

16. Project Justification

This chapter of the EA provides a review of information that provides the basis for justification of the development of the Capital Wind Farm.

16.1 Overview

In summary, the development is justified for the following reasons:

- It utilises renewable energy to produce about 132 megawatts of electrical power when operating at full capacity
- It provides additional generating plant to assist the National Electricity Market (NEM) to be able to meet forecast demands
- Additional renewable energy generation assists the diversification of supply sources and can increase security of supplies
- By displacing generation from fossil fuels it can help reduce the carbon intensity of electricity generation and provide savings in the of greenhouse gas emissions of 390,000 tonnes per year compared to generation by coal fired plant
- When implemented in accordance with the controls identified in this document, it does not compromise environmental values at the locality including ecological, heritage, soils or water quality and does not place undue stress on local resources
- It assists achievement of the Federal Government's Mandated Renewable Energy Target.
- It provides additional income to the land owners on which the wind farm will be located
- The development is located on cleared grazing land and is able to operate compatibly with the existing grazing operations
- It is a commercially viable development that will assist Renewable Power Ventures to meet its business objectives
- The project is likely to provide a small but significant boost to the local economy
- There appears to be general support from the local community for the project with some limited opposition
- The project has been designed to limit impacts on the local community
- The project complies with the requirements for inter-generational equity

While the project has a range of positive features, impacts that could be considered by some stakeholders, as adverse, include changes to the landscape of the wind farm locality and increased traffic on local roads during the construction period. Construction impacts are manageable and short term. The operational impacts will mostly be minor and outweighed by the positive environmental benefits of the project. Nevertheless, the visual impact of the operating wind farm for some neighbours may be of concern and would only be avoided if the wind farm were not built. The option of not developing this renewable energy project reduces the State of NSW's progress toward an increased level of sustainable generation and forgoes a significant opportunity for abatement of greenhouse gas emissions.

Some of the above aspects are outlined below and further described in other sections of the EA and its appendices.

16.2 Additional Generation Capacity

The project provides additional generating capacity that can provide renewable energy over its proposed operating life of around 25 years. Its location between the major electrical load centres of Canberra and Wollongong, where the electricity may be consumed, is advantageous in that electrical transmission losses will be minimised. Studies by the Australian Greenhouse Office indicate that New South Wales has considerable ability to integrate additional wind energy generation capacity without adverse effects on the existing electricity network.

16.3 Acceptability of Environmental Impacts

The project takes account of the biophysical aspects of the environment including flora and fauna, soil, water and air aspects. Comprehensive assessments of relevant issues have been undertaken and are appended to the EA. Where necessary, mitigation measures have been proposed to mitigate the potential environmental impacts.

The key environmental aspects addressed in the EA are outlined below:

Greenhouse Gas Emissions - The project will deliver net savings in greenhouse gas emissions.

Visual Aspects - The project will be visible from parts of the local area which may be regarded by some members of the community as an adverse impact. However, overall it is expected that there will be broad community acceptance of the project. The favourable association with renewable energy, lack of greenhouse gas emissions and the integration with existing rural activities are considered by many people to be positive attributes of the proposed wind farm.

Land Use - The project area is spread over approximately 3000 hectares of predominantly cleared agricultural land. Of this area, only a very small percentage is required for placement of the turbines, access tracks and overhead transmission lines. Existing grazing activities and nearby industrial activity will not be significantly affected by the development.

The proposed development is consistent with the zoning objectives of both Mulwaree and Yarrowlumla Local Environment Plans. At the end of its useful life, the turbines can be decommissioned and removed from site.

Flora and Fauna Aspects - The development requires minimal clearing of vegetation and will avoid impacts on areas of sensitive vegetation or vegetation with important habitat potential. Impacts on avifauna have been assessed as being very low and in the case of threatened species, not significant.

Noise Aspects - The large properties on which the site is located mean that adjoining landowners and residences will be at least 1.2 kilometres from the development. Where noise criteria are predicted to be exceeded at residences on the properties on which the wind farm is located, then suitable agreements will be reached with the affected landowners.

After extensive consultation and analysis, the layout has been adjusted to mitigate impacts at neighbouring residences and comply with the noise regulations.

Soil Aspects - The extent of ground surface disturbance affects only a small part of the overall site. Erosion and sediment controls will be implemented during all earthworks.

Water Aspects - There will be no off-site discharges. Controls to avoid spillage of oil or erosion and sediment loss from the site will be supported by Emergency Response procedures, where required.

Air Aspects - The development will result in low project life-cycle air emissions allowing for manufacture, transport, erections and operation of the plant. The emissions from the project will be significantly less than those of most other electricity generating stations.

Aboriginal Heritage – Potential Aboriginal sites have been identified at several locations and further investigation of those sites is planned. Subject to satisfactory outcome of the investigations including selective test-pitting and salvage as permitted by National Parks and Wildlife Service, it is anticipated that the project will be able to proceed subject to obtaining a Section 90 Permit if required and appropriate monitoring of construction works.

Socio-Economic - The project will require a modest workforce during the construction stage. It is likely that some services will be drawn from the local area and that some employment opportunities may arise for the local community. The services required during construction are not expected to place undue stress on local resources and will provide a small but significant boost to the local economy. The operational project will provide a worthwhile contribution to the local economy over its lifetime.

Traffic and Transport - The construction stage of the project will result in increased traffic and over-mass and over-size vehicles. However, with an appropriate Traffic Management Plan prepared in consultation with the local Traffic Management Committee, the works can be undertaken safely and with minimal disruption to local traffic. The proponent will also come to an arrangement with Council for the inspection and monitoring of the condition of the local roads during the construction works. Once operational, the traffic visiting the site will be low. Renewable Power Ventures and Palerang Council are also negotiating the sealing of Taylors Creek Road in association with the development.

Electromagnetic Interference - Potential for interference has been assessed and indicated some areas where interference to television reception could occur. Mitigation options have been identified and can be applied following commissioning if required.

Safety Risks and Hazards – A Bushfire Management Plan will be prepared to mitigate the risks of bushfires starting as a result of construction, operation, maintenance and decommissioning activities of the wind farm. The Bushfire Management Plan would be prepared in consultation with the NSW Rural Fire Service as part of the Environmental Management Plan.

The following further risks were considered to be low, in some cases as a result of the Statement of Commitments in Chapter 15 of the EA:

- Aircraft safety
- Potential health risks associated with electro-magnetic fields and shadow-flicker
- Safety of site personnel, particularly during construction
- Road safety

16.4 Ecologically Sustainable Developments

The Capital Wind Farm involves the application of renewable energy technology to the generation of electricity for use by customers of the National Electricity Market. In addition, the assessment in this EA demonstrates that the project can be implemented with due consideration to minimising environmental impacts and ensuring that it not only results in a new sustainable energy development but also addresses the broader dimensions of sustainability covering issues such as soil conservation, maintenance of water quality, protection of biodiversity and heritage conservation.

16.4.1 The Precautionary Principle

The Capital Wind Farm is being developed in response to measures developed to address global concerns about the potential enhanced climate change arising from greenhouse gas emissions. It is an acknowledgment that actions can be taken now to address potential future degradation of the global environment. The local environmental impacts are of a

predictable nature and controls will be integrated into the project to address the identified impacts.

16.4.2 Social Equity and Inter-Generational Equity

A key strength of the utilisation of renewable energy sources is that it acts to reduce demands on fossil fuel resources at the same time as offering net savings in greenhouse gas emissions. Increased use of renewable energy sources is an important step towards reducing the growth in society's consumption of finite fossil fuel resources. While that alone will not ensure the availability of energy resources for future generations it can extend the life of fossil fuel resources and redress a possible imbalance in inter-generational equity relating to energy resources.

As the Capital Wind Farm is a reversible project it does not compromise future decisions relating to the landuse at the site.

16.4.3 Conservation of Biodiversity and Eco-Integrity

The design and implementation of the project takes account of identified ecosystem values and incorporates mitigating measures to minimise its impacts. The project will not significantly affect the conservation values of the locality.

In addition, the Federal Government has listed "Anthropogenic Climate Change" as a "Key Threatening Process" under the Environment Protection and Biodiversity Conservation Act. The Capital Wind Farm is part of a package of measures that aim to reduce the rate of greenhouse gas emissions and accordingly counters a 'Key Threatening Process'.

16.4.4 Improved Valuation and Pricing of Resources

The project delivers electricity from a renewable energy source (i.e. it does not deplete a finite energy resource) and has associated emissions that are much lower than other forms of generation that supply the bulk of Australia's electricity.

The pricing of the electricity produced is a function of the capital and operating costs of the project and the amount of electricity exported into the National Electricity Market. The cost of the electricity produced by wind farms is above that of coal sourced electricity and the Australian Government has created mechanisms that recognise the environmental benefits of renewable energy generation and enable renewable energy to compete in the marketplace. In addition, the pricing of electricity generated from fossil fuel resources does not include the full cost externalities arising from that generation.

16.5 Project Benefits

The key benefits of implementing the Capital Wind Farm are summarised below:

- It provides a new source of electricity generation from renewable energy
- It can provide net greenhouse gas emission savings of 390,000 tonnes CO₂ / year.
- It assists Renewable Power Ventures' fulfilment of its business objectives
- It assists the Federal Government to achieve the Mandated Renewable Energy Target
- It provides an income to the landowners of properties on which it is located
- It can provide a small but significant economic boost to the local community and provide employment opportunities

16.6 Project Justification/Conclusion

As one of New South Wales' largest wind farm developments, the project is a significant environmental initiative and represents an important consolidation of renewable energy generation in New South Wales.

This Environmental Assessment has identified and addressed the environmental issues likely to be associated with the proposed development. Having regard to the material in the foregoing sections and the significant environmental advantages of the project, it is concluded that the overall environmental impact will be acceptable.