

# Silverton Wind Farm

Community Consultative Committee  
Meeting No.CCC-026

Tuesday, 23 January 2018



# Agenda

1

Welcome

2

Previous  
minutes

3

Project update

- Overview
- Wind Farm Works
- Connection Works

4

Community  
relations  
update

5

Topics of interest

- Visual impact  
assessment

6

Other  
business



# 1. Welcome



## 2. Previous minutes



## 2. Previous minutes

### Action items



Item	Action	Status	Who
5.19.01	AGL to arrange site tour for interested Silverton community members and the Broken Hill City Council.	Open	AGL – 1/18
4.22.05	Naomi Schmidt to forward copy of email from Mark Coulton on telecommunication upgrade options to AGL.	Open	NS – 1/18
3.23.16	AGL to contact Rod Grenfell in relation to erecting a fence along Daydream Mine Road near the Umberumberka pipeline access.	Open	AGL – 1/18
5.23.03	Helen Murray mentioned infrasound study with animals and is seeking copy to provide to AGL.	Closed	
2.24.01	Amend item 3.23.29 from CCC Meeting No.023 minutes.	Closed	
3.24.08	GE-CATCON is required to install variable message signs west of the Daydream Mine Road / Silverton Road intersection and east of the proposed bypass road intersection with Silverton Road as part of the RMS approval in order to notify the community.	Closed	
3.24.10	GE-CATCON to investigate dust suppression at the Silverton Road / Daydream Mine Road intersection ahead of the commencement of external roadworks.	Closed	
4.24.01	AGL will arrange for the preferred installer to inspect properties for constructability aspects for Solar Silverton and hope to install towards the end of the year.	Closed	
4.24.02	AGL noted that the Water Tank Program for supply and installation of domestic sized water tanks will commence in early 2018 after the Solar Silverton Program has commenced.	Open	AGL – 2/18
4.24.04	AGL to investigate the potential for increasing the coverage with Telstra and the potential additional costs.	Closed	

## 2. Previous minutes

### Action items



Item	Action	Status	Who
4.24.05	Community member asked if AGL would partner with Silverton to apply for blackspot funding, and could the \$15,000 from the community fund go towards the mobile reception program.	Closed	
4.24.06	AGL to meet with Helen Murray to discuss visual mitigation measures (landscaping).	Open	AGL – 1/18
4.24.07	Community member raised an issue around rubbish on Silverton Road. AGL advised many of the site vehicles care bags for collecting litter and that littering would be raised at the next site toolbox meeting.	Closed	
3.25.14	AGL advised that Mike Duffy (AGL media) will engage with local media on arrival of first turbines	Closed	
4.25.01	AGL would send email to CCC for feedback on timing for dates for the next CCC meeting	Closed	
4.25.02	AGL noted that the Solar Silverton Program would be kicking off soon, with inspections hoping to commence expected to start before Christmas	Closed	
4.25.06	AGL to confirm whether the additional \$50m of funding provided by the NSW Government for rural and regional mobile coverage forms part of the funding for the Priority Locations (round 3)	Closed	
4.25.07	AGL to progress the 20 m monopole with Telstra and Crown as part of the mobile reception program and contact AW to discuss the proposed solution	Open	AGL – 1/18
4.25.08	AGL confirmed that further works would with Telstra in relation to Eldee's existing telecommunication solution and noted that contact details had been provided by the Schmidts	Open	AGL – 11/17

- Overview
- Wind Farm Works
- Connection Works

## 3. Project update

# 3. Project update

## Silverton Wind Farm



### Silverton Wind Farm

- Located in the Barrier Ranges approximately 5km north of the Silverton township
- Generation capacity of 200 MW
- Wind turbines: 58 x GE 3.43-130
- Annual Energy Production (AEP)
  - ~780,000 MWh (capacity factor of 44.5%)
  - Powering more than 137,000 average Australian homes
- Connects into TransGrid's existing 220 kV substation at Broken Hill
- Design life of 25 years





# 3. Project update

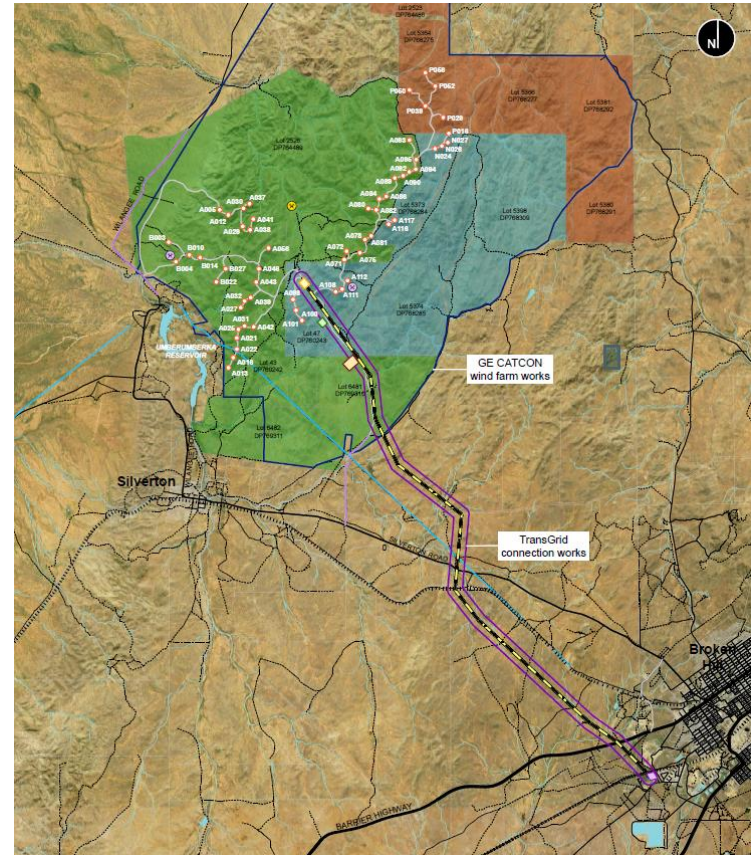
## Silverton Wind Farm



### Scope of works

- Silverton Wind Farm consists of two main scope of work:
  - Wind Farm Works (GE-CATCON)
  - Connection Works (TransGrid)
- AGL has prepared an Overview Environmental Management Strategy (OEMS) in accordance with the project approval
- Overview activities include
  - Community enhancement
  - Community consultative committee
  - Project website

<https://www.agl.com.au/about-agl/how-we-source-energy/renewable-energy/silverton-wind-farm>



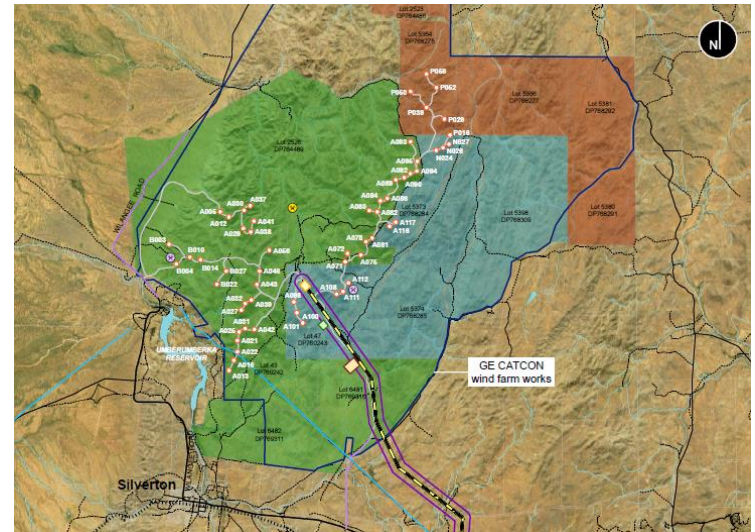
# 3. Project update

## Silverton Wind Farm



### Wind Farm Works

- GE-CATCON (joint venture) has been engaged to deliver the wind farm works
  - Engineer, Procure, Construct (EPC) Contract
- Scope of works, includes
  - 58 x GE 3.43-130 wind turbines
  - 33kV electrical reticulation (underground and overhead) and 33kV switchyard
  - Site access roads and O&M buildings
- Key project milestones (following previous CCC)
  - Delivery of wind turbine components
  - Erection of first wind turbine
- Construction work hours
  - Out of hours work continuing for concrete works (foundations), culvert installation, wind turbine erection and crane relocation in accordance with the project approval where noise does not impact neighbouring residents.



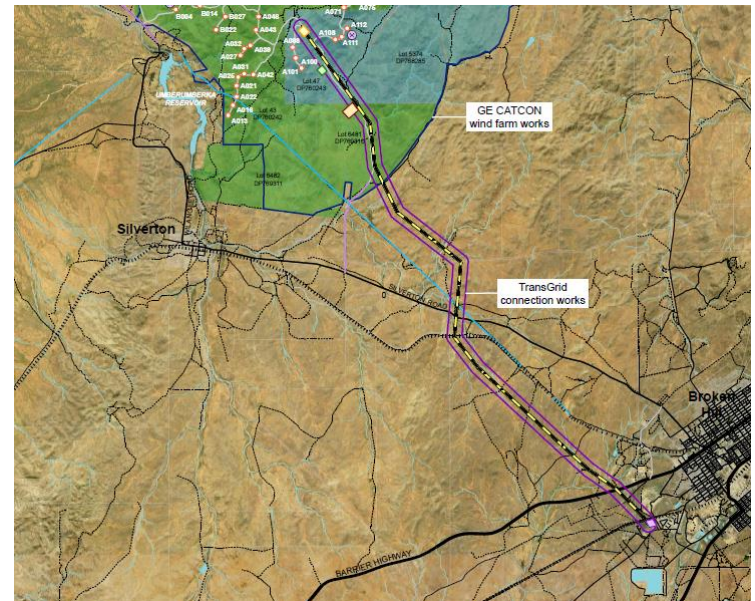
# 3. Project update

## Silverton Wind Farm



### Connection Works

- TransGrid (Network Services Provider) has been engaged to deliver the connection works for the wind farm
  - Project Agreement (construction)
- Scope of works, includes
  - Wind farm 220kV substation
  - ~25km of 220kV transmission line
  - New circuit breaker in TransGrid's existing 220kV Broken Hill substation
  - Communication works (within network)
- Key project milestones (following previous CCC)
  - Installation of the 220/33kV transformer.
  - Completion of poles for the 220kV transmission line
  - Commencement of stringing for the 220kV transmission line.





# 3. Project update

## Wind Farm Works



### Construction works

- Civil works progress:
  - Access road clearance: 55/61km (~91%)
  - Access road capping: 49/61km (~80%)
- Structural works progress:
  - WTG foundations excavated: 50/58 (~86%)
  - WTG foundations poured: 45/58 (~78%)
- Electrical works progress:
  - 33kV collector cable (U/G): 11/32km (~33%)
  - 33kV OHL poles: 16/56 (~29%)
- Wind turbines progress:
  - Down tower assembly installed: 4/58 (~7%)
  - WTG erection complete: 2/58 (~3%)

### External roadworks

- Works completed in Nov 2017 ahead of the first WTG component delivery.



# 3. Project update

## Wind Farm Works



### Construction works – Progress photos





# 3. Project update

## Wind Farm Works



### Delivery of Wind Turbine Components

- Delivery of components commenced on 27 Nov 2017:
  - Over dimensional and over weight deliveries require coordination between SA and NSW Police with a change over at Cockburn on the border.
- Largest wind turbine blades ever delivered in Australia
  - Delivered to Silverton on Tuesday, 5 Dec 2017
- Component deliveries will continue until June 2018



# 3. Project update

## Wind Farm Works



### Largest Wind Turbine Blades in Australia negotiate Silverton Rd / Daydream Rd



*Photos provide courtesy of Helen Murray*

# 3. Project update

## Wind Farm Works



### Largest Wind Turbine Blades delivered in Australia

- Local media – ABC Broken Hill, Barrier Daily Truth and Southern Cross TV (Broken Hill)
- Adelaide Metro – Channel 7, 9 and 10
- National – Channel 10 (The Project)





# 3. Project update

## Wind Farm Works



### Assembly of Cranes

- Two main cranes are currently being used for the installation of wind turbines. These cranes have been certified and registered with SafeWork NSW.
  - LR1450 (450 tonne crane)
  - LR1650 (650 tonne crane)



# 3. Project update

## Wind Farm Works



### Erection of Wind Turbine Components

- Installation steps for erection are shown below:
  - Down tower assembly (DTA) + door section installed
  - Tower section C + B
  - Tower section A + Top section + nacelle
  - Hub + 3 blades
- Blades are lifted into position using a single blade lifting tool





# 3. Project update

Wind Farm Works



## First Wind Turbine Installed – WTG12



# 3. Project update

## Wind Farm Works



### Local Industry Participation

- Currently ~150 construction workers with approximately 40% from the local area.
  - Planned increase of workers for commissioning of wind turbines.
- High involvement of local suppliers.
  - Concrete supply, plant and equipment maintenance, plumbing, electrical works, craneage and transport



### Employment Forecast

- Employment opportunities
  - Up to 150 jobs during the peak of construction
  - Up to 10 full time jobs during the operations phase

### GE-CATCON Silvertown contacts

- WF Procurement: [silvertownwf@catcon.com.au](mailto:silvertownwf@catcon.com.au)
- WF Employment: [hr@catcon.com.au](mailto:hr@catcon.com.au)



# 3. Project update

## Wind Farm Works



### Local suppliers

- Delivery of the Silverton Wind Farm to date has involved the following local suppliers / contractors
  - Attards Transport
  - Barrier Daily Truth
  - Boss Construction
  - Broken Hill City Council
  - Broken Hill Hire & Engineering Services
  - Broken Hill Mini Excavators
  - Broken Hill Nissan
  - Broken Hill Skip Bins
  - Broken Hill Supplies
  - Cresswell Drilling
  - Getting There Excavations
  - Globe Timber Mills & Joinery
  - Goodyear Autocare
  - Hire vehicles – Avis and Hertz
  - Interhealth Broken Hill
  - Judd Plumbing
  - Lawrence Engineering
  - Mawsons Concrete & Quarries
  - My Maid Support
  - RPF Resources & Rural Supplies
  - Schembri Earthmovers
  - Silver City Plumbing
  - Silver Haven Motor Inn
  - Silverton Civil
  - Silverton Hotel / Sturt Motel
  - Solcon Trading
  - SouthState Industrial Supplies
  - Tasco Petroleum
  - Vertex Power & Process

# 3. Project update

## Wind Farm Works



### Turbine Manufacturing

- Wind Turbine
  - Manufactured in Germany
  - Consists of the Nacelle, Hub and electrical equipment which forms the Down Tower Assembly
  - Nacelles manufactured: 58/58 (100%)
  - Hubs manufactured: 38/58 (100%)
- Towers
  - Manufactured in Vietnam
  - Sections fabricated and painted: 290/290 (100%)
- Blades
  - Manufactured in Spain
  - Blade sets manufactured: 58/58 (100%)

*All the components have been manufactured and the second shipment has arrived in Port Adelaide. Third and final shipment is planned for January / February 2018.*





# 3. Project update

Connection Works



## TransGrid presentation



P0010959

### Silverton Wind Farm Connection

AGL's Community Consultation Committee (CCC)  
Presentation

TransGrid Presentation

23 January 2018



# 3. Project update

Connection Works



## TransGrid's existing 220kV Broken Hill Substation



# 3. Project update

Connection Works



## 220kV Transmission Line





# 3. Project update

Connection Works



## Wind Farm 220kV Substation





## 4. Community relations update



# 4. Community relations update

## Community enhancement program



### Community Enhancement Program

AGL has finalised the Community Enhancement Program for the Silverton Wind Farm, in accordance with condition 18 (schedule 2) of the project approval and will implement the program in order to give effect to the commitments in Appendix 3, including

- Silverton Community Fund
  - \$15,000 per year + CPI (life of project)
- Solar Silverton Program
  - 5kW solar PV for leaseholder and residences within 10 km of project.
- Water tank program
  - Domestic sized water tank to all inhabited residences
- Mobile reception program
  - Contribute up to \$50,000 for mobile reception improvement works



# 4. Community relations update

## Community enhancement program



### Solar Silverton Program

- AGL Solar commenced the property inspections with the accredited contractor on Monday, 15 January 2018, which involved assessment of:
  - Structural → condition of roof
  - Hazardous materials → No asbestos
  - Electrical → condition of switchboard
- The following classification was determined following the property inspections (based on existing condition)
  - “Solar ready” properties (will be prioritised)
  - Minor works required (by resident)
  - Major works required (by resident)
- AGL Solar will continue to liaise with all resident to progress this community enhancement program
  - Planned installation to commence in Mar 2018



# 4. Community relations update

## Community enhancement program



### Water Tank Program

- AGL has progressed quotes for water tanks with potential supplier and installers (plumbers)
- AGL will need to arrange for property inspections to assess the following:
  - Structural → ground condition
  - Connection → roof drainage
- Installation will depend upon property inspections and availability of local suppliers and installers





# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- Mobile Black Spot Program
  - Silverton has been identified as a “community reported black spot”.
- Black Spot Funding – Rounds 1 and 2
  - Together rounds 1 and 2 are delivering almost \$600 million in new investment to improving mobile coverage in regional and remote Australia.
- Priority Locations round
  - Silverton is not listed in the remaining 106 eligible (priority) locations
  - [www.communications.gov.au/documents/mobile-black-spot-program-priority-locations](http://www.communications.gov.au/documents/mobile-black-spot-program-priority-locations)
- Connecting Country Communities
  - NSW Government Regional Growth Fund
  - Funding not currently available
  - Reasonable to assume a similar methodology for identifying “priority NSW locations”



Australian Government

Department of Communications and the Arts



# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- AGL is progressing the previous 4GX solution developed with Telstra for the mobile reception program
  - Installation of a 20m monopole at Telstra's Silverton Exchange site with a 4GX small cell which will provide 4G 700 MHz coverage to the Silverton Village
- Construction timing for completion would be ~4 months, subject to approval requirements and availability of power



Proposed 4G small cell location



A typical 20m monopole with an omni antenna configuration

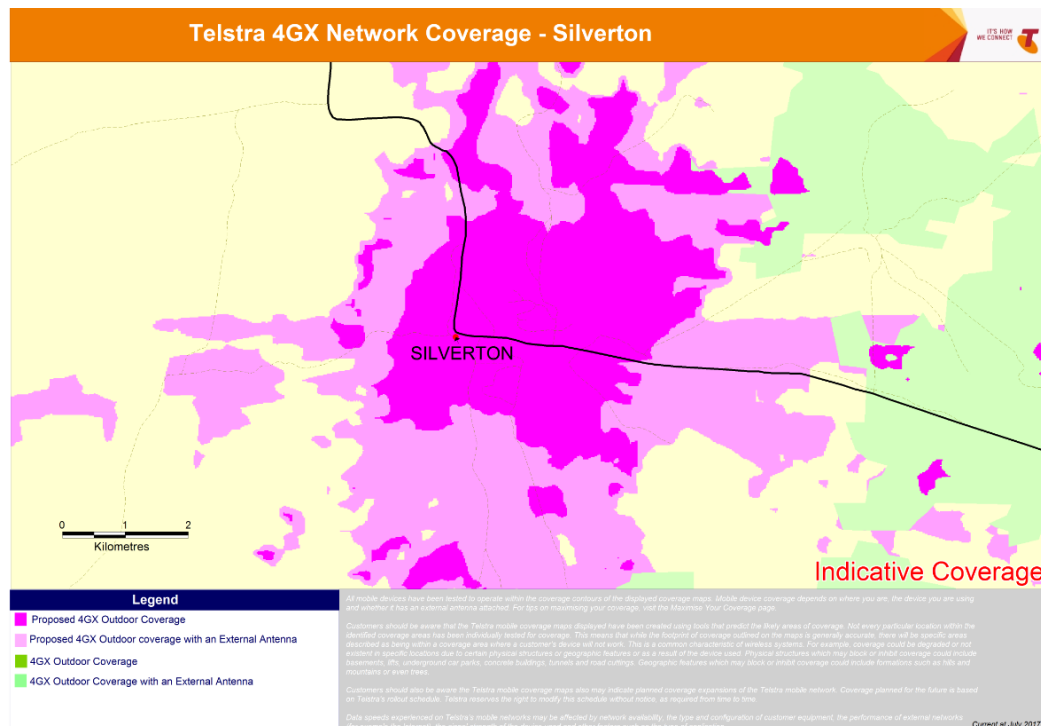
# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- The coverage predications below provide and indicative view of the coverage the proposed 4GX small cell would provide
  - Proposed 4GX solution would require a 4G 700 MHz compatible device to benefit from the improve coverage. This should cover any new smart phones purchased over the last 2 years





# 4. Community relations update

## Visual impact mitigation



### Visual Impact Mitigation

AGL issued notification to the Silverton residents in accordance with condition 2 (schedule 3) of the project approval in relation to the visual impact mitigation measures outlined in condition 1 (schedule 3).

- Owners within 6km of any wind turbine forming the Silverton Wind Farm may request additional visual mitigation measures (such as landscaping and vegetation screening) at their residence to reduce visual impact of the wind turbines.
- Owners have the right to request the implementation of these additional visual mitigation measures at their residence at any time within 3 years of the commencement of construction.

*The identification of appropriate visual impact mitigation measures will be easier following the construction of the wind turbines.*



# 4. Community relations update

## Community engagement



### Silverton Information Centre

- AGL will be utilising the old butchers shop in Silverton during the construction of the wind farm to provide project information and updates

### Community information

AGL contact details for community and project information are shown below:

- P: 1800-039-600
- E: [AGLcommunity@agl.com.au](mailto:AGLcommunity@agl.com.au)
- W: <https://www.agl.com.au/about-agl/how-we-source-energy/renewable-energy/silverton-wind-farm>

### Construction information

GE-CATCON will provide contact details on the project signage for construction related queries.



- Visual impact assessment

5. Topics of interest



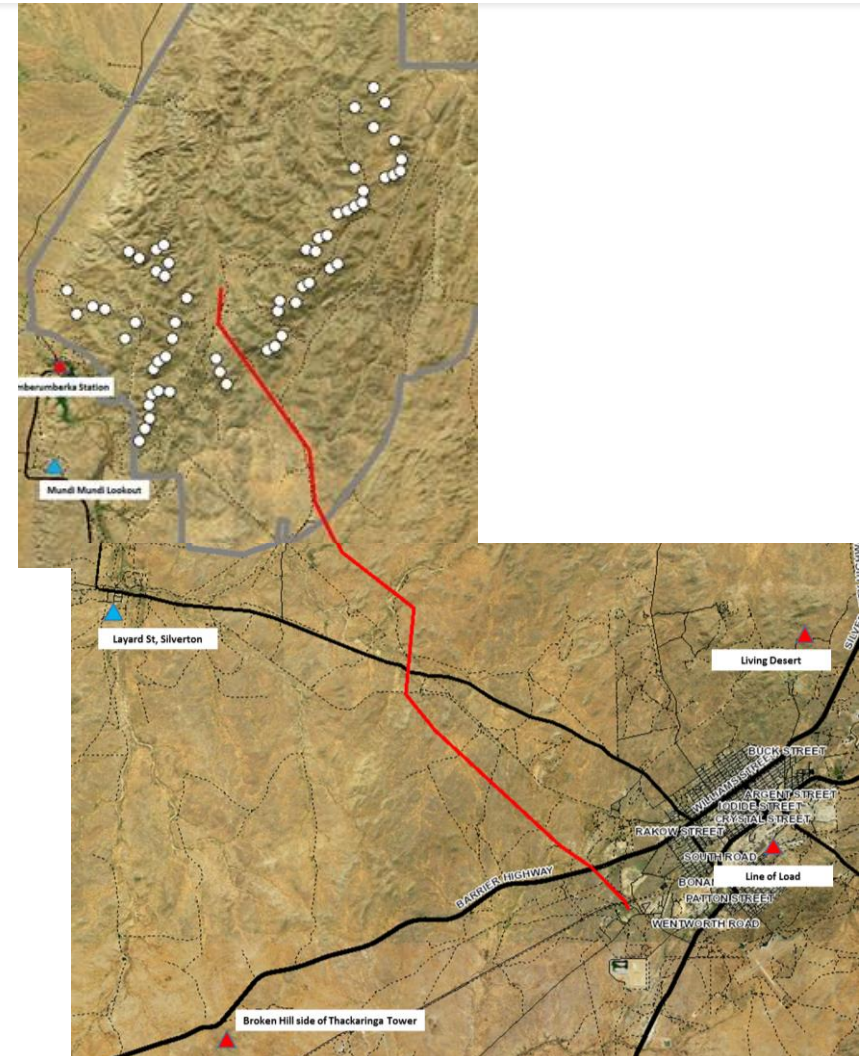
# 5. Topics of interest

## Visual impact assessment



### Silverton Wind Farm

- Green Bean Design has prepared photomontages from the following six locations (developed with the community):
  - Silverton township
  - Mundi Mundi lookout
  - Umberumberka House
  - Desert Sculpture (Living Desert)
  - North Silverton
  - Thackaringa Tower (Broken Hill side)
- Photomontages have been developed in accordance with Wind Energy: Visual Assessment Bulletin prepared by NSW DPE
  - 120 degree photomontage provides a broad view from the location.
  - 60 degree photomontage provides a more narrower / “zoomed in” view.
  - Both images show the correct size relative to the landscape



# 5. Topics of interest

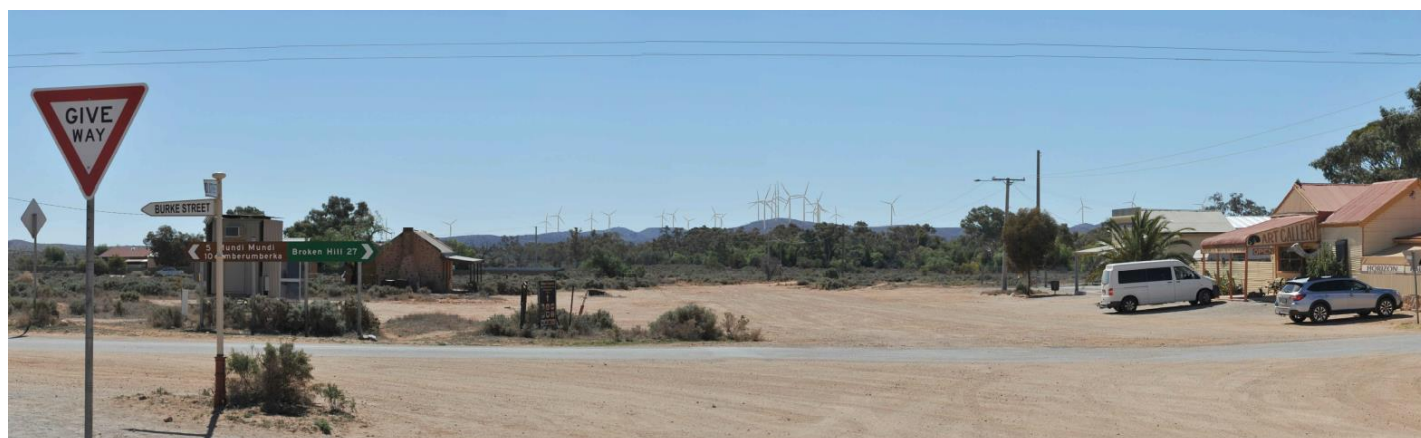
Visual impact assessment



## Photomontage – view NW to ENE from Layard Street



*120 degree view*



*60 degree view*



## 6. Other business



## **Silverton Wind Farm**

### **Community Consultative Committee (CCC)**

- Next meeting (TBC)
  - Thursday, 22 March 2018
  - Time: 6-8pm
  - Silverton Municipal Chambers, Silverton



**Next meeting**



## Contact

---

AGL Energy

Silverton Wind Farm

1800-039-600

[AGLcommunity@agl.com.au](mailto:AGLcommunity@agl.com.au)