

Silverton Wind Farm

Community Consultative
Committee

Thursday 28 July 2016

Energy in
action.®

Since 1837

AGL



Agenda

1. Welcome

Confirmation of April meeting minutes

Review previous meeting actions

2. Project description and update

3. Project Modification 2 and 3

4. Topics of interest (post April meeting)

5. CCC membership

6. Other business

7. Next meeting and close



1. Review previous meeting actions

	Action item	CCC Meeting	Status	Who
1	On behalf of CCC members, to remind media representatives about the protocols for interviewing and quoting CCC members when speaking to the media	October 2013	Ongoing	KE
2	AGL to send out hardcopies of the TMP when it becomes available (currently still in draft format)	February 2014	Open	HO
3	Draft letter from the CCC about the project and turbine setbacks to the Director General and the Minister for Planning	July 2015	Open	KE
4	AGL to advise the CCC when Modification 3 goes on public exhibition	April 2016	Open	HO
5	Include the CCC membership discussion with minutes and CCC members attending meetings infrequently to be contacted	April 2015	Closed	HO
6	AGL to investigate possible field trip for the CCC group to view Silverton from the turbine site itself	April 2016	Open	HO
7	AGL to liaise with Silverton Village Committee regarding use of the empty butcher shop	April 2016	Closed	HO

1. Review previous meeting actions

	Action item	CCC Meeting	Status	Who
8	AGL to confirm next meeting date with CCC group and interested community members	April 2016	Closed	HO

2. Project description

Silverton Wind Farm

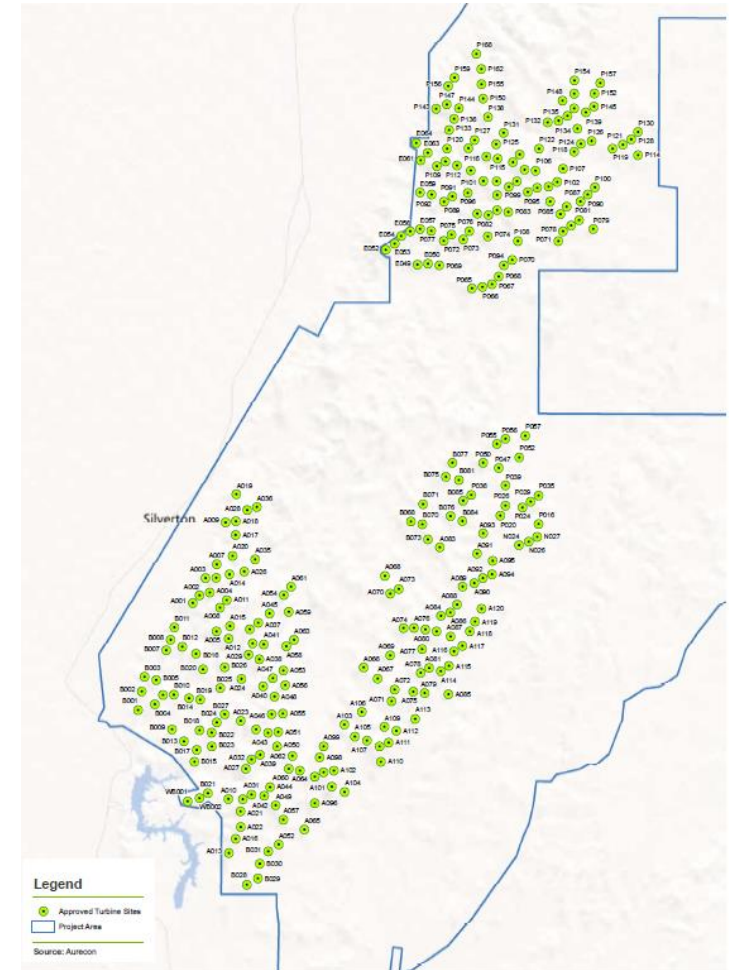
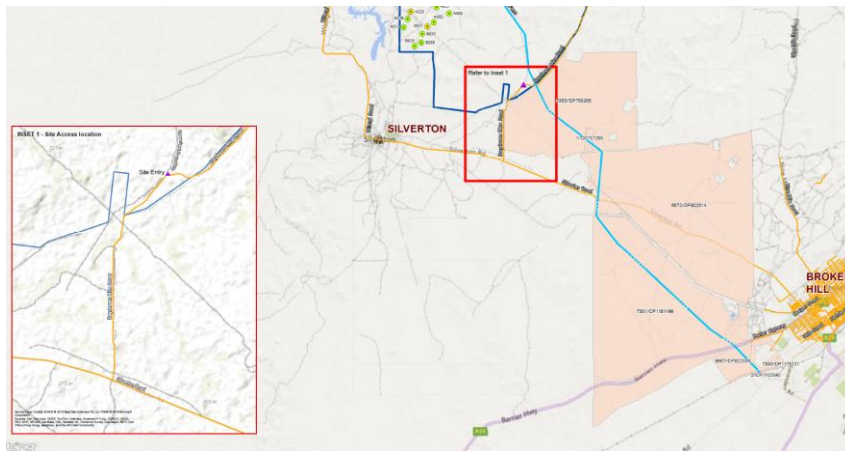
- > Location: Barrier Ranges approximately 5 km north of Silverton
- > Capacity: up to 200 MW
- > Generation: approximately 700 GWh
 - » powering more than 120,000 average NSW homes
- > Connection: 220 kV TransGrid substation, Broken Hill
- > Wind turbines: ~ 60 x 3.X MW
 - » southern section



2. Project description

Silverton Wind Farm

- Project Approval includes the construction and operation of 282 WTGs
- Connection involves the construction of 220 kV transmission line (>24km)
- Concept Approval is for 598 WTG



2. Project status update.

- > Invitation to Tender issued to six selected tenderers
 - » ITT issued on 5 April 2016
 - » ITT closed on 6 June 2016
 - » Two shortlisted tenderers determined
- > Modification 2 (Project Extension) approval and Modification 3 (Project Approval Amendment) application.
- > Commenced contract negotiations with shortlisted tenderers.
- > Recommended Connection Investigation & Negotiation Agreement (CINA) and commenced Project Agreement with TransGrid.



2. Project status update

Powering Australian Renewable Fund (PARF)

- PARF is an innovative financing initiative designed to unlock investment and open up more opportunities to development renewable energy assets
- Targeting approximately 1,000 MW of large scale renewable energy investment, with a total investment of \$2-3 billion
- Announced 27 July 2016 → Fund Partners: AGL and QIC (representing QIC Global Infrastructure Fund and Future Fund)



3. Modification 2

Project Extension

- > Modification 2 was submitted seeking an extension to the Project Approval.
- > Exhibition period: 4-18 March 2016
- > Final submissions report was provided to the Department of Planning and Environment (DPE) on 14 April 2016
- > Determined as "Approved" on 3 June 2016.
 - » Project Approval was extended for 2 years until 24 May 2018
- > http://www.majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7529

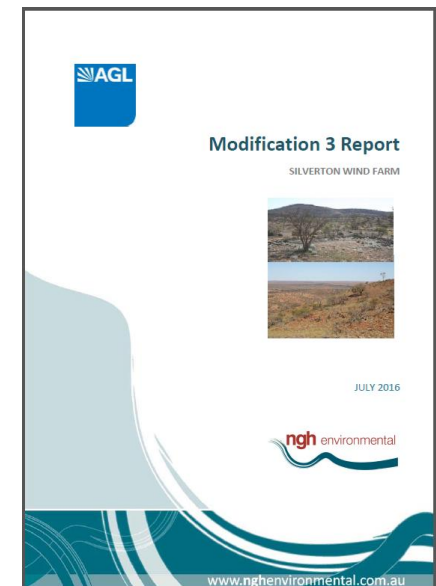
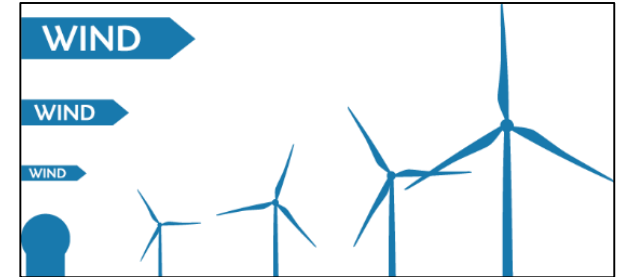


Project Approval	
Section 75J of the Environmental Planning and Assessment Act 1979	
I, the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions in Schedule 2.	
These conditions are required to:	
<ul style="list-style-type: none"> • prevent, minimise, and/or offset adverse environmental impacts; • set standards and performance measures for acceptable environmental performance; • require regular monitoring and reporting; and • provide for the ongoing environmental management of the project. 	
The Hon. Kristina Keneally MP Minister for Planning	
Sydney	24 May 2009 File No: S07/01462
Modification 1 - 11 April 2014 Modification 2 - Jan 2016	
SCHEDULE 1	
Application No:	DL_0022
Proposer:	Silverton Wind Farm Developments Pty Ltd
Approval Authority:	Minister for Planning
Land:	The Silverton Wind Farm, located in the Ramble Ranges, with its south western boundary approximately 3.5 kilometres north of Silverton and approximately 20 kilometres northwest of Broken Hill. The infrastructure (including turbines, electrical connections and maintenance facilities) would be concentrated on the Mundi Mundi Range and Mount Robe Range.
Project:	Construction and operation of 202 WTGs and associated infrastructure, including a 24 kilometre power line from the wind farm site to Broken Hill in New South Wales (stage 1).
Concept Approval:	The Project is the first stage of the approved concept plan for the Silverton Wind Farm Project (DL_0022).
NSW Government Department of Planning	

3. Modification 3

Project Approval Amendment

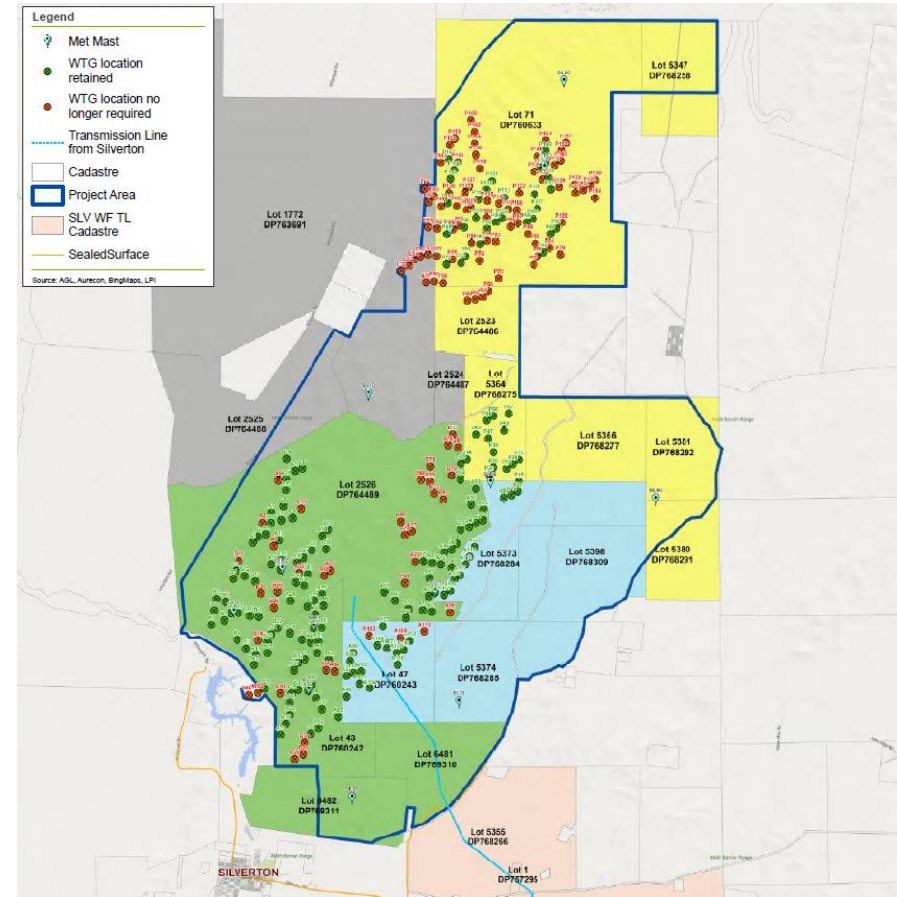
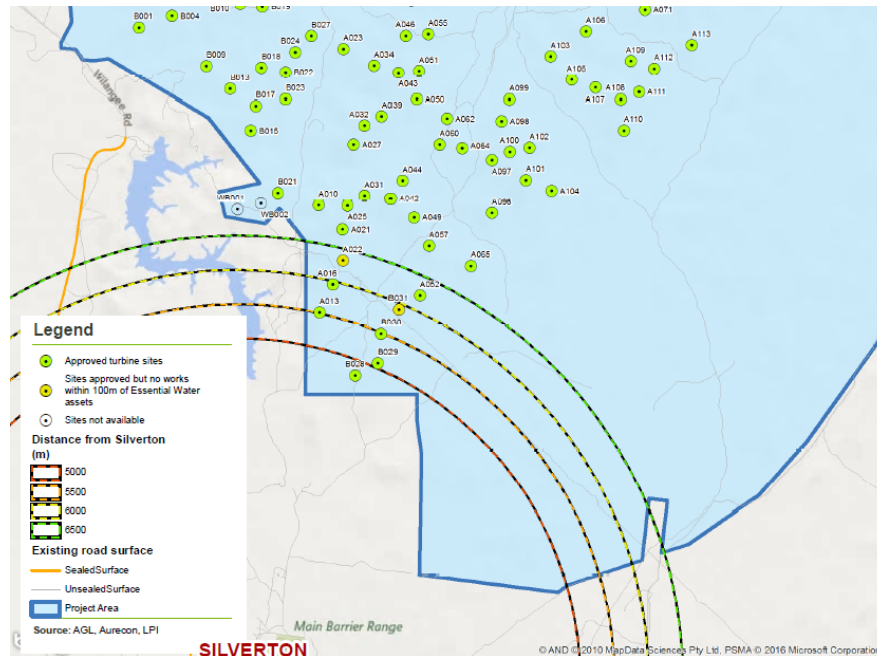
- > Modification 3 is intended to take advantage of advances in wind turbine technology since the project was approved on 2009.
- > Modification 3 report has been submitted to the DPE for review prior to exhibition.
- > Key modifications:
 - » Decrease wind turbines from 282 to maximum of 172
 - » Increasing the dimensions and capacity of each turbine
 - » No longer developing Concept Approval (Stage 2)



3. Modification 3

Wind Farm Layout

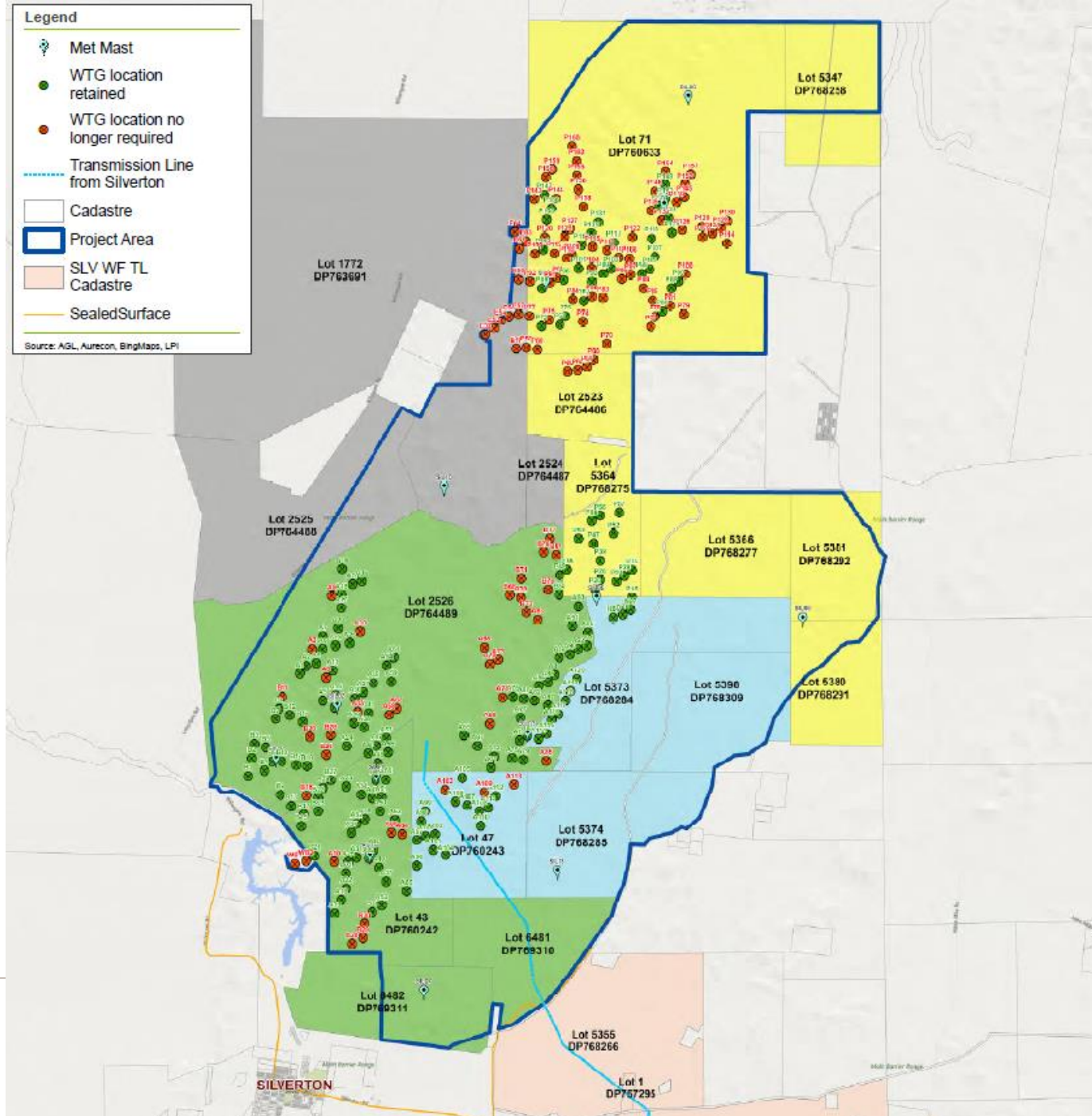
- WTGs B028, B029 and B030 have been deleted. Closest WTG is ~5.5 km



Legend

- Met Mast
- WTG location retained
- WTG location no longer required
- Transmission Line from Silverton
- Cadastre
- Project Area
- SLV WF TL Cadastre
- SealedSurface

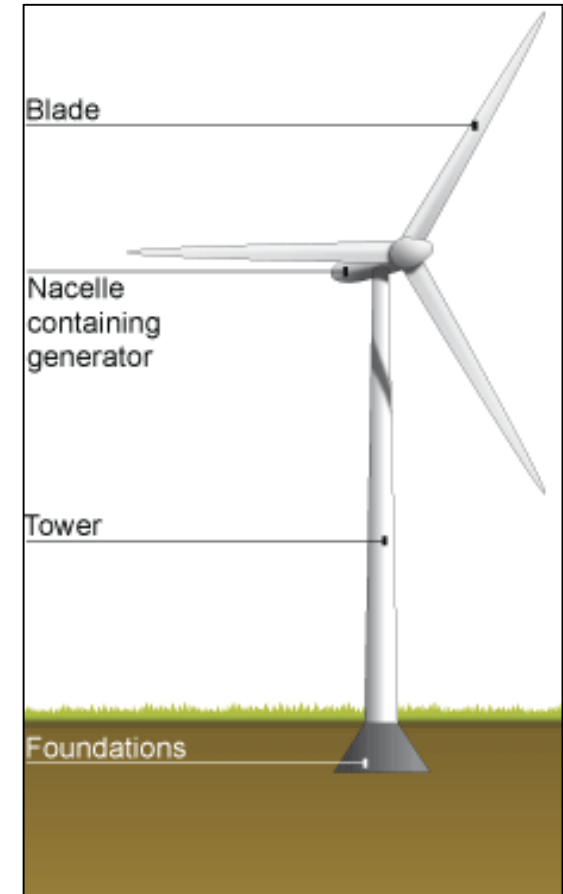
Source: ASL, Aurecon, BingMaps, LPI



3. Modification 3

Wind turbine capacity and dimensions

- > Environmental Assessment
 - » Highest turbine capacity was the Siemens SW107 3.6 MW.
- > Modification 3
 - » Increase capacity of turbines to max 5 MW
 - » Increase rotor diameter to approx. 140m
 - » Increase max turbine tip height to 180m
 - » *Decrease Stage 1 WTGs by 110*
 - » *Removal of Stage 2 WTGs (316)*



3. Modification 3

Visual Impact Assessment

- > Overall visual impact has been assessment as being less than the approved layout
 - » Reduced number of turbines and removal of turbines closest to Silverton

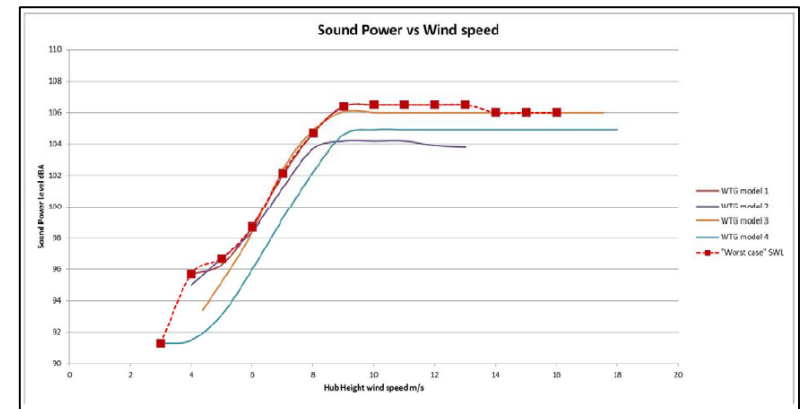
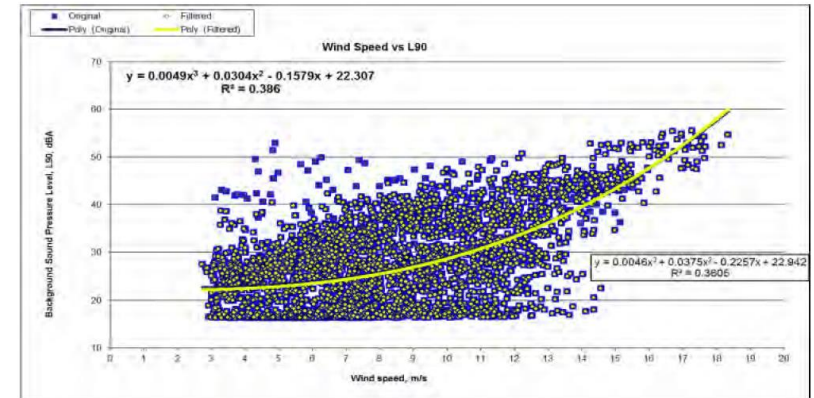


3. Modification 3

Noise

- Additional background noise monitoring was undertaken at 7 location in May-June 2016 for a 4 week period.
- Worst case noise profile was developed based on new technology.
- Noise model predictions demonstrated that all surrounding receptors are within the Project Approval requirements (SA EPA Guidelines)
 - » Modelling was based on Modification 3 (172 WTGs)

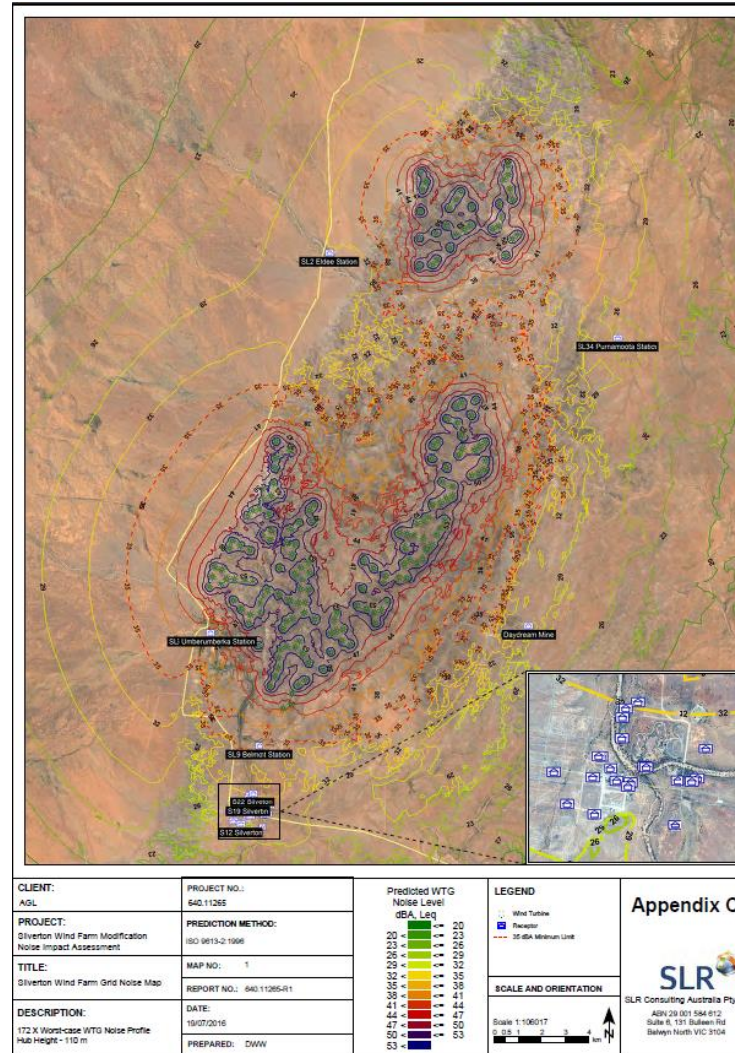
Scatter Graph All Day



3. Modification 3

Noise

> Contour map



3. Modification 3

Bird and bat collision risk assessment

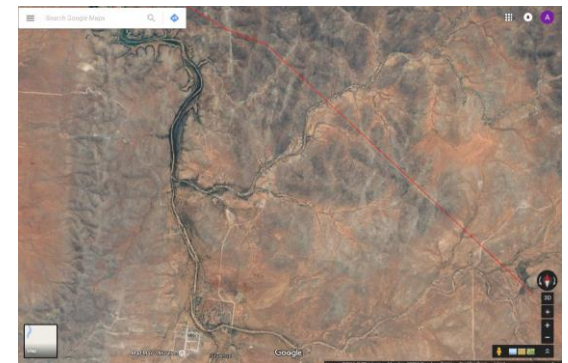
- › Lower overall risk of collision with birds and bats due to the reduced total rotor swept area.

Aviation

- › Obstacle lighting is not considered to be necessary for the Silverton Wind Farm
 - » Risk assessment undertaken as the maximum tip height of 180m is above 500ft (152.4m) the lowest allowable flying height

Construction water

- › Sourcing water from Umberumberka Reservoir to Stephens Creek Reservoir pipeline (within site)



3. Modification 3

Barrier Range Dragon

- Extensive surveys for Environmental Assessment referred to the Tawny Dragon (refer to top)
- In 2013, taxonomic assessment (McLean et al 2013) identified and recorded the Barrier range Dragon (refer to bottom)
- Existing mitigation measures apply
 - » Design layout to minimise risk
 - » Application of buffer



From Burra area South Australia:- Note that Tawny Dragons in this area have stripes on the throat which do not usually occur on Tawny Dragons



Fig. 7. Male (A) and female (B) *Ctenophorus mirriyana* sp. nov. from Silverton Wind Farm site, 35 km north west of Broken Hill, NSW (photo S. Sass).

4. Topics of interest

Construction Water

- › Umberumberka reservoir is currently empty and heavily sedimented.
 - » Photos showing reservoir previously full and the current situation
 - » We are currently progressing planning with Essential Water
 - » Require ~45 ML/pa



4. Topics of interest

Sediment / Erosion Control Plan

- › Environmental Assessment and Statement of Commitment (SOC58) requires the establishment of a Sediment / Erosion Control Plan to minimise deterioration of water quality
 - » Establish soil and water management practices guided by the best practice guidelines contained within Soils and Construction Vol. 1 (Landcom 2004)
- › Forms part of the Water Management Plan that is part of the Construction Environmental Management Plan (CEMP) – requires approval from NSW Office of Water and Director General



4. Topics of interest

Horses and Wind Farms

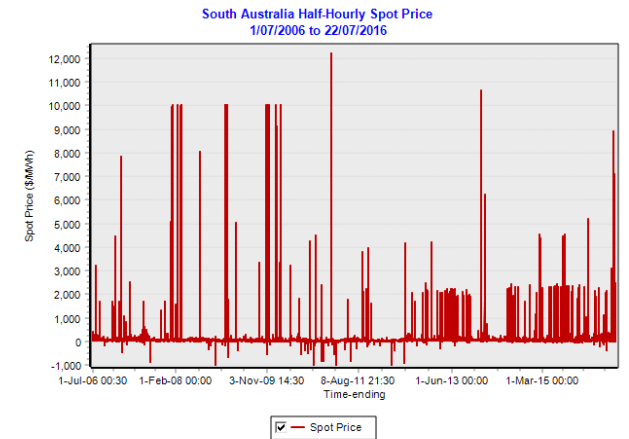
- Delabole Wind Farm is the UK's first commercial wind farm, established in 1991.
- A horse stud farm and riding centre has been operating at the Delabole Wind Farm since 1991
- Originally the wind farm consisted of 10 turbines, a few years ago these were replaced with four new technology turbines which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



4. Topics of interest

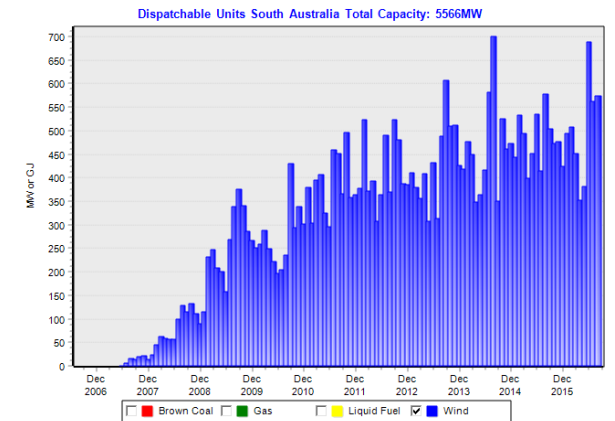
SA Electricity Market

- > South Australia's peak electricity demand is between 3,000 and 3,500 MW
- > Renewable capacity is ~2,000 MW, around two-thirds of peak demand
- > During peak demand the system is often reliant upon an ageing fleet of gas-fired generators and a relatively small interconnector with Victoria
- > In 2015, wind generation in South Australia supplied 37% of total electricity consumption.



NemSight © 2000-15 Creative Analytics

creative analytics



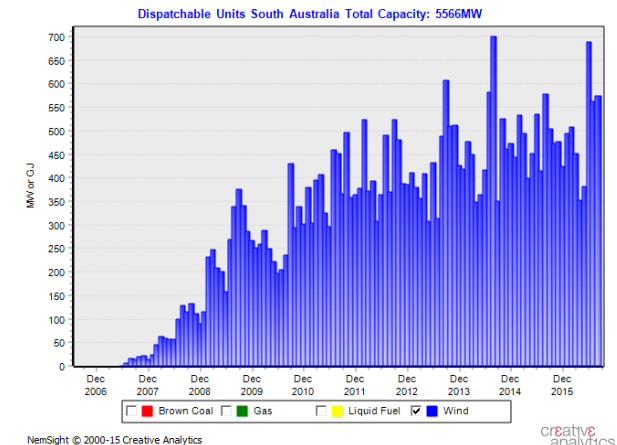
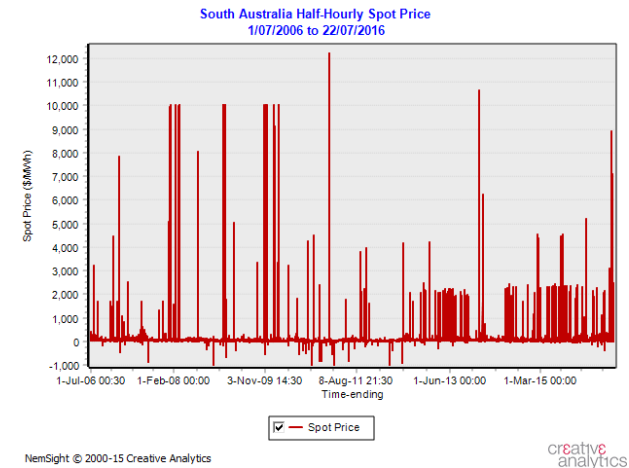
NemSight © 2000-15 Creative Analytics

creative analytics

4. Topics of interest

SA Electricity Market

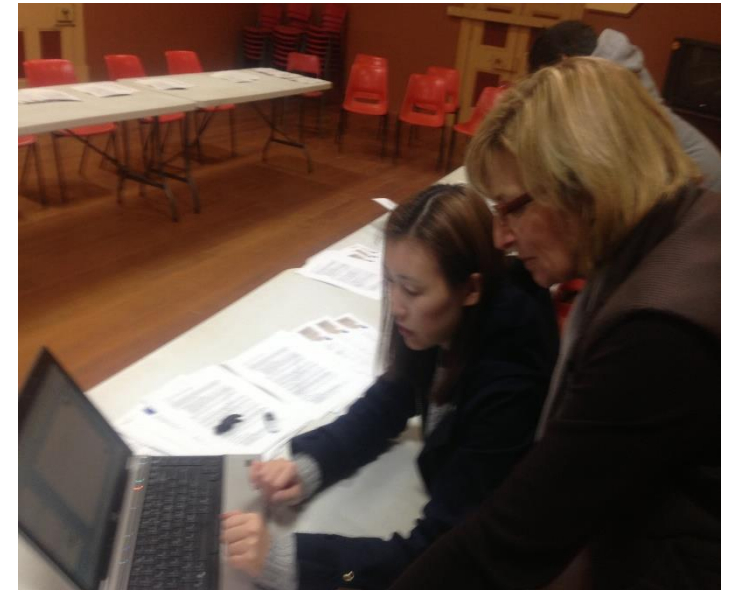
- > The graphs between FY2006-FY2016 show the spot prices and increase in wind generation in SA.
- > Generation mix in SA has progressed ahead of the market (NEM) design.
- > Australia's commitment to reduce greenhouse gas emissions will require an integrated climate change and electricity policy.



4. Topics of interest

NSW Planning Guidelines Wind Farms

- › Draft was released in December 2011 for consultation
 - » Section on consulting with the community and stakeholders
 - » <http://www.planning.nsw.gov.au/~media/Files/DPE/Guidelines/draft-nsw-planning-guidelines-wind-farms-a-resource-for-the-community-applicants-and-consent-2011-12.ashx>



5. CCC membership

- > Update on CCC members
- > No members have confirmed as resigning from the CCC
- > Dave Gallagher as an alternate for Broken Hill Shire Council is now representing Regional Development Australia Far West

5. CCC membership, current members.

Cynthia Langford	Pastoralist / turbine host	John Taplin	Silverton Village Committee
Naomi Schmidt	Pastoralist / turbine host	Peter Price	Silverton Village Committee / Silverton Pub
Phil Blore	Pastoralist / turbine host	Albert Woodroffe	Silverton Village Committee
TBC	Broken Hill Chamber of Commerce	Kevin White	Day Dream Mine
Shaun Barker	Crown Lands	Helen Murray	resident
Clr Marion Brown	Broken Hill Council	Glenn Coinez	Silver City Minerals
Rodney Grenfell	Umberumberka Reservoir	Steve Radford, alternate Troy Norley	Consolidated Mining and Civil
Dave Gallagher	RDA Far West	Ray O'Donnell	Broken Local Aboriginal Land Council
Helena Orel	AGL Energy Ltd (proponent)	Adam Mackett	AGL Energy Ltd (proponent)

5. CCC group visit to Silverton Wind Farm site

28

- › Due to 4 x wheel drive vehicles required, numbers are limited to CCC members and wind farm neighbours
- › Time and date to be discussed with CCC members tonight
- › Broken Hill City Council site visit at a later date to be confirmed

6. Other business.

- > Questions from group and observers?



7. Next meeting and close.

- > Next meeting:
 - > Date
 - > Time
 - > Location

