

Silverton Wind Farm

**Community Consultative Committee
Meeting No.CCC-021**

Presented by
AGL Energy Limited

Date
Thursday, 30 March 2017



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
- Mobile reception program

6

Other business

7

Next meeting

2. Previous minutes

Action items

Item	Action	Status	Who
4.20.03	AGL invited community representatives to be involved in developing a draft plan for the Silverton Community Fund.	Open	KL – 4/17
4.20.07	AGL to advertise further details on the industry briefing which will be held on Tuesday, 31 Jan 2017.	Closed	KL – 1/17
4.20.09	AGL to include discussion on timing of CCC meetings in March 2017 meeting.	Open	KL – 3/17
5.19.01	AGL to arrange site tour for interested Silverton community members and Broken Hill City Council.	Open	KL – 3/17
5.20.03	AGL is continuing to seek information from the horse stud farm and riding centre which has the Delabole Wind Farm operating on its land.	Open	AGL – 3/17
5.20.04	AGL to report on progress of the photomontage.	Open	AGL – 3/17
6.20.05	AGL to contact CMC to understand their works program for sand mining of the Silverton Creek	Open	AGM – 3/17

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



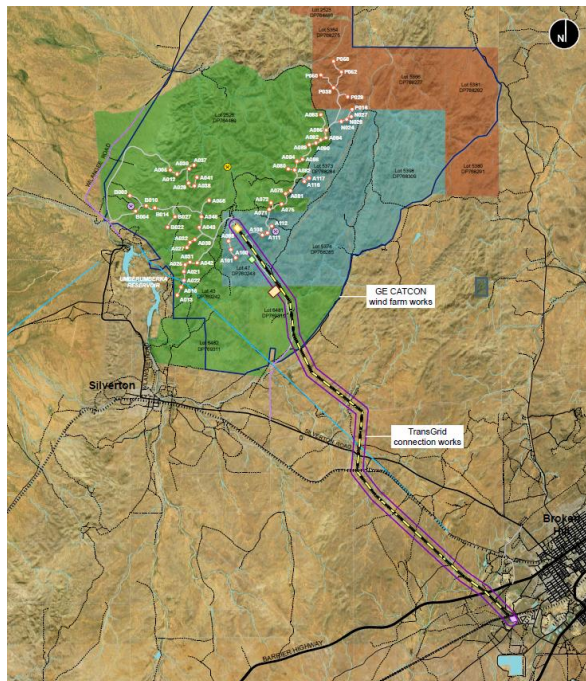
3. Project update

Silverton Wind Farm

Scope of Works

- › The Silverton Wind Farm consists of two main scopes 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>

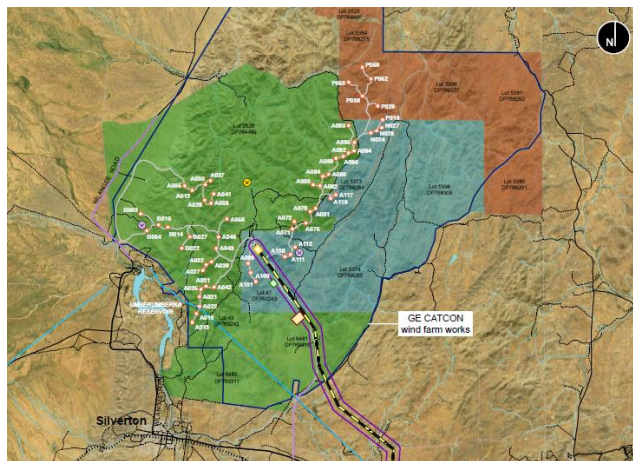


3. Project update

Silverton Wind Farm

Wind Farm Works

- › GE-CATCON (joint venture) has been engaged to deliver the wind farm works
 - › Engineer, Procure and Construct (EPC) Contract
- › Scope of works, includes:
 - › 58 x GE 3.43-130 wind turbines
 - › 33kV electrical reticulation (underground and overhead) and 33kV switchroom
 - › Roads and O&M buildings
- › Pre-construction minor works are planned to commence in early April 2017

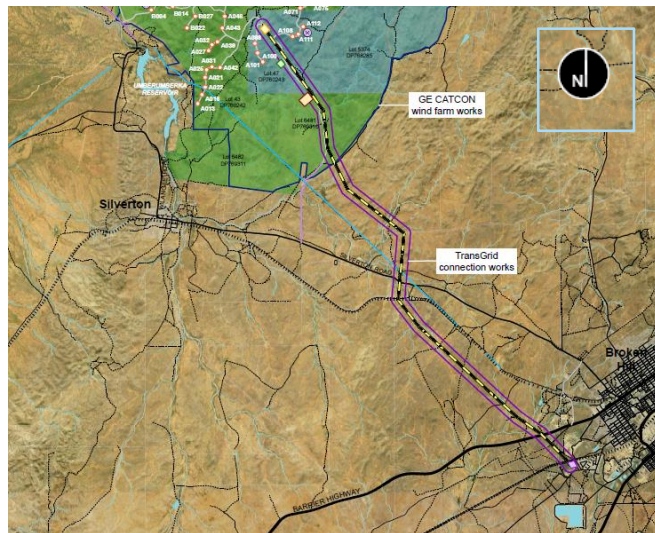


3. Project update

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)



3. Project update

Silverton Wind Farm

Industry Briefing

- > AGL together with GE-CATCON conducted an industry briefing on Tuesday, 31 January 2017 at Silverton and Broken Hill
 - » Both sessions were well attended by local industry and people interested in employment
- > Contractor will be developing a local industry participation plan
- > 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

Pre-construction minor works

- > GE-CATCON is planning to mobilise early next week to commence the pre-construction minor works
- > The project approval defines the pre-construction minor works:
 - » investigative drilling, excavation or salvage;
 - » minor clearing or translocation of native vegetation;
 - » establishing temporary site office;
 - » installation of environmental impact mitigation measures, fencing, enabling works; and
 - » minor access roads and minor adjustments to services/utilities, etc.



3. Project update

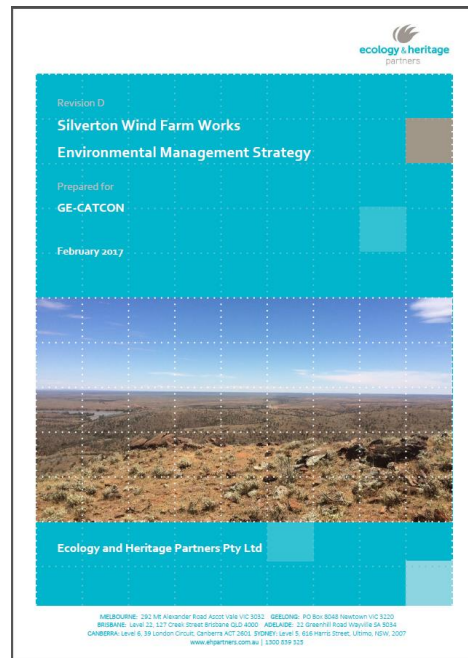
Wind Farm Works

Wind Farm Environmental Management Strategy

- › GE-CATCON has developed in accordance with condition 1 (schedule 4) of the project approval, including:
 - › Biodiversity Management Plan
 - › Heritage Management Plan
 - › Traffic Management Plan

The Wind Farm Environmental Management Strategy (WEMS) has been submitted to the Department of Planning and Environment (DPE) for their review.

This WEMS must be approved by the Secretary prior to the commencement of construction of the respective stage.







3. Project update

Wind Farm Works

Road Upgrade and Maintenance Strategy

- › GE-CATCON has developed in accordance with condition 24 (schedule 3) of the project approval:
 - ›› Silverton Road upgrade
 - ›› Silverton Road / Daydream Mine Road intersection
 - ›› Daydream Mine Road upgrade
 - ›› Daydream Mine Road / Site Access intersection
 - ›› Short bypass (improvement to project approval)
- › Issued to the Roads and Maritime Services (RMS) for their review



ROAD UPGRADE AND MAINTENANCE STRATEGY

Project Name:	Silverton Wind Farm
Level B1 Doc No.:	B1-2-5

CURRENT REVISION		
Revision	Reason for Revisions:	Date of Revision
C	For Review	
Prepared by:	C. Patterson	17.03.17
Reviewed by:	P. Busolin	21.03.17
Approved by:		

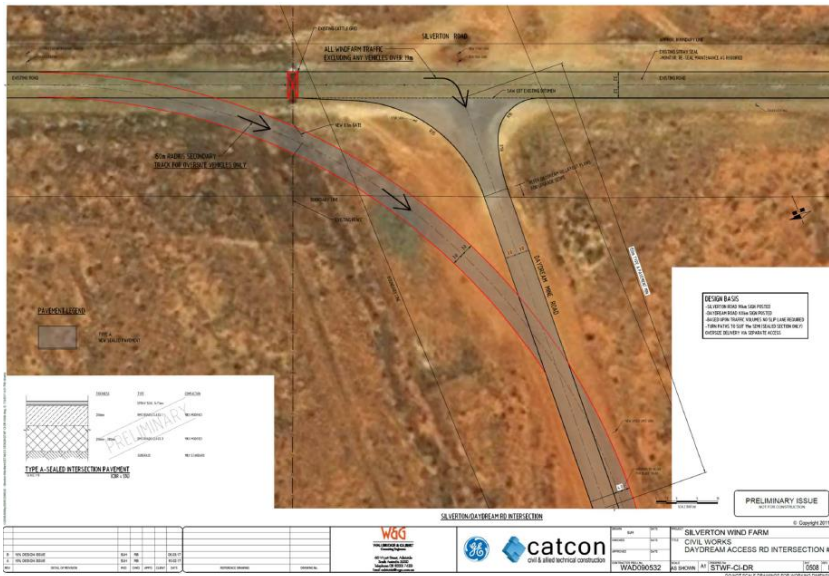
Doc No: B1-2-5	Rev: C	Rev Date: 17.03.17	Authorised by: Project Manager	Page 1 of 22
© 2017 Energy in Action. All rights reserved. This document is the property of Energy in Action. It is not to be distributed outside of Energy in Action. It is not to be used for any other purpose. It is not to be reproduced without the prior written consent of Energy in Action. It is not to be used for any other purpose. It is not to be reproduced without the prior written consent of Energy in Action.				

3. Project update

Wind Farm Works

Road Upgrade and Maintenance Strategy

- > Silverton Rd / Daydream Mine Road intersection

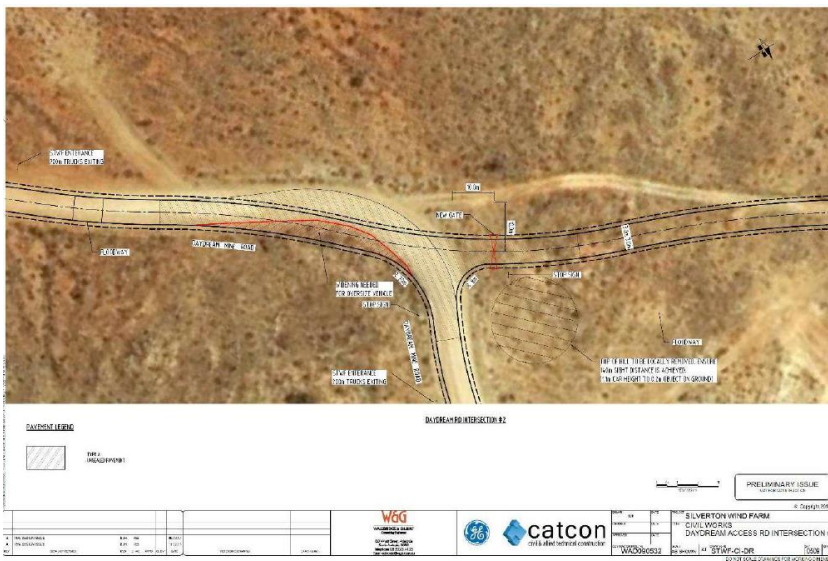


3. Project update

Wind Farm Works

Road Upgrade and Maintenance Strategy

- > Daydream Mine Road / Site Access intersection

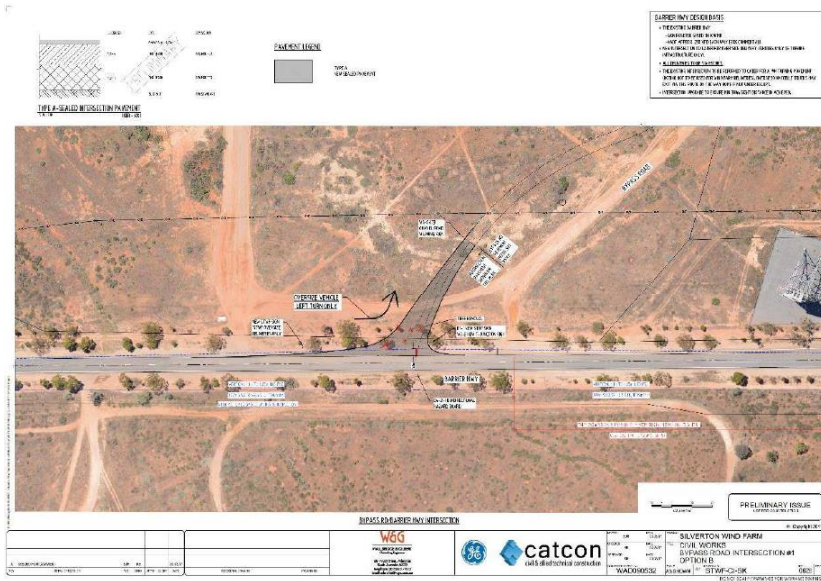


3. Project update

Wind Farm Works

Road Upgrade and Maintenance Strategy

- > Short bypass (Barrier Hwy intersection) – Option B

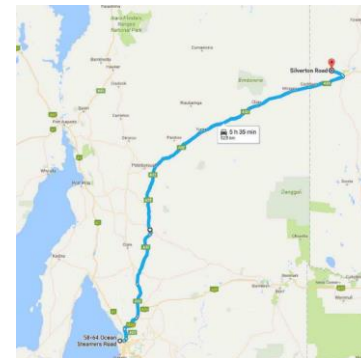
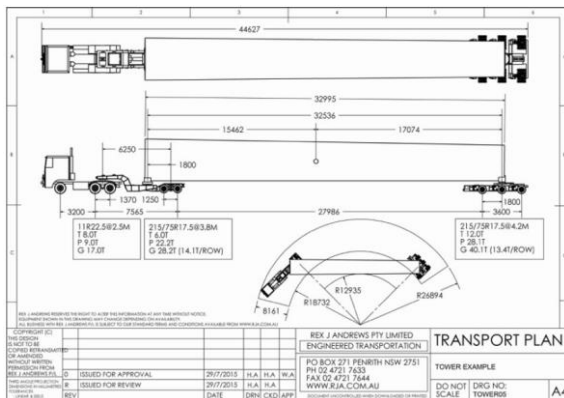
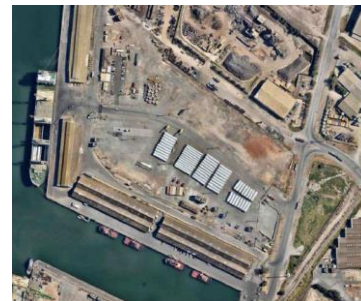


3. Project update

Wind Farm Works

Traffic Management Plan (TMP)

- GE-CATCON has developed in accordance with condition 27 (schedule 3) of the project approval.
- TMP includes a route assessment study from Port Adelaide to site
- Issued to the Roads and Maritime Services (RMS) for their review

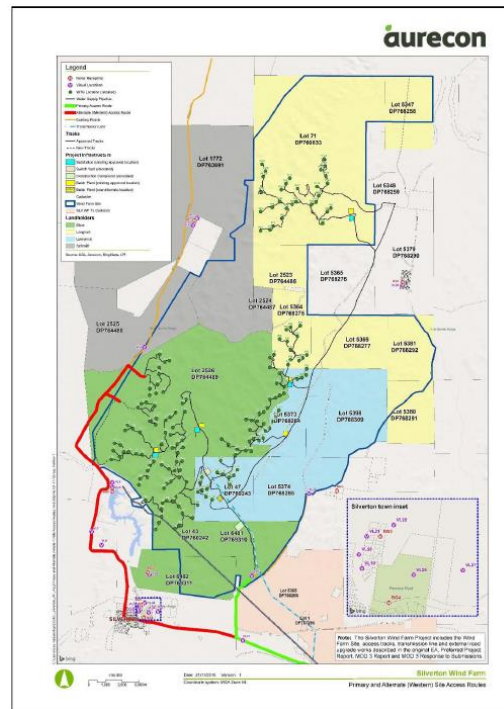


3. Project update

Wind Farm Works

Traffic Management Plan (TMP)

- › Heavy and over dimensional vehicle routes
 - › Appendix 7 of the project approval
- › Site access is off Daydream Mine Road.
- › Primary access is via the site access (shown in green)
- › Construction will involve the delivery of components which are oversized and/or overmass → Restricted Access Vehicles (RAV) will require special operating permits
 - › Overmass is > 49.5 tonne
 - › Oversize is > 25m long, 3.5m wide and 4.6m high

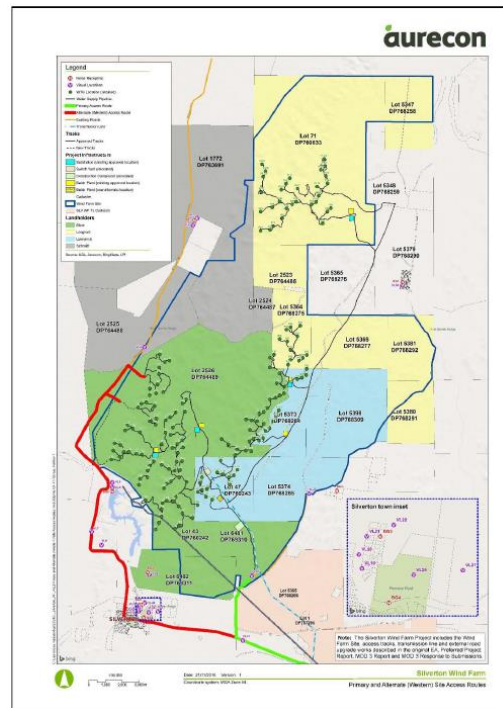


3. Project update

Wind Farm Works

Traffic Management Plan (TMP)

- › Heavy and over dimensional vehicle routes
 - › Appendix 7 of the project approval
- › Site access is off Daydream Mine Road.
- › Primary access is via the site access (shown in green)
- › Construction will involve the delivery of components which are oversized and/or overmass → Restricted Access Vehicles (RAV) will require special operating permits
 - › Overmass is > 49.5 tonne
 - › Oversize is > 25m long, 3.5m wide and 4.6m high



3. Project update

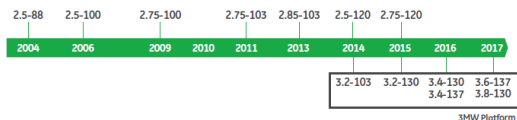
Wind Farm Works

Type 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

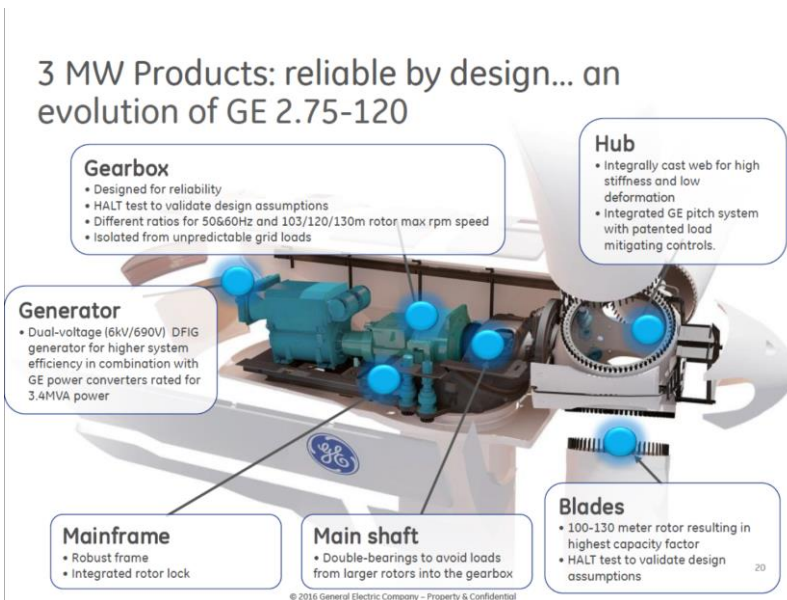


3. Project update

Wind Farm Works

Wind turbine GE 3.43-130

> Inside the GE 3.43-130 wind turbine



3. Project update

Connection Works

Existing 220kV Substation

- › The Point of Connection (POC) for the Silverton Wind Farm will be in TransGrid's existing 220kV substation in Broken Hill.
- › The scope of works includes:
 - › Foundations for electrical equipment / bay
 - › 220kV circuit breaker
 - › Gantry for 220kV overhead line connection
 - › Revenue and check metering



3. Project update

Connection Works

220kV Transmission Line

- › The Silverton Wind Farm is connected to the National Electricity Market (NEM) via the ~25km of 220kV transmission line to the Point of Connection (POC).
- › The scope of works includes:
 - › Single galvanized steel poles
 - › Conductor and OPGW
 - › Insulators



3. Project update

Connection Works

220kV Wind Farm Substation

- > The Silverton Wind Farm is transformed to the 220kV network voltage via the 220kV wind farm substation.
- > The scope of works includes:
 - » Bunded foundation
 - » 220/33kV power transformer
 - » Control / auxiliary services building

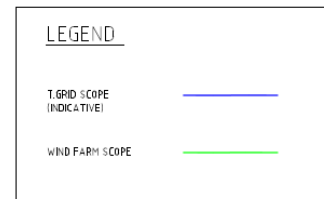
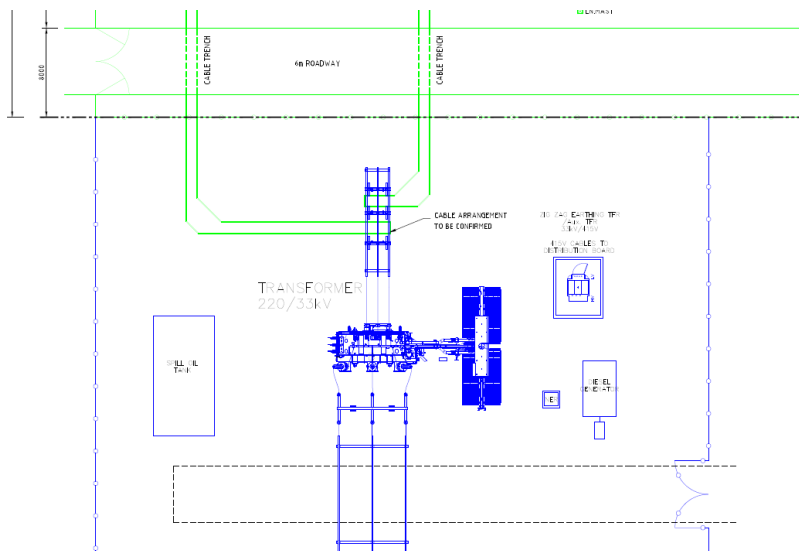


3. Project update

Connection Works

220kV Wind Farm Substation

> Preliminary design coordination



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.



4. Community relations update

Construction planning

Signage

- › Project signboard will be erect at the site entry

Construction notifications

- › Notification will be provided through different means depending on the type of works and scope of works
 - › Phone calls
 - › E-mail distribution
 - › Website
 - › Community Consultative Committee (CCC)
 - › Electronic noticeboard (Silverton Information Centre)

Site tours

- › Planned site tours will be arranged during the construction subject to site works



4. Community relations update

Community engagement

Community Enhancement Commitments

- > 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.
 - » Initial community consultation – 29 March 2017
- > Water Tank Program
- > Mobile Reception Program
 - » Contribute up to \$50,000 for mobile reception improvement works

AGL will develop the Community Enhancement Program in accordance with condition 18 (schedule 2) of the project approval in consultation with the Silverton Village Committee, Silverton CCC and Broken Hill City Council.



4. Community relations update

Community Enhancement Commitments

Mobile Reception Program

- › AGL has commenced feasibility studies with Telstra based on existing upgrade existing infrastructure
 - › Options for 3G and 4G coverage
 - › 4G is significantly above the budget contribution
- › 3G is scheduled to be retired in 2020, Telstra has been requested to advise any implications to a 3G solution
- › Telstra has provided preliminary information, which was assessed in consultation with Telstra and is in the process of providing further information.
- › Mobile coverage of voice is feasible within the township area



5. Topics of interest

Visual impact assessment

Modification 3

- › AGL is proposing to prepare photo montages of the planned Silverton Wind Farm showing the 58 wind turbines – similar to the photo shown below

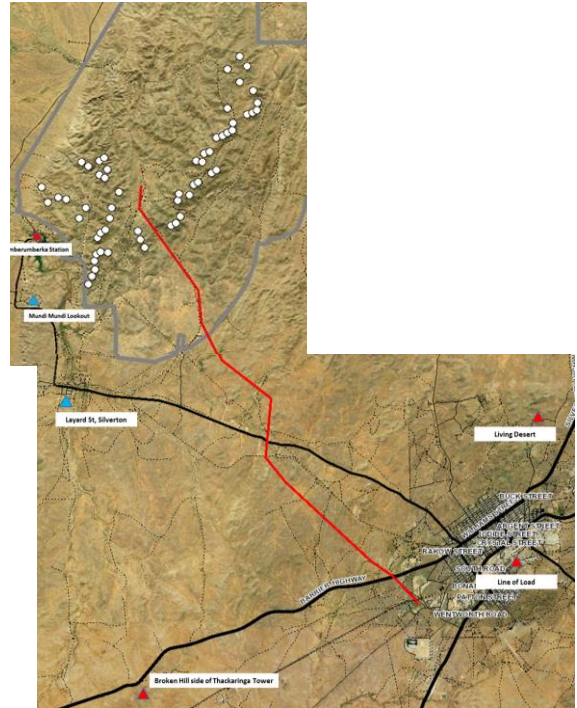


5. Topics of interest

Visual impact assessment

Silverton Wind Farm

- › Preliminary feedback on locations is shown below:
 - › Silvertown township
 - › Mundi Mundi lookout
 - › Umberumberka House
 - › Desert Sculpture (Living Desert)
 - Line of Load
 - › North Silvertown
 - › Thackaringa Tower (Broken Hill side)



5. Topics of interest

Silverton Creek

Proposed sand extraction

- › Consolidated Mining and Civil (CMC) submitted their application to NSW Crown Lands in November 2017.
- › Sand extract is planned to commence shortly after receipt of the license – potentially April / May 2017
- › Sand extract operations will continue during the construction phase of the Silverton Wind Farm.



5. Topics of interest

Horses and wind farms

Delabole Wind Farm

- › Delabole Wind Farm is the UK's first commercial wind farm, established in 1991.
- › A horse stud farm and riding centre has been operating at the Delabole Wind Farm since 1991
- › Originally the wind farm consisted of 10 turbines, a few years ago these were replaced with four new technology turbines which also increased the generation capacity output of the wind farm.

AGL is endeavouring to obtain more information on the type of horse stud farm at Delabole



6. Other business

Silverton Wind Farm

- › AGL Viewing Platform Art and Design Competition (Broken Hill Solar Plant)
- › Questions from group and observers?



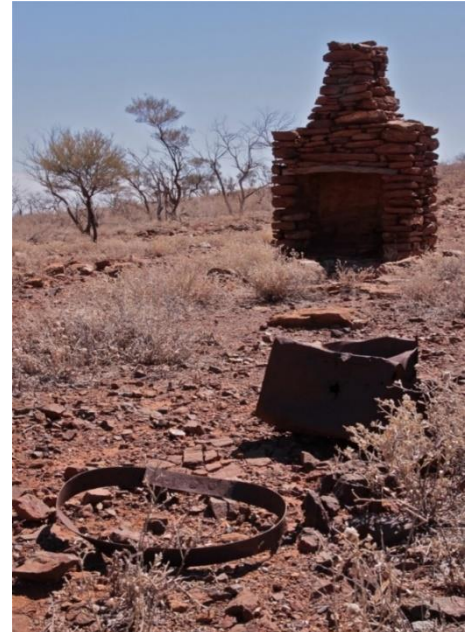
7. Next meeting

Silverton Wind Farm

Community Consultative Committee (CCC)

> Next Meeting:

- » Date
- » Time
- » Location



End
Presentation

