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WIND POWER GENERATION



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8.1. Introduction

Council has recognised the need for, and growing local interest in, alternative and renewable energy sources. Energy generated from wind farms and small wind turbines is one such renewable source.

8.2. Intent

This chapter of the *Inverell Development Control Plan 2013* (IDCP) is aimed to assist and guide potential developers seeking to carry out wind power generation developments. Furthermore it is the endeavour of Council to ensure such developments are appropriately located and do not impact detrimentally on the health, safety and amenity of the community or environment.

The aims and objectives of this chapter in relation to wind power generation developments are:

- To provide a stated position upon which the Inverell Shire Council will provide comment in relation to State Significant Developments for wind power generation;
- To provide guidelines for the establishment of wind power generation developments within the Inverell Shire;
- To assist potential developers in providing the relevant information to be submitted in a Development Application for wind power generation developments;
- To minimise potential land use conflicts;
- To minimise significant impacts on the health, safety and amenity of the community and maximise positive impacts resulting from wind power generation developments;
- To provide the community an opportunity to comment on and participate in the wind power generation developments;
- To identify the assessment criteria for development assessments;
- To ensure road and access issues are identified as significant aspects of gaining consent for a wind farm; and
- To allow provisions for the construction and/or installation of domestic wind turbines in appropriate locations.

8.3. Acceptable Solutions for Wind Farms

The following requirements are to form part of any design criteria and assessment of any Development Application for a wind farm:

- The development is to be sited and carried out to minimise impacts on, or restrictions to, normal grazing, farming, forestry practices and tourism in the Inverell Shire.
- The development should be carried out in a way that minimises any adverse effects on adjoining land and the development site, particularly in the way of:
 - Land degradation;
 - Alteration to drainage patterns;
 - Pollution of ground water;
 - Spread of noxious plants and animals;
 - Bushfire hazard; and
 - Amenity of adjoining/adjacent/affected land owners.
- The developer must assess the visual impact of the project including an assessment of scenic value. The developer must consult with the Council and the community on appropriate visual impact and their mitigation measures.
- The developer must assess the cumulative impact of the development in regard to existing wind farms or identified sites of proposed wind farms. Large expansive ridgeline saturated with wind farms and wind turbines will not be favoured.
- Proposed wind turbines are to comply with the current best practice guidelines relating to noise levels.
- Where visible from a non-related dwelling or immediate surrounds, the development shall not be located within 15 times the blade tip height or 2kms (which ever is the greater) of any dwelling not associated with the development or 15 times the blade tip height or 2kms (which ever is the greater) from a reasonable, practical and suitable dwelling site on any lot that has been created for the purpose of a dwelling. Where turbines are proposed to be significantly higher than such properties/dwellings or where the turbines will dominate the immediate view from the dwelling or dwelling lot, increasing these separation distances is recommended.



- The development shall not be located within two times the height of the turbine (including the tip of the blade) from a formed public road. The applicable road authority may require a greater distance.
- The development shall not be located within two times the height of the turbine (including the tip of the blade) from a non-related property boundary.
- Turbine locations shall be located sensitive to non-related dwellings surrounding the development. Existing and proposed screening could be used to minimise visual impacts to non-related properties, however due to the height and scale of turbines, screening is not always a practical option and therefore not the preferred option for dealing with visual impact. The developer's priority should be endeavouring to position the turbines in locations with low visual impact to nearby properties, especially existing dwellings and lots provided for dwellings.
- Turbine locations are to be sensitive to existing related dwellings on the subject site. Issues of excessive noise, shadow flicker and general proximity to turbines should be minimised.
- Turbine locations should not surround a non-related property. Where a non-related property has turbines adjacent to more than one axis of the property, there should be sufficient setbacks/distances to the development to minimise the visual impact of that property.
- A communications study should identify the existing status of communications and detail the proposed method(s) of dealing with communication interference. The development should not detract from any communication methods including but not limited to:
 - Television;
 - Radio;
 - Mobile phones; and,
 - Two-way radios.

Where necessary, the installation of additional services (boosters/communication towers/re-transmission towers etc) may be required to maintain communications services within the vicinity of the development. Where this is determined to be required, the costs associated will be at the developer's expense.

- The construction phase of the wind farm shall occur only on identified roads/routes. Construction vehicles, including concrete trucks, carriers of turbine components, and related heavy vehicles (including relevant contractors) shall only travel on the approved road. This route shall be identified in the Development Application for each of the construction components and/or contractors.
- Council requires substantial investigations into the roads chosen for the preferred route. Detailed road condition reports will be required as part of any consent. Council may require the use of the Australian Road Research Board 'laser car' and 'gypsy camera' for this purpose. Full details will also be required of the source of any natural material to be used for construction of internal roads and other infrastructure.
- Council will require road works to cope with the oversize and overweight traffic movements related to the construction of a wind farm. Bonds will also be required for any potential damage to roads during the construction phase. The road works and bond amounts will be determined by Council's professional staff, but will be determined generally by the length of road and condition of road surfaces/base, bridges, drainage etc relevant to the selected route. Where road works are determined necessary for the development, costs associated with the road works shall be at the developer's expense.
- Internal roads (roads within the property subject to the development) shall be the responsibility of the developer. Council will require proof that they have been adequately designed and constructed for their purpose. Council (and often other State Government Agencies) shall be provided with adequate information about the environmental aspects of the internal road construction.
- All infrastructure related to the wind farm should be included in the Development Application. Management of temporary facilities, waste, numbers of contractors/employees etc, should be part of the Development Application information. All infrastructures should be located in low visual impact locations and interconnection cables/wiring and the like should be underground.
- An area where vehicles and pedestrians (the public) can manoeuvre safely should be provided in a position which allows for the safe viewing of the wind farm. Consultation with Council's and the Roads and Maritime Services should be undertaken in this regard.



- Within six (6) months of the wind farm or any wind turbines becoming redundant, the turbines are to be dismantled and removed from the site by the developer and/or current operator of the development at the time. Additionally any rights of carriageways that were constructed to provide access to the wind turbines and associated facilities are to be extinguished by the developer unless otherwise agreed with the landowner, in which case evidence will need to be provided of such an arrangement.
- A Bushfire Risk Assessment is to be provided with the Development Application. It is to be prepared by a suitably qualified Bushfire Consultant and include (but not be limited to):
 - The potential for the wind farm to trigger/influence a bushfire;
 - The potential for damage should a bushfire enter the subject site;
 - Bushfire management strategies; and
 - The relevant provisions under the current version of *Planning for Bushfire Protection* (produced by the NSW Rural Fire Service).

The assessment should be prepared in consultation with the NSW Rural Fire Service, the Inverell Shire Council and local brigades.

- Developers must address, consider and refer to the following publications in a Development Application for a wind farm:
 - Relevant NSW Department of Planning Environmental Impact Assessment Guidelines;
 - NSW Wind Energy Handbook;
 - Auswind's Best Practice Guidelines for Implementation of Wind Energy Projects in Australia; and
 - All other current publications, policies, codes, plans and best practice guidelines relevant to wind farms and wind power, including those produced after the date this plan becomes effective.

8.4. Acceptable Solutions for Domestic Wind Turbines

- The turbine/tower is not to be located any closer than 1.5 times its overall height (including the tip of the blade) to any adjoining property boundary. Guy ropes/wires, footings etc are permitted to be within this space however must not be any closer than 1m to any adjoining property boundary. These distances may need to increase depending on the topography, locality and nature of the site as well as the density of surrounding dwellings. Each site will be determined by Council on its own merits as to whether a greater distance is required.
- Any domestic wind turbine must not be audible within a dwelling (or habitable room) on any adjoining land at any time. Council may restrict the hours of operation of the turbine depending on turbine type(s) and noise impact assessment data.
- The overall height of the turbine (measured to tip of blade) must not exceed 15m. Proposals for a greater height may be considered by Council depending on topography, locality and nature of the site as well as the density of surrounding dwellings. Each site will be determined (by Council) on its own merits and proponents must provide additional details and information justifying proposed height of the turbine.
- One (1) domestic wind turbine per dwelling is permitted. If a proponent seeks to have more than one (1) turbine per dwelling, additional details and information will be required justifying the proposal. Council may also request additional information regarding visual and noise impacts.
- Any domestic wind turbine(s) proposed to be erected on a metal tower or similar metal structure must have a lightning arrestor incorporated in the design. Evidence of this is to be provided to Council by means of manufacturer's specification or similar.

