

# Community Engagement and Response to Submissions

# Community Engagement and Response to Submissions

## Environmental Impact Statement

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## Table of Contents

1.0	Community Engagement	1
1.1	Introduction	1
1.2	Purpose	1
1.3	Previous public consultation	1
1.4	Public consultation activities and community participation	2
	1.4.1 Communication channels	2
	1.4.2 Agency Reference Group briefings	2
	1.4.3 Council presentations	2
	1.4.4 Landowner meetings	2
	1.4.5 Community information day	2
	1.4.6 Exhibition and submission period	3
	1.4.7 Project newsletters	3
1.5	Response to formal submissions	4
1.6	Feedback summary	4
	1.6.1 Key themes and issues	4
1.7	Response to feedback	4
	1.7.1 Community Consultative Committee	4
1.8	Guided tour to an operational wind farm	5
1.9	Local business presentation	5
1.10	Next steps	6
Appendix A		
	Newspaper Advertisements	A
Appendix B		
	Response to Initial Assessment Report Submissions	B

## 1.0 Community Engagement

### 1.1 Introduction

Public consultation and engagement is a fundamental part of the approvals process. The previous scope of the public consultation program for the Project has been guided by the requirements as outlined in the Community Infrastructure Designation (CID) Guidelines and this is described further within this report.

Since becoming proponent of the Project in 2008, AGL has undertaken public consultation and engagement activities for the Project in accordance with the CID Guidelines and also utilised AGL's broader community engagement strategic approach.

Community engagement activities were commenced early in the Project planning cycle. This approach provided stakeholders, landowners and the broader community multiple opportunities to provide formal feedback (via submissions) to the Initial Assessment Report submitted as part of the CID approval process in 2011 (now ceased).

### 1.2 Purpose

The initial round of public consultation was undertaken between November 2010 and April 2011 in order to provide the multiple stakeholders with an opportunity to provide feedback during the early designation stages. This initial consultation involved engaging a broad cross-section of stakeholders including key government agencies, landowners, businesses, and the local community to achieve the following objectives:

- Generate awareness and understanding of the Project and associated impacts
- Generate understanding of the approval process
- Provide and promote opportunities and channels for interested parties to become informed and provide formal feedback
- Ensure accuracy of reporting stakeholder issues and how these will be considered in subsequent stages of the Project.

### 1.3 Previous public consultation

Previous proponents, Windlab and Investec, undertook public consultation activities with various stakeholders in 2008. This consultation related directly to the process of identifying land in the vicinity of Coopers Gap as a potential Project Site and Study Area. The specific public consultation activities undertaken during this time are not available and therefore not included as part of this report.

AGL acquired the Project from the previous proponents in December 2008. Changes resulting from AGL becoming the proponent included a revised Study Area, Project description, Project team and approval strategy. These changes identified a need to re-introduce the Project to all stakeholders and undertake further consultation to meet the consultation requirements for the revised Project.

Since the time AGL acquired the Project, consultation with government agencies, landowners, businesses and interested parties has continued. This consultation directly related to the release of the 2011 Initial Assessment Report and included:

- Participating in an Agency Reference Group (ARG) meeting in November 2010 and April 2011 to reintroduce the Project to agencies, outline anticipated Project timeframes, explain the approvals process and establish points of contact
- Site visits to landowners during March 2011 to re-establish the Project, determine the level of Project understanding and re-engage with landowners to outline preferred methods of contact, and how they can input into the process
- Community Information Day held in April 2011 to inform and gather feedback from the broader community
- Distribution of newsletters, newspaper advertisements and exhibition of the 2011 Initial Assessment Report document online and in local libraries.

## **1.4 Public consultation activities and community participation**

The following public consultation activities were undertaken to support the release of the 2011 Initial Assessment Report, with feedback gathered and formal submission issues included as part of the environmental impact statement (EIS).

The formal submission period for the 2011 Initial Assessment Report was between 24 March 2011 and 21 April 2011 and included the following activities.

### **1.4.1 Communication channels**

The following Project communication channels were established:

- Community information line (1800 number)
- Postal address for submissions
- Online enquiry form on the AGL's website Project page.

### **1.4.2 Agency Reference Group briefings**

The first ARG briefing was held in November 2010, with the purpose of re-introducing the Project, outlining Project requirements and better understanding key agency expectations for delivery of the Project.

A second agency briefing was held in April 2011 following release of the 2011 Initial Assessment Report. The purpose of the briefing was to follow up on key issues previously raised, invite submissions on the 2011 Initial Assessment Report and to outline the next steps in terms of consulting with the broader community.

### **1.4.3 Council presentations**

The Project team presented to Western Downs Regional Council and South Burnett Regional Council in March 2011 and April 2011, with the purpose of informing them of the Project. This included outlining information about the Project, the Study Area, the Project Site being sought for the works, the approvals process and timeframes and processes for the submission period on the 2011 Initial Assessment Report.

### **1.4.4 Landowner meetings**

In March 2011, contact was made with more than 60 landowners within the area offering face-to-face meetings about the Project. The purpose of these meetings was to gain a level of understanding about their key issues and concerns. Approximately 30 landowners participated in these landowner meetings.

Whilst every effort was made to contact all landowners in this area, some did not respond to the initial offer. Approximately three landowners elected to not participate. These meetings were attended by a multi-disciplinary representation from within the Project team.

Landowner meetings have continued at regular intervals since initial contact was made. Information has been provided on potential updates to the Project and progress with the approvals process.

### **1.4.5 Community information day**

A community information day to support the release of the 2011 Initial Assessment Report was held from 9 am until 1 pm on 2 April 2011. Approximately 60 community members visited the Project team at the Cooranga North Hall to discuss the Project and ask questions.

The community information day was attended by a number of technical specialists from within the Project team. The team present were able to discuss the Project, answer questions about the Project and advise interested parties on how they could make a formal submission as part of the CID process.

A total of 27 Record of Contact (ROC) forms were completed on the day by Project team members to record issues and recurring themes raised by community members.

Details of the community information day were outlined in Newsletter #1 (see Section 1.4.6) and through advertisements in local newspapers as outlined in Table 1.1. Copies of the advertisements are provided in Appendix A.

**Table 1.1 Newspaper advertisements**

Newspaper	Dates
Northern Downs News	24 and 31 March 2011 14 April 2011
South Burnett Times	29 March 2011 1 and 15 April 2011
Dalby Herald	29 March 2011 1 and 15 April 2011

#### 1.4.6 Exhibition and submission period

The 2011 Initial Assessment Report was placed on static exhibition from 24 March 2011 to 21 April 2011. Stakeholders and the broader community were informed of this exhibition period via newspaper advertisements. Table 1.2 provides the locations where the 2011 Initial Assessment Report could be viewed in hard copy form.

**Table 1.2 2011 Initial Assessment Report exhibition locations**

Location	Address
Bell Library	Dennis Street, Bell, Queensland
Jandowae Library Community and Cultural Centre	22 George Street, Jandowae, Queensland
TJ O'Neill Memorial Library	189-191 Haly Street, Kingaroy, Queensland
Dalby Library	1 Stuart Street, Dalby, Queensland

The 2011 Initial Assessment Report was also available for viewing online via the AGL's Project webpage at [www.agl.com.au/coopersgap](http://www.agl.com.au/coopersgap).

#### 1.4.7 Project newsletters

Between March 2011 and March 2012, three newsletters were distributed to 5,786 letterboxes in locations listed in Table 1.3.

**Table 1.3 Project newsletter distribution**

Delivery area	Locality postcode	Total
Alice Creek	4610	27
Bell	4408	290
Boyneside	4610	19
Bunya Mountains	4405	47
Ironpot	4610	20
Jimbour	4406	49
Jandowae	4410	564
Kingaroy	4610	4,641
Kumbia	4610	129
<b>Total</b>		<b>5,786</b>

Newsletter #1 was distributed in March 2011, prior to the community information day. The purpose of Newsletter #1 was to inform the broader community about the release of the 2011 Initial Assessment Report, how to provide a submission, and to provide information about the community information day.

Newsletter #2 was distributed in December 2011, and provided an update on submissions made in relation to the 2011 Initial Assessment Report, site surveys and studies undertaken since the first update, and the status of the CID process.

Newsletter #3 was distributed in March 2012 and provided the broader community with an update of AGL's next steps in terms of further consulting on the Project. This newsletter also highlighted the establishment of a Community Consultative Committee (CCC) in response to feedback received during the earlier consultation phases (see Section 1.7.1).

## **1.5 Response to formal submissions**

A total of 31 respondents made formal submissions as part of this initial round of public consultation. Submissions were received from a varying group of stakeholders including local government, state agencies and the local community.

Each formal submission was acknowledged via a written reply from the Project team. Items and issues raised via the formal submission process have been reviewed and addressed in the relevant chapters of this EIS. A summary of the key issues raised and responses is provided in Appendix B.

## **1.6 Feedback summary**

### **1.6.1 Key themes and issues**

The following list is an overview of the key issues raised during the initial round of public consultation:

- Concern over references to Victorian or South Australian wind farm projects
- Concern over the lack of transparency within the consultation process
- No public meeting held
- Request for more contact with the proponent
- Scientific evidence regarding noise, health and the overall effects of wind turbines is needed
- Concerns over conflicting information
- No faith in the CID process and response to submissions
- Confusion over Project information
- Belief the Project 'is a done deal'
- Requests for AGL to contact submitters to answer questions directly
- Lack of content in the 2011 Initial Assessment Report
- Perception of dishonesty amongst the Project team
- Differences in expectations of the process and the overall Project.

## **1.7 Response to feedback**

### **1.7.1 Community Consultative Committee**

AGL established the Coppers Gap CCC in May 2012. This was in response to the varying levels of feedback received in the initial public consultation phase of the Project.

The purpose of the CCC is to build trust within the local community and to address key issues as they are raised. The CCC is guided by a Terms of Reference that has been set by the committee. The CCC is voluntary and includes representatives from AGL, various agency groups, key stakeholders and community members who meet on a regular basis to discuss the Project and address community issues and concerns.

The CCC also provides an opportunity for the group to work directly with AGL and provide input into and ownership of the Project.

Table 1.4 provides a list of CCC meetings held to date. CCC meetings are planned to continue prior to and after the submission of this EIS.

Table 1.4 CCC meetings

Meeting number	Date	Venue and time
1	24 May 2012	Cooranga North Community Hall, 2pm – 4pm
2	14 June 2012	Cooranga North Community Hall, 10am – 12pm
3	19 July 2012	Cooranga North Community Hall, 2pm – 4pm
4	16 August 2012	Cooranga North Community Hall, 1pm – 4pm
5	20 September 2012	Cooranga North Community Hall, 1pm – 4pm
6	18 October 2012	Western Downs Regional Council, Dalby, 1pm – 4pm
7	15 November 2012	Cooranga North Community Hall, 3.30pm – 6.30pm
8	17 January 2013	Kingaroy Town Community Common Hall, 1pm – 4pm
9	21 February 2013	Bell Bunya Community Centre, 1pm – 4pm
10	21 March 2013	Jandowae Library, 1pm – 4pm
11	20 June 2013	Cooranga North Community Hall, 1pm – 4pm
12	19 September 2013	Kumbia Memorial Hall, 1pm – 4pm
13	20 February 2014	Bell Bunya Community Centre, 1pm – 4pm
14	15 May 2014	Western Downs Regional Council 1pm – 4pm
15	20 November 2014	Cooranga North Community Hall, 1pm – 4pm
16	3 December 2015	Cooranga North Community Hall, 1pm – 4pm
17	17 March 2016	Cooranga North War Memorial Hall, 1pm – 2.30pm
18	30 June 2016	Bell Bunya Community Hall, 1pm – 3pm

## 1.8 Guided tour to an operational wind farm

Between 1 and 4 August 2016, AGL escorted 35 interested community members and Councillors from the South Burnett Regional Council to visit two operational wind farms in Victoria. The guided tour took place at the MacArthur Wind Farm and the Oaklands Hill Wind Farms and provided the opportunity for the community to have a first hand experience of an operational wind farm. Community members were also provided the opportunity to meet with landowners who host turbines, and neighbouring landowners, both supportive and not supportive, in order to hear a range of viewpoints. Overall, the community members found the visit to be very informative with some of the concerned community members becoming more relaxed after being exposed to an operational wind farm.

## 1.9 Local business presentation

On the 16th August 2016, the South Burnett Regional Council organised a meeting in conjunction with AGL and the Toowoomba Surat Basin Enterprise. The purpose of the meeting was to ensure the local businesses were aware of the upcoming tendering requirements and what was required in order to be considered for employment opportunities. AGL intends to hold regular briefing sessions over the coming months to provide Project updates regarding tendering requirements in conjunction with South Burnett Regional Council and the Western Downs Regional Council.



## 1.10 Next steps

Timeframes for delivery of these subsequent steps are still to be determined. However, agencies, key stakeholders and the broader community will be informed via newsletters and advertisements in the local newspapers. The following activities will also be undertaken:

- Community information “drop-in” sessions
- Community newsletters
- CCC
- Landowner discussions
- Ongoing consultation with Western Downs and South Burnett Regional Councils
- Ongoing Consultation with State Government Agencies
- Ongoing Consultation with State and Federal members of parliament.

The Project's public consultation approach and associated communication activities will continue to be monitored and will be reported on in future phases of the Project.

## Appendix A

# Newspaper Advertisements

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# Coopers Gap Wind Farm

**To help deliver Australia's future energy needs, AGL is seeking planning approval for the Coopers Gap Wind Farm. The Coopers Gap Wind Farm is located approximately 180 km north-west of Brisbane, near Cooranga North, between Dalby and Kingaroy in Queensland.**

An Initial Assessment Report (IAR) has been developed for the project presenting an environmental assessment of the project corridor, within which AGL will seek to locate wind turbines and associated infrastructure such as access roads, underground and overhead electrical cables.

The release of the IAR marks the first public submission period of the Community Infrastructure Designation Process. We encourage you to take this opportunity to have your say about the wind farm.

The IAR is available online at [www.agl.com.au/coopersgap](http://www.agl.com.au/coopersgap) and it can be viewed in person at the following locations from 24 March 2011 through 21 April 2011:

- **Bell Library** Dennis Street, Bell
- **Jandowae Library Community and Cultural Centre**, 22 George Street, Jandowae
- **TJ O'Neill Memorial Library** 189 – 191 Haly Street, Kingaroy
- **Dalby Library** 1 Stuart Street, Dalby

CD copies of the IAR are also available by calling 1800 039 600.

## **Community Information Day**

Details of the project will be available for public viewing at a community information day. Members of the project team will be available to help answer your questions.

**When: Saturday 2 April 2011, 9am to 1pm**

**Where: Cooranga North Hall, 41 Cooranga North-Niagara Rd, Cooranga North**

Formal submissions on the IAR are being accepted until Thursday 21 April 2011, and can be sent to:

Adam Mackett  
Manager Power Development, AGL  
C/ AECOM  
PO Box 1307,  
Fortitude Valley Qld 4006

The IAR and other wind farm related information can be found on the AGL website [www.agl.com.au/coopersgap](http://www.agl.com.au/coopersgap)

For further information call **1800 039 600**

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The IAR is available online at [www.agl.com.au/coopersgap](http://www.agl.com.au/coopersgap) and it can be viewed in person at the following locations from 24 March 2011 through 21 April 2011:

- **Bell Library** Dennis Street, Bell
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## Appendix B

# Response to Initial Assessment Report Submissions

## Appendix B Response to Initial Assessment Report Submissions

Summary of key issues	Response
<b>Project Description</b>	
Efficiency of wind power is questioned.	<p>The term 'efficiency' measures how much of the primary energy source (eg wind, coal, gas) is converted into electricity. Coal-fired power stations typically convert 29% to 37% of the coal into electricity, and gas plants typically convert 32% to 50% of gas processed into electricity. Wind turbines convert around 45% of the wind passing through the blades into electricity (and almost 50% at peak efficiency) and, compared to coal and gas, the fuel source (the wind) costs nothing.</p> <p>Over time, coal power stations operate at around 85% of full capacity (known as the capacity factor). Gas power station capacity factors vary from as high as 85% to less than 10% (if designed only to supply electricity at peak periods). The average capacity factor for a large-solar plant that produces electricity during daylight hours is around 20–25%. The average capacity factor for a wind farm in Australia is around 35%, and can range from 25% to 45%. Wind farm capacity factors are lower than coal and baseload gas plants due to variability in wind speeds, but their energy source is free, and they use their energy source more efficiently. This means that wind farms can be large-scale suppliers of electricity (DECCW, 2010).</p> <p>The national electricity market (NEM) and electricity grid is designed to handle variability under most circumstances, including intermittent output from wind generators. New rules have been implemented to enable the operators of the NEM to control the output of intermittent generators larger than 30 megawatts (including wind farms) to manage any impacts. The NEM grid covers Queensland, NSW, ACT, Victoria, Tasmania and South Australia. As more wind farms are connected to the grid, their increased geographic dispersion helps smooth out variability in wind between different areas (DECCW, 2010).</p>
Will the Project be carried out to 'best practice' scenario or minimum standards set out by relevant Government bodies.	The Project will be designed and developed in compliance with Queensland Wind Farm Code and Planning Guideline (DILGP 2016), the conditions of approval, applicable standards and relevant legislation. Where feasible and reasonable to do so, 'best practice' options and solutions will be employed.
Report is not consistent as it contains various different turbine heights, numbers and locations etc. Is this to suit the report for each particular aspect?	The Project Site will accommodate turbines in the 2.5 MW to 4 MW range with a height to blade tip of approximately 180 m above the base of the wind turbine tower. The findings of the assessments contained within this EIS provide a typical worst case scenario in terms of realistic design of the Project within the bounds of the Project Site.
Concern that when turbines stop turning they cannot start themselves up again without assistance.	During the operation of the Project, the turbines will automatically start, stop and alter their output as determined by wind speed and other environmental and electrical conditions.
Requests for detailed plans of the Project.	Detailed plans, turbine designs and siting details will be provided following the detailed design phase when exact specifications are known.
<b>Environmental Impact Statement</b>	
The maps and description of the corridor do not accurately describe the size of the Project.	Chapter 2 of the EIS provides a detailed Project description of the location and size of the Project Site including the width. All maps have been updated and are found within Volume 2.

Summary of key issues	Response
The impacts of the Project should be assessed by the relevant agencies as part of the approval process.	The EIS will be sent to all relevant local governments and public sector entities, as part of the coordinated project approach under the SDPWO Act.
Is CID the appropriate approval pathway?	The CID approval pathway under the SP Act is one of a number of appropriate approval pathways that the Project is able to take. However, the Project was declared a 'coordinated project' by the Coordinator-General on 7 June 2016 for which an EIS is required under section 26(1)(a) of the SDPWO Act. The SDPWO Act provides for state planning and development through a coordinated system of public works organisation, for environment coordination and of related purposes to facilitate large projects in Queensland.
The assessment and approval of the Project should be left with the Local Government, rather than the State Government.	The Project was declared a 'coordinated project' by the Coordinator-General on the 7th June 2016 for which an EIS is required under section 26(1)(a) of the SDPWO Act.
The consultation timeframe in respect to report release and submissions is unrealistic, especially as the report is highly technical.	The previous consultation timeframes are in accordance with the Guidelines for environmental assessment and consultation procedures for designating land for community. If there is an element of the EIS that is difficult to understand or more information is required, please call the information number (1800 039 600) or send an enquiry to <a href="mailto:coopersgapwindfarm@agl.com.au">coopersgapwindfarm@agl.com.au</a> .
AGL must satisfy the onus of establishing that the Project passes the public benefit test.	The public benefit test is a matter for the relevant Minister to consider through the CID approvals process under the SP Act. The Project is now seeking approval through the SDPWO Act for which an EIS is required under section 26(1)(a) of the Act.
<b>Legislative Framework</b>	
Not all relevant legislation has been included.	Chapter 3 has been updated to include relevant legislation. Where applicable, the technical chapters include reference to legislation relevant to that particular assessment.
The EIS should include the relevant Environmentally Relevant Activities (ERA's) that the Project requires.	The following ERA potentially applies to the Project: ERA 16 – Extractive and screening activities. This is included within Chapter 3.  ERA 14 – Electricity generation does not apply to the Project as it does not use fuel.
Does the Project meet the requirement under the <i>Electricity Act 1994</i> to be an operating works and therefore the exemptions for clearing native vegetation under the SP Act apply?	The Project may involve the clearing of native vegetation which is operational work under the SP Act. Schedule 3, Part 1, Table 4, Item 1 of the SP Regulation makes operational work for clearing of native vegetation assessable development unless the clearing is for an activity or matter mentioned in Schedule 24, Part 1 or 2 of the SP Regulation.  The Project Site contains mapped regional ecosystem and regrowth vegetation. Areas of this vegetation designated as regulated vegetation under the VM Act may be cleared as a result of the Project. Chapter 12 Flora and Fauna provides an outline of the estimated areas of remnant vegetation which may be cleared as a result of the Project.  Approval under Schedule 3 of the SP Act will be required for the clearing of mapped regional ecosystem vegetation.

Summary of key issues	Response
The Project should obtain offsets for the removal of remnant vegetation protected under the <i>Vegetation Management Act 1999</i> .	The environmental offset required for the Project will be determined following the detailed design (at which stage the extent of clearing will be confirmed) and if necessary an Offset Strategy will be developed to support all relevant approvals and authorities. It is not anticipated at this stage that the Project will require an authority for impacts to other prescribed environmental matters besides clearing of regulated vegetation.
The requirements under the <i>Nature Conservation Act 1992</i> should be described in full.	A summary of the legislation is provided in Chapter 3 Legislative Framework and the relevant requirements are more thoroughly discussed in Chapter 12 Flora and Fauna.
Will there be the removal of sand or gravel from within a watercourse which is regulated under the <i>Water Act 2000</i> and SP Act.	It is not anticipated that the Project will require the extraction of stone, gravel, sand, rock, clay, earth or soil from a lake or watercourse.
Will there be any excavation or placing of fill in a watercourse that will require a Riverine Protection Permit under the <i>Water Act 2000</i> .	A riverine protection permit (as required under section 266 of the <i>Water Act 2000</i> ) will be obtained prior to any excavation or placement of fill within a watercourse unless the works can be undertaken in accordance with the Riverine protection permit exemption requirements (DNRM, WSS/2013/726, Version 1.01).
Is the development of the Project exempt development under s203 of the SP Act?	Section 203 of the SP Act states that development designated as community infrastructure is exempt from assessment under any applicable local government planning scheme and for reconfiguring a lot. However, the Project is now seeking approval through the SDPWO Act for which an EIS is required under section 26(1)(a) of the Act. The Project will not be exempt from Section 203 of the SP Act.
Is development of the Project considered assessable development under the SP Act?	Schedule 3 of the Sustainable Planning Regulation 2009 details assessable development, self-assessable development and the type of assessment required.  For all other activities under the Schedule that are considered assessable, the relevant codes, impact assessments and approvals will be required.
<b>Study Area Description and Site Selection</b>	
Study of wind patterns may not be correct and may be formulated to meet the requirements of the Project.	The wind resource across the Project Site is well understood with sufficient data length to capture seasonal effects. The wind turbine layout has been configured to capture the mapped wind resource.
<b>Community Engagement</b>	
AGL's consultative process and transparency of information is questioned. It is suggested that as further information is made available that hosts would no longer agree to host wind turbines.	Details of previous consultation activities are provided in Chapter 10 of the EIS. The EIS presents the most up-to-date information on the Project and the potential impacts that may result from the construction and operation of the Project.



Summary of key issues	Response
Concern on the format of the community information day on 2 April 2011 and lack of consultation.	<p>The public consultation program for the Project incorporates all formal consultation procedures. Community engagement has been further enhanced beyond these formal requirements in accordance with AGL's broader community engagement strategic approach. A key element of the approach is the CCC which provides agency groups, stakeholders and community members with ongoing engagement regarding the Project beyond formal project notification periods.</p> <p>Any additional questions can be answered by contacting the Project hotline on 1800 039 600.</p>
Lack of scientific evidence to inform studies.	The EIS has been updated and is based on the latest information from the scientific community.
Requests for a community fund.	<p>Should the Project proceed, AGL would establish a community fund program to provide financial support for a range of community based initiatives, projects and events that benefit the local community in and around the Project. The program would target a range of community needs including; health and social welfare, safety, environment, education and youth, sport and recreation, culture, arts and economic development.</p> <p>The community fund program would be implemented in accordance with a set of guidelines which would assist groups and organisations who wish to apply for funding.</p> <p>AGL is committed to building and maintaining strong relationships with the communities where they operate, and would, through the community fund program, aim to be an active participant in the local community, supporting local partnerships and funding opportunities.</p>
Inaccurate representation of NHMRC public statement on wind turbines and health in the AGL newsletter.	<p>The intent of the quote in the Newsletter was to relay the key message from NHMRC and guide the reader to the document.</p> <p>In response to submissions received in 2011 relating to health concerns, an independent report by the Long View Group (The Long View Group, 2014) was commissioned to review the scientific evidence on the human health impacts associated with wind farms. A copy of this report is contained in Volume 3 of the EIS.</p> <p>Reviews conducted by leading health and research organisations including the Australian NHMRC, the Australian Medical Association and Health Canada have found no direct link between wind farms and health effects. More information is available via the Australian Clean Energy Council website at <a href="https://www.cleanenergycouncil.org.au/technologies/wind-energy.html">https://www.cleanenergycouncil.org.au/technologies/wind-energy.html</a></p>

Summary of key issues	Response
<b>Topography, Geology &amp; Soils</b>	
Questions regarding the soil descriptions in the Study Area.	<p>Interrogation of soil and land mapping available from the Australian Soil Resource Information System (ASRIS) (CSIRO, 2016), the DNRM and the DAF showed that the Project Site is predominantly comprised of fine textured grey and brown cracking clay soils. Further information on soils within the project area is provided in Chapter 16 of the EIS.</p> <p>Further geotechnical assessments will be carried out during the detailed design phase to confirm the nature and extent of the soils and underlying geology.</p>
<b>Water</b>	
Need to identify relevant water sources for construction and operational phases.	<p>Discussion has been added to Chapter 14 of the EIS on the requirements of the <i>Water Act 2000</i> (the Act) and the application of the Act and subordinate legislation including water resource plans on water requirements.</p> <p>Discussion has also been added to Chapter 14 of the EIS on the various catchments and streams in the Study Area and the requirements for permits and licences in the various catchments.</p>
Overland Flow has been held under a Moratorium Notice for the Water Resource (Condamine and Balonne) Plan 2004 since 1 February 2005.	The Moratorium Notice restricting new works which involve taking of or interfering with overland flow in the Condamine and Balonne catchment (which had effect from 12 December 2008) ceased to have effect from 12 December 2014.
The Environmental Management Plan states that groundwater is to be utilised during the construction phase but the source of water and volumes are not discussed.	The Project's construction water supply requirements are estimated to be approximately 250 ML over the construction period. This is subject to confirmation during detailed design of the Project. Further details are provided in Chapter 15 Groundwater.
<b>Flora and Fauna</b>	
Concerns relating to potential impacts on birds and disturbance to the ecosystem.	The quantitative impact to bird populations within the Study Area is not possible to fully determine. However, it is likely that whilst individuals within the Study Area may be impacted through collision, this is unlikely to have a significant impact on the populations with the local region. This is because the area is not known to contain an important population of threatened or migratory birds. The only threatened forest-dependent birds (which may fly at a higher elevation) which may be found within the Study Area is the glossy black cockatoo (refer to Table 12.11 in Chapter 12). However, suitable habitat does not occur within or adjacent to the Project Site. The collision risk potential to this species is therefore considered to be low.
Concerns that survey methods were inadequate.	Field surveys have been carried out generally in accordance with relevant guidelines and in consultation with the Department of Environment and Heritage Protection. The surveys are considered suitable to determine the likely significance of the Project on fauna values. The results of these surveys, likely impacts to biodiversity and relevant mitigation measures to manage potential impacts as far as feasible and reasonable are provided in Chapter 12 of the EIS.

Summary of key issues	Response
<b>Cultural Heritage</b>	
A cultural heritage professional should be engaged to conduct an assessment to ensure there is no impact on Aboriginal cultural heritage.	Comment noted. a CHMP under Section 7 of the ACH Act will be negotiated for the Project
No assessment of native title.	Consideration has been given to native title affecting the Project Site. Details of current registered parties have been identified and discussed separately to Aboriginal cultural heritage. Further explanation of future processes (i.e. formal native title agreements) has also been provided in Chapter 18, Section 18.5.3.
In addition to heritage matters identified in Chapter 11 of the 2011 IAT, the EIS should incorporate requirements under s89 of the <i>Queensland Heritage Act 1992</i> , which relates to giving notice about discovery of an archaeological artefact.	Discussion of the specific requirements of the <i>Queensland Heritage Act 1992</i> and management of potential archaeological deposits have been provided in Chapter 18, Section 18.3.3.
Initial Assessment Report lacks history of Cooranga North.	An updated documentation of the Project Site's thematic history has been provided in Chapter 18, Section 18.5 and incorporates a summary of the establishment of settlements, including Cooranga North.
<b>Land Use and Planning</b>	
The introduction of wind turbines into the rural area is a real change which alters the amenity of the area for as long as the turbines remain.	<p>The updated Land Use and Planning and Landscape and Visual Assessment chapters provide an assessment of the relevant planning scheme Desired Environmental Outcomes (DEO) and provides mitigation strategies to minimise impacts upon rural amenity. The updated Land Use and Planning chapter also includes an assessment of the Project against each of the rural zone intended outcomes.</p> <p>Commentary has been added regarding the level of concern expressed by the community regarding the impact of the Project on views from private properties. Section 5.7 sets out mitigation measures that would assist in accommodating the Project into its landscape context at the detailed design stage, although it is acknowledged that the turbines cannot be 'disguised'.</p>
Concerns relating to impacts on Good Quality Agricultural Land (GQAL).	A review has been undertaken to identify potential impacts upon GQAL. Generally, the Project will occupy a negligible percentage of rural land in the region and will not result in severance of productive areas.
Lack of consideration against the Kingaroy Shire Planning Scheme.	Chapter 11, Section 11.6.2 discusses the Kingaroy Planning Scheme and how the Project accords with the DEOs.
Lack of consideration of Western Downs Regional Council Planning Scheme.	A Land Use and Planning assessment has been undertaken to identify potential land use impacts and provide appropriate mitigation strategies. This includes consideration of the Western Downs Regional Council Planning Scheme. Refer to Chapter 11, Section 11.6.3 for more details.

Summary of key issues	Response
<b>Landscape and Visual Assessment</b>	
Concerns the Project will dramatically alter the appearance of the rural landscape and change the amenity for the people living in the area, visitors to the area and the traditional experience for everyone who appreciates a rural setting.	Reactions to wind farms and their visual impacts upon landscapes is very subjective. The EIS has instead focused on transparent judgement on the sensitivity of the landscape as a resource, and the combined magnitude of the change, in Chapter 5, Section 5.6. Commentary has been added regarding the level of concern expressed by the community regarding the impact of the Project on rural landscape character (refer to Chapter 5, Section 5.5.4).
Concerns that the level of concern expressed by the community on visual impacts is not addressed.	Changes have been made to the Project layout since the 2011 IAR. Chapter 5 has subsequently been updated to reflect the new layout.  Commentary has been added regarding the level of concern expressed by the community regarding the impact of the Project on views from private properties. Section 5.7 sets out mitigation measures that would assist in accommodating the Project into its landscape context at the detailed design stage, although it is acknowledged that the turbines cannot be 'disguised'.
The assessment of visual amenity impacts has been down played.	The approach to the LVIA has been developed in accordance with accepted guidelines from Queensland, Australia and other countries, including :  <ul style="list-style-type: none"> <li>- Queensland Wind Farm State Code and Planning Guideline (DILGP, 2016)</li> <li>- Draft National Wind Farm Development Guidelines' (Environment Protection and Heritage Council, 2010).</li> <li>- The Guidelines for Landscape and Visual Impact Assessment, Third Edition' (The Landscape Institute and the Institute of Environmental Management and Assessment, UK, 2013) and previous Second Edition (2002).</li> </ul>
Concerns regarding placement of electricity transmission lines.	The requirement for overhead electricity transmission lines will be determined during the detailed design phase. However, it is likely that these lines will follow the existing high voltage transmission lines.
<b>Noise and Vibration</b>	
Concerns that current government guidelines and regulations are not adequate to ensure residents do not experience adverse health impacts due to turbine noise.	Noise standards and policies have established criteria to prevent adverse health impacts and/or annoyance due to noise, with these criteria based on extensive existing research on the links between noise and health. Since the 2011 IAR, the Queensland Government have prepared a Wind Farm Code and Planning Guideline (DILGP, 2016) which incorporates specific criteria which must be adhered to for noise assessment. AGL have updated the EIS so that the noise assessment and turbine layout meet the requirements of the Queensland Wind Farm Code and Planning Guideline.

Summary of key issues	Response
<p>Concerns around the mechanical noise from the wind turbines.</p>	<p>Mechanical noise from wind farms comes from the internal machinery and may also be generated from a faulty component. Advances in turbine design have seen mechanical noise decrease considerably. Although the level, character and frequency of the sound from a wind turbine depends on a number of factors, these factors vary within and between farms. Factors include:</p> <ul style="list-style-type: none"> <li>- Distance from the nearest turbine or cluster of turbines</li> <li>- Number of turbines on the wind farm</li> <li>- Model, size and arrangement of the turbines</li> <li>- Topography of the surrounding land</li> <li>- Wind speed and direction.</li> </ul> <p>All of these factors are taken into account by computer models prior to construction to predict noise levels likely to result from the wind turbines at different locations. This influences the type of turbines used, the placement of the turbines and their operating conditions. Sound measurements taken after construction can then be compared to predicted measurements.</p> <p>While sound from wind farms tends to be lower than sources of background environmental noise, some sounds, known as special audible characteristics, can be more annoying. Special audible characteristics can often be addressed by specifying wind turbines which can guarantee that certain tones will not be experienced, or by changing the wind farm operating conditions. However, special audible characteristics, including enhanced amplitude and tones, are specifically assessed during the planning process for the wind farm, in addition to the measurement of sound levels. Typically an additional 5 dB penalty applies when special audible characteristics are present.</p> <p>The Queensland Wind Farm Code and Planning Guideline (DILGP, 2016) have established criteria to prevent adverse health impacts and/or annoyance due to noise, with these criteria based on existing research on the links between noise and health. The noise criteria adopted for this Project is based on these and noise produced by the Project will be required to comply with those levels.</p>
<p>Concern that the noise will exceed predicted levels and the onus will be placed on those lodging complaints to prove as such.</p>	<p>The EIS complies with the modelling requirements set out in the Queensland Wind Farm Code and Planning Guideline. Once the wind farm is operational, compliance noise measurements will be undertaken at a number of sensitive receptors adjacent to the Project Site to demonstrate that compliance with the relevant criteria has been achieved.</p>
<p>Guidelines for major projects in the area have been 30 dB(A) with a conservative approach to limit to 28 dB(A). It is questioned why AGL is willing to subject residents to 40 dB(A).</p>	<p>A noise limit of 28 dB(A) is based on the 'specific noise level' criterion in the Queensland noise guidelines. This is appropriate for fixed infrastructure and for this project all fixed infrastructure has been assessed against that criterion. For wind farm turbine noise, it is not possible to use the 'specific noise level' criterion because the criterion requires measurements to be conducted during periods of low wind speed and would therefore only be applicable for periods of low wind.</p> <p>The EIS complies with the requirements set out in the Queensland Wind Farm Code and Planning Guideline.</p>

Summary of key issues	Response
Concern that many rural residences are built for passive climate control and not for acoustic buffering.	The Queensland Wind Farm Code and Planning Guideline requires that wind farm noise is assessed external to a dwelling. Assessing and measuring noise external to the dwelling is consistent with other industrial noise sources in Queensland including extractive industries and other power generation.
More representative noise monitoring locations should be considered especially within the higher range of the Predicted Noise Contour.	<p>The EIS generally complies with the modelling requirements set out in the Queensland Wind Farm Code and Planning Guideline. Noise monitoring locations were chosen based on proximity to proposed turbine locations. Where background noise measurements have not been taken at a location, the most conservative criteria have been adopted.</p> <p>Once the wind farm is operational, compliance noise measurements will be undertaken at a number of sensitive receptors adjacent to the Project Site to demonstrate that compliance with the relevant criteria has been achieved.</p>
The IAR should identify whether noise from the wind turbines will be noticeable to users of the Bunya Mountains National Park, and if so any measures that will be utilised to minimise this disturbance.	The Queensland Wind Farm Code and Planning Guideline does not require that national parks comply with the requirements for sensitive receptors. Nonetheless it is forecast that all areas of the Bunya Mountains National Park will comply with the base criterion of 35 dB(A), as outlined in the Queensland Wind Farm Code.
Tonality is an issue which is not addressed in the Initial Assessment Report.	Tonality is not a typical characteristic of wind turbine noise and any audible tonality produced by the turbine would be subject to penalties. The Queensland Wind Farm Code and Planning Guideline 2016 have established penalties for wind farm noise emission that results in tonality. The noise criteria adopted for this Project is based on these and noise produced by the Project will be required to comply with those levels.
<b>Socio-Economic</b>	
Concern relating to agricultural business in the area.	Agricultural activities and businesses are not considered to be adversely affected by the Project. Further information can be found in Chapter 10, Section 10.5.6.
Concerns relating to potential health impacts to the local community.	A literature review of scientific, peer-reviewed publications does not provide any evidence that noise, shadow flicker or electromagnetic interference has an adverse effect on human health. Therefore it is not anticipated that the operation of the Project will cause adverse health impacts. This position is supported by peer reviewed studies conducted by leading health and research organisations including the Australian NHMRC and the Australian Medical Association.

Summary of key issues	Response
Concerns relating to a potential decrease in land values.	<p>Numerous major studies in Australia and overseas, conducted by independent organisations, have not found direct correlation between wind farms and declining property prices.</p> <p>In response to submissions to the 2011 IAR for the Project, AGL commissioned Preston Rowe Paterson to prepare a peer review of available literature on the impact of wind farms on surrounding land values. (Preston Rowe Paterson, June 2013). The peer review found no evidence that wind farms have a statistically significant effect on property valuations. Preston Rowe Paterson identified in their peer review that although there is the possibility in the short term of some reduction in land value due to 'anticipation stigma' (or the fear of the unknown), wind farms generally deliver long-term increases in property values through direct and indirect benefits to rural landowners and neighbouring properties.</p> <p>During the construction phase, wind farm development delivers increased activity and prosperity advantage to local businesses as well as strong demand for short term accommodation for construction workers. Once the Project is operational, participating landowners with wind turbines on their properties benefit from provision of a new income stream paid to these landowners for hosting the wind farm, or via the provision of new or upgraded civil infrastructure including access tracks and drainage. Benefits were also identified for the broader communities around wind farm developments through the establishment of community funds and increases in local government revenue (CSIRO, 2012). Also, due to the additional income stream from participating landowners usually sees an increased spending across the community</p>
Despite AGL commitment to use local contractors it is questioned whether locals will have necessary skills for the required tasks.	<p>AGL will seek to employ local people for the construction and operational jobs where possible, and is committed to ensuring these workers are up-skilled where necessary.</p> <p>In order to assist the construction contractor to use local suppliers, contractors and employees and engage with local businesses, information about local business capabilities will be sourced and provided. AGL will also require the construction contractor to engage with local businesses and the local community to assist in matching available local skills and resources with opportunities during construction and operation of the Project.</p>
Requested that the proponent work with the Advance Western Downs partnership of the WDRC, regional Chambers and WDRC Major Developments and Economic Strategy Unit to establish local procurement processes and expand the manufacturing base in the region.	<p>The potential for job creation and up-skilling local people has been discussed in Chapter 10, Section 10.7.4 and 10.7.1. Some additional discussion has been added into Section 10.7.1 to this affect.</p>
Concerns over the level and type of tourism to the area.	<p>Tourism is discussed in Chapter 10, Section 10.7.8. It is expected that the Project will become an additional attraction for tourists within the South Burnett and Western Downs Regional Council areas, and that local enterprise opportunities will exist for business owners that would like to capitalise on the likely influx of tourists into the area.</p>



Summary of key issues	Response
Concern that there will be no benefit to the local community.	<p>A Coopers Gap Community Fund will be established, to ensure that the benefits of the wind farm are felt by the broader community, and not isolated to community members who are directly engaged with the wind farm activities. A similar fund has been established for the McArthur Wind Farm, in south western Victoria.</p> <p>The McArthur Wind Farm Community Fund provides financial support for a vast range of community initiatives that benefit the local community. The Fund aims to provide financial benefit to a range of community concerns including health, social welfare, safety, environment, education and youth, sport and recreation, culture and arts, and economic development. Community groups are able to apply for funding through their local council, with applications assessed against a range of eligibility criteria by a panel made up of local councillors and external community representatives. Successful applications are passed to the AGL management team who provide final approval on activities the fund can engage with. This model will be utilised for the Coopers Gap Community Fund.</p>
Concern with regards to the welfare of livestock and horses.	<p>Formal research into livestock and horses is limited, partly because there is very little evidence of wind farms adversely impacting large mammals. Some overseas research has been conducted into the impact of wind turbines in other ungulates such as elk and semi-domestic reindeer. Expert opinions from Germany have concluded that wind turbines have negligible impacts on horses (Garrad Hassan, 2011).</p> <p>The scarcity of formal research into the impact of wind turbine on livestock and horses is reflective of the fact that these animals have resided harmoniously alongside wind turbines for a long time, in many locations and there has therefore been no pressing need to conduct research in this area (Garrad Hassan, 2011). Therefore, it is considered that there is unlikely to be a negative impact on the long term viability of grazing and animal husbandry in the Project site.</p>
<b>Traffic and Transport</b>	
Concerns around leaving gates open and stock escaping.	A Road Use Management Plan and other operational management plans will include site access provisions which contractors will be required to abide by. Procedures to minimise risk of escaping stock will be detailed such as ensuring gates are closed once vehicles / staff pass through them.
Concerns around using outdated reports.	<p>The previous Parson Brinkerhoff report has not been referred to in the EIS. Reliance on assumptions from the previous Parson Brinkerhoff report has been removed and transport assumptions have been based on information from and agreed with AGL based on the updated layout.</p> <p>If any further changes in the transport task occurs post approval, they will be addressed as part of the Road Use Management Plan and/or Traffic Management Plan.</p>
Concerns with construction traffic disrupting school bus runs.	Consideration of school bus runs will form part of the Road Use Management Plan. Impacts will be minimised as far as practicable by avoiding school bus times with heavy vehicle traffic where possible.



Summary of key issues	Response
Concerns around access to areas for firefighting.	Emergency services, along with DTMR, will be consulted as part of the detailed design stage and concerns will be addressed as part of the Road Use Management Plan. The consultation will be focussed on ensuring that adequate access is provided. Access roads will be designed to provide adequate access for fire fighting vehicles and equipment.
Further assessment on the potential impact on the State Controlled Road Network (SCRN) should be carried out.	<p>A TIA has been developed with reference to GARID as part of Chapter 13 in the EIS. Given the relatively low number of heavy vehicle movements, the predominant safety impact is expected to consist of:</p> <ul style="list-style-type: none"> <li>- driver fatigue</li> <li>- hazardous materials transport (as fuel, lubricants and chemicals)</li> <li>- movement of Oversize and/or Overmass (OSOM) goods.</li> </ul> <p>Section 13.7.2 states that a Driver Fatigue Management Plan and Emergency Response / Disaster Management Plan will be developed as part of the wider Road Use Management Plan. The section also states that hazardous materials will be transported in accordance with Australian Standards and comply with the Australian Dangerous Goods Code. In relation to OSOM, Chapter 13 states that the necessary permissions and licenses will be obtained, which will outline any restrictions and safety measures.</p>
A TIA should address identification of how construction vehicles will access the development (haul route for turbine components) including the SCRN (specific intersections or existing access to SCRN).	The transport corridors and how construction vehicles access the site has been detailed as part of the EIS (refer Chapter 13).
A TIA should include an assessment of the standard of intersection/access to ensure that this is constructed to the appropriate standard to cater for the construction traffic. This should include mitigation strategies to ameliorate impacts to the SCRN. This could include access and intersection upgrades, traffic management of the construction traffic, pavement rehabilitation of specific haul routes etc.	The key external road intersections and their configuration have been identified in Section 13.6.6.1. Given the Project is still conceptual, and multiple likely transport corridor scenarios are presented, it is not possible to exactly identify any upgrade requirements at this stage. Once the haulage routes are finalised with contractor input and intersection turning traffic volumes finalised, any intersection upgrade requirements will be discussed with the relevant local authority and TMR.
A TIA should include an assessment of the impacts of the construction traffic on the pavement of the SCRN (refer Section 5, Appendix C of the Guidelines for Assessment of Road Impacts of Development).	A preliminary pavement impact assessment has been undertaken with reference to GARID in Section 13.6. Detailed pavement assessment identifying reduction in remaining pavement life will be carried out prior to start of construction to determine appropriate arrangements.

Summary of key issues	Response
<p>A TIA should include an assessment of any haul routes to determine whether existing structures on the SCRNs will be impacted by excess mass or excess dimension loads to the development site. Appropriate permits are required to use vehicles that exceed the legal load or dimension limits.</p>	<p>The EIS commits to obtaining relevant permissions and permits prior to the movement of any OSOM vehicles. The approval process for these permits will identify any potential impacts such as vulnerable structures and appropriate routes to minimise disruption.</p>
<p>Concerns regarding impacts to stock routes as defined under the QLD <i>Land Protection (Pest and Stock Route Management) Act 2002</i>.</p>	<p>Existing stock routes have been identified as part of Section 13.5.2. Table 13.22 identifies that the detailed design stage will investigate solutions to minimise impacts on stock routes prior to the commencement of construction. Relevant stakeholders will be consulted during the detailed design phase.</p>
<b>Aviation</b>	
<p>Concerns around potential restrictions to crop dusting activities.</p>	<p>Aerial agricultural operations (including, but not limited, crop dusting) will be restricted within the boundaries of the Project.</p> <p>However, it is standard operating practice that any approved low-level operations are required to check for any obstacles which might impact on such operations, before undertaking these operations. As such, any aerial agricultural operations being undertaken in the near vicinity of the wind farm would be aware of the obstacles posed by the wind turbines.</p> <p>Aerial agricultural operations from any airstrips which might be established on the fringes of the proposed wind farm and clear of any wind turbines could be undertaken satisfactorily as agricultural operators are familiar with operating from constrained areas.</p> <p>The Aerial Agricultural Association of Australia (AAAA) was contacted as part of engagement with aviation stakeholders. No response or specific concerns were received from the AAAA.</p>
<p>Requirements for obstacle lighting on turbines queried.</p>	<p>The full details of size, type, power etc. of potential obstacle lights have not been detailed at this stage as this information would be determined based on the conditions of the relevant aviation stakeholders and constructing contractor requirements.</p> <p>In considering the need for aviation hazard lighting, the following applicable regulatory context was determined:</p> <ul style="list-style-type: none"> <li>- Civil Aviation Safety Regulations 1998, Part 139-Aerodromes</li> <li>- Manual of Standards Part 139-Aerodromes</li> <li>- Advisory Circular 139-08(0)-Reporting of Tall Structures.</li> </ul>

Summary of key issues	Response
<b>Shadow Flicker</b>	
Shadow flicker assessment has been undertaken on a different number of turbines.	<p>The shadow flicker methodology has been detailed in Section 6.4 of the EIS. The assessment has been updated based on the revised wind turbine layout provided in Figure 2.1, Volume 2. Additional parameters incorporated into the assessment include a turbine specification that fits within the nominated worst case project scenario, as detailed in Section 2.3.3 of the EIS.</p> <p>A list of the coordinates of dwellings in the vicinity of the Project was used for the assessment, and houses within 1,500 metres of the Project have been considered in the analysis. This distance is considered conservative and has been selected on the basis that it is ten times the maximum rotor diameter plus a buffer of 100 metres, which would allow for micrositing which could occur as part of ongoing design development.</p>
A further assessment should address impact of shadow flicker on livestock.	A review of existing literature published on the impacts of wind farms on livestock has been conducted. It was found that there is a scarcity of research conducted on the effects of wind farms on livestock; this is partially due to very little evidence of wind farms adversely impacting large mammals. Some overseas research has been conducted into the impact of wind turbines in other ungulates such as elk and semi-domestic reindeer. Expert opinions from Germany have concluded that wind turbines have negligible impacts on horses.
General concerns with regards to the incidence of shadow flicker.	<p>An assessment of theoretical maximum and predicted actual shadow flicker impacts for the Project is included in Chapter 6 of this EIS. Houses further than 1,500m from a turbine are not expected to incur any shadow flicker effects.</p> <p>If shadow flicker presents a problem, its effects can easily be reduced through a number of measures. This may include:</p> <ul style="list-style-type: none"> <li>- The installation of screening structures or planting of trees to block shadows cast by the turbines</li> <li>- The use of turbine control strategies, which shut down turbines when shadow flicker is likely to occur</li> </ul> <p>Wind turbines will also have a low reflectivity finish to minimise blade glint.</p>

Summary of key issues	Response
<b>Electromagnetic Interference</b>	
<p>Electromagnetic interference from turbines will block radio, television, internet and telephone reception which are all important for communication especially during emergency situations.</p>	<p>An assessment of potential electromagnetic interference as a result of the proposed development concluded that:</p> <ul style="list-style-type: none"> <li>- Interference to AM and FM radio are unlikely and could be resolved through the installation of a high quality antenna and/ or amplifier. Digital radio is not yet available in the Cooranga region</li> <li>- Interference to digital television signals is unlikely as they are more robust compared to the phased out analogue signals and are generally unaffected by interference from wind turbines</li> <li>- Interference to satellite television and internet signals is unlikely. Consultation with satellite internet providers operating in the vicinity of the wind farm have been consulted and did not foresee any potential impacts to the provision of their services</li> <li>- Mobile phone and wireless internet coverage are provided in areas surrounding the Project via the 4G and/ or 3G mobile network. In cases of marginal network coverage, simple mitigation procedures such as moving a short distance to a new location until the signal strength improves or installing an external antenna may improve the signal quality.</li> </ul> <p>Further detail is provided in Section 7.6 of the EIS.</p>
<p>Concerns relating to satellite phone disruption.</p>	<p>Interference to satellite internet signals is unlikely. Consultation with satellite internet providers operating in the vicinity of the wind farm was undertaken. All but three of the providers responded, and none indicated that they foresaw an impact to their services. It is therefore considered unlikely that the Project would adversely impact the operation of voice over IP (VOIP) phone services.</p>
<p>Concerns relating to digital television signal disruption.</p>	<p>Interference to digital television signals is unlikely as these signals are more robust compared to the phased out analogue signals and are generally unaffected by interference from wind turbines.</p> <p>However, interference is possible in areas where the television signal is marginal and antennas at dwellings may receive a reflected signal from a turbine that is stronger than the signal received directly from the transmitter.</p> <p>Most of the areas identified as being susceptible to interference are likely to have marginal coverage, or in some cases no coverage prior to the construction of the Project. In this case, any additional interference caused by the Project may not be relevant.</p> <p>In addition, most areas around the Project that have variable or no coverage, should be able to access the Viewer Access Satellite Television (VAST) service, which is a government funded digital TV service delivered via satellite.</p>
<p>Potential EMI impacts to emergency services.</p>	<p>Emergency services with radio communication assets in the vicinity of the Project have been identified and contacted to determine if there is a potential EMI impact to their services as a result of the proposed development. All emergency services do not foresee impacts to their fixed communications assets. The Queensland Police Service queried potential impacts to UHF mobile communications, however impacts to these services is expected to be unlikely (refer to section 7.6.2 of this EIS).</p>

Summary of key issues	Response
Interference to Radio-frequency identification (RFID) signals.	An assessment of possible interference to radio-frequency identification (RFID) technology found that possible interference of RFID signals is unlikely except where these signals are operating within around 100 metres from a turbine. Further detail is provided in the assessment of electromagnetic interference issues for the Coopers Gap Wind Farm (Volume 3 of the EIS).
<b>Bushfire</b>	
General concern that wind turbines increase the risk of bushfire events occurring.	<p>The potential risk of a turbine catching fire or starting a fire can be managed to a low risk with the measures described in Section 9.6.3, including using low risk modern turbines and implementing regular maintenance practices. Further emergency firefighting provisions will be outlined in a Bushfire Management Plan (to be developed). The determination of the management provisions will take into account the surrounding environment and in consultation with property owners, neighbours, stakeholders and relevant authorities.</p> <p>AGL have not had a recorded wind farm turbine fire within their properties to date. AGL will be using newer and safer turbine equipment and technology that surpasses those wind farms that have been alleged to have been involved with bushfires within Australia.</p>
Concern there will be limited access for firefighting.	As part of the construction process, access tracks will be created in order to reach all areas where turbines will be placed. These tracks will remain open for maintenance of the turbines and for access during an emergency. Further firefighting provisions will also be made available such as water supply which will be outlined in the Bushfire Management Plan (to be developed). The determination of the management provisions will take into account what is found within the surrounding environment and in consultation with property owners, neighbours, stakeholders and relevant authorities.
<b>Sustainability and Climate Change</b>	
Wind farms on the surface offer an alternative for carbon reduction however they will result in increased electricity costs to cover infrastructure.	<p>In Australia, the imperative for the development of wind energy projects is:</p> <ul style="list-style-type: none"> <li>- to secure billions of dollars of investment and tens of thousands of jobs for regional and rural Australian communities</li> <li>- to protect against increasing costs of fossil fuels</li> <li>- to help meet our commitments for reducing carbon emissions without the need to buy overseas permits</li> </ul> <p>Utility-scale wind energy projects are the least expensive form of renewable energy generation capable of being rolled out on a large scale.</p> <p>Australia stands to gain around \$17 billion of investment and about 10,000 jobs from wind energy projects that are currently proposed or approved. As these projects are typically located in rural and regional areas, much of this would flow on to these communities.</p> <p>Wind energy also has the potential to protect electricity consumers against the inevitable price hikes in the cost of electricity from fossil fuels such as oil and gas. For example, as Australia's gas market opens up to the rest of the world, higher demand for that gas has doubled wholesale gas prices in Australia. Meanwhile, the fuel cost of the wind is free and Australia has it in abundance.</p>

Summary of key issues	Response
	<p>Australia's 20 per cent Renewable Energy Target will help build the Australian wind industry, helping Australia meet its national targets for reducing carbon emissions domestically. This in turn will reduce Australia's need to buy overseas carbon emissions permits, keeping billions of dollars of investment within Australia.</p> <p>The development of the Project does not preclude other forms of renewable energy infrastructure (both large-scale and small-scale) and carbon abatement such as the planting of trees - rather, it forms part of a broad set of measures being implemented by the Commonwealth, State and local government and the private sector to help in combating climate change and buffering the rising cost of energy derived from fossil fuels in Australia.</p>
<b>Health</b>	
<p>Concerns that the Project will result in adverse health effects to the local community with respect to noise, EMI and shadow flicker.</p>	<p>In response to submissions received following the release of the IAR in 2011, an independent report was commissioned ,and conducted by the Long View Group on current epidemiological (health patterns, causes and effects) studies regarding wind farms. The review covered three key impacts which can be associated with wind farms; EMI, shadow flicker and noise. The review found that there is no epidemiological scientific evidence to suggest negative impacts to human health. In the case of Shadow Flicker, there is a lack of substantial scientific evidence to suggest adverse health impacts from wind farms. The health report is provided in Volume 3 of the EIS</p>
<p>Concern towards the health of livestock and horses.</p>	<p>A review of existing literature published on the impacts of wind farms on livestock has been conducted for the purpose of this EIS. It was found that there is a scarcity of research conducted on the effects of wind farms on livestock; this is partially due to very little evidence of wind farms adversely impacting large mammals. Some overseas research has been conducted into the impact of wind turbines in other ungulates such as elk and semi-domestic reindeer. Expert opinions from Germany have concluded that wind turbines have negligible impacts on horses.</p>
<p>Particular emphasis on potential adverse health effects from background noise from the Project.</p>	<p>The key finding from the reviewed literature is that there is no scientific evidence that exposure to wind farm noise causes adverse health impacts. While there is evidence that some people living in proximity to a wind farm may experience annoyance, there is no consistent evidence that wind farm noise directly causes annoyance, and it may be that these people's annoyance stems from a number of factors including negative attitudes to the wind farm.</p> <p>Noise standards and policies have established criteria to prevent adverse health impacts and/or annoyance due to noise, with these criteria based on existing research on the links between noise and health. The noise criteria adopted for this Project is based on these and noise produced by the Project will be required to comply with those levels.</p>

Summary of key issues	Response
<b>Siting of Wind Turbines</b>	
<p>Submissions request a minimum setback distance of between 2 km and 3 km to alleviate concerns around health and decreased land values.</p>	<p>The EIS complies with the noise modelling requirements set out in the Queensland Wind Farm Code and Planning Guideline. This effectively determines how close a wind turbine can be to a residential dwelling.</p> <p>Notwithstanding this, all wind turbines have been located a minimum distance of 1,500 m from residential dwellings, except where there is a written agreement with the landholder.</p> <p>Numerous major studies in Australia and overseas, conducted by independent organisations, have not found any correlation between wind turbines and declining property prices.</p> <p>In response to submissions to the 2011 IAR for the Project, AGL commissioned Preston Rowe Paterson to prepare a peer review of available literature on the impact of wind farms on surrounding land values. (Preston Rowe Paterson, June 2013). The peer review found no evidence that wind farms have a statistically significant effect on property valuations. Preston Rowe Paterson identified in their peer review that although there is the possibility in the short term of some reduction in land value due to 'anticipation stigma' (or the fear of the unknown), wind farms generally deliver long-term increases in property values through direct and indirect benefits to rural landowners and neighbouring properties.</p>
<b>Miscellaneous</b>	
<p>Wind farms should be located in the ocean or near cities where the majority of electricity is consumed.</p>	<p>The process of developing a wind farm requires consideration of a range of factors, including the quality of the wind resource, negotiations with landowners, the cost of connecting to the electricity network, the impact of a proposed wind farm on local amenity, environment and heritage, and the benefits of the wind farm to a region.</p> <p>In the case of the Project, AGL has identified through its development of the project feasibility that the potential to develop a commercially successful project can be achieved at the same time as having minimal impact on the environment and people that live, work or visit in the area.</p> <p>If the Project goes ahead, significant benefits would be delivered to landowners in and around the wind farm through provision of alternative income streams for farmers who host wind turbines on their land, improved civil infrastructure such as access tracks and drainage, and jobs for local communities and contractors, as well as an economic boost for struggling regional areas. To deliver on all of this, AGL would continue to work co-operatively and effectively with the local community.</p>
<p>Concerns that there are unanswered questions such as health, property value, impact on wildlife, impact on livestock, EMI, emergency responses, shadow flicker etc.</p>	<p>The EIS has been prepared in accordance with relevant legislation, policies and standards to provide stakeholders with the information necessary to make an informed judgment about the Project. The report contains information relevant to the project description and background, existing environmental conditions, potential impacts (adverse and beneficial), and mitigation measures to reduce or prevent these impacts.</p>



Summary of key issues	Response
<p>Why can't the project be replaced with a gas-fired energy generation program which will not have the aesthetic impacts of turbines.</p>	<p>The Coopers Gap Wind Farm is a renewable energy project that, if constructed, would help achieve the goals and targets around renewable energy and ecologically sustainable development contained within international, Commonwealth and State legislation, policy and agreements.</p> <p>Wind farm infrastructure is the least expensive form of renewable energy, and experience (both internationally and within Australia) shows that wind farms are compatible with existing land uses. This EIS concludes that the Project is unlikely to have any significant adverse impacts on the natural environment, surrounding land uses or the community. Any potential impacts are expected to be manageable through appropriate mitigation strategies.</p> <p>Chapter 5 of the EIS assesses the potential landscape and visual impacts of the project. For the viewpoints assessed, the proposed development would have minor to major potential adverse visual effects, however these would not be significant with the exception of two viewpoints; one associated with the views from travellers along the Bunya Highway and one for tourists and recreational visitors to the Bunya Mountains National Park.</p> <p>It is acknowledged that due to the size of the proposed structures it is not possible to 'screen' or 'hide' all the turbines or associated infrastructure within the landscape. However, the mitigation measures outlined in Section 5.7 of the EIS would assist in providing a more harmonious appearance to the Project overall, particularly when viewed from sensitive viewing locations or in relation to those views experienced from residential properties lying close to the Project.</p>
<p>Will AGL have to build a gas fired power station to augment power produced by the wind farm to ensure power is produced 100% of the time.</p>	<p>AGL do not intend to build a gas fired power station to augment power produced by the wind farm. The Project is proposed to have a capacity of up to 460 megawatts (MW), which would produce enough renewable energy to power more than 236,000 average Australian homes. These calculations are based on a capacity factor of 37 per cent. The capacity factor is the average power generated, divided by the rated peak power (or the theoretical maximum output of a particular wind turbine).</p> <p>Wind turbines generate electricity most (70-85%) of the time. Their output varies according to the strength of the wind. They start generating power when the wind is blowing at about 4-5 metres per second and then stop again if it reaches gale force strength - about 25 metres per second. Over the course of a year, a wind turbine on land will generate from around 20 per cent to more than 30 per cent of its theoretical maximum output, depending on location. By comparison, conventional power stations average around 50 per cent. Because of stoppages for maintenance or breakdowns, no power plant generates for 100 per cent of the time. Wind turbines can carry on generating electricity for 20-25 years.</p>



Summary of key issues	Response
<p>Energy companies receive more Renewable Energy Certificates (RECS) for wind farms rather than planting trees which would be a better solution.</p> <p>Solar farms would have none of the health, flora/fauna, noise and EMI impacts associated with wind farms.</p>	<p>In Australia, the imperative for the development of wind energy projects is:</p> <ul style="list-style-type: none"> <li>- to secure billions of dollars of investment and tens of thousands of jobs for regional and rural Australian communities</li> <li>- to protect against increasing costs of fossil fuels</li> <li>- to help meet our commitments for reducing carbon emissions without the need to buy overseas permits</li> </ul> <p>Utility-scale wind energy projects are the least expensive form of renewable energy generation capable of being rolled out on a large scale.</p> <p>Australia stands to gain around \$17 billion of investment and about 10,000 jobs from wind energy projects that are currently proposed or approved. As these projects are typically located in rural and regional areas, much of this would flow on to these communities.</p> <p>Wind energy also has the potential to protect electricity consumers against the inevitable price hikes in the cost of electricity from fossil fuels such as oil and gas. For example, as Australia's gas market opens up to the rest of the world, higher demand for that gas has doubled wholesale gas prices in Australia. Meanwhile, the fuel cost of the wind is free and Australia has it in abundance.</p> <p>Australia's 20 per cent Renewable Energy Target will help build the Australian wind industry, helping Australia meet its national targets for reducing carbon emissions domestically. This in turn will reduce Australia's need to buy overseas carbon emissions permits, keeping billions of dollars of investment within Australia.</p> <p>The development of the Project does not preclude other forms of renewable energy infrastructure (both large-scale and small-scale) and carbon abatement such as establishment of solar farms or the planting of trees - rather, it forms part of a broad set of measures being implemented by the Commonwealth, State and local government and the private sector to help in combating climate change and buffering the rising cost of energy derived from fossil fuels in Australia.</p>

Summary of key issues	Response
<p>The Project will be too expensive to establish to produce electricity sustainably and economically.</p>	<p>The Renewable Energy Target is the Australian Government's commitment to reduce emissions of greenhouse gases in the electricity sector and encourage additional generation of electricity from sustainable and renewable sources.</p> <p>The Large-scale Renewable Energy Target creates a financial incentive for the establishment and growth of renewable energy power stations, such as wind farms. It does this through the creation of large-scale generation certificates.</p> <p>Large-scale generation certificates are created based on the amount of eligible renewable electricity produced by the power stations, and can be sold or traded to Renewable Energy Target liable entities, in addition to their sale of electricity to the grid. Liable entities have a legal obligation to buy and surrender large-scale generation certificates to the Clean Energy Regulator on an annual basis.</p> <p>In the case of the Project, AGL has identified through its development of the project feasibility that the potential to develop a commercially successful project can be achieved at the same time as having minimal impact on the environment and people that live, work or visit in the area.</p> <p>If the Project goes ahead, significant benefits would be delivered to landowners in and around the wind farm through provision of alternative income streams for farmers who host wind turbines on their land, improved civil infrastructure such as access tracks and drainage, and jobs for local communities and contractors, as well as an economic boost for struggling regional areas. To deliver on all of this, AGL would continue to work co-operatively and effectively with the local community.</p>
<p>Will the wind turbines require other sources of power for electricity to be generated?</p>	<p>Electricity generator consumption of electricity is termed 'auxiliary load', and is the electricity load used within a power station as part of the electricity generation process. In 2015, Infigen Energy's Operations Control Centre conducted an assessment of how much power one 3 MW wind turbine at its Lake Bonney wind farm development drew from the grid, relative to how much it generated. The results showed that for the turbine in question, total consumption was around 0.1 per cent of total generation.</p> <p>By comparison, the auxiliary load of large-scale thermal power stations in Australia's national electricity market (NEM) are considerably higher. An ACIL Tasman report which assessed the auxiliary load of power generators operating in the NEM identified auxiliary loads of up to 16 per cent for some thermal power stations (ACIL Tasman, 2009).</p> <p>Refer to the 2009 ACIL Tasman report "Fuel resource, new entry and generation costs in the NEM" for further information.</p>

Summary of key issues	Response
<p>Will wind turbines be able to meet base load electricity generation requirements?</p>	<p>The demand and supply of energy fluctuates all the time and Australia's electricity network is designed to cope with this. Energy created by wind turbines is just one of a range of energy types feeding into the electric grid to provide households with electricity. Back-up power supply is provided to the network by a diverse array of energy generating technologies, including baseload power plants, wind farms, solar power plants and gas-fired power plants. These work together to counter peaks and troughs in energy production and to offset down time (for example, when a coal-fired power plant goes off-line for maintenance, or when the wind is not blowing in a certain geographic location).</p> <p>Reliable and cost-effective operation of the electricity grid requires a combination of three types of resources: energy (electricity), capacity (ability to generate electricity at a certain point in time), and flexibility (ability to 'turn up' or 'turn down' electricity generation as needed). Each of the various types of power plants that generate electricity – coal, gas, solar, wind and others – may specialize in providing one or two of these attributes, but none are optimum at providing all three.</p> <p>'Baseload' power plants, a term typically applied to coal-fired power plants, provide energy and some capacity. Interestingly, other types of power plants can provide these resources, often at costs competitive with baseload plants. Wind plants can produce energy just as well or better than nuclear or coal plants, while natural gas plants can provide capacity at lower cost than nuclear or coal plants.</p> <p>Increasing the amount of wind energy and other variable renewable resources on the grid is likely to decrease the need for baseload power, as wind and baseload plants are both primarily energy resources. Inflexible baseload plants can be a significant obstacle to the growth of wind energy, as the inability to turn baseload plants off during periods of low electric demand can cause the supply of electricity to exceed demand. This causes an extremely inefficient outcome in which wind plants must employ their superior flexibility and reduce their output, wasting free, zero-emissions energy.</p> <p>Baseload power is in reality only energy and capacity, and has become an obsolete concept in a world where a variety of other resources can provide energy, capacity, and flexibility at competitive prices. Wind energy, working in conjunction with the array of energy generating technologies which feed energy into Australia's electric grid, can reliably and cost-effectively displace baseload generation as the dominant energy source on our electric grid.</p>
<p>What is the expected life of the wind farm?</p>	<p>The expected life of the Coopers Gap Wind Farm is 20 to 25 years. However, this does not preclude AGL from upgrading or replacing the components of the wind farm such that the wind farm can continue to operate, subject to obtaining any relevant approvals and/or licences.</p>
<p>Submissions included suggested conditions of approval for the Project.</p>	<p>Conditions of approval are a matter for the Coordinator-General to consider during their assessment of the application. AGL will comply with all conditions of approval that are provided by the Coordinator-General.</p>