

Wind Farms & Heritage

Heritage Council Advice



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forward

This paper proposes a policy concerning heritage and wind turbines for NSW.

To improve environmental sustainability the government and communities are seeking new renewable energy sources.

The Heritage Council and Heritage Office support the development of sustainable energy production facilities that meet legitimate community needs, and which support and contribute to the cultural and environmental heritage of the people in NSW.

Wind turbine farms are proving to be a popular renewable energy source. However, if they are inappropriately planned and developed, they have the potential to adversely affect heritage items including cultural landscapes.

This proposed policy aims to minimise or eliminate the potential negative affects of wind farms on heritage items, by acting as a tool to assist the Heritage Office, local government, planning and developers in their decision-making processes.

Background

The wind development industry in Australia is in its infancy. However, with renewable energy targets set in place by the government, the wind industry has experienced strong growth in recent years.

Due to this growth some local government areas are now experiencing interest from developers in constructing wind farms. This interest has raised concern about the potential negative affects of wind farms on cultural landscapes.

At its April 2003 meeting, the Heritage Council of NSW requested that the Heritage Office prepare a report on wind farm developments and heritage places.

This draft policy document is a result of that request and serves as an interim document while the broader sustainability and heritage document is being developed. It is anticipated that renewable energy, including wind turbines, will form part of the heritage and sustainability policy.

In developing this policy, the Heritage Office requested feedback from the community, industry and government partners on the draft policy. The draft policy was distributed by mail and made available on the internet. The Heritage Office received 16 responses from the wind industry, community organisation, the general public as well as local and state government. The outcomes from these submissions can be found in Annexure A. These comments have been integrated into the final policy.

The Heritage Office has been working closely with the Sustainable Energy Development Authority's Wind Division in developing this policy. In November 2003, the Heritage Office were invited to and made a presentation at the SEDA Wind Seminar, gaining feedback from the wind industry which has also assisted in informing this policy.

In August, the Heritage Office also hosted a cultural landscapes charette, where wind turbines were discussed as an issue impacting cultural landscapes. A report on cultural landscapes is currently being produced by the Heritage Office, as an output of this charette. It is anticipated that in early 2004, a policy on cultural landscapes will also be produced.

Heritage Council Chair, Michael Collins, reported that the issue of Wind Farms was raised at the National Cultural Heritage Forum. At the forum, it was recommended that the government identify landscapes of cultural significance prior to finalising the wind farm policy. The need, not for a reduction in the existing renewable energy target, but for improved planning processes was also stressed. Minister Kemp recognised this as an important issue, and has agreed to contribute a limited amount of money in partnership with State agencies, the Council of the National Trusts and the Australian Wind Energy Association to facilitate a study on this issue. This issue was also discussed by the National Chairs and Heritage Officials (see over page).

At the National Cultural Heritage Forum it was resolved that:

A national strategy will be developed in partnership between Commonwealth and State governments through the National Chairs and Heritage Officials and Ministerial Council.

This draft policy was presented to the Heritage Council of NSW on 6th August 2003. It was resolved at this meeting that:

1. **That the Heritage Council endorses the intent of the draft Wind Farm and Heritage policy document and requests the Heritage Office to further develop the policy taking into account the comments of the Heritage Council, the results of the forthcoming Cultural Landscapes Charette and the National approach to this matter via the Heritage Chairs and Officials forum.**
2. **Request the HO to engage further with SEDA to ensure the inclusion of heritage, natural and cultural landscape considerations in its renewable energy guidelines and publications.**

At the National Chairs and Officials meeting, members:

- (i) **Notes the written report and the additional verbal report by the Chair.**
- (ii) **Notes that in particular the issue of Wind farms has been raised at both the NCHF¹ and the EPHC² Standing Committee.**
- (iii) **Notes the Commonwealth's decision to fund the preparation of guidelines on the siting of Wind farms and that the National Heritage Chairs and Officials will be supported on the project.**
- (iv) **Resolved to advise the EPHC Council that the National Heritage Chairs & Officials regards the issue of Wind farms and their impact on the cultural landscape as a significant issue requiring a coordinated national approach to reach resolution.**

¹ National Chairs Heritage Forum

² Environmental Protection and Heritage Council

contents

SECTION 1

- 1. Introduction**
- 2. Aim of the wind farms and heritage policy**
- 3. The role and jurisdiction of the Heritage Council of NSW**

SECTION 2

- 4. Cultural landscapes and heritage**
- 5. Potential affects of wind farms on heritage items**

SECTION 3

- 6. Guidelines for assessing potential impact of proposed wind farm on heritage**
- 7. Guidelines for planning for potential wind farms at or near heritage**
- 8. General issues for consideration**

SECTION 4

- 9. Conclusion**

Annexure A

Annexure B

section 1

- 1.1. This policy document outlines the Heritage Council of NSW's objectives, policy and directives for wind farm development and heritage in New South Wales.
- 1.2. The document will provide strategic guidance in decision making about wind farms to the Heritage Council of NSW and promote a consistent approach within the NSW Heritage Office. The NSW Heritage Office anticipates that this document will also assist planning authorities, local government and wind developers.
- 1.3. The policy supports the key principles and objectives of sustainable development, including intergenerational equity, transparency and accountability, and the conservation of cultural and environmental resources.
- 1.4. The Heritage Office is currently developing a policy on heritage and sustainability. Renewable energy is an important consideration when understanding sustainable development. Renewable energy will form an important part of the heritage and sustainability policy's agenda.
- 1.5. This policy precedes a national report being undertaken by the Council of the National Trusts and the Australian Wind Energy Association on wind farms and heritage.
- 1.6. It is anticipated that this policy will be reviewed upon the reports completion and then updated regularly to ensure that it responds to developments in renewable energy and / or heritage management. All editions will be available from the NSW Heritage Office website.

The principles that underlie heritage conservation in Australia are expressed in the *Australian ICOMOS Charter for Places of Cultural Significance – The Burra Charter* (1999). This Heritage Council policy is underpinned by the principles explained in that Charter and utilises many of the Articles from that Charter directly.

2. Aim of the Wind Farms and Heritage Policy

2.1. This aim of the Wind Farm and Heritage policy is to:

- Provide certainty to wind developers regarding works that will gain approval from the Heritage Council of NSW, by clearly stating the Heritage Council's policy and guidelines for wind farms developments and heritage items including cultural landscapes;
- Ensure that the Heritage Council of NSW, NSW Heritage Office, heritage advisors and local governments provide consistent advice on proposals for wind farm developments;
- Provide planning agencies and local governments with a tool for proactive planning for wind farm developments; and;
- Encourage a high standard of conservation management for heritage items and cultural landscapes in NSW.

Wind farm

land used to generate electricity by wind force. It includes one or more turbines, and any building, or other structures or things used in or in connection with the generation of electricity by wind force. It does not include turbines principally used to supply electricity for domestic or rural use of the land or anemometers.

3.1. The *Heritage Act 1977* aims to “conserve the environmental heritage of the State” (*Heritage Act, 1977*) by protecting the cultural and natural significance of **heritage items** in NSW. The Heritage Council of NSW administers this Act, and is the principal NSW statutory authority on cultural heritage matters.

Heritage item

A place, building, work, relic, moveable object or precinct of heritage significance.

3.2. The Heritage Council of NSW is also a consent authority and statutory consultee on environmental heritage issues and assessment processes under the *Environmental Planning and Assessment Act 1979* and in relation to issues defined in the *Local Government Act 1993*, the *Strata Schemes (Freehold Development) Act 1973* and the *Strata Schemes (Leasehold Development) Act 1986*.

Heritage significance

Of aesthetic, historic, scientific, cultural, social, archaeological, natural or aesthetic value for past, present or future generations.

3.3. In accordance with the *Heritage Act 1977* the Heritage Council of NSW protects **state significant heritage** items listed on the **State Heritage Register**.

State heritage significance

In relation to place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological,

3.4. An application must be submitted under Section 60 of the Heritage Act to the Heritage Council of NSW for any works on listed properties, unless they are exempt under the Standard Exemptions (available at www.heritage.nsw.gov.au) or any site specific exemption approved by the Minister.

- 3.5. Furthermore, a Section 140 Application must be submitted to the Heritage Council of NSW for any site that might potentially contain archaeological items. Some exemptions also exist under this section.
- 3.6. Penalties of up to \$1.1 million or six months gaol can be enforced to anyone who does not comply with the Act. They may also be required to demolish the construction and restore the site. The Minister responsible for heritage also has the power to enforce a ten year development ban on the site in certain circumstances.
- 3.7. The mission of the Heritage Office and Heritage Council of NSW is *helping people conserve our heritage*. The statutory role of the Heritage Council provides the strength to impose regulations for the management of heritage items.
- 3.8. The Heritage Office is the government agency supporting the Heritage Council of NSW.
- 3.9. The Heritage Office is also responsible for the recognition and promulgation of these important heritage items, and the values attributed to each, within the community.

architectural, natural or scientific value of the item.

State Heritage Register

A register of state significance heritage items including places, buildings, work, relics, movable objects, and precincts that are protected under the Heritage Act 1977.

section 2

4. Heritage and Cultural Landscapes

- 4.1. Heritage includes our landscapes, buildings, structures, relics, places and other works on land and under water. Our heritage is a valuable cultural resource that is non-renewable and becoming increasingly scarce.
- 4.2. Heritage is important not just because it might be old, but because it can tell us about our history and can inform us on how our values have been shaped over time. While heritage can be beautiful to look at, it can also provide a wealth of information about the community that lived there in the past as well as today. Heritage gives identity to and inspires present and future generations.
- 4.3. By understanding the decisions that society has made in the past, we are better able to understand the present and make informed decisions for the future. Our heritage provides another text from which to understand these decisions.
- 4.4. Cultural landscapes include homesteads and farmlands, as well as remnant native vegetation, Aboriginal sites and places, wetlands, early settlements, disused cemeteries, defunct industrial complexes and so on.
- 4.5. These cultural landscapes preserve cultural values and ecological diversity, while offering economic gain through continued agriculture and tourism, and considerable scenic and amenity value to local areas, contributing to a high quality of life.
- 4.6. The World Heritage Committee (in Phillips 2003) defined cultural landscapes as areas that:
 - “are illustrative of the evolution of human society and settlement over time, under the influence of physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.”

Visit
www.heritage.nsw.gov.au

to read more about recent endeavours to conserve cultural landscapes

4.7. In the 1996 Australian State of the Environment Report it was recognised that (AHC 2002:1):

“Much of Australia may be regarded as cultural landscape because of the traditions and practices of Indigenous peoples over thousands of years. Immigrants since the first European settlement have added further layers of historical evidence and social significance to the natural landscape.” (Jane Lennon in Australia State of the Environment 1996)

4.8. While much of the Australian landscape can be considered a mosaic of cultural landscapes, not all are of a level of heritage significance that needs to be conserved.

4.9. The identification of state significant cultural landscapes occurs using the same process as for identifying any other state significant heritage item. A cultural landscape must meet one of seven criteria outlined in the *Heritage Act* for it to be listed on the State Heritage Register and protected.

4.10. Criteria for assessing heritage significance:

1. important in the course or pattern of NSW cultural or natural history;

2. strong or special association with the life or works or a person, group or persons, of importance in NSW cultural or natural history;

3. demonstrates aesthetic characteristics and /or a high degree of creative or technical achievement;

4. strong or special association with a particular community or cultural group, for social, cultural or spiritual reasons;

5. potential to yield information that will contribute to an understanding of NSW’s cultural or natural history;

6. possesses uncommon, rare or endangered aspects of NSW’s cultural or natural history;

7. demonstrates the principal characteristics of a class of NSW’s i) cultural or natural places ii) cultural or natural environments.

Heritage can be identified as being of local, state or national significance. Each has their own criteria for assessment.

Local and State Heritage Items are protected under state legislation.

Cultural landscapes should be assessed for their level of significance prior to their protection.

Assessing Heritage Significance, guidelines for assessing the importance of a potential heritage item.

Great North Road

Belgenny Farm

Bare Island

Cronulla Sand Dunes

Adelong Falls

The Entrance Pools

Bella Vista

- 4.8. Although the identification of scenic landscapes has occurred since the 1960s, there have been no long-term strategic policies to systematically identify and manage important cultural landscapes. As a result many cultural landscapes have not yet been formally identified on the SHR or in Local Environment Plans.
- 4.9. While some endeavours have been undertaken to identify these cultural landscapes, policies and tools for management have lacked development and are yet to be shared with, and integrated into, comprehensive planning strategies across all levels of government.
- 4.10. The Heritage Council of NSW identified the depletion of cultural landscapes as an important issue threatening the cultural values and lifestyle of our cities. They have requested that the Heritage Office address this issue.
- 4.11. In 2003 the Heritage Office held a one day workshop with cultural landscapes experts aimed at informing the protection and management of cultural landscapes in NSW. The impacts of wind farm developments and other large structures were identified as having the potential to negatively impact cultural landscapes.
- 4.12. The Heritage Office are now working collaboratively with other government agencies, industry and the community to ensure state significant cultural landscapes are protected. The policy on Wind Farms and Heritage is just one of many components of this strategy.

Increasingly cultural landscapes are being lost through subdivision and other developments.

Colonial landscapes which were once treasured for their stature in the landscape, now sit clustered amongst urban sprawl – much of their significance as a local icon now lost.

5. Potential Affects of Wind Farms on Heritage Items

- 5.1. Wind development is a relatively young industry in Australia. While growth over the last three years has been huge on an international scale, Australia still has a relatively small uptake of wind power.
- 5.2. While the Heritage Council supports renewable energy development, it recognises that if inappropriately planned, wind farm developments can potentially adversely affect heritage items and cultural landscapes.
- 5.3. The Heritage Council encourages strategic approaches to renewable energy planning, development and management to eliminate or minimise these affects. It is important that any issues regarding this young industry are identified and addressed in its early stages.

Curtilage

The geographical area that provides the physical context for an item, and which contributes to its heritage significance. Land title boundaries and heritage curtillages do not necessarily

- 5.4. An impact is any effect on heritage items, including cultural landscapes, which would not have occurred in the absence of the development. An adverse impact is one that leads to the loss of heritage value.
- 5.5. Identifying the significance of an impact requires consideration of not only the magnitude of the impact and its likelihood of occurring but also the value and importance placed on the heritage item.
- 5.6. There are two major concerns when considering the appropriateness of a wind farm in or near a heritage item:
 - ? wind farms *within the curtilage* of a heritage item and
 - ? wind farms *outside the curtilage* of a heritage item.
- 5.7. A wind development has the potential to affect any of the seven criteria for the assessment of a heritage item. It is these criteria that the Heritage Council of NSW bear in mind, when assessing an applications for change to a heritage item. If the proposed change is likely to *materially affect* the item, it is likely that amendments to the proposal will be requested.
- 5.8. Heritage is a non-renewable resource. Once it is lost it cannot be replaced. Early consideration, planning and intervention are essential to ensure that we conserve our most valued heritage items.

section 3

6. Guidelines for assessing potential impact of proposed wind farm at or near heritage items

- 6.1. As significance varies from one place to another, it is not possible to make universal statements summarising which changes are acceptable and whose which are not. Each proposal to alter an item must be assessed on its merits.
- 6.2. If a place is listed as a heritage item, *all its parts* are intrinsic to its significance. Though parts of a heritage site may have different levels of significance (for example, outhouses and rural landscape on a country estate may be more, or less, significant than the main homestead) without them all, the significance of the whole place would be compromised.
- 6.3. Similarly it is not possible to make generalised planning statements concerning local government. The context specific nature of each wind development within the vicinity of a heritage item makes it difficult to determine, for example, a standard setback required to ensure that item would not be impacted upon. These decisions need to be made on a case by case basis.

6.4. Guidelines for proposed developments within the curtilage of a heritage item

- 6.4.1. When considering alterations to a listed heritage item it is important to understand both the reasons why it is significant and the criteria used to assess it. The criteria determine how an item can be changed without negatively affecting its heritage value, and what type of heritage management is appropriate.
- 6.4.2. Many heritage items can be altered or extended without unduly compromising their importance. Indeed, it is possible to enhance or reinforce their significance through *adaptive reuse* that involved sympathetic alterations and additions. This is often necessary for their survival.
- 6.4.3. In general, the success or failure of alterations and additions in heritage terms is directly related to the degree to which the design acknowledges and retains the heritage significance of the place.
- 6.4.4. A wind farm development that is proposed within the identified curtilage of a heritage item would be managed in the same way as any other proposed change to a heritage item.

Turbines atop the three sisters for example would be refused because of its visual significance as a heritage item.

However, if the same turbines were to be placed on the hilltops surrounding the historic Bathurst, the material effect of the turbines would most likely not affect the significance of individual heritage items in the city.

An agricultural/dairy farm, for example, maybe adaptive reused through the installation of wind turbines – subsidising the income earned on the farm and preventing the important cultural landscape from being subdivided for urban expansion, destroying the landscape values.

- 6.4.5. Prior to planning any changes one must understand the significance of the heritage item. This can be achieved by producing a *statement of heritage significance*. Often this will be prepared as part of the heritage listing process. If not, or if it is not comprehensive, one should be developed and submitted to the appropriate approval authority (Heritage Council of NSW or local government).
- 6.4.6. Once the statement of heritage significance has been approved it is advisable to prepare a *conservation policy*. This looks at the opportunities and constraints arising from the *significance* and indicates how changes can be made while still conserving and enhancing the significance. A further step is to prepare *management guidelines* for the future development of the asset.
- 6.4.7. The statement of heritage significance, together with the conservation policy and management guidelines forms the *conservation management plan*.
- 6.4.8. This need not be an expensive exercise. It could, in fact, save a great deal of time and money by indicating the best opportunities for capitalising on the value of a heritage asset, and in obtaining the early agreement of approval authorities and the community to policies that allow sympathetic changes.
- 6.4.9. The Heritage Council of NSW will not consider application for extensive alterations to a major item of heritage significance unless it has already approved a conservation management plan.
- 6.4.10 Alterations or new works that have a major negative affect on heritage significance of such items are usually not approved.
- 6.4.11 For any proposal to alter a heritage asset, a *statement of heritage impact* is required to accompany a development application, showing how the proposal has taken these conservation policies and management guidelines into account. This will save time and money in ensuring a speedy assessment of the submission.
- 6.4.12 If the heritage item is listed on the State Heritage Register the proponent will have to submit a Section 60 *Works for Listed Properties* application to the Heritage Council of NSW, for approval prior to works beginning.

Statement of Heritage Impact

Analyses the impact of proposed works on the significance of a heritage item. It normally forms part of a Statement of Environmental Effect accompanying a development application.

To obtain the guidelines for writing a Statements of Heritage Impacts visit *Publications* at www.heritage.nsw.gov.au

6.5. Guidelines for proposed developments outside the curtilage of a heritage item

- 6.5.1. The proposal of a wind development outside the curtilage of a heritage item is also of concern to the Heritage Council of NSW.
- 6.5.2. If a wind farm development is located within the vicinity of a heritage item it has the potential to *materially affect* the heritage items values that are recognised in the assessment criteria (see Part 4.7).



- 6.5.3. “A heritage item needs to be considered in the context of the history and historical geography of the area surrounding it. When identifying the heritage items of a given area, a purely visual approach is inadequate. It is important to understand the *underlying* historical influences which have shaped and continue to shape the area” (Heritage Office & DUAP 1996).
- 6.5.4. If the proposed wind development is within the vicinity of heritage items or potential heritage items, the proponent should contact the heritage consent authority (NSW Heritage Office, or local government) early in the process to discuss the development and potential affects on the heritage items.
- 6.5.5. The Heritage Council of NSW recommends that the proponent review the Local Environment Plan and State Heritage Register to identify any listed heritage items within the vicinity of the proposed development.
- 6.5.6. In addition to consulting the LEP and SHR, a proponent should also review the existing local heritage study (if available), to identify any other potential heritage items within the vicinity of the proposed development.
- 6.5.7. The proponent should not assume that because a heritage item is not listed on the LEP or SHR that it should not be conserved (many state significant cultural landscapes have not yet been listed on the SHR, for example). The local heritage study will help proponents identify these non-listed items, as well as any potential archaeological relics.
- 6.5.8. A statement of heritage impacts should be submitted with the development application, considering any potential material affects on the heritage item. This should be accompanied by a statement of heritage significance, conservation policy and management guidelines for the items identified as being potentially materially affected by the development.
- 6.5.9. Local Government will need to review the potential material affects on these heritage items when considering the application. A well considered and comprehensive consideration of all aspects in the submission will assist local government in making their decision on the development.
- 6.5.10 The information gathered through this process will assist a proponent when addressing the community about the proposed development. Concerns regarding heritage and cultural landscapes have been a central concern of communities when considering wind farm applications in the past.
- 6.5.11 An effective strategy to manage the affects on heritage items will assist in ensuring communities that their valued heritage has not only been assessed but will also be conserved.

6.6. *Guidelines for considering Archaeological Relics*

- 6.6.1. If land is being excavated and there is a risk that a **relic** might be disturbed (regardless of its heritage listing), then a **Section 140 Excavation Permit** issued by the Heritage Council of NSW is required.
- 6.6.2. To receive a permit the proponent must submit an **archaeological assessment**, completed by a qualified archaeologist, and a proposed research design and methodology.
- 6.6.3. Archaeological assessments are predictive studies undertaken to:
- ? evaluate the probable extent, nature and integrity of the archaeological resource at the site;
 - ? determine the significance of the resource;
 - ? define the appropriate management for that resource having regard to significance and statutory requirements.

Relic

The Heritage Act 1977 defines relic as ‘...any deposit, object or material evidence relating to non-Aboriginal settlement which is more than fifty years old.’

Excavation permit

A permit issued by the Heritage Council of New South Wales under section 60 or section 140 of the Heritage Act 1977 to disturb or excavate a relic.

Archaeological Assessments

Guideline is available from the Heritage Office

6.7. Guidelines for considering Aboriginal Heritage

- 6.7.1. Wind farms and associated infrastructure also have the potential to impact upon **Aboriginal heritage**. Aboriginal heritage is protected under the under Section 90 of the National Parks and Wildlife Act 1974 (NPWS Act) or pursuant to Section 91 and 91A of the Environmental Planning & Assessment Act 1979 (EP&A Act).
- 6.7.2. The cultural significance of a landscape to Aboriginal people should be examined as part of any development.
- 6.7.3. For Aboriginal people, the significance of individual features is derived from their inter-relatedness within the cultural landscape. This means that features cannot be assessed in isolation, and that any assessment must consider the feature and its associations in a holistic manner. This may require a range of assessment methods and will always require the involvement of the local Aboriginal community or communities.
- 6.7.4. Wind farms can potentially adversely impact upon Aboriginal landscapes when appropriate assessments are not undertaken. The NSW NPWS are currently developing *Guidelines for Aboriginal Heritage Impact Assessment*. These guidelines should be consulted when a proposed wind farm could potential impact upon Aboriginal heritage.

Aboriginal heritage

includes, but is not limited to, landscapes, sites and areas that are particularly important to Aboriginal people as part of their customary law, developing traditions, history and current practices. (AHC 2002)

Aboriginal heritage is dynamic. It includes tangible and intangible expressions of culture that link generations of Aboriginal people over time. Aboriginal people express their cultural heritage through 'the person', their relationships with country, people, beliefs, knowledge, law, language, symbols, ways of living, sea, land and objects all of which arise from Aboriginal spirituality. (AHC 2002)

The NSW National Parks and Wildlife are the statutory authority on Aboriginal heritage and must be consulted on these matters.

7. Guidelines for the Planning of Wind Farms at or near heritage

7.1. Local Governments are encouraged to identify cultural landscapes of heritage significance and apply suitable zoning, based on existing zoning objectives. This may form an amendment to the existing LEP, or may require the preparation of a new LEP.

Wingecarribee Shire Council has developed a scenic protection zone, which aims to protect valuable cultural landscapes.

7.2. Furthermore, Local Governments that have been identified as having potential wind energy need to consider and plan for suitable zoning for these sites, particularly with regards to the proximity of identified significant cultural landscapes.

7.3. **DCP, Zoning – recommendations**

7.4. Impacts on neighbouring local government areas must be considered by the local councils when considering a development application, as there is the potential that a wind farm may visually materially affect a neighbouring local government's heritage item.

The Heritage Office's has developed a mapping system (GIS), which maps SHR items throughout NSW. This will simplify the identification of heritage items within a local government area or region, as well as physical relationships between items, cultural landscapes and (proposed) energy production facilities.

7.5. Local government authorities and state agencies with s170 reporting requirements are encouraged to:

- ? identify cultural landscapes under their care, control or management, and
- ? develop appropriate cultural landscape conservation management plans or approaches.

7.6. State planning authorities also need to consider the impact of state significant developments on heritage particularly cultural landscapes. Early consultation with the Heritage Office on a state significant development is essential to ensuring a good outcome.

8. Issues for consideration by other approval bodies

- 8.1. The Development Application, Statement of Environmental Effects or Environmental Impact Statement and plans should indicate:
- ? Statement of Heritage Impacts & Statement of Heritage Significance and Conservation Management Plans for each potentially affected heritage item.
 - ? If required, *Section 60 Works for Listed Properties Approval*
 - ? Archaeological Assessment
 - ? If required, Section 140: Excavation Permit
 - ? Aboriginal Archaeology Assessment
 - ? Section 90 of the National Parks and Wildlife Act 1974 (NPWS Act) approval or pursuant to Section 91 and 91A of the Environmental Planning & Assessment Act 1979 (EP&A Act).
 - ? All other relevant issues in *PlanningNSW EIA Guidelines* and the *NSW Wind Energy Handbook*.

9. General issues for consideration

- 9.1. Generally, a wind farm design should seek to ameliorate visual impacts when in vicinity of heritage items.
- 9.2. The terms “scenic beauty” or “scenic amenity” should be avoided in applications or statements of heritage impact, and a recognised qualifiable or quantifiable value determined – i.e. cultural landscape, heritage item, ecological diversity, aesthetic significance etc.
- 9.3. Community consultation should form an integral component of the assessment and decision making processes.

section 4

10. Conclusion

- 10.1. The Heritage Council of NSW recognises and supports the need for the development of sustainable renewable energy facilities in NSW. The Heritage Council of NSW also recognises the potential impact that these facilities can have on heritage item, including cultural landscapes.
- 10.2. The Wind Farm and Heritage policy is intended to assist the Heritage Council of NSW, the Heritage Office, local government, planners and developers in decisions about wind farms. These guidelines aim to minimise or eliminate the affects of wind farms on heritage items, including cultural landscapes.

ANNEXURE A

The wind farms and heritage policy considers only the potential affect of wind farms on heritage (built, natural, moveable, Aboriginal, maritime and archaeological). Other factors also need consideration in any wind farm development, such as wind speed, grid connections, low flying training areas, radar interference, landowner and community interests – these matters are for others to advise.

The guidelines apply only to wind farms, and exclude small wind developments of a domestic or small business scale, typically single turbines under 10kW capacity.

The guidelines provide broad guidance on managing the interaction between likely interests in wind farm development, and valued heritage resources.

Renewably energy in NSW

There has been increasing interest in wind farm and wind turbine developments within NSW, since the introduction of the Federal Government's Mandatory Renewable Energy Target in 2001. The *Renewable Energy (Electricity) Act 2000* requires the generation of 9,500 gigawatt hours of extra renewable electricity per year by 2010, enough power to meet the residential electricity needs of four million people (EPA 2000).

The need for renewable energy stems from many sources. Of most concern is the effect of carbon emissions within the atmosphere, and land degradation.

Australia has one of the highest per capita greenhouse gas emission rates for developed countries in the world, contributing 1-2% of the global greenhouse gas emissions (EPA 1997). This results from number of factors, including (EPA 2000):

- the low population density;
- the use of private motor vehicles;
- the reliance on coal for power generation;
- infrastructure development; and,
- land clearing.

NSW has the highest population and the greatest greenhouse gas emissions for any state or territory in Australia (EPA 2000).

“In 1995 NSW and the ACT's combined emissions of greenhouse gases (excluding the effects of land clearing) totalled 127.1 million tonnes (carbon dioxide equivalent), an increase of 0.2 million tonnes from 1990.” (EPA, 2000).

Responding to the Greenhouse Effect

How did we get to this point in time?

1988	The international Intergovernmental Panel on Climate Change established
1992	United National Framework Convention on Climate Change
1997	Kyoto Protocol to the United National Framework Convention on Climate Change ratified. Australia's obligation under the Protocol is to limit emission increases to 8% above 1990 emission levels by the 'first commitment period' (2008-12).

1998	National Greenhouse Strategy introduced by Federal Government Australian Greenhouse Office established to coordinated different sectors as well as the states and territories in achieving these targets.
1996	NSW Government establishes the Sustainable Energy Development Authority to facilitate and encourage corporate development of sustainable energies.

The major source of greenhouse gas emissions in Australia is stationary energy (including energy and manufacturing industries), which accounted for 56.8% of national emissions (EPA 2000). The NSW Government have identified two broad stakeholders to reduce energy emissions – producers and consumers.

Tax breaks and funding from both the Federal and NSW Governments have made clean energy an attractive business. The Commonwealth Government aims to generate an additional 2% of Australia's electricity from renewable energy by 2010; subsequently it has allocated \$13.5 million for the cleaner production of energy (EPA 2000).

The NSW Government aims to increase its purchase of renewable energy for State agencies from 5% to 6%. In addition, SEDA has worked with power utilities; who now offer 'green' power to businesses and households to encourage increased development of renewable energy sources (EPA 2000). Between 1999 and 2000, 'green' power consumers nationally almost doubled (SEDA 2000). Surveys on consumers have consistently found a willingness to pay higher premiums for green energy. In 1995, 58% of domestic customers from Sydney, Melbourne and Brisbane were willing to pay, on average, an additional AUD\$5.20 per week for green energy (Green Power, in EPA 2000).

The *NSW Electricity Supply Act 1995* requires electricity retailers to develop strategies to reduce greenhouse gases (EPA 2000). Licence holders must develop plans for energy efficiency and demand management, as well as strategies for purchasing electricity from renewable sources (EPA 2000). The NSW Government set a policy target of reducing greenhouse gas emissions arising from the supply of electricity to NSW customers by 5% per capita by 2000-2001 (based on 1989-90 levels) (EPA 2000).

Positive aspects of Wind Farms

Wind energy can provide NSW with solutions to energy sources, which will benefit many. Wind energy is important because it:

Environmental

- assists in reducing greenhouse emissions;
- increases energy security and diversity;
- uses comparatively less resources in construction, earning back its energy in only three months of operation (coal and nuclear power stations, will only ever deliver a third of the total energy used in construction and fuel supply [Australian Wind Energy Association, 2003]);
- is the most competitive energy source, when compared to traditional methods of energy generation;
- has comparatively few adverse affects, which are both temporary and reversible;

Community

- provides employment and development in regional areas;
- offers opportunities in local industries for growth in employment, investment and skills;
- is consistent with widely held values of sustainability;
- is one of the most easily understood and trusted energy sources;
- can provide landowners with a secure long-term income stream, complementing other forms of income, such as farming;

Business - Manufacturing

- provides employment and investment in manufacturing;
- is highly efficient within energy networks;
- has a comparatively low capital cost;
- has a relatively short construction phase;
- turbine maintenance is low and predictable;
- has predictable operating costs;
- is a modular development, with opportunity to add or replace turbines progressively;
- can be installed close to the location of demand, minimising or avoiding transmission losses;
- land purchase is not usually required, as wind farms usually co-exist with agricultural activities.

Negative Affects of Wind Farms

Wind Farms have generated a lot of debate internationally. Concern typically surrounds topics such as:

- noise
- affects on flora and fauna
- visual affects
- aviation affects
- communications affects
- social and cultural affects
- public safety
- lightening

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