



Submission to NSW Department of Planning
Preliminary Environmental Assessment
Capital II Wind Farm

Bungendore, NSW

Prepared by Capital Wind Farm 2 Pty Ltd

9th August 2010



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1 INTRODUCTION

Infigen Energy has prepared the following Preliminary Environmental Assessment (PEA) to provide initial details of the Capital II Wind Farm, for consideration by the NSW Department of Planning.

The proposed wind farm site is located in the NSW Southern Tablelands, approximately 17km north-east of the Bungendore township. The Capital II Wind Farm will include between 30 and 42 wind turbines, of up to 3.4MW capacity. The land parcel proposed for the Capital II Wind Farm is in close proximity to the existing Capital Wind Farm to the south-east and to the under construction Woodlawn Wind Farm to the east.

The proposed wind farm supports the NSW Government's renewable energy policies and directly contributes to the Federal Government's renewable energy target of 20% of Australia's energy sourced from renewable energy by 2020. The wind farm development also supports the practice of Environmentally Sustainable Design (ESD), which ensures the environmental, economic and social benefits of the wind farm will be realised in the most effective and sustainable way. By supplying a clean and renewable source of energy, the project will help reduce Australia's greenhouse emissions and assist in addressing the dangerous impacts of climate change, whilst simultaneously contributing to the development of NSW's renewable energy sector and electricity infrastructure, and contributing to the local rural economies of nearby townships.

The purpose of this PEA is to allow the drafting of Director Generals Requirements to be addressed by an Environmental Assessment (EA) to be lodged with the NSW Department of Planning for assessment. This document represents an overview of the site and surrounds, describes the proposal in its preliminary form, summarises the planning instruments and outlines the key issues and next steps for the project.

2 THE SITE AND SURROUNDS

2.1 REGIONAL AND LOCAL CONTEXT

The site is located in the NSW Southern Tablelands, approximately;

- 17km North of Bungendore township;
- 17km South-west of Tarago township;
- 45km south-west of Goulburn;
- 35km north-east of Canberra.

The site falls entirely within the Local Government Area of Palerang. Land use in the locality is predominantly rural with agricultural industries including wool, lambs, beef and cattle.

The surrounding area is undulating with some steeper slopes around incised valleys. Capital II Wind Farm is bordered by Western Leg Road to the east and Lake George to the west. At approximately 2500 people, the Bungendore township is the closest significant population centre to the site, and the city of Canberra is located approximately 40km to the south-west.

Refer to figure 1 which shows the approximate location of the Capital II Wind Farm in the context of the surrounding region.



Figure 1 Location of the Capital II Wind Farm

2.2 THE SITE

The Capital II Wind Farm comprises of approximately 700 hectares of rural land with access via Western Leg Road. The site consists of approximately 10 individual titles in total amongst five different landowners. The majority of the Capital II Wind Farm has been cleared of native vegetation, but retains a small number of isolated remnant patches. The vegetation comprises a mix of types as the result of a long history of grazing activities.

The land parcel is undulating with a number of ridges and waterways. Taylor's Creek runs through the Capital II Wind Farm site. There are several additional incised drainage lines which run through the site. The site ranges between approximately 675m and 720m above sea level. The landscape within the site and its surrounds is generally rural, across cleared low undulating hills. The character of the site is typical of the surrounding area.

The landscape consists of the following elements:

- Grassed areas, most commonly introduced pastures;
- Limited Rocky Hilltops;
- Drainage lines and one creek;
- Flats

The landscape is punctuated by human infrastructure including:

- a residence associated with the proposed wind farm;
- Agricultural structures (silos, sheds etc);
- High voltage powerlines;
- Dams;
- Farm tracks;
- Fencing

The existing Capital Wind Farm is also present on the landscape and is visible from Tarago Road and Western Leg Road during the site approach.

See Figure 2 for a detailed site plan and the subsequent range of photos depicting the landscape at various points around the wind farm site.

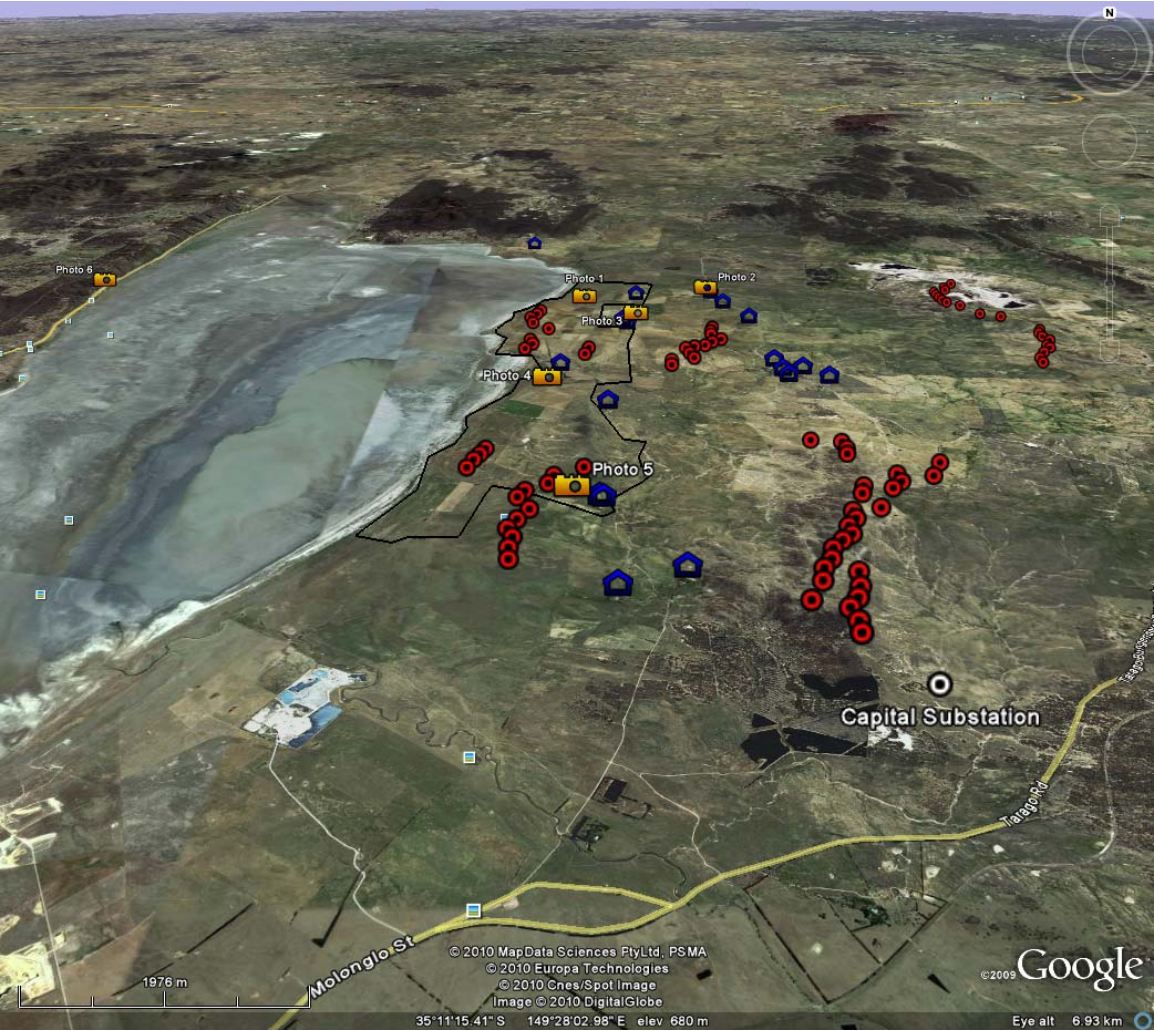


Figure 2. Development envelope and site plan, showing nearby houses in blue, existing or approved wind turbines in red, proposed turbine envelope within the black outline, and vantage points of the photos contained below.



Photo 1. Looking west from the northern end of the turbine envelope



Photo 2. Looking west from the intersection of Western Leg Road and Taylors Creek Road



Photo 3. Looking west from Western Leg Road, close to the Keatley homestead



Photo 4. Looking south east from Taylors Creek, showing existing wind farm road and turbines.



Photo 5. Looking west from the northern end of Currandooley Rd



Photo 6. The landscape as seen from the Federal Highway

3 PROJECT DESCRIPTION

3.1 PURPOSE

The PEA has been prepared to support a future EA for the proposed Capital II Wind Farm, located 17km to the north of Bungendore. It provides a description of the site and surrounds, a preliminary overview of the project details, and a summary of the key planning instruments.

The purpose of this chapter is to provide an overview of the preliminary specifications of the proposal. Whilst the approximate number of turbines that the site can accommodate is expected to be between 30 and 42 turbines, the location of the individual turbines is not resolved at this stage and will be informed by the next phase of investigations. The next stage of the process will also provide greater clarity of the preliminary details of the project through the engagement of a wider range of specialists. Their work and findings will inform the EA, to be prepared and submitted with the NSW Department of Planning.

3.2 PROJECT OVERVIEW

The project will comprise a number of elements, including:

- 30 to 42 individual wind turbines standing up to 157m at top of blade tip with up to 3.4MW capacity each
- Kiosk transformers at the base of each turbine
- Internal unsealed tracks for turbine access;
- Potential upgrades to local road infrastructure;
- An underground electrical and communication cable network linking turbines to each other;
- Overhead electrical cables to connect the wind turbines to the existing Capital substation
- Minor substation augmentation
- Site office, control room and operations and maintenance building
- A potential temporary concrete batching plant to supply concrete for the foundations of the turbines and other associated structures;
- Laydown area and hardstands for equipment during construction
- Gravel pit
- The potential limited removal of native vegetation.

Grid connection will be achieved via connection to the 330kv transmission line which bypasses the site. The site will share the substation with the existing Capital Wind Farm and approved Woodlawn Wind Farm.

The project has a capital investment of approximately \$180 million with an installed capacity of between 60 and 100 megawatts. The site consists of five landowners.

3.3 TURBINES

At this early stage in the planning process, flexibility is needed for the turbine selection as the turbine industry changes rapidly and models can become obsolete in a small space of time.

To maximise energy generation, wind turbines are automated to rotate to face into the wind. The turbines selected for consideration have a cut-in speed of between 3m/s and 4m/s in response to the particular conditions at the site. There are some slight differences in the electrical construction of the turbines under consideration. Some of these options have a transformer in the nacelle, and a switch-gear either in the base of the tower or next to the tower. Other turbines have the transformer and the switchgear on the ground in a kiosk next to the tower.

3.4 ELECTRICAL WORKS

The electrical works proposed comprise;

- Underground electrical cabling
- Overhead transmission lines
- Switchgear at Capital Substation

Capital II Wind Farm will connect via the Woodlawn Wind Farm main transformer at the Capital Substation.

3.5 ACCESS

Within the site, Capital Wind Farm access tracks will be extended to service the new wind farm. This will significantly reduce the length of new road that would normally be required to service a wind farm of this size. Parts of the access tracks will be up to 10m in width to facilitate crawler crane access.

Access to the Capital II Wind Farm would be achieved via the existing Capital Wind Farm entrance off Western Leg Road.

3.6 VEGETATION REMOVAL

The vast majority of the site is cleared and has a long history of grazing uses, and therefore does not contain significant vegetation. The planning process will involve the detailed assessment of vegetation conditions, and the layout of the turbines and other infrastructure will seek to avoid significant areas. The wind turbines will be constructed without the removal of a single tree, however the project may require some unavoidable though limited vegetation removal to facilitate the overhead transmission line.

The exact extent of proposed vegetation removal will be detailed in the EA.

3.7 CONSTRUCTION AND OPERATION STAGES

The full construction phase would likely take 12 to 18 months subject to delays due to weather and unforeseen circumstances. The construction phase of the project (subject to planning approval) would likely commence in the mid 2011. At the peak of construction, the project is

likely to be employing approximately 100 people, across a range of tasks in the substantial form of those detailed in the table below.

Activity	Works Involved
Site Establishment	Clearing of work areas, levelling and compaction, installation of portable buildings and installation / connection of utility services. Site Survey.
Internal Road Works	Removal of topsoil, levelling, sub-base compaction, gravel, drainage.
External Road Works	Upgrade existing roads where required. Provide new access roads to the site.
Foundations	Removal of topsoil, excavation, screed concrete, reinforcement steel bottom, installation of foundation ring, reinforcement steel top, concreting, concrete ring and conduits, backfilling.
Crane Pad Establishment	Removal of topsoil, base compaction, rock / gravel compaction.
Trenches and Cable Laying	Excavation, sand infill, cable laying with protective covering, backfilling and compacting, installation of cable route markers.
Electrical Works	Control building switchboards, communications, Supervisory Control And Data Acquisition (SCADA) systems. Installation of cabling, switchgear, turbine control panels.
Turbine Supply	Transport of towers, nacelles, hubs and blades to site.
Turbine Erection	Erection of towers, nacelle, blades, installation of cabling.
Wind Farm Commissioning	Pre-commissioning of turbines, SCADA, cables testing, optical fibre. Testing and commissioning of turbines, switchgear, SCADA.
Construction Closure	Site cleanup, revegetation, landscaping.



3.8 OPERATION

The operation phase of the project reflects the leasing arrangement with landowners. During the operation all infrastructure associated with the wind farm would remain the responsibility of the proponent. All access tracks used by the wind farm would be maintained by the wind farm operator as part of the operation of the wind farm, and are available for host landowner's use. The wind farm would be controlled by a computerised system. The system would be linked to each turbine by fibre-optic cables laid in the same trench as the electrical cables. The computerised system would log all relevant operating parameters and initiate the most efficient functionality of the turbines according to the atmospheric characteristics. The computerised system would also enable the controller to stop the turbines should the need arise.

The computerised system would ensure that rotational speed and the wind turbine angle operate automatically within the wind speed design envelope. Turbines would be disconnected from the grid at low wind and very high wind speeds.

Maintenance will be conducted throughout the operation phase and includes a number of activities over differing time periods.

The operation of the wind farm is estimated to provide full time employment for 5 people.

3.9 PROJECT BACKGROUND

This project was initiated in its current form in 2010 following approval of the modification to the Woodlawn Wind Farm in 2010. The Woodlawn and Capital wind farms provides a large amount of essential infrastructure required to support a wind farm, and there are synergies gained from co-locating the projects. The two projects can share infrastructure, lending significant benefits to the project and increasing its viability. It also reduces the potential amenity impacts arising from separate substations, controls buildings and switchyards.

There is one wind monitoring mast and one SODAR wind monitoring device located on the property in order to confirm the wind resource, which has been demonstrated to exist in the area through several years of wind monitoring at the Capital wind farm site.

The project will now enter its assessment phase to inform a wind turbine layout and Environmental Assessment for the project with various consultancies contributing to the EA.

The Department of Planning have declared Capital II Wind Farm as a Major Project and therefore it will be assessed under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). See Attachment A for a copy of this declaration.



3.10 PROJECT TIMEFRAME

Following receipt of the Director General's requirements the applicant will prepare and lodge an Environment Assessment in the third quarter of 2010.

Subject to consent, the following timeframe is envisaged:

Lodge Project Application	September 2010
Assessment by DoP	September - December 2010
Wind Farm Construction	June 2011 to July 2012
Commissioning	July 2012

3.11 THE APPLICANT

Capital Wind Farm 2 Pty Ltd is a wholly owned subsidiary of Infigen Energy Limited.

Infigen Energy is Australia's leading specialist renewable energy business. Infigen Energy has five wind farms in Australia with a total capacity of 508 MW as well as its Australian development pipeline. Infigen also owns and operates US and German wind energy businesses taking its aggregate wind energy business interests to 35 wind farms with a total capacity of 2,194 MW.

Infigen's US business comprises 18 wind farms with a total installed capacity of 1089 MW and also includes the Bluarc asset management business. It is the largest independent portfolio of wind energy generating assets in the US.

Infigen's presence in Germany comprises 12 wind farms with a total installed capacity of 128.7 MW.

Infigen is listed on the Australian Securities Exchange and has a market capitalisation of approximately A\$0.7 billion.

4 PLANNING INSTRUMENTS

4.1 INTRODUCTION

A range of Federal, State, Regional and Local planning and environmental instruments apply to the proposed Capital II Wind Farm, including State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs), and Local Environmental Plans (LEPs).

This chapter outlines the key environmental instruments and planning controls which apply to the project application. The EA, which will be submitted as part of the future stage of the planning process, will contain a comprehensive assessment of the proposed project against all relevant planning and environmental instruments.

4.2 COMMONWEALTH INSTRUMENTS

4.2.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act regulates actions that impact on matters of national environmental significance. An action that:

- has, will have or is likely to have a significant impact on a matter of national
- environmental significance; or
- is a nuclear action

may not be undertaken without prior approval from the Commonwealth Minister for the Environment and Heritage. Such approval is provided for under Part 9 of the EPBC Act.

Matters of national environmental significance under the EPBC Act include:

- World Heritage properties and National Heritage places;
- Wetlands of International Significance (i.e. RAMSAR wetlands);
- Listed threatened species and communities;
- Listed Migratory Species protected under international agreements (CAMBA and JAMBA);
- Commonwealth Marine Areas.

The proposed wind farm constitutes an action under section 523 of the EPBC Act. The specialist assessments proposed to be completed to inform the EA will review the application of the EPBC Act to the proposed wind farm and in particular whether any matters of national environmental significance (as defined under the EPBC) are likely to be affected. If it is deemed likely that a matter of national environmental significance is impacted upon by the proposed wind farm, a referral under the EPBC Act will be submitted.

4.2.2 Civil Aviation Safety Regulations 1998

The Civil Aviation Safety Regulations 1998 (made under the Civil Aviation Act 1988) require that CASA must be informed of proposals to build a structure greater than 110 metres above Australian Datum.

The wind farm is distant from any airport obstacle limitation surface boundaries and will pose no hazard to aviation.

4.3 NSW STATE INSTRUMENTS

4.3.1 Environmental Planning and Assessment Act 1979 & Environmental Planning and Assessment Regulation 2000

On the 30th April 2010 the Department of Planning confirmed that the proposed Capital II Wind Farm is deemed a Major Project, and therefore subject to assessment under Part 3A of the Environmental Planning and Assessment Act 1979. See Attachment A for the confirmation.

Other State Environmental Planning Policies may apply to the proposed wind farm and will be assessed as part of the EA.

4.3.2 National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NPW Act) governs the establishment, preservation and management of national parks, historic sites and certain other areas. The NPW Act also provides the basis for the legal protection and management of threatened native flora and fauna and Aboriginal sites within NSW.

Detailed flora and fauna studies along with cultural heritage investigations will be prepared as part of the EA which will inform compliance with this Act.

4.3.3 Threatened Species Conservation Act 1995

The Threatened Species Conservation Act 1995 provides for the conservation of threatened species, populations and ecological communities of animals and plants. It provides a framework for the assessment of any action that may impact on threatened species. The flora and fauna investigation carried out as part of the EA will assess the implications of this Act and in particular the need for targeted surveys for particular species.

4.3.4 Water Management Act 2000

The object of the Water Management Act 2000 (WMA) is the sustainable and integrated management of the State's water for the benefit of both present and future generations. A controlled activity approval under the WMA is required for certain types of developments and activities that are carried out in or near a river, lake or estuary.

An assessment of the implications of this act, and in particular whether controlled activity approval is needed, will be carried out as part of the EA.

4.3.5 Native Vegetation Act 2003

In accordance with the principles of ecologically sustainable development, the Native Vegetation Conservation Act 2003 provides for the conservation of native vegetation through the prevention of inappropriate clearing and promotion of rehabilitation practices.

Construction of the turbines and roads will not require any tree clearing. There may be a requirement for limited vegetation clearing to facilitate part of the overhead transmission line. No vegetation removal is required for the additional switchgear at the substation. There is extensive sharing of existing infrastructure at Capital Substation with the existing Capital Wind Farm and under construction Woodlawn Wind Farm.

Detailed mapping of flora and fauna values will be undertaken which will inform the siting process with the aim to avoid the need to remove areas of native vegetation. If vegetation clearing is unavoidable, the implications of this activity under this Act will be investigated, including the need for approval.

4.3.6 Heritage Act 1977

The Heritage Act 1977 aims to protect and preserve items of non-indigenous Heritage significance. The Act provides for the protection of items of local, regional and State heritage significance. The implications of this act on the proposed wind farm will be assessed as part of the EA.

4.3.7 Roads Act 1993

Section 138 of the Roads Act 1993 prohibits a number of activities, such as conducting work in, on or over a public road, unless consent has been obtained from the appropriate roads authority. It is likely that consent will be needed under this act for the temporary closure of roads to facilitate delivery of some turbine components, which will be further investigated as part of the EA. Delivery methods will largely replicate those undertaken at Capital Wind Farm and the under construction Woodlawn Wind Farm.

4.3.8 Crown Lands Act 1989

Part 4 of the NSW Crown Lands Act 1989 provides for circumstances where Crown Land may be leased or sold and where licenses over Crown Land may be granted. There is a network of Crown road reserves in the area, and the easement required for electrical cables to connect the wind turbines to the Capital substation may cross some of these. In the event that the final easement route passes through Crown road reserves, the Department of Lands would be consulted in order to determine the best means of gaining consent for use of the reserves, and address any other implications under this Act.

4.4 ADDITIONAL APPROVALS

Additional approvals that may be required for the proposed development include:

- a requirement for occupiers to notify NSW Workcover of any dangerous goods stored and handled under the Occupational Health and Safety Act 2000; and
- necessary Part 4A certificates under the EP&A Act, including a Construction Certificate and Occupation Certificate under the Act from a relevant certifying authority.

4.5 REGIONAL INSTRUMENTS

A number of Regional Environmental Plans may apply to the proposed wind farm.

Relevant REP's will be assessed as part of the EA.

4.6 LOCAL INSTRUMENTS

4.6.1 Local Environmental Plans

The subject site is located within the Palerang Local Government Area, and the site is subject to the Mulwaree Local Environmental Plan 1995 (MLEP) and the Yarralumla Local Environment Plan 2002 (YLEP). Both LEP's set the provisions for land-use planning and development permissibility within subject site.

The site is zoned 1(a) General Rural under both the MLEP and YLEP. As the proposed wind farm is defined as 'generating works', it is permissible within this zone subject to development consent under both LEP's. The overriding objective of both LEP's is to protect, enhance and conserve the areas agricultural land and to sustain agricultural production. The proposed wind farm accords with this objective as more than 99% of the site will remain available for agricultural production, and existing operations will be supported by the additional landowner income and improved access tracks, fencing and other infrastructure completed as part of the wind farm development. Studies have shown that wind power generation and farming have a high degree of compatibility.

The compliance of the proposed wind farm against the relevant objectives of zone 1(a) General Rural will be assessed as part of the EA.

5 KEY ISSUES AND WAY FORWARD

5.1 KEY ISSUES

This report highlights the major issues for consideration in the Environmental Assessment. It is likely that further issues will be raised when specialist consultants commence their investigations, which will be also addressed in the Environmental Assessment. At this stage, the following issues will be addressed as part of the EA;

- Economic and Social Impacts
- Visual and landscape amenity
- Noise
- Flora and Fauna
- Aviation
- Traffic and Transportation
- Telecommunications
- Fire
- Shadow Flicker and Blade Glint
- Heritage
- Geotechnical

Consultants will be engaged to address these issues and prepare detailed reports that will inform the EA. It is envisaged that some issues will be of greater significance than others.

Due to the proximity of the proposed Capital II Wind Farm to the under construction Woodlawn Wind Farm and the existing Capital Wind Farm, a key component of the Environmental Assessment will be the cumulative impacts arising from the existing projects. As a result, assessment of the proposed wind farm will consider the cumulative impacts across the range of issues, such as impacts on landscape amenity, noise, and flora and fauna.

5.1.1 Economic and Social Impacts

A number of economic and social impacts are expected arising out of the construction and operation of the wind farm. These include impacts on;

- Employment;
- Tourism;
- Population;
- Investment;
- Community profile.

An assessment of these factors will be undertaken in the preparation of socioeconomic impact assessment to support the EA. The key objectives of the assessment will be to:

- Establish a demographic and economic profile of the area.
- Describe local and regional employment and economic impacts and opportunities.
- Identify relevant social policy objectives of the Council and broader region and identify how the proposed development complements these policy objectives.
- Identify how negative impacts can be mitigated, and positive impacts supported and strengthened
- Review and recommend on community consultation activities.

5.1.2 Visual and Landscape Amenity

As with any wind farm, the proposal will have an impact on the landscape of the area.

A key part of the investigations of the visual impact of the proposal will be to examine the Capital II Wind Farm in the context of Woodlawn and Capital Wind Farms. The degree of impact will be considered in the context of the surrounding landscape and therefore includes an assessment of the inherent qualities and values of that landscape.

A landscape and visual assessment will be undertaken and will analyse any potential impacts that may arise out of the development, in particular;

- To identify any sensitive receivers that may be unacceptably impacted (according to relevant guidelines, policies, regulations and/or legislation) by visual amenity impacts from the operation of the proposed Capital II Wind Farm.
- To address all Wind Farm visual impact related issues (including existing and approved wind farms).
- To satisfy the requirements of relevant authorities.

The assessment will also outline mitigation measures to reduce any detrimental visual impact.

5.1.3 Noise

When in operation turbines can create a noise impact to the immediately surrounding area. Buffers or setbacks are used to reduce noise levels to nearby houses to acceptable levels. A noise impact assessment will be undertaken to analyse the impacts arising out of a proposed layout of turbines at the site. It will assess all turbine models under consideration in accordance with the South Australian EPA's Environmental Noise Guidelines (2009). In the context of the existing Capital Wind Farm and approved Woodlawn Wind Farm it will be important to assess the noise impact of Capital II Wind Farm as a cumulative effect. If noise levels are found to exceed acceptable standards mitigation measures will be proposed such as relocating turbines or operating in low – noise mode.

A noise management plan will also be developed to establish standards to be met during the operational phase of the project.

5.1.4 Flora and Fauna

Flora and fauna impacts will be a key component of the EA. The construction phase may include some native vegetation removal to facilitate access to the site or siting of individual turbines and other associated infrastructure. A loss of habitat has the ability to affect fauna species.

The operational phase includes the potential for birds and bats to be affected by turbine blade strike and the deterrent effect of moving turbines. The proponent is committed to a design process whereby impacts to flora and fauna are avoided and minimised. A flora and fauna assessment will be undertaken to address the potential impacts of the proposal. Particular attention will be given to any state or nationally threatened species. This will include thorough field assessment and discussion of;

- The existing flora and fauna values of the site;
- Further studies required arising out of preliminary investigations;
- Identification of areas and values of required vegetation removal (if any);
- Implications of results; and,
- Mitigation measures.

5.1.5 Aviation

Due to the height of the proposed turbines consultation with key air agencies will be required to understand any potential impacts to the safety of aircraft in the vicinity of the wind farm. As the key agency, early discussions will take place with the Civil Aviation Safety Authority (CASA) and inform an overall assessment of air safety in relation to the wind farm, as well as the turbine layout itself.



5.1.6 Traffic and Transportation

The transportation of wind turbines and associated infrastructure to wind farm sites may have an impact on the surrounding road network. An assessment will be undertaken to identify and consider the traffic impact both during the construction and operational phase of the project. It will also identify any likely upgrades required to improve conditions of the access routes to the site.

Internal access track layout will be informed by several factors, including the avoidance of native vegetation, engineering specifications and safety aspects.

5.1.7 Telecommunications

In some situations, wind farms have the ability to interrupt telecommunications signals. Interruptions to signals are rare and can be appropriately mitigated using a number of options. As part of the EA, an analysis of potential interference will be undertaken and mitigation measures developed to comprehensively address any potential interruption.

5.1.8 Fire

A wind farm in a rural area, as with any large scale development, can increase the potential risk of fire to nearby people and property. Importantly however, access tracks required for both construction and operational phases have the dual function of access and a fire / fuel break. Other measures are available to reduce the risk of fire, such as dams, watertanks, and fire breaks.

Whilst the fire risk is considered low, the applicant will conduct early consultation with the relevant fire authorities. Operational Management Plan procedures related to fire (including prevention) would be prepared prior to operations commencing and agreed with the relevant fire authority.

5.1.9 Shadow Flicker

The occurrence of shadow flicker is a potential impact of wind farms particularly where dwellings are located to the east or west of individual turbines, thereby causing shadow flicker in the early morning or evening.

Shadow flicker is not likely to be a significant issue in this instance due to significant buffer distances between dwellings and turbine locations. Nevertheless specialist consultants will assess the site against relevant standards and will propose mitigation measures where appropriate.

5.1.10 Geotechnical

Investigations by specialist consultants will be undertaken as to the suitability of the soil structure to support wind turbine infrastructure. This work will raise any potential issues that can inform the detail design process.

The presence of some rocky hilltops on the site may mean that innovative construction techniques where turbine footings are attached to underlying granite could be used, as occurred at Capital Wind Farm.

5.1.11 Heritage

Wind Farms can impact on the heritage values of the land, insofar as excavation of land is required to support the turbine construction and access tracks as well as the placement of turbines near recognised heritage buildings. One of the features of wind farms is the ability to 'micro-site' turbines and access tracks to avoid land and sites deemed to be of historic or cultural significance.

The EA will include heritage investigation of the proposed wind farm in relation to Aboriginal and historic cultural heritage and the potential impact of the proposed activity on these heritage values. The assessment will also outline recommendations for mitigation of potential

impacts to guide development of the site. The investigations which took place at Capital Wind Farm will assist in informing this investigation

5.1.12 Next Steps and Consultation

Following receipt of Director General's Requirements, a consultant team will be engaged to carry out assessments in relation to the above disciplines. This body of work will inform the turbine layout and the EA proposed to be lodged in late 2010.

Chapter 3.11 details the project timeframe.

A key part of the EA will be the finalisation of the turbine layout. This will be completed taking into account;

- Wind speed;
- Flora and fauna values;
- Visual and landscape character;
- Access and infrastructure;
- Noise buffers;
- Other results from the specialist investigations.

A key future step of the project is the preparation and implementation of a consultation strategy. The proponent is committed to fully informing the local community and gaining feedback from interested stakeholders that will shape the projects design. To that effect, it is likely that the following methods will be used to consult and engage stakeholders:

- Establishment of a phone number for queries
- Establishment of a project website
- Information day conducted at Bungendore
- Advertisements in local newspapers
- One on one consultation with residents in close proximity to the wind farm site



6 CONCLUSION

This report provides preliminary details of the Capital II Wind Farm proposal to the NSW Department of Planning. The proposed wind farm site is located in the NSW Southern Tablelands, approximately 17km north of the Bungendore township. It is proposed to include approximately 30 to 42 turbines of up to 3.4MW in one development parcel to the north west of the existing Capital Wind Farm and to the west the approved Woodlawn Wind Farm (currently under construction).

The proposal comprises a number of elements, including:

- 30 to 42 individual wind turbines standing up to 157m at top of blade tip with up to 3.4 MW capacity each;
- Kiosk transformers at the base of each turbine;
- Internal unsealed tracks for turbine access;
- Potential upgrades to local road infrastructure;
- An underground electrical and communication cable network linking turbines to each other;
- Overhead electrical cables to connect the wind turbines to the existing Capital substation;
- Substation augmentation;
- Site office, control room and operations and maintenance building;
- A potential temporary concrete batching plant to supply concrete for the foundations of the turbines and other associated structures;
- Laydown area and hardstands for equipment during construction;
- Gravel pit; and
- The potential removal of native vegetation.



ATTACHMENT A:



Planning

Phone: 02 9228 6348
Fax: 02 9228 6355
Email: dinuka.mckenzie@planning.nsw.gov.au

Mr Stephen Donnelly
Senior Development Manager
Infigen Energy Limited
Level 22, 56 Pitt Street
SYDNEY NSW 2000

Dear Mr Donnelly

Proposed Capital II Wind Farm, Palarang Local Government Area

Please be advised that on 30 April 2010, the Director, Infrastructure Projects branch of the Department of Planning, under delegation from the Minister for Planning, formed the opinion under clause 6 of the *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP) that the abovementioned project is development of a kind that is described in Schedule 1 of the Major Development SEPP.

The project is therefore declared to be a Major Project under Part 3A of the *Environmental Planning and Assessment Act 1979* and will be subject to determination by the Minister for Planning. I have enclosed a copy of the record of the Minister's opinion for your information and reference.

Please do not hesitate to contact me on the above details should you wish to discuss or clarify this matter.

Yours sincerely

30.4.2010

Dinuka McKenzie
Senior Planner - Water and Energy
Infrastructure Projects

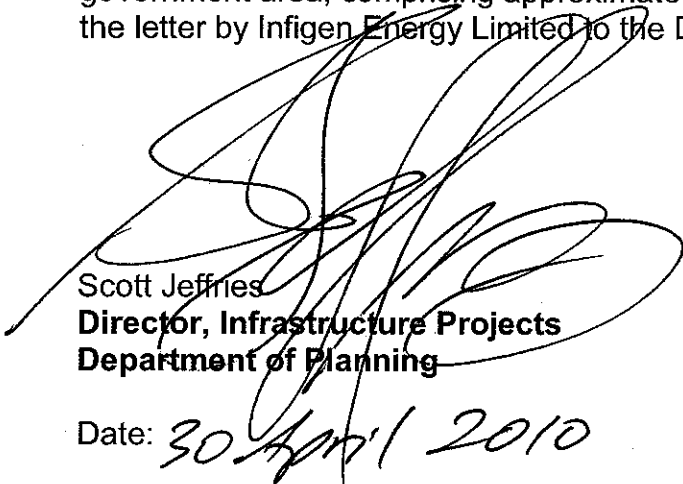


**Record of Minister's opinion for the purposes of Clause 6(1) of the
State Environmental Planning Policy (Major Development) 2005**

I, the Director, Infrastructure Projects branch of the Department of Planning, as delegate of the Minister for Planning under delegation executed on 25 January, 2010, have formed the opinion that the development described in the Schedule below, is development of a kind that is described in Schedule 1, Group 8, clause 24 of *State Environmental Planning Policy (Major Development) 2005* namely development for the purpose of a wind electricity generation facility that has a capital investment value of more than \$30 million. It is therefore declared to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies for the purpose of section 75B of that Act.

Schedule

A proposal by Infigen Energy Limited for the Capital II Wind Farm, a wind electricity generating facility and associated infrastructure located within the Palerang local government area, comprising approximately 55 wind turbines, as generally described in the letter by Infigen Energy Limited to the Department of Planning dated 28 April 2010.



Scott Jeffries
Director, Infrastructure Projects
Department of Planning

Date: 30 April 2010