

# Silverton Wind Farm

Community Consultative Committee  
Meeting No.CCC-025

Thursday, 23 November 2017



# Agenda

1

Welcome

2

Previous  
minutes

3

Project update

- Overview
- Wind Farm Works
- Connection Works

4

Community  
relations  
update

5

Topics of interest

- Breast Cancer Pink  
Shirt Day
- 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 – 11/17
4.22.05	Naomi Schmidt to forward copy of email from Mark Coulton on telecommunication upgrade options to AGL.	Open	NS – 11/17
3.23.10	GE-CATCON to review dust suppression activities along Daydream Mine Rd at intersection with Silverton Rd [refer to item 3.24.10]	Closed	
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 – 11/17
5.23.03	Helen Murray mentioned infrasound study with animals and is seeking copy to provide to AGL.	Open	HM – 11/17
2.24.01	Amend item 3.23.29 from CCC Meeting No.023 minutes.		AGL – 10/17
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.	Open	GEC – 11/17
3.24.10	GE-CATCON to investigate dust suppression at the Silverton Road / Daydream Mine Road intersection ahead of the commencement of external roadworks.	Open	GEC – 11/17
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.	Open	AGL – 10/17
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

## 2. Previous minutes

### Action items



Item	Action	Status	Who
4.24.04	AGL to investigate the potential for increasing the coverage with Telstra and the potential additional costs.	Open	AGL – 11/17
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.	Open	AGL – 11/17
4.24.06	AGL to meet with Helen Murray to discuss visual mitigation measures (landscaping).	Open	AGL – 11/17
4.24.07	Community member raised an issue around rubbish on Silverton Road. AGL advised many of the site vehicles carry bags for collecting litter and that littering would be raised at the next site toolbox meeting.	Open	GEC – 10/17

- 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







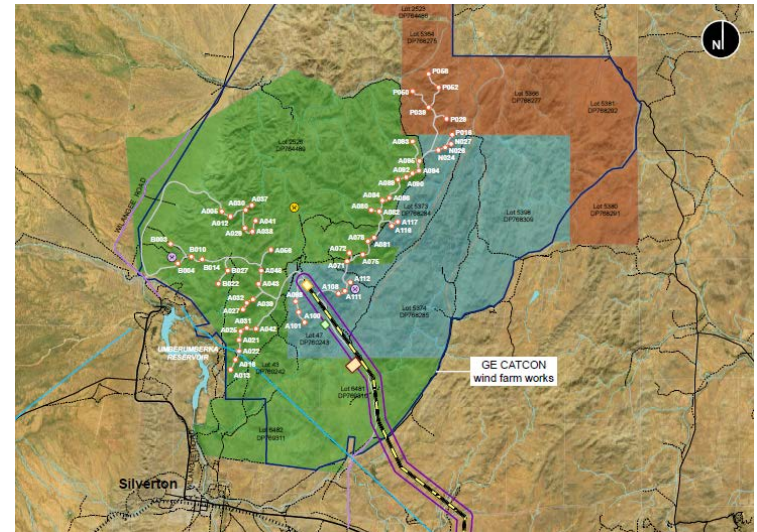
# 3. Project update

## Silverton Wind Farm



### 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)
  - Commenced external roadworks
  - First wind turbine shipment to Port Adelaide
- Construction work hours
  - Construction is continuing outside the typical hours in accordance with the project approval where noise does not impact neighbouring residents.



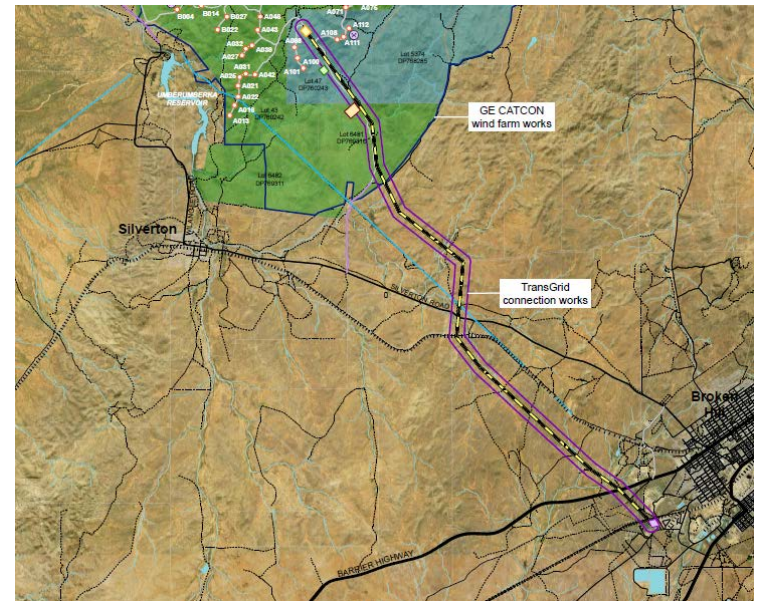
# 3. Project update

## 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)
  - Foundation poured for the 220kV transformer.
  - Main 220kV transformer delivered to Newcastle
  - First pole erected for the 220kV transmission line.



# 3. Project update

## Wind Farm Works



### Construction works

- Civil works progress:
  - Access road clearance: 51/63km (~81%)
  - Access road capping: 44/63km (~70%)
- Structural works progress:
  - WTG foundations excavated: 47/58 (~81%)
  - WTG foundations poured: 31/58 (~53%)
- Electrical works progress (end Oct 2017):
  - Pre-trenching for underground 33kV collector system: 18/32km (~56%)
  - 33kV Switchroom delivered

### External roadworks

- Works Authorisation Deeds (WADs) have been executed with RMS and works commenced in October 2017 following RMS approval.



# 3. Project update

## Wind Farm Works



### Construction works – Progress photos



# 3. Project update

## Wind Farm Works



### Road Upgrade and Maintenance Strategy

- The Road Upgrade and Maintenance Strategy forms the basis of the external roadworks, including:
  - WAD 1: Broken Hill Short bypass
  - WAD 2: Silverton Road / Daydream Mine Road intersection
  - WAD 3: Daydream Mine Road maintenance and upgrade (incl site access)
  - WAD 4: Silverton Road pull over bays
- The road upgrades are being undertaken to facilitate the delivery of wind turbine components which are planned to commence next week.



# 3. Project update

## Wind Farm Works



### Daydream Mine Road

- Daydream Mine Road maintenance and upgrade, including site access (WAD 3) being undertaken in accordance with the road upgrade and maintenance strategy which should help to improve binding of the road surface (ie. reduce dust generation)
- GE-CATCON continuing with dust suppression activities
  - Early morning (before work)
  - Late afternoon (after work)
  - Other high traffic occasions



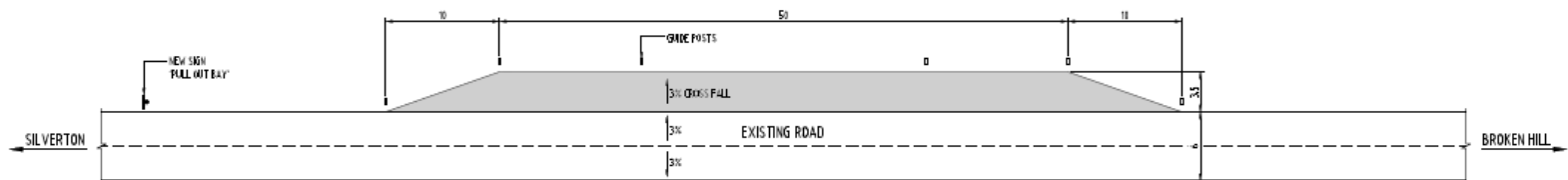
# 3. Project update

## Wind Farm Works



### Silverton Road

- Silverton Road works, include the Daydream Mine Road intersection and pull over bays (WAD 2 and WAD 4). The works will help facilitate the large turning circles for delivery of the 65m long blades and traffic management during delivery of wind turbine components.
- GE-CATCON continuing with dust suppression activities
  - Early morning (before work)
  - Late afternoon (after work)
  - Other high traffic occasions



SILVERTON ROAD PASSING BAY DETAIL  
SCALE 1:10



# 3. Project update

## Wind Farm Works



### First Wind Turbine Shipment

- The first shipment of wind turbines arrived in Port Adelaide on 7 November 2017:
  - AAL Brisbane (nacelles, hubs and blades)
  - Blue Diamond (WTG towers)
- The wind turbine components are being store near Port Adelaide and will be transported to site
- First delivery will principally be the bottom two WTG tower sections which are planned to start week commencing Monday, 27 November 2017 (next week).



# 3. Project update

Wind Farm Works



## First Wind Turbine Shipment – Port Adelaide



# 3. Project update

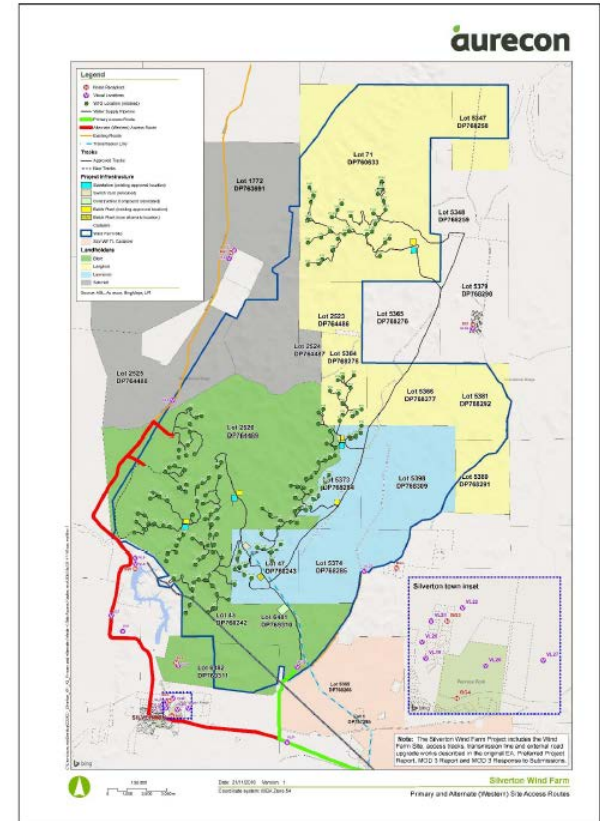
## Wind Farm Works



### Traffic Management Plan

- GE-CATCON has revised the Traffic Management Plan (revision 4) which was formally accepted by RMS on 24 August 2017, subject to the following:
  - Variable Message Signs to be located west of Daydream Mine Road/Silverton Rd intersection and east of the proposed bypass road intersection with Silverton Rd
- Previous amendments to the TMP are shown below:
  - Alternate (Western) Access Route will only be used for emergencies and/or unavoidable (primary access via Daydream Mine Rd)
  - Use of the Western Access Route would require a separate special permit with RMS and require consultation with the Silverton Village Committee and the CCC.

APPENDIX 7  
HEAVY AND OVER-DIMENSIONAL VEHICLE ROUTES



# 3. Project update

## Wind Farm Works



### Local Industry Participation

- Currently ~120 construction workers with approximately 30% from the local area.
- Increase in workers with the arrival of specialist crews for 33kV trenching and main crane.
- High involvement of local suppliers.

### 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
  - Avis
  - Barrier Daily Truth
  - Boss Construction
  - Broken Hill Hire & Engineering Services
  - Broken Hill Mini Excavators
  - Broken Hill Nissan
  - Broken Hill Skip Bins
  - Cresswell Drilling
  - Globe Timber Mills & Joinery
  - Goodyear Autocare
  - Hertz
  - Interhealth Broken Hill
  - 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
  - Solcon Trading
  - SouthState Industrial Supplies
  - Tasco Petroleum

# 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: 38/58 (~66%)
  - Hubs manufactured: 38/58 (~66%)
- Towers
  - Manufactured in Vietnam
  - Sections fabricated and painted: 290/290 (100%)
  - Second shipment mid-December 2017
- Blades
  - Manufactured in Spain
  - Blade sets manufactured: 52/58 (~90%)
  - Second shipment for January 2018

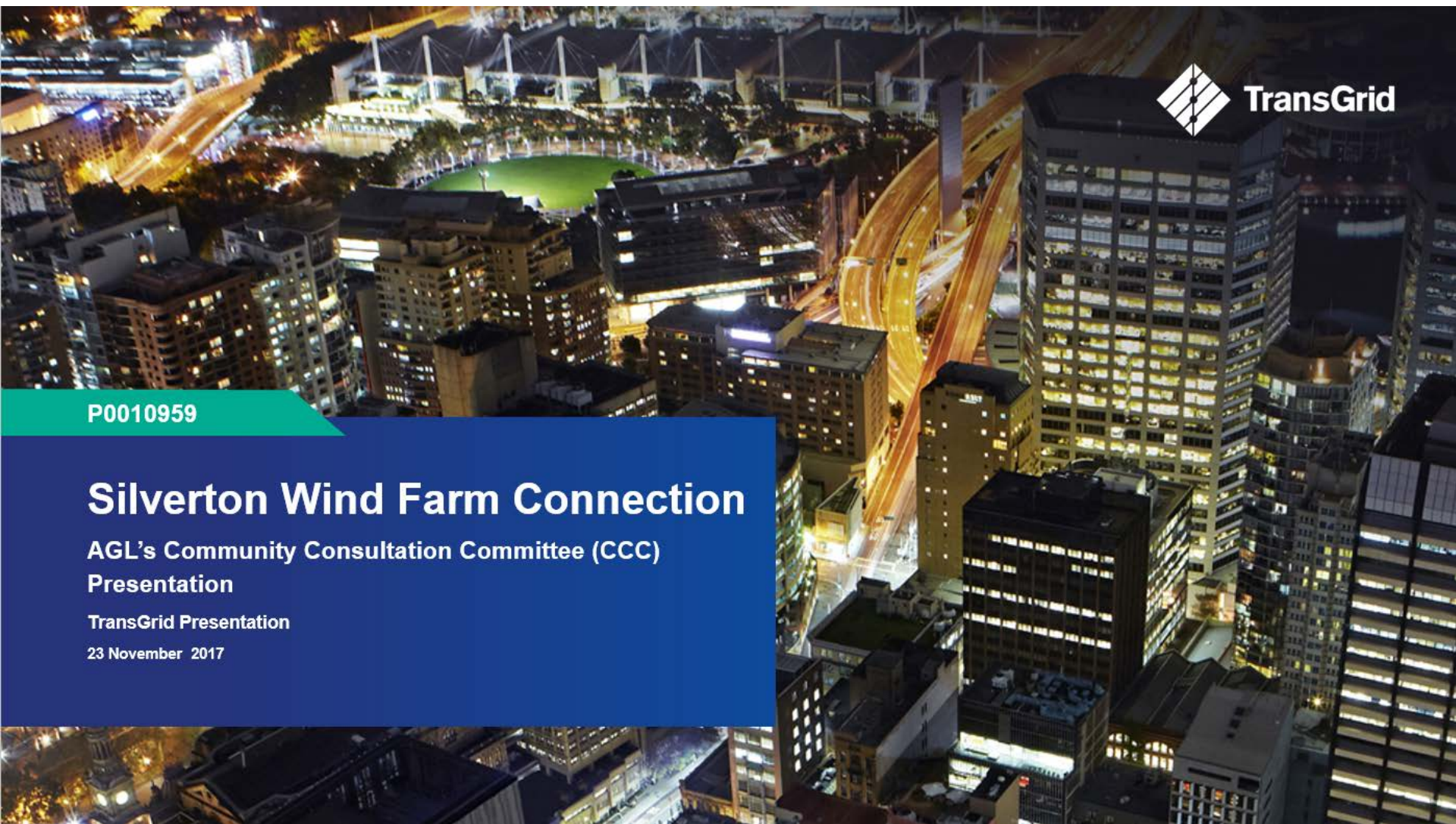


# 3. Project update

Connection Works



## TransGrid presentation



P0010959

## Silverton Wind Farm Connection

AGL's Community Consultation Committee (CCC)  
Presentation

TransGrid Presentation

23 November 2017

# 3. Project update

## Connection Works



- TransGrid's scope of works include the following:
  - Switchbay at existing Broken Hill Substation
  - 25km 220kV Transmission Line
  - 220/33kV Silverton Substation
- TransGrid has engaged the following contractors:
  - Consolidated Power Projects (CPP)
  - NJ Constructions (Line works)
  - Multiworks (Civil Works)





# 3. Project update

## Connection Works



### Existing Broken Hill 220kV Substation

- Current Works:
  - New Switchbay constructed
  - Commissioning commenced
- Works Ahead:
  - Energise new Switchbay
  - Protection and control panel modifications



Works at existing Broken Hill 220kV Substation

# 3. Project update

## Connection Works

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**Works at existing Broken Hill 220kV Substation**

# 3. Project update

## Connection Works



### 220kV Transmission Line

- Current Works:
  - Blasting of footings complete
  - Pouring concrete footings 50%
  - Delivering and standing poles
- Works Ahead:
  - Pouring footings
  - Standing poles
  - Stringing conductor



# 3. Project update

## Connection Works

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**Works along new transmission line**

# 3. Project update

## Connection Works



### 220kV Wind Farm Substation

- Current Works:
  - Transformer bund completed
  - Secondary System Building (SSB) delivered
  - HV equipment erected
- Works Ahead:
  - Transformer delivery
  - SSB fit out
  - HV conductor connections
  - Secondary cabling
  - Commissioning



Works at new Silverton Substation

# 3. Project update

## Connection Works

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# 3. Stakeholder Feedback Welcomed

## Connection Works

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- We are excited to support AGL in delivering this great project and committed to do so in a manner that minimises landowner and community disruption and inconvenience.
- To ensure we are able to address your concerns for the project - we welcome your feedback.
- If you would like to provide feedback or require further information – please visit <https://www.transgrid.com.au> or Freecall 1800 222 537



## 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
- Mobile reception program
  - Contribute up to \$50,000 for mobile reception improvement works



# 4. Community relations update

## Community enhancement program



### Solar Silvertown Program

- AGL has completed preliminary consultation with Silvertown residents
  - Apr-May 2017
- AGL Solar engaged with local accredited installers
  - AGL discussed commercial matters and timing with our preferred local accredited installer.
  - Current work load in Broken Hill presenting timing challenge for completion of the Solar Silvertown Program
- AGL Solar is currently liaising with an existing accredited contractor for property inspections to commence in December 2017, which will involve
  - Structural → condition of roof
  - Hazardous materials → No asbestos
  - Electrical → condition of switchboard



# 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
  - The Australian Government is improving mobile phone coverage and competition in regional and remote Australia through the Mobile Black Spot Program.
  - Silvertown 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
  - Silvertown 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)



Australian Government

Department of Communications and the Arts



# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- AGL worked with Telstra to investigate the potential for a Macro Mobile Base Station
  - Theoretical site was selected reasonably close to Silvertown for access to power and fibre.
  - Exact location would be subject to land owner approval
- The theoretical Macro Mobile Base Station (similar to Thackaringa) has not been modelled to confirm that coverage would extend out to Eldee Station
- Budgetary estimate for the Macro Mobile Base Station is ~\$1.2-1.5m (excl GST)



# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- AGL is planning to progress 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

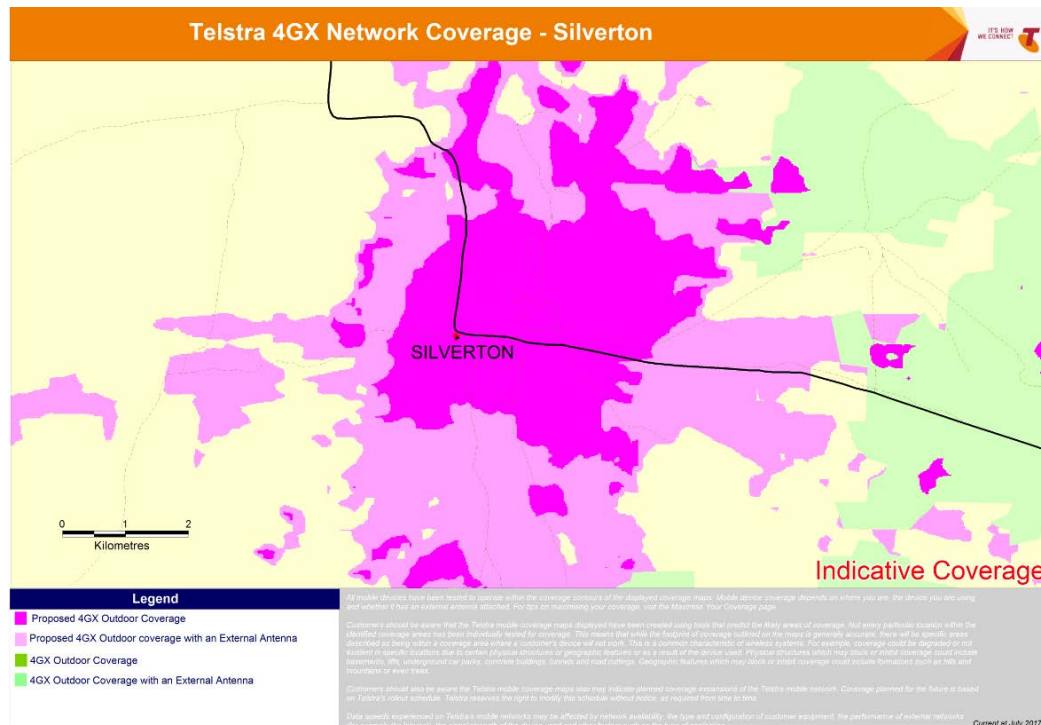
# 4. Community relations update

## Community enhancement program



### Mobile Reception Program

- The coverage predications below provide an 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 improved 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.



- Breast Cancer Pink Shirt Day
- Visual impact assessment

5. Topics of interest

# 5. Topics of interest

## Breast Cancer Pink Shirt Day



### “Wind Farm crew big fans of cancer support group”

- GE-CATCON hosted a successful BBQ Breakfast on Friday, 20 October 2017 at the Silverton Wind Farm, raising over \$15,000 for Breast Cancer
- The Silverton community were a great support to this event, including the donation of items for the auction.



Members of the Broken Hill Breast cancer Support Group, Thelia Burford, Mary Ryan, Julie Garner and Leann Clogg with Site Manager of the Silverton Windfarm, Dave Simmonds at yesterday's breast cancer breakfast.  
PICTURE: Daniel Stringer



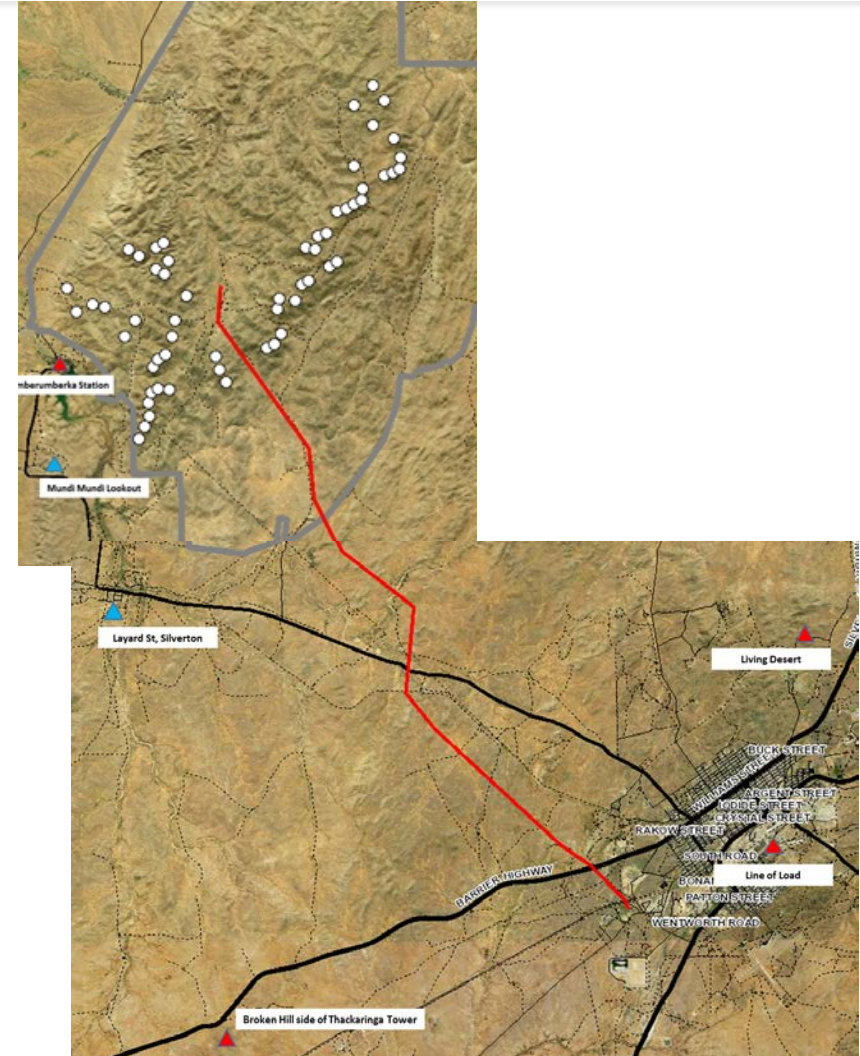
# 5. Topics of interest

## 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
  - Tuesday, 23 January 2017
  - Time: 3-5pm
  - Silverton Municipal Chambers, Silverton



Next meeting

## Contact

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AGL Energy

Silverton Wind Farm

1800-039-600

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