

1.0 Introduction

Coopers Gap Wind Farm Pty Ltd, a subsidiary company of AGL Energy Limited (AGL), proposes to develop the Coopers Gap Wind Farm (the Project) with an installed capacity of up to 460 megawatts (MW) and a maximum of 115 wind turbines, although the final number of turbines will be dependent on the generation capacity of the particular wind turbine selected.

This Environmental Impact Statement (EIS) considers the potential direct and indirect environmental, social, and economic impacts associated with the development and operation of the Project.

The EIS has been developed to provide information for all stakeholders, relevant local governments and public sector entities, as well as other affected or interested bodies and/or parties.

1.1 Project proponent

Coopers Gap Wind Farm Pty Ltd (ABN 95 126 594 714), herein referred to as AGL, is the Project proponent.

The contact details for the proponent are:

Locked Bag 1837
St Leonards NSW 2065
Telephone: 1800 039 600
Email: coopersgapwindfarm@agl.com.au.

AGL is one of Australia's leading integrated energy companies and is taking action toward creating a sustainable energy future for its investors, communities and customers. Drawing on over 170 years of experience, AGL operates retail, merchant energy businesses, and power generation assets. AGL has a diverse power generation portfolio including base, peaking and intermediate generation plants, spread across traditional thermal generation as well as renewable sources including hydro, wind, landfill gas and biomass. AGL is Australia's largest private owner and operator of renewable energy assets and is looking to further expand this position by exploring a suite of low emission and renewable energy generation development opportunities.

An investment strategy focused on renewable generation will assist in delivering Australia's Renewable Energy Target (RET) of 33,000 gigawatt hours (GWh). AGL has secured a range of prospective renewable and low emission gas generation development options. This pipeline of developments, including the Project, will sustain AGL's position as Australia's leading renewable energy company.

AGL currently operates the following wind farms across Australia:

- Hallett Wind Farms (1,2,4 and 5) – 350 MW (South Australia)
- Macarthur Wind Farm – 420 MW (Victoria)
- Oaklands Hill Wind Farm – 63 MW (Victoria).

1.1.1 Health, safety and environmental policies

AGL's Health, Safety and Environment (HSE) Policy sets out overarching objectives for HSE, and the strategies by which those objectives will be achieved. The policy applies to all employees, contractors, products and services, and joint ventures under AGL's operational control. AGL's health, safety and environment management system is based on the requirements in Australian Standards AS/NZS 4801 (2001) Occupational Health and Safety Management Systems and AS/NZS ISO 14001 (2004) Environmental Management Systems.

AGL's 'Lifeguard' system documents the overarching Standards which are mandatory across the business. The HSE Management System (HSEMS) provides the framework of standards, guidelines and procedures and tools in order to meet the Lifeguard standards.

AGL is committed to achieving excellence in environmental management and performance. AGL has a culture where environmental principles are front of mind and part of everyday business; and which promotes excellent environmental performance, continuous improvement and the ongoing reduction of environmental risks.

AGL is committed to providing employees with a safe and healthy place to work, to measuring and publishing safety performance, and high standards of accountability. AGL measures and tracks safety performance using a number of trailing performance indicators based on reported safety incidents. AGL also tracks leading indicators

of health and safety to provide insight into trends. The leading indicators include HSE activities in Action Plans, safety and wellbeing conversations and 'near miss' incident reporting.

Internal and external audits of the HSEMS facilitate a culture of continuous improvement. Audit findings are reflected in HSE Action Plans and in improvements to the management system, strategic direction and safety programs.

1.1.2 Community policies

AGL is committed to ensuring that operations and projects are conducted in ways that avoids adversely affecting the environment and the communities in which they are located, and to developing good relationships with local communities. AGL welcomes open dialogue, debate, and discussion about its activities.

AGL is committed to rigorous measurement and reporting on its community investments and is moving towards a target of social return on investment for community contributions. This approach is embodied in AGL's public reporting and evidence-based approach to the development of strategic partnerships.

AGL's corporate citizenship program, Energy for Life, is just one way AGL is partnering with the community. Established in 2003, Energy for Life delivers support to the community through strategic partnerships, and gives AGL employees the opportunity to get involved in causes they are passionate about by participating in matched workplace giving and paid volunteering leave programs. AGL has invested over \$2.7 million in the community during Financial Year 2015.

1.2 Project overview

1.2.1 Previous project stages and project development

AGL acquired the Project from Investec Wind Holdings Pty Ltd, a subsidiary of Investec Bank Pty Ltd in December 2008. Prior to AGL acquiring the Project, Investec Wind Holdings Pty Ltd had commissioned a number of technical studies and investigations into the potential impacts of the Project.

In March 2011, AGL submitted an Initial Assessment Report in order to begin the process to achieve a designation for the Project as community infrastructure in accordance with Chapter 5 of the *Sustainable Planning Act 2009* (SP Act). The Initial Assessment Report collated the findings of a number of technical studies, including findings from the previous 2008 studies where relevant to the Project at the time. The Initial Assessment Report identified an initial turbine layout and corridor, and provided an analysis of potential environmental impacts and mitigation measures to minimise or prevent these impacts.

Consultation was subsequently undertaken in accordance with the Guidelines for Public Consultation Procedures for Designating Land for Community Infrastructure (DSDIP 2006), with submissions invited on the content of the Initial Assessment Report (refer to Chapter 10 Socio-Economics for further explanation of the previous consultation process).

Following the completion of the Initial Assessment Report submission period, submissions from Government agencies and stakeholders were received and informed the preparation of a draft Revised Assessment Report for the Project. At this time, AGL decided not to progress the draft Revised Assessment Report for public consultation until a decision was made by the Australian Government on the RET.

In June 2015, a reduced 2020 large scale gigawatt hour (GWh) target of 33,000 GWh was legislated. The Project is now seeking an assessment of the EIS by the Coordinator-General under the *State Development and Public Works Organisation Act 1971* (SDPWO Act) pursuant to the Project's declaration as a 'coordinated project' for which an EIS is required under section 26(1)(a) of the Act.

1.2.2 Project description

The location of the Project is approximately 180 km north-west of Brisbane, between Dalby and Kingaroy, near Cooranga North. The Project falls within the jurisdiction of the South Burnett Regional Council and the Western Downs Regional Council Local Government Areas (LGAs) (see Figure 1.1 in Volume 2).

AGL is seeking approval to install a maximum of 115 turbines and ancillary infrastructure. The Project will connect directly into Queensland's energy grid through the Western Downs to Halys 275 kilovolt (kV) transmission line. The capital expenditure for the Project is estimated to be around \$500 million.

Further details on the construction and operation of the Project are provided in Chapter 2 Project Description.

1.2.3 Project objectives

On 23 June 2015, the Federal Government set the RET to be 33,000 GWh by 2020. As a result, AGL established the Powering Australian Renewables Fund (PARF) as the financing vehicle to develop around 1,000 MW of large scale renewable energy by 2020, which includes the potential 460 MW Coopers Gap Wind Farm Project. Based on these factors, the objectives of the Project are to:

- Develop up to 460 MW of large scale renewable energy by 2020
- Contribute to the Queensland Government's commitment of 50% renewable energy by 2030
- Deliver ecological sustainable development that operates within the Queensland Government's regulatory framework and takes into consideration the expectations of the community.

1.2.4 Project justification

Renewable resources are defined as those which are not based on finite reserves stored within the earth. Renewable energy resources occur naturally and repeatedly in the environment and include sunlight, wind, water, waves and tides. One of the main advantages of renewable energy supplies over conventional fossil fuels is that they create virtually no carbon dioxide (CO₂) or other air pollutants during their operation and as such do not contribute to either global climate change or local air pollution. Renewable resources offer a contribution to the long term alternative energy supply.

Wind turbines are one of the most established forms of renewable energy technology, with other technologies (such as tidal, wave and solar) less developed in generating potential and commercial terms. Under current government policies, the financial cost of wind power is falling close to that of conventional sources of electricity. In addition, the life cycle carbon cost of wind power is significantly smaller than that of other forms of conventional and renewable energy production.

In addition to their environmental benefits, wind farms offer other important advantages. Firstly, they contribute to a reduction in our dependence on the finite reserves of fossil fuels, which are being rapidly depleted. Secondly, they reduce dependence on oil and gas imports and increase self-sufficiency in energy production. Wind farm developments are also reversible. This key feature allows a site to be decommissioned to the extent that no visible trace of the wind farm is apparent, thus allowing a site to retain its environmental legacy.

The development of the Project will be a significant economic development within Queensland. The Project represents a significant investment in the construction of infrastructure and its development, in conjunction with the coal and gas sectors, will result in increasingly resilient energy supplies through infrastructure diversification.

Furthermore, in conjunction with the mining regions of Central Queensland and Eastern Downs, the Project presents opportunities for its sustained economic contribution to the region, especially in relation to maximising the wind asset of the region. Wind as a resource is only viable in certain locations and the area where the Project is to be located has a high wind resource, particularly when compared to other central and southern Queensland areas.

The Project is aligned with a number of international, national, State and regional/local agreements and policies which provide for action on climate change and the development of renewable energy infrastructure, including:

- The Paris Agreement
- The Kyoto Protocol
- The Commonwealth RET
- The National Strategy on Ecological Sustainable Development.

Further discussion of these agreements and policies is provided in Chapter 3 Legislative Framework and Chapter 19 Sustainability and Climate Change.

1.2.5 Key project stages

The major stages of the Project are as follows:

- Development Approvals Process
- Detailed Design – Following financial commitment and receiving conditions of approval from the Coordinator-General's report on the EIS
- Construction – Construction of the Project is expected to take approximately two to two and a half years
- Operation – The Project is expected to have a design life of 20-25 years, after which time the site may be repowered or decommissioned
- Decommissioning and rehabilitation – The Project will be decommissioned and the site rehabilitated after wind farm operations.

Details on the construction, operation and decommissioning of the Project are provided in Chapter 2 Project Description.

1.3 EIS objectives and scope

1.3.1 Objectives of the EIS

The objectives of the EIS are to:

- a. Identify land within which the wind farm turbines and associated infrastructure can be developed; and
- b. Undertake environmental reporting and stakeholder engagement in accordance with the Queensland Wind Farm State Code and supporting Planning Guideline (DILGP 2016) and the Draft National Wind Farm Development Guidelines (EPHC, 2010).

There will also be a number of permits and licences required to be obtained prior to commencing construction of the Project. These permits and licences are external to the coordinated project process. However, Chapter 3 Legislative Framework identifies the likely permits and licences that are expected to be required for construction of the Project and associated infrastructure.

1.3.2 Scope of the EIS

The EIS has been prepared to provide stakeholders with the information necessary to make an informed judgment about the Project. The EIS contains information relevant to the Project description and background, existing environmental conditions, potential impacts, and mitigation measures to reduce or prevent these impacts.

1.3.3 EIS process

The flow chart in Figure 1.2 illustrates the approvals pathway under the SDPWO Act when preparing an EIS and also the opportunities for public comment.

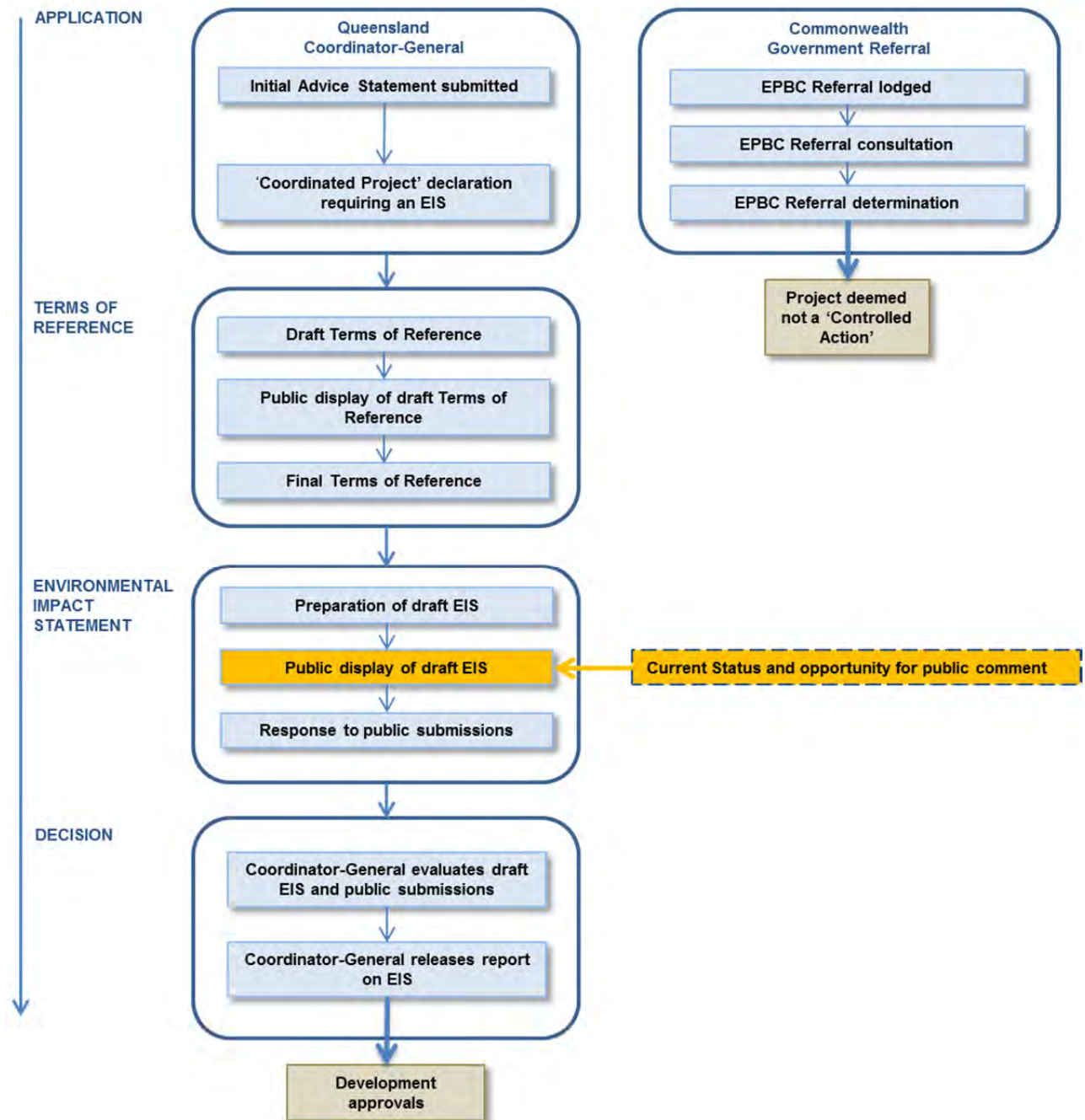


Figure 1.2 Approvals pathway for the Project by way of an EIS under the SDPWO Act

1.3.4 Public consultation on the EIS

The EIS is on public display for a period of 30 business days. Any person, group or organisation can make a submission about the EIS to the Office of the Coordinator-General online, or by email, post or fax. The Coordinator-General will consider all properly made submissions and may also consider submissions that are not properly made. All submissions must be received prior to the completion of the public display period.

A 'properly made' submission:

- Is made in writing to the Office of the Coordinator-General
- Is received on or before the deadline for submissions
- States the name and address of each submitter
- Is signed by each submitter
- States the grounds of the submissions and the facts and circumstances relied on in support of the grounds.

Any submissions regarding this EIS should be addressed to:

Project Manager – Coopers Gap Wind Farm

Submissions can be sent by:

Post: Project Manager – Coopers Gap Wind Farm

Coordinated Project Delivery Division

Office of the Coordinator-General

PO Box 15517

City East QLD 4002

Fax: (07) 3452 7486

Email: coopersgap@coordinatorgeneral.qld.gov.au

Website: <https://haveyoursay.dsd.qld.gov.au>

1.4 Structure of the EIS

This EIS has been structured to allow the reader to develop a comprehensive understanding of the potential impacts that the Project may have on existing environmental, social and economic conditions. The EIS comprises the following volumes:

- Volume 1 – Main text
- Volume 2 – Figures
- Volume 3 – Technical appendices.

1.4.1 Volume 1

Volume 1 (Main Text) of the EIS is organised as follows:

- **Chapter 1** provides an introduction to the proponent and provides a summary of the justification of the Project. It also provides an outline of the Project objectives and the general assessment methodology used to provide a consistent and transparent approach to assessment across the various technical disciplines.
- **Chapter 2** provides information regarding the Project Site and a description of the Project. It outlines the construction and operational requirements of the Project and describes the construction programme as well as details of the principal construction operations.
- **Chapter 3** describes how the Project is generally consistent with the range of relevant Commonwealth and State legislation and policies. In particular, it identifies where the Project would require assessment against relevant Commonwealth and State legislation.

Chapters 4 to 20 report the findings on each of the topics that were identified for inclusion in the EIS. The purpose of these chapters is to provide information that will assist the Coordinator-General in determining approval for the

Project. The chapters will also assist the relevant local governments, other public sector entities and interested parties in understanding and considering the potential impacts of the Project. The various topics considered relevant for inclusion in the EIS are covered in the following chapters:

- **Chapter 4** Noise and Vibration
- **Chapter 5** Visual Amenity
- **Chapter 6** Shadow Flicker
- **Chapter 7** Electromagnetic Interference
- **Chapter 8** Aviation
- **Chapter 9** Hazards, Health and Safety
- **Chapter 10** Socio-Economic
- **Chapter 11** Land Use and Planning
- **Chapter 12** Flora and Fauna
- **Chapter 13** Transport
- **Chapter 14** Surface Water
- **Chapter 15** Groundwater
- **Chapter 16** Topography, Geology and Soils
- **Chapter 17** Waste Management
- **Chapter 18** Cultural Heritage
- **Chapter 19** Sustainability and Climate Change
- **Chapter 20** Project Commitments.

The general approach to preparing the technical components of Volume 1 of the EIS was as follows:

- Review of the Final Terms of Reference for the Project (attached as Appendix A in Volume 3)
- Review of existing information and reports to identify where these should be used or superseded
- Review of the requirements of the EIS according to the Queensland Wind Farm State Code and supporting Planning Guideline (DILGP 2016) and the Draft National Wind Farm Development Guidelines
- Identification of information gaps, including updates to legislation and identification of further or revised work that would be required
- Preparation of a methodology to fill information gaps
- Desktop investigations, field investigations and reporting.

Generally, Chapters 4 to 20 of this EIS combine relevant information from technical studies and investigations undertaken between 2008 and 2016, coupled with the findings of additional work to address information gaps and issues raised in previous stakeholder submissions. Each chapter discusses the methodology used to present the relevant required information, in accordance with the Queensland Wind Farm State Code and supporting Planning Guideline (DILGP 2016).

In general, under each environmental topic, the following format has been adopted with regard to the presentation of information:

- Introduction
- Scope of assessment
- A summary of relevant legislation and policy
- Methodology
- Description of the existing environment and evaluation of their importance or sensitivity
- Identification of potential impacts

- A description of the mitigation measures to be incorporated into the Project
- Identification of the predicted residual impacts generated during the construction, operation and decommissioning phases (allowing for the agreed mitigation) and a consideration of the nature and magnitude of these impacts
- Consideration of cumulative impacts
- The findings of assessments are brought together in the summary and conclusions
- References.

Where individual disciplines adopt variations on this format, this is noted in the relevant technical section.

1.4.2 Volume 2

Volume 2 contains the EIS figures and graphics for each of the chapters (where relevant) to illustrate the proposed layout of the Project and its potential environmental impacts.

1.4.3 Volume 3

Volume 3 provides additional technical information relating to some environmental topics to support and supplement the information presented in the main text. Information includes detailed methodologies, baseline data information and data analysis.

A list of the technical appendices is provided below and referenced in the relevant chapters of the main text.

Appendix A – Terms of Reference

Appendix B – Terms of Reference Cross Check

Appendix C – Preliminary Geotechnical Assessment

Appendix D – Flora and Fauna Appendices

Appendix E – Preliminary Offsets Assessment

Appendix F – Noise and Vibration Impact Assessment

Appendix G – Community Engagement and Response to 2011 Submissions

Appendix H – Health Literature Review

Appendix I – Land Values

Appendix J – Aviation Advisory Report

Appendix K – Shadow Flicker Assessment

Appendix L – EMI Assessment

Appendix M – State Development Assessment Provisions Compliance Assessment

Appendix N – Study Team

1.5 References

DSDIP (2006). Guidelines for Public Consultation Procedures for Designating Land for Community Infrastructure (2006). State of Queensland.

DILGP (2016) Queensland Wind Farm State Code and Planning Guideline. State of Queensland.

EPHC (2010). Draft National Wind Farm Development Guidelines. Commonwealth of Australia