

Silverton Wind Farm

Community Consultative Committee
Meeting No.CCC-027

Tuesday, 22 March 2018



Agenda

1

Welcome

2

Previous
minutes

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Project update

- Overview
- Wind Farm Works
- Connection Works

4

Community
relations
update

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Topics of interest

- Rubbish removal
- Wilangee Road

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
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
4.24.06	AGL to meet with Helen Murray to discuss visual mitigation measures (landscaping).	Open	AGL – 1/18
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
2.26.04	AGL to ensure skip bin contractor covers all loads	Open	AGL – 3/18
3.26.19	AGL to talk about power curves at the March 2018 CCC meeting	Open	AGL – 3/18
3.26.21	AGL to share the thickness of the turbine towers with the CCC at the March 2018 meeting	Open	AGL – 3/18
3.26.24	AGL to liaise with C Langford in relation to a fence on Purnamoota and whether the fence associated with the track will be removed	Open	AGL – 3/18

2. Previous minutes

Action items



Item	Action	Status	Who
3.26.25	AGL will continue to liaise with Telstra to avoid any impacts to N Schmidt's tower	Open	AGL – 3/18
4.26.01	AGL to confirm volunteers for the Community Fund assessment committee	Open	AGL – 3/18
4.26.02	AGL to place advertisement in the local newspaper on the Community Fund	Open	AGL – 3/18
4.25.06	AGL to notify the CCC if there are any deliveries around Easter or St Patrick's Day	Open	AGL – 3/18

- 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

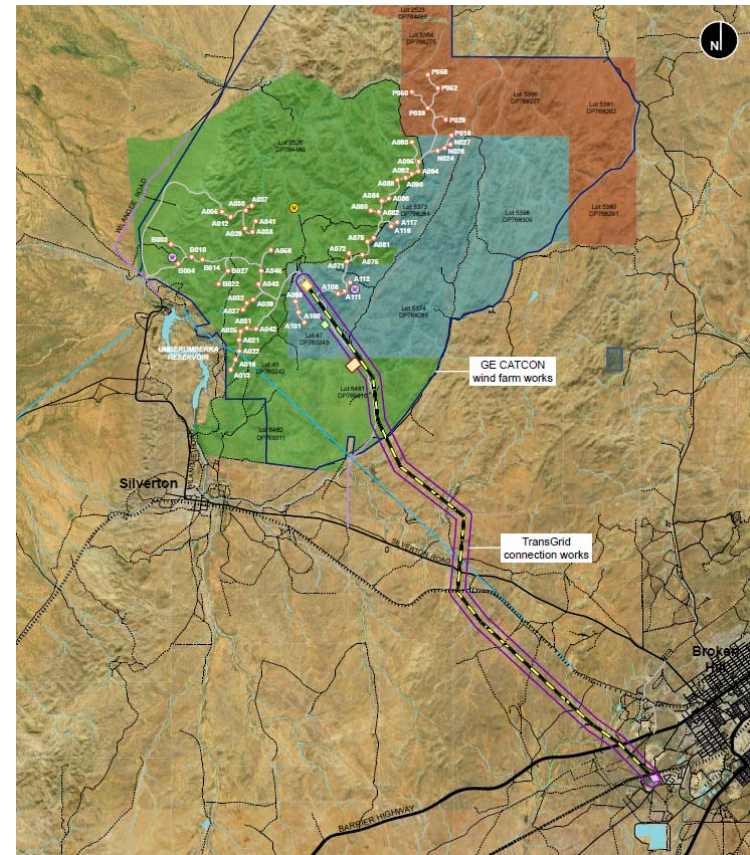
Silverton Wind Farm



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>



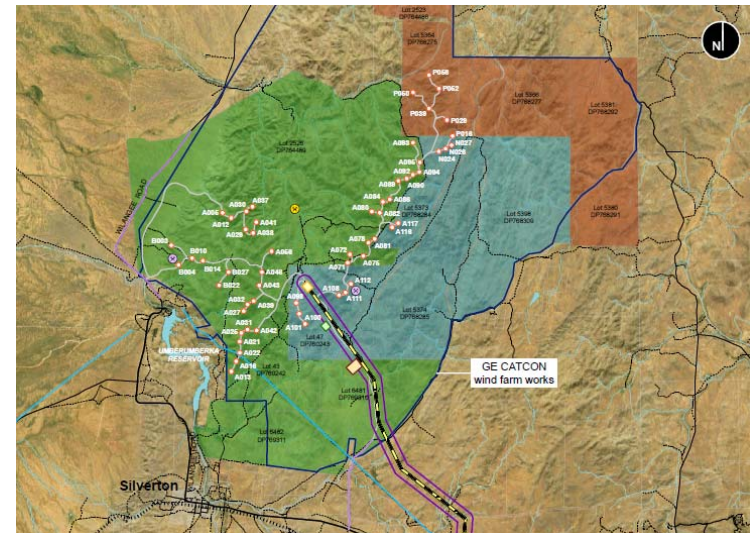
3. Project update

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)
 - Commenced string of 33kV overhead line
 - Energisation of 33kV switchyard
 - 7 x wind turbines erected
- Construction work hours
 - Out of hours work continuing for wind turbine erection and crane relocation in accordance with the project approval where noise does not impact neighbouring residents.



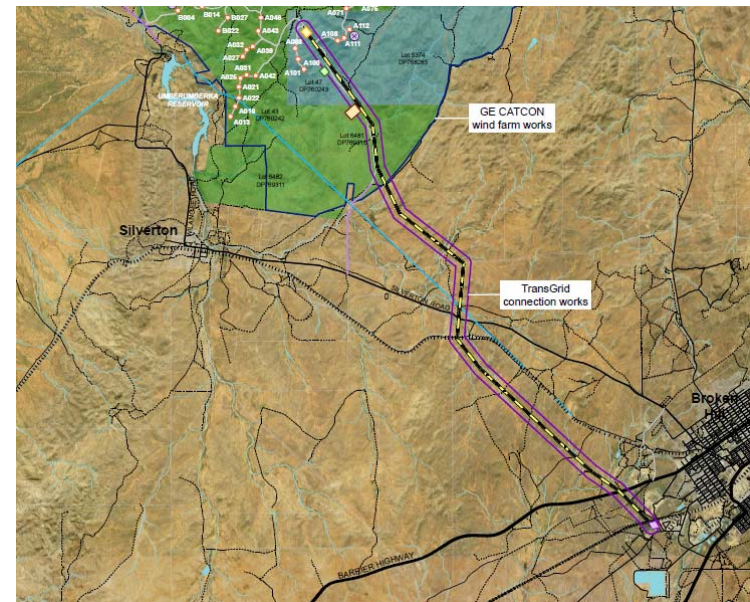
3. Project update

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)
 - Connection Works completed, and successfully energised the:
 - Connection Point
 - 220kV transmission line
 - Wind Farm 220kV substation



3. Project update

Wind Farm Works



Construction works

- Civil works progress:
 - Access road clearance: 66/68km (~97%)
 - Access road capping: 53/68km (~78%)
- Structural works progress:
 - WTG foundations excavated: 53/58 (~91%)
 - WTG foundations poured: 50/58 (~86%)
- Electrical works progress:
 - 33kV collector cable (U/G): 11/32km (~36%)
 - 33kV OHL poles: 16/56 (~29%)
- Wind turbines progress:
 - Down tower assembly installed: 13/58 (~22%)
 - WTG erection complete: 7/58 (~12%)



3. Project update

Wind Farm Works



Construction works – Progress photos



3. Project update

Wind Farm Works



Erection of Wind Turbines

- Two main cranes are currently being used for the erection of wind turbines. These cranes have been certified and registered with SafeWork NSW.
 - LR1450 (450 tonne crane)
 - LR1650 (650 tonne crane)
- GE-CATCON is currently sourcing a second main crane
 - LR1750 (750 tonne crane)



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 Silverton contacts

- WF Procurement: silvertonwf@catcon.com.au
- WF Employment: 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

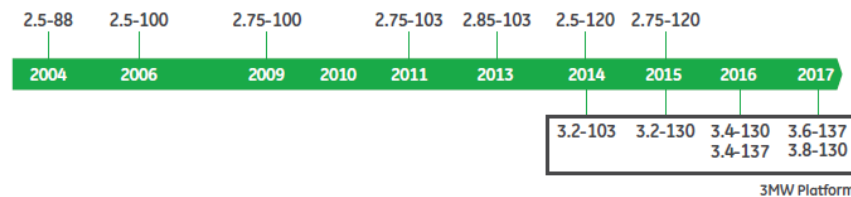


Wind Turbine GE 3.43-130

- Type Wind Turbine is installed in Wieringermeer, Holland (shown in photo).
- Nameplate of 3.43 MW with a 130m rotor and hub height of 110m
- The 3MW platform machines are an evolution of the 2.5MW turbine, developed in 2004.
- The GE 3.4-130 has up to 30% higher Annual Energy Production (AEP), compared to its predecessor the 3.2-103.

Building Upon Proven Technology

Model introduction in Europe



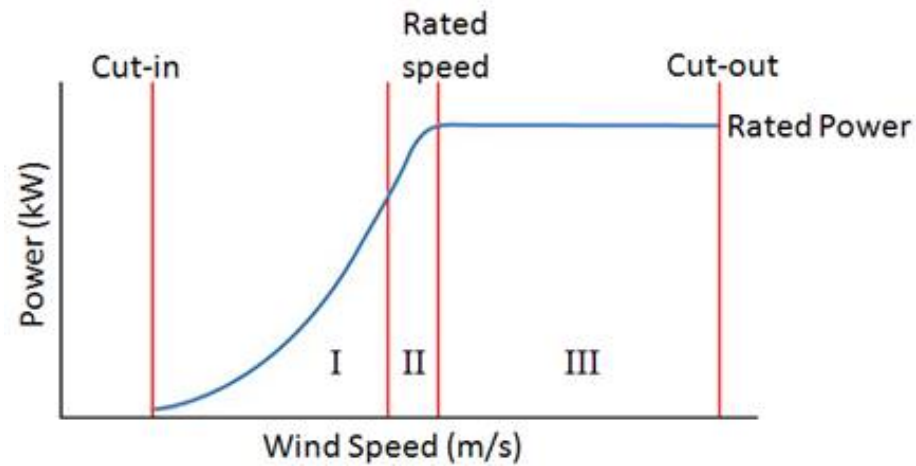
3. Project update

Wind Farm Works



Wind Turbine GE 3.43-130

- GE 3.43-130 Power Curve
 - Cut in wind speed – 3 m/s
 - Rated wind speed – 12 m/s
 - Cut out wind speed – 25 m/s



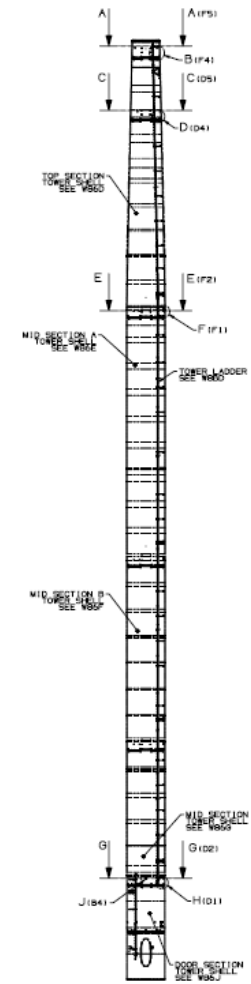
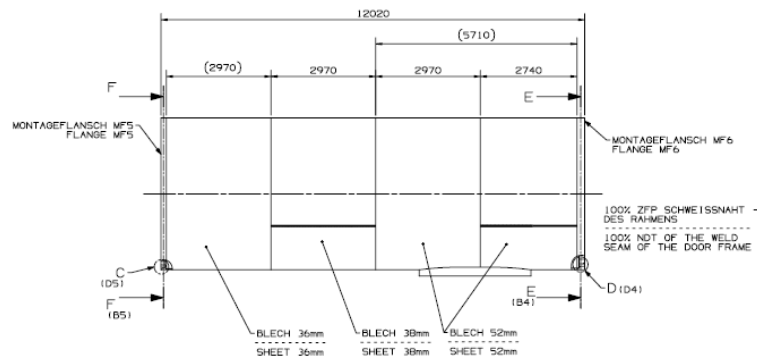
3. Project update

Wind Farm Works



Wind Turbine GE 3.43-130

- Wind turbine hub height of 110m
- Tower height ~108m
 - Top section (~30m)
 - Mid section A (~28m)
 - Mid section B (~21m)
 - Mid section C (~15m)
 - Door section (~12m)
 - Foundation elevation (~2m)
- Tower thickness is ~52mm at the bottom tapering



3. Project update

Wind Farm Works



Wind Turbine Deliveries

- Delivery of wind turbine components are both oversized and/or overmass
 - Restricted Access Vehicles (RAV) require special operating permits
- Components requiring police escort
 - Tower mid section A
 - Tower top section
 - Blades
- Components requiring pilot escort
 - Tower mid section B
 - Tower mid section C
 - Tower door section
 - Nacelle and Hub
- Two pull over bays construction along Silverton Road ~5km apart to provide an opportunity for passing (subject to safety considerations)
- Deliveries expected until mid-2018



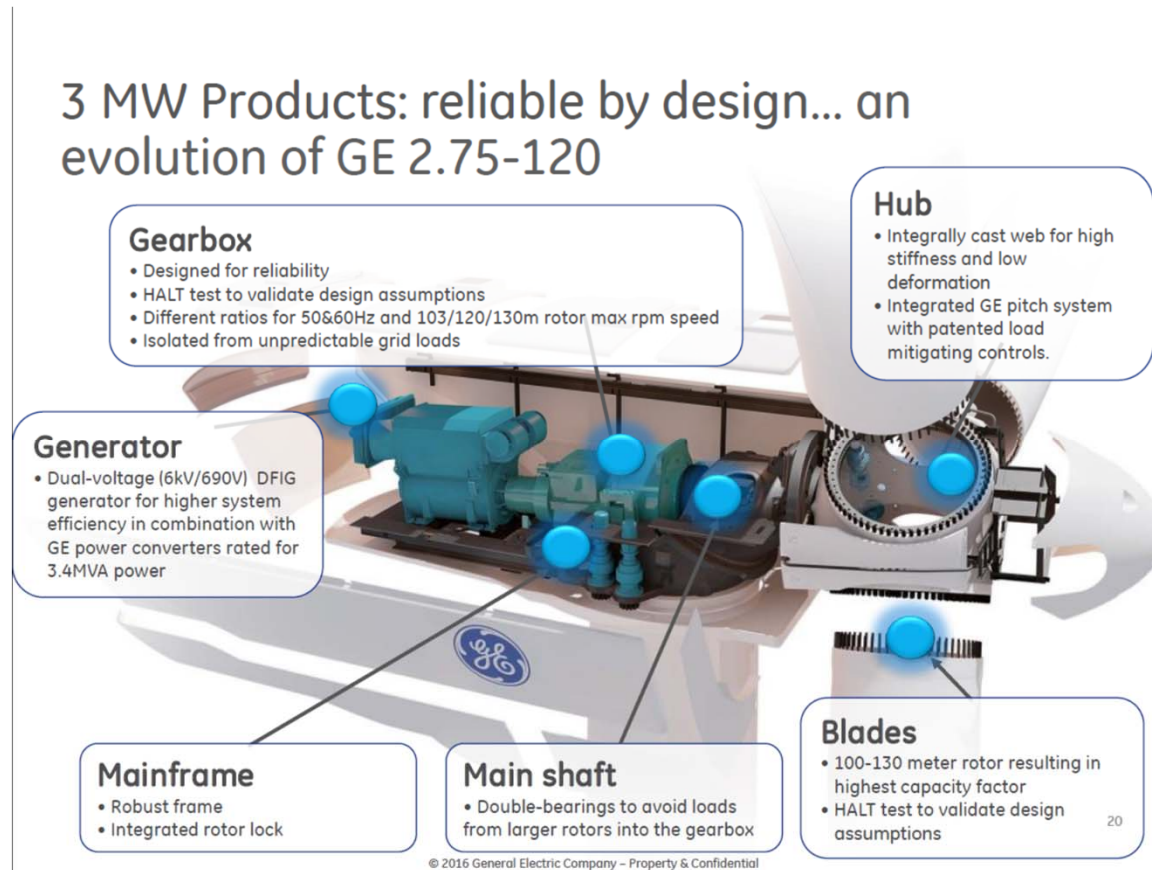
3. Project update

Wind Farm Works



Wind Turbine GE 3.43-130

- Inside the GE 3.43-130 wind turbine



3. Project update

Connection Works



Practical Completion

- TransGrid has complete the connection works
 - Existing Broken Hill 220kV substation (connection point)
 - 220kV transmission line
 - Wind farm 220kV substation
- Connection works were successful energised on 23 Feb 2018.
- TransGrid’s Project Director summed up the milestone well:
 - **“It has been a challenging job but a great effort by a lot of people”**



3. Project update

Connection Works





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



Silverton Community Fund

- Applications will be accepted from 5 April to 3 May 2018
- Advertisements will appear in the Barrier Daily Truth from next week calling for applications
- Guidelines outlining eligibility criteria will be available on our website and will be sent to the CCC
- Applications will be shortlisted and applicants will be invited to the next CCC meeting to talk about their proposal
- AGL will gather feedback from the CCC on the presentations and will assess and determine successful applicants



Silverton Wind Farm Local Community Investment Program

AGL began construction on the Silverton wind farm in May 2017. Located in the Barrier Ranges of NSW, the 200 MW wind farm will produce about 780,000 MWh of renewable energy annually, which can power more than 137,000 average Australian homes.

As a local employer and operator, AGL is committed to making a sustainable and positive contribution within the local community.

The Silverton Wind Farm Local Community Investment Program invests funds back into the community by way of financial support for community based initiatives, projects and events.

The Program aims to:

- Deliver community wide benefits
- Encourage innovation in and support for issues of community significance
- Support the work of community organisations

The Local Community Investment Program is run annually and awards funding for community initiatives in and around Silverton of up to \$5,000. Applications for funding will be assessed by AGL with input from the Silverton Community Consultative Committee.

When can I apply?

Applications can be made between 9am Thursday 5 April and 5pm Thursday 3 May 2018.

How to apply?

Step 1: Visit agl.com.au/STWFCommunity and download the Silverton Wind Farm Local Community Investment Program guidelines and application form.

Step 2: Submit your application by 5pm 3 May 2018.

Step 3: AGL will contact you regarding the outcome of your application.

For more information, contact the Community Relations Manager via AGLCommunity@agl.com.au or call AGL's 24-hour complaints and enquiries line on 1800 039 600.

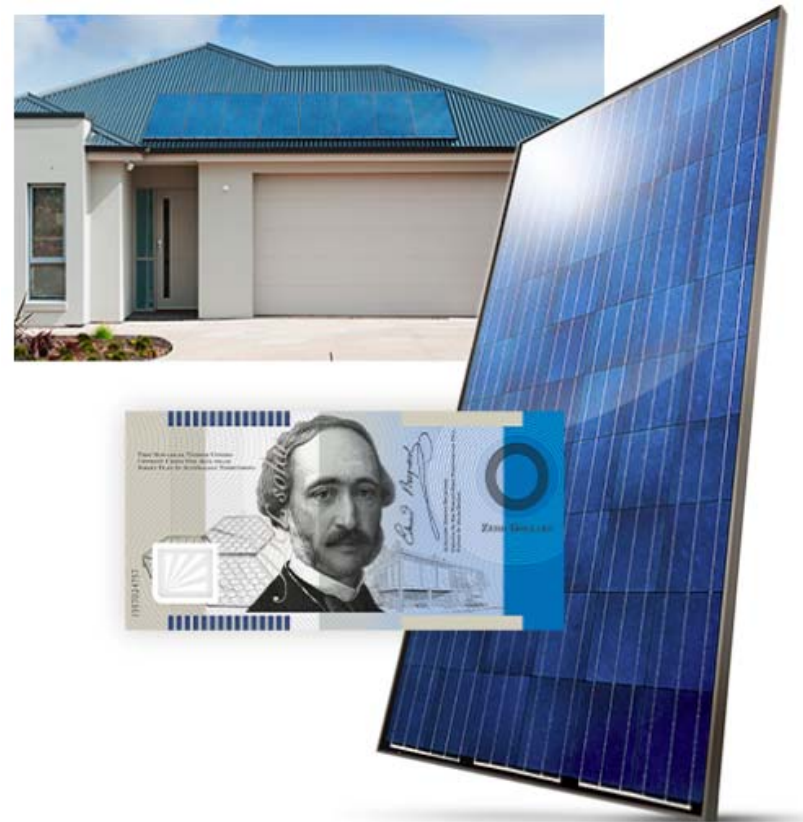
4. Community relations update

Community enhancement program



Silverton Solar Program

- AGL expects to start installation of solar panels by mid-April 2018
- AGL is contacting members of the community to discuss what work may be required on their properties before installations begin
- Properties that are 'Solar ready' (requiring little- to-no extra work on their properties for solar panel installation) will be prioritised
- AGL will work with property owners whose properties require moderate to major work to time installations and manage any issues



4. Community relations update

Community enhancement program



Water Tank Program

- AGL has progressed quotes for water tanks with potential supplier and installers (plumbers)
- AGL has spoken to water tank suppliers and determined that a 10,000L tank is the most appropriate size for the region
- 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
- AGL expects to begin inspections in May 2018



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
- Connecting Country Communities
 - <https://www.nsw.gov.au/improving-nsw/regional-nsw/regional-growth-fund/>
 - 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
- Telstra has provided a proposal and AGL liaise with NSW Crown in relation to approval



Proposed 4G small cell location



A typical 20m monopole with an omni antenna configuration

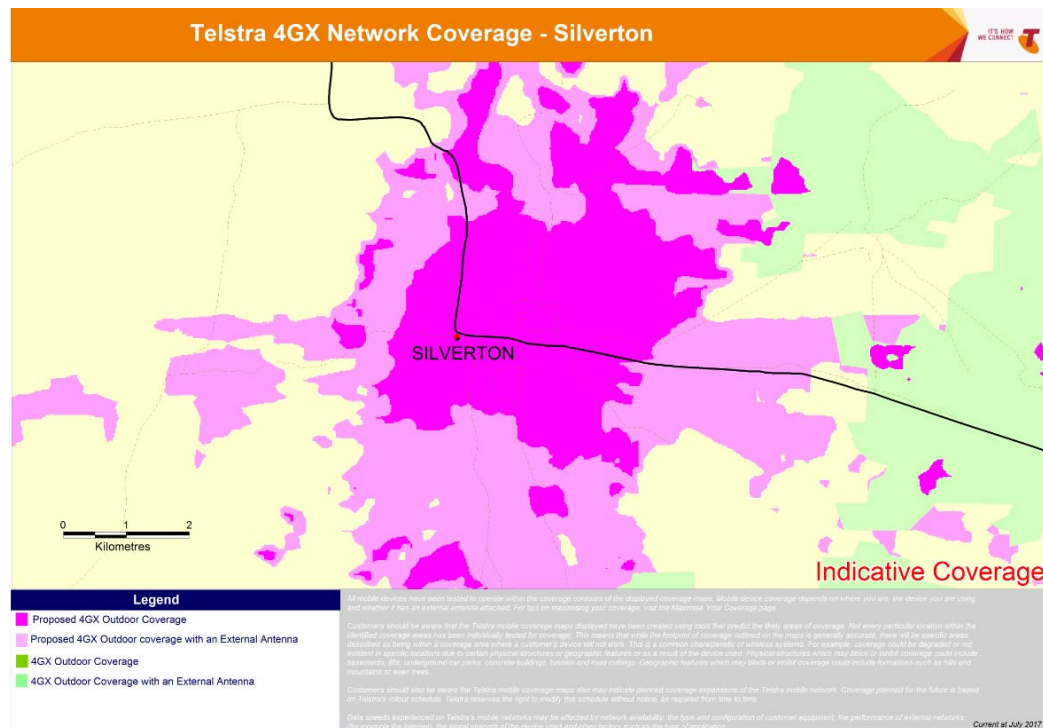
4. Community relations update

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
- 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.



- Rubbish Removal
- Wilangee Road



5. Topics of interest

5. Topics of interest

Wind Farm Works and Silverton Road



Rubbish removal

- Broken Hill Skip Bins provide removal of waste services from the Silverton Wind Farm
 - All loads are secured and covered before leaving site
- Community engagement
 - Our vision is for AGL to be a trusted and respected member of the communities in which we operate.
 - AGL engaged a local contractor to undertake rubbish removal along Silverton Road to the intersection with Daydream Mine Road
 - Approx 80-90 rubbish bags collected (predominantly old food packaging)



5. Topics of interest

Wilangee Road



Wind Farm Emergency Access

- The emergency access from the Silverton Wind Farm intersects with Wilangee Road on the western boundary of the wind farm.
- Access for construction of this emergency access was internal to the wind farm.
- RMS installed advisory signage (pre-construction) notes “rough surface – reduce speed”
- We believe that RMS is planning to conduct maintenance works before Easter



5. Topics of interest

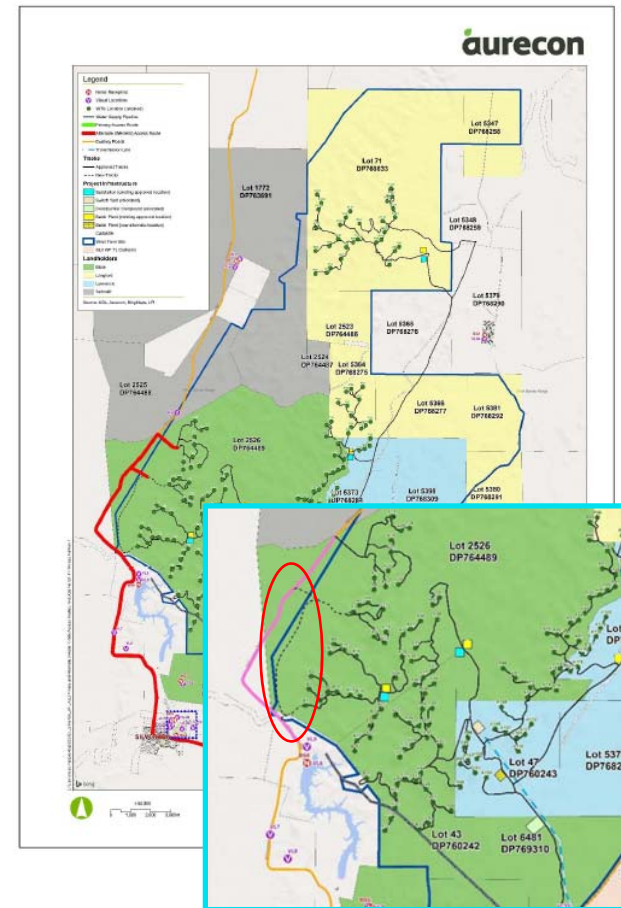
Heavy and over-dimensional vehicle routes

Primary Access Route

- The Silverton Wind Farm is accessed via Daydream Mine Road.
- Wind Farm emergency access intersects with Wilangee Road.
- An internal site access road has been construction along the “flat country” on the western edge of the wind farm in accordance with the project approval.
- Construction and operational personnel will be able to access all the wind turbines without using Wilangee Road.



APPENDIX 7
HEAVY AND OVER-DIMENSIONAL VEHICLE ROUTES



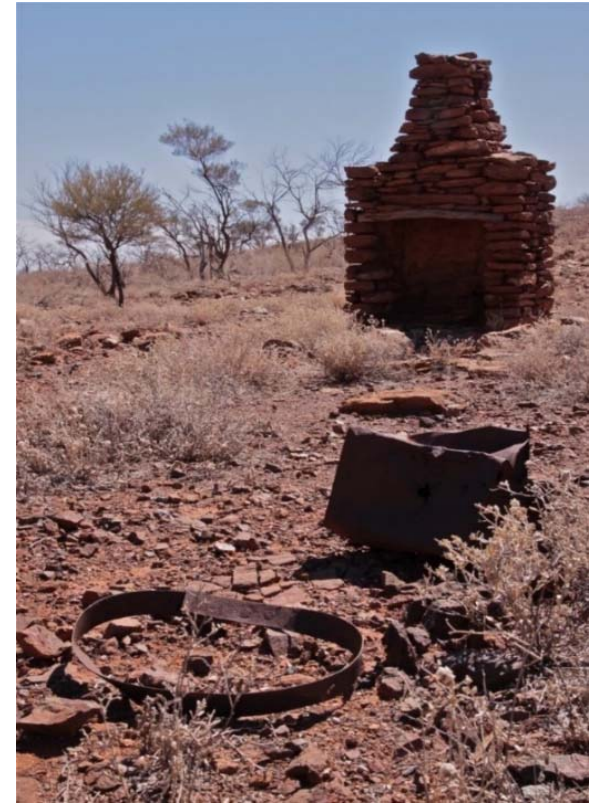


6. Other business

Silverton Wind Farm

Community Consultative Committee (CCC)

- Next meeting (TBC)
 - Thursday, 24 May 2018
 - Time: 3-5pm
 - Silverton Municipal Chambers, Silverton



Next meeting

Contact

AGL Energy
Silverton Wind Farm
1800-039-600

AGLcommunity@agl.com.au