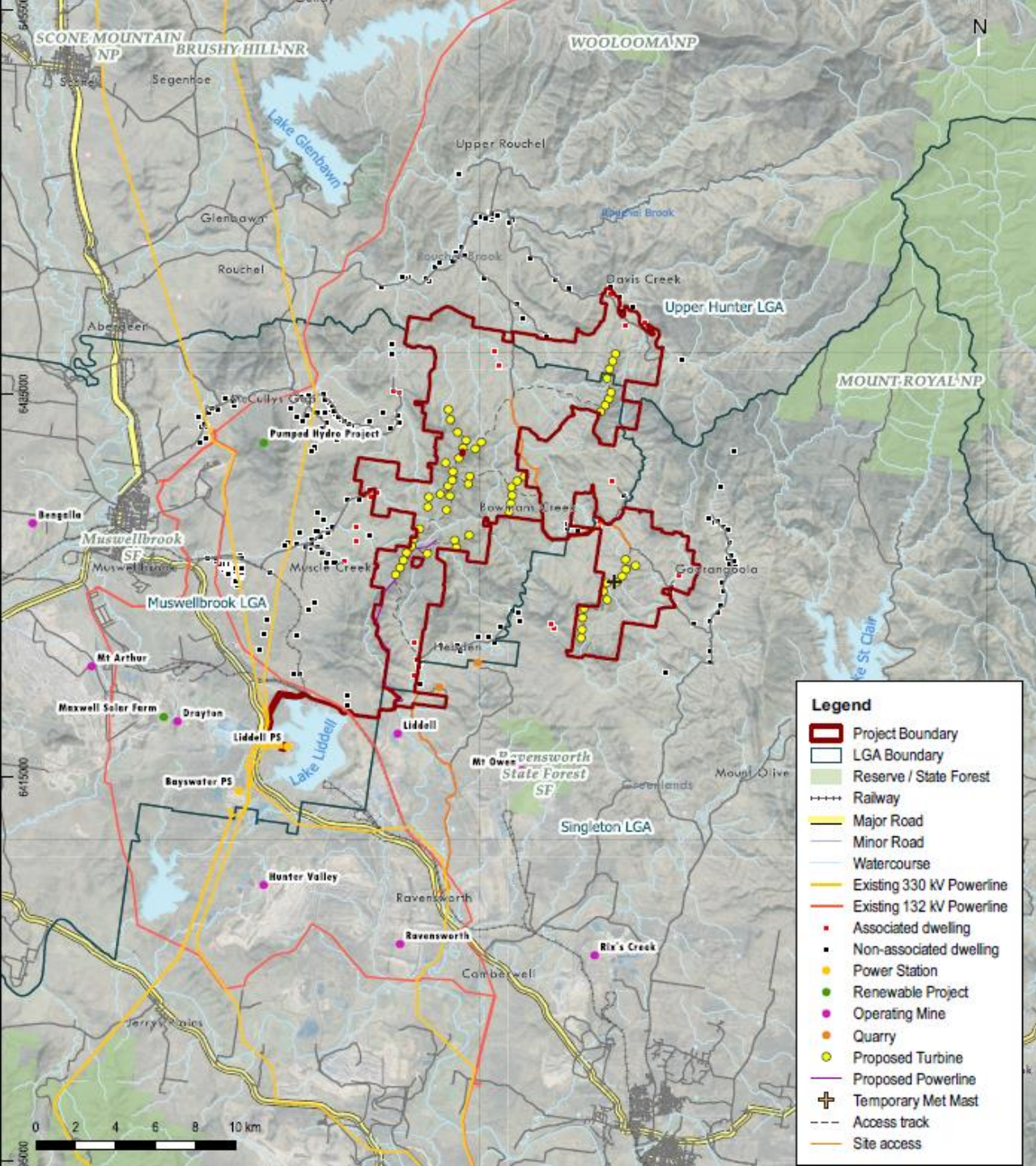


# Contents

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- Context
- Engagement
- Key Issues
- Other Issues
- Evaluation





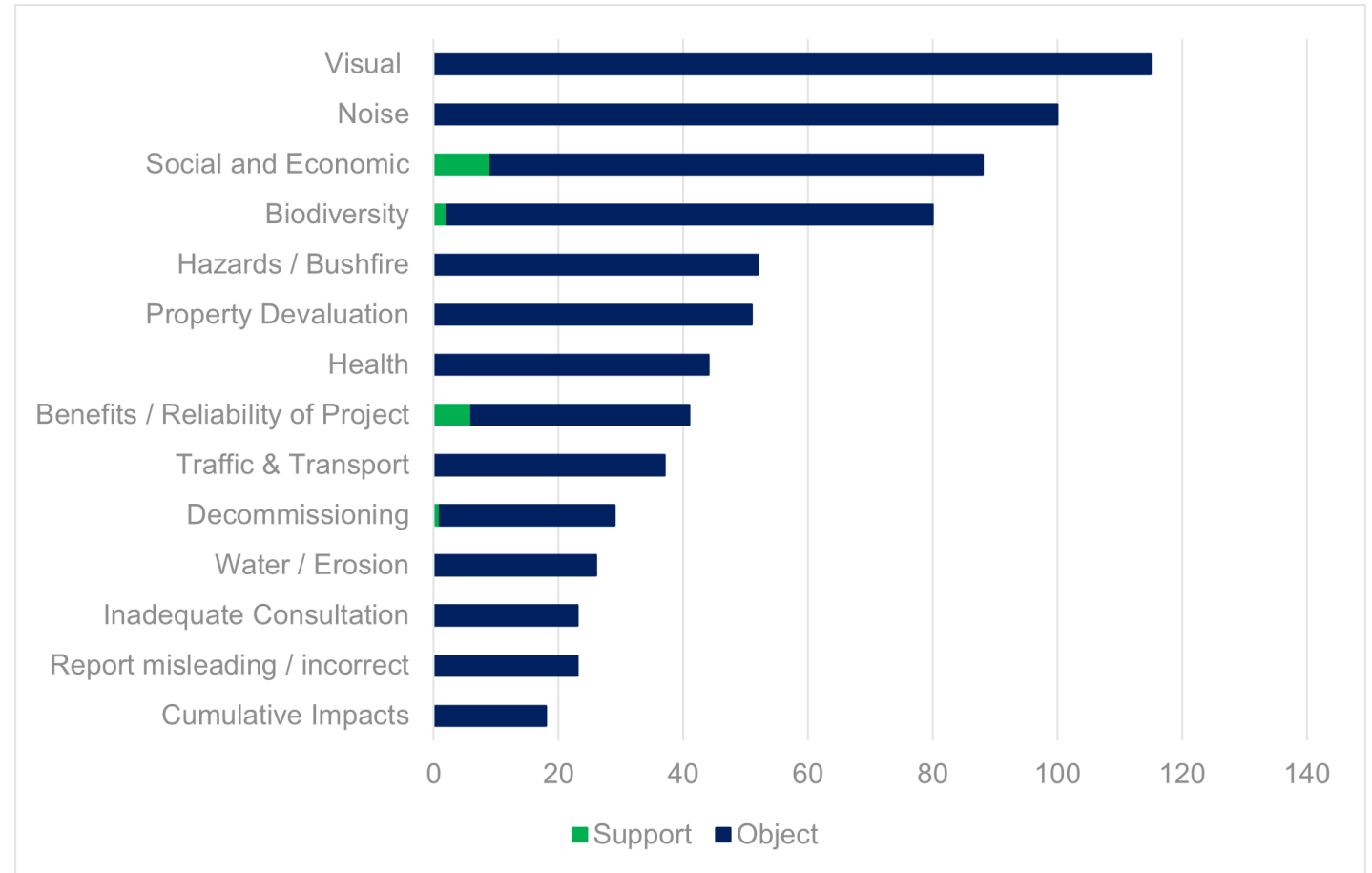
# Community engagement



- Public Exhibition – 31 March to 11 May 2021
  - 142 public submissions:
    - 131 objections from individuals
    - 11 supporting submissions
  - Advice from 18 government agencies
  - Muswellbrook Shire, Singleton, and Upper Hunter Shire Council – consultation
- Site visit April 2022, including consultation with landowners

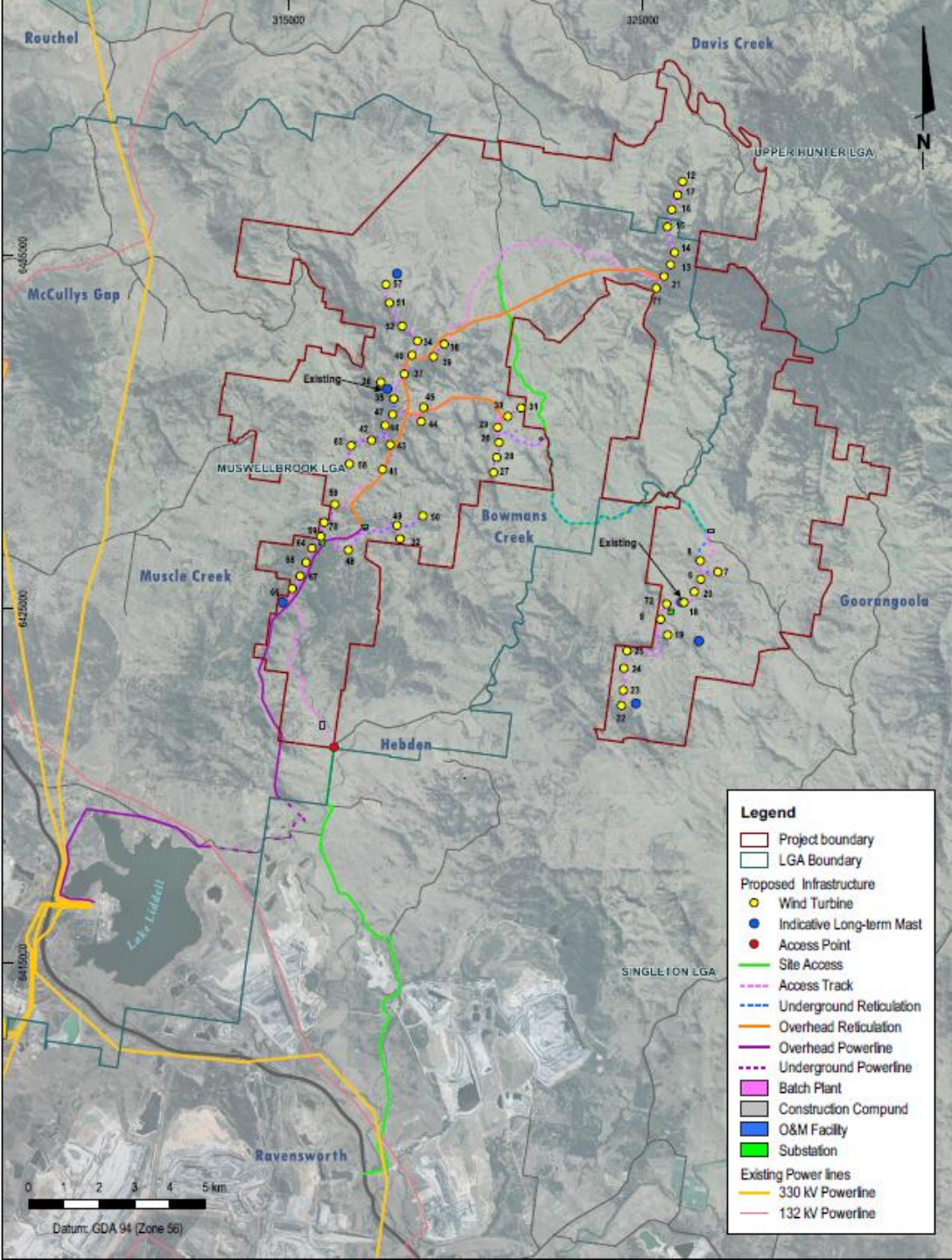
# Public Submissions

- Public objections cited:
  - Visual impacts;
  - Construction and operational noise;
  - Socio-economic factors;
  - Biodiversity;
  - Hazards / bushfire risk;
  - Mental and physical health; and
  - Traffic and road network.
- Supporting submissions cited benefits to the local economy and transition to renewable energy source.



# Project amendments

- Key amendments include:
  - deletion of four turbines (10, 33, 60 and 61);
  - re-siting three turbines (8, 9 and 32);
  - other micro-siting adjustments;
  - relocation of access tracks;
  - reduction of 10 km of underground reticulation; and
  - reduction of 14 km in overhead reticulation;
 to reduce environmental and visual impacts.
- Project amendments result in an overall development footprint reduction of approximately 98 ha.



# Key Issues

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- Energy security
- Visual amenity
- Biodiversity
- Traffic and transport
- Noise
- Decommissioning and rehabilitation
- Economic impacts



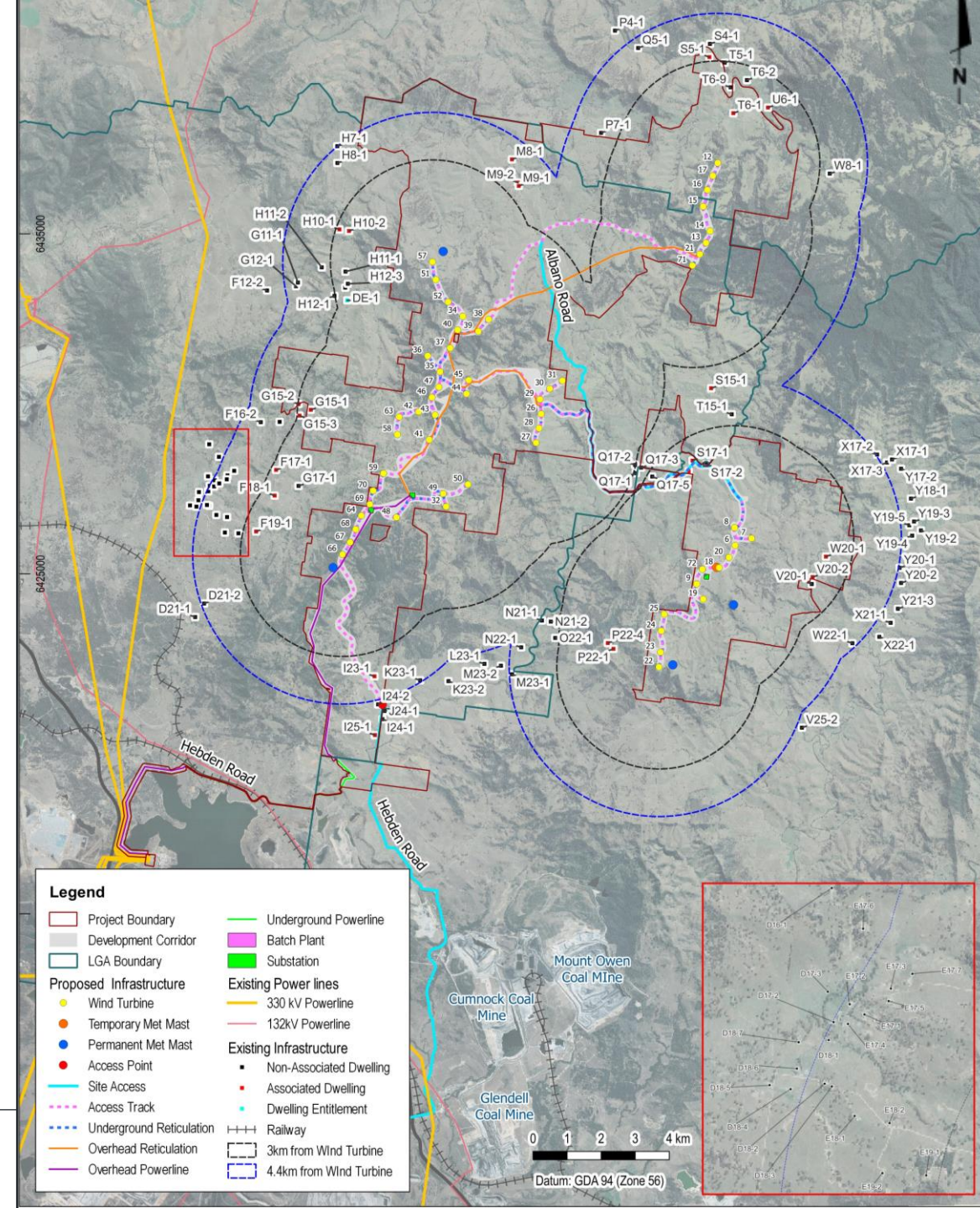
- Project (as recommended) would have a 335 MW generating capacity that would power about 172,600 homes.
- Consistent with the NSW Climate Change Policy Framework of net zero emissions by 2050.
- Has direct access to the transmission network with available capacity and wind resources.
- Project would play an important role in :
  - Increasing renewable energy generation and capacity; and
  - Contributing to the transition to a cleaner energy system as coal fired generators retire.
- Opportunity to contribute to replacing the loss of energy generation in the Hunter region using existing power stations, electricity network infrastructure, port and transport infrastructure and workforce.

# Visual Amenity - Receivers

- 11 non-associated receivers within 3 km of turbines:
  - performance objectives are all met at 8 receivers; and
  - for the remaining 3:

Receiver	Visual Bulletin performance objectives met?			Recommended mitigation
	Visual magnitude	Multiple wind turbine	Landscape scenic integrity	
G17-1	Yes	Yes	No, turbines dominate the landscape.	Delete turbines 64 & 68. Vegetation screening.
S17-2	Yes	No, 2 sectors – distance (>5km), topography and existing vegetation would screen views in 1 sector.	Yes	Micro-siting restrictions. Vegetation screening.
Q17-5	Yes	No, 3 sectors – existing vegetation would partially screen turbines in all sectors.	Yes	Vegetation screening.

- 39 non-associated receivers between 3–4.4 km of turbines – all performance objectives will be met.

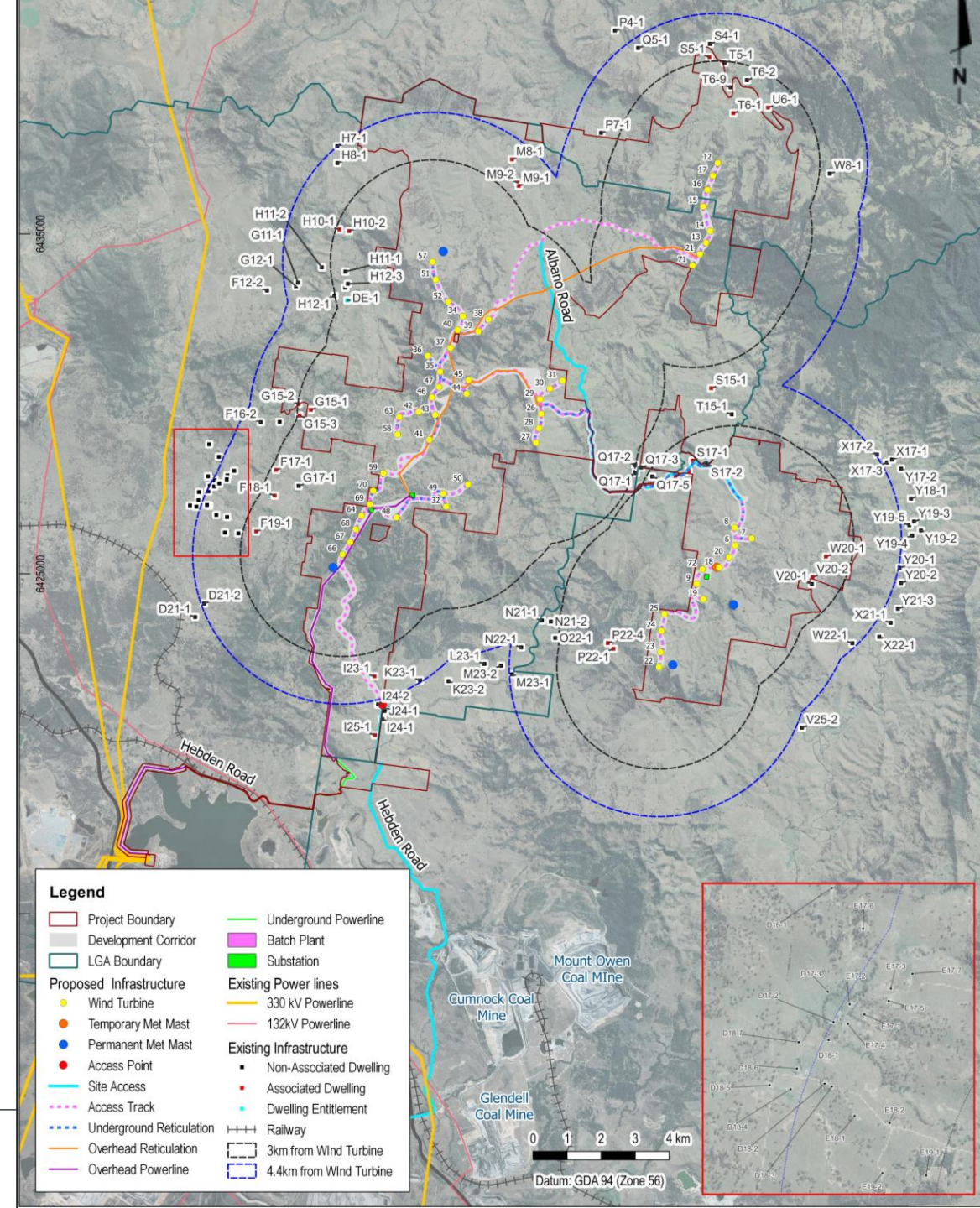


# Visual Amenity

- **Public viewpoints:** Views primarily limited to associated residences and road users. Project would not dominate the existing visual catchment due to distance, topography and existing mature vegetation.
- **Aviation hazard lighting:** CASA recommended obstacle lighting – the Department has recommended conditions requiring Ark to consult with CASA regarding installation of aviation hazard lighting.
- **Ancillary infrastructure:** Unlikely to have significant visual impacts with the proposed mitigation measures.

## Conclusion

- With the deletion of two turbines, the project would meet the visual performance objectives in the Bulletin.
- Project would not fundamentally change the broader landscape or result in significant visual impacts on residences.
- Recommended conditions require Ark to offer landscape screening to all non-associated residences within 4.4 km.

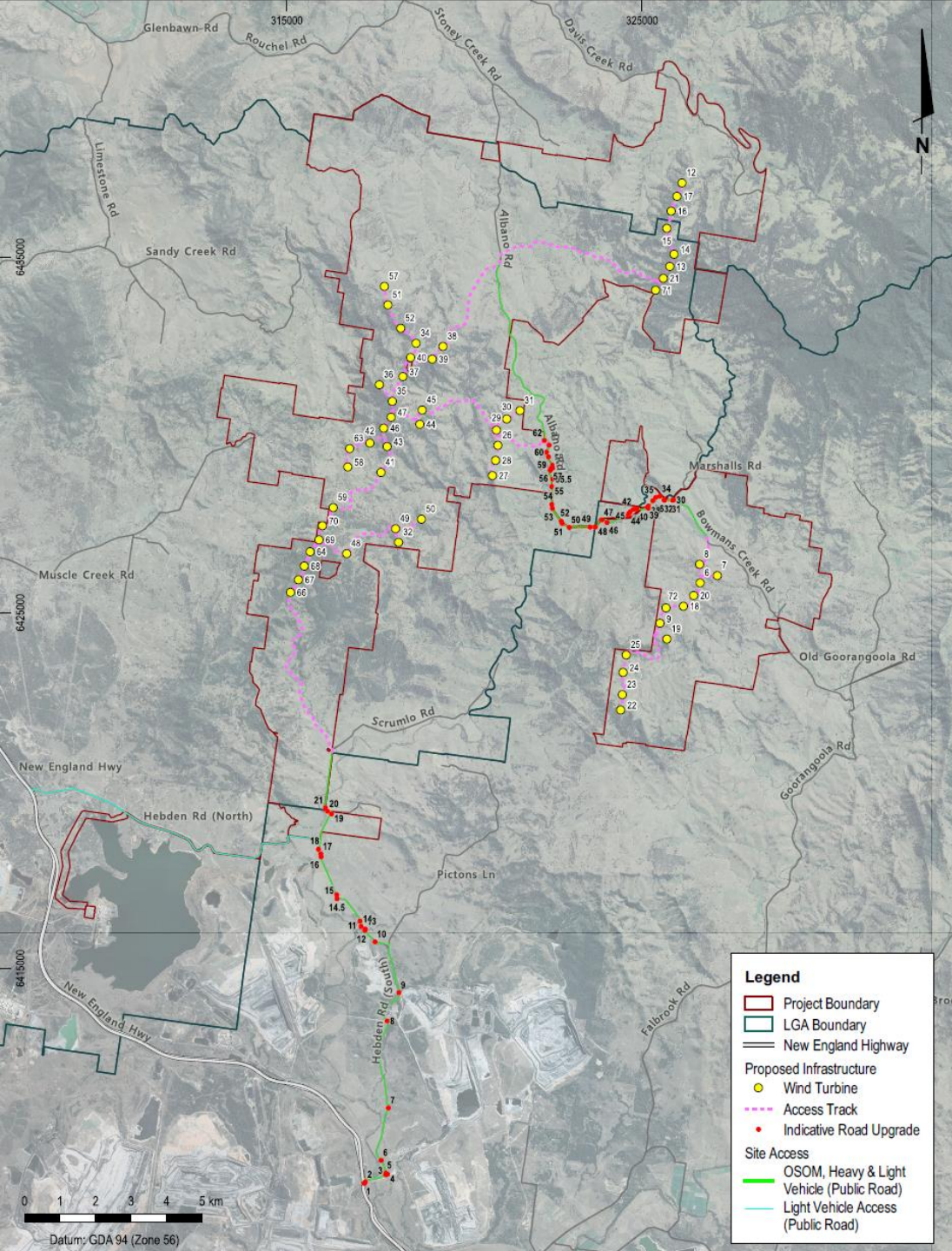


# Biodiversity

- Project was designed to avoid impacts on threatened species and communities within the site.
- 280 ha of native vegetation clearance, including:
  - 98 ha of dry rainforest, open forest and woodland in moderate condition
  - 179 ha of DNG
  - 3 ha of poor condition or planted vegetation
- BC Act: 232 ha of threatened ecological communities would be impacted, predominantly 215.5 ha of White Box-Yellow Box-Blakely's Red Gum Woodland and DNG.
- EPBC Act: 237 ha of critically endangered ecological communities, predominantly 215.5 ha of Box Gum Woodland (37 ha woodland, 178.5 ha DNG).
- While Box Gum Woodland is a Serious and Irreversible Impact (SII) candidate species, the project would not significantly contribute to the risk of it become extinct, impacts would be offset and an additional 37 ha would be established.
- 20 candidate threatened flora species assumed present (3 to be avoided and 17 to be offset).
- 47 threatened fauna species listed under the BC Act and 9 listed under the EPBC Act may be impacted through direct habitat loss. Impacts would be offset via ecosystem credit offsets.
- Impacts would generate offset requirements of 5,450 ecosystem credits and 8,423 species credits.

# Traffic and transport

- Route during construction: New England Highway, Hebden Road South and a new access point on Scrumlo Road for light vehicles, heavy vehicles and heavy vehicles requiring escort.
- Heavy vehicles and heavy vehicles requiring escort would not use Hebden Road (north).
- Peak of 75 light vehicles and 66 heavy vehicles per day over the 18-month construction period.
- 560 heavy vehicles requiring escort would be required for the delivery of wind turbine components to the site during construction.
- Operational traffic is expected to be minimal.



# Traffic and transport - road upgrades

- For local roads on the transport route, road upgrades/improvements are required at 75 locations:
  - construction of a new site access point on Scrumlo Road;
  - road widening at four locations along Albano Road;
  - widening six cattle grids and associated fencing on Albano Road;
  - gradient reduction at three causeways along Albano Road;
  - temporary road base (e.g. gravel) at 38 locations to widen Hebden Road (south) and Albano Road;
  - temporary relocation of guardrails at four locations along Hebden Road (South);
  - tree branch trimming or embankment modifications at 26 locations on Hebden Road (south) and Albano Road; and
  - potential works to increase the load capacity of a bridge on Hebden Road (south).
- Councils support the proposed road upgrades, subject to the recommended conditions.
- With road upgrades, regular road maintenance, and the implementation of the Traffic Management Plan, the Department considers that the project would not result in unacceptable impacts on the capacity, efficiency or safety of the road network subject to the implementation of the recommended conditions.

# Noise

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- Noise levels would comply with the recommended ‘noise affected’ criterion (45 dB(A)) as per the EPA’s *Interim Construction Noise Guideline* at all non-associated receivers for construction of the turbines.
  - Recommended conditions restrict works to standard construction hours.
  - Ark has committed to a range of noise management measures (such as increasing separation distances, erecting acoustic screens or mounding, and using less noisy equipment and construction processes).
  - Recommended conditions require Ark to minimise noise during construction by implementing noise mitigation measures set out in the ICNG.
  - For road works, noise levels up to the ‘highly noise affected’ criterion of 75 dB(A) are predicted to occur at one residence, but works would be short-term, intermittent and at least 1 km from the residence.
  - Recommended conditions require Ark to monitor and minimise construction vibration generated and apply strict limits for any blasting carried out.
  - Construction traffic noise would comply with the NSW Road Noise Policy at all receivers.
  - Modelling predicts operational noise would comply with the relevant environmental noise criteria.
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# Decommissioning and Rehabilitation

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- Operational life is likely to be approximately 25 years (unless turbines are upgraded)
  - Recommended conditions require the applicant to rehabilitate the site in accordance with a number of objectives, which are that:
    1. The site must be safe, stable and non-polluting;
    2. Native vegetation must be restored;
    3. Above ground infrastructure, access roads and underground cabling must be removed, unless the Planning Secretary agrees otherwise-visual impacts for retained infrastructure must be minimised;
    4. Wind turbine pads must be covered and revegetated;
    5. The land must be rehabilitated and restored to pre-existing use; and
    6. Public safety must be ensured at all times.
  - Project would be suitably decommissioned at the end of the project life and the site will be appropriately rehabilitated.
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# Economic impacts

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- Benefit to the community through 156 construction jobs, expenditure on accommodation and businesses in the local economy by workers.
- Applicant would enter into a voluntary planning agreement agreed with each Council, providing contributions of \$686 per MW per year for community enhancement projects.
- Broader benefits to the State through an injection of \$569 million in capital investment.
- Applicant has committed to sourcing workers from the local community to reduce accommodation and service pressures. The Department has recommended a condition requiring the applicant to develop an Accommodation and Employment Strategy, in consultation with Council.
- Impact on property values is not a relevant consideration under the EP&A Act as the project would not have significant and widespread economic impacts on the locality.

# Aboriginal Cultural Heritage

Item	Significance	Mitigation
Three isolated finds	Low	Salvage and relocate to suitable alternative location in consultation with RAPs
Three potential archaeological deposits (PADs)	Low to moderate	Partially impacted. Subsurface testing to inform appropriate mitigation.
One artefact scatter	Low	High chance of avoidance through design. Salvage and relocation in consultation with RAPs if not avoided.
Potential ceremonial ring	High	50 m exclusion zone.

- The Department has recommended a condition requiring the Applicant to implement all reasonable and feasible measures to avoid and minimise harm to these sites and provide a detailed justification where impacts cannot be avoided.

- The project:
  - is in the Hunter-Central Coast REZ, has good wind resources, access to the existing electricity network and is in close proximity to the New England Highway;
  - has been designed to avoid key constraints, and any residual impacts would be relatively minor and can be managed through the recommended conditions of consent;
  - would assist in transitioning the electricity sector from coal and gas-fired power stations to low emissions sources and is consistent with NSW policy;
  - would generate over 997,000 MWh of clean electricity annually, which is enough to power over 172,000 homes and save over 950,000 tonnes of greenhouse gas emissions per year;
  - achieves an appropriate balance between maximising the efficiency of the wind resource development and minimising the potential impacts on surrounding land users and the environment; and
  - would stimulate economic investment in renewable energy and provide flow-on benefits to the local community through job creation and capital investment.