ATTACHMENT 6.2.5




Windfarm Guidelines – Community Submissions

SUBMISSION 1

14 February 2012

The Senior Environment Officer
Mid-Western Regional Council
Market Street
Mudgee

Dear Madam

Draft NSW Planning Guidelines - Wind Farms

I enclose copy of my submission concerning Council's response to the NSW draft wind guidelines.

If you would like to discuss any aspects, either personally or by phone, please don't hesitate to let me know.

Regards,

Margaret Conn

SUBMISSION TO COUNCIL

I refer to Council's invitation to community members to consider and comment on Council's proposed response to the NSW Draft Planning Guidelines in relation to wind farms. I have taken the opportunity to do so and attach my comments in relation to the same.

For ease of reference, I have used the headings set out in Council's proposed letter to the Department of Planning and Infrastructure dated 17 January 2012. I have contained my comments to these headings. The headings are in a slightly different order from that in Council's letter in that I have dealt with the more technical matters of noise, proximity etc at the start of my submission and dealt with the planning framework and community consultation towards the end of the document. Unfortunately this means that the more difficult material is at the outset but it is important as it underpins the Guidelines. If the sound criteria are wrong, all the community consultation in the world becomes irrelevant.

There is now available much information, technical and otherwise, in relation to the characteristics and impacts of operating wind turbines. This is not information which is generally sought out as light recreational reading but it is not beyond the scope of understanding for someone interested in the subject. I have attached, at the end of the document, a brief summary of the meaning of language/descriptors used when describing sound measurements. I have also attached a list of references.

Noise

dbA Scale (audible noise)

In relation to Noise, Council's submission deals with the dbA noise criteria which is set out at page 6, "Key matters in the assessment process." This is noise which is tested using what is known as the A-weighted scale, a scale which focuses on noise in the central areas of audible sound - see ***Notes*** attached.

Council's objection to the proposed dbA level as too high is supported. Council proposes a limit of 25dbA (L eq) or background noise (L_{90}) by more than 5 dbA whichever is the greater. Council states that it considers even its own proposal to be a relatively high noise limit and this statement is also supported.

There a number of *additional matters* which may be included to add weight to Council's submission in relation to the dbA criteria:

1. **The Noise Amenity Goals which are set out in Appendix B (Table 1) should be specifically objected to. They specify goals which are identical for Suburban and Rural areas in the evening and at night.** This is at odds with Council's position and with commonsense.

2. Further, **the recommended acceptable and maximum levels are significantly higher than widely accepted levels internationally.** The World Health Organization has accumulated the work of leading experts in the world to produce recommendations for all countries to adopt to maintain and protect public health: Berglund et al 2000 *Guidelines for community noise.* For sound propagated at night, the level of steady continuous noise at any sleeping position should be no greater than 30dBA (L_{eq}). This recommendation is not to be exceeded. It is not just a design average. It is recommended to be even lower when there are levels of low frequency sound present. Canada and New Zealand may be considered comparable to Australia. In 1974 the NZ government's Board of Health recommended 25 dbA for rural areas at night (NZ Board of Health 1974). This is consistent with Canadian standards (Harrison J. 2011). Even industrialized Germany has a night time noise limit of 35 dbA.

3. The noise criteria must be reduced because **the noise actually produced by windfarms developed in accordance with the Guidelines in Appendix B will almost certainly be higher than the noise criteria and the non-compliance will be unable to be demonstrated.** As wind farm noise has been more widely and carefully examined, the problems with wind farm noise assessment have been increasingly well documented (see, for example, *Dickinson 2009, Thorne 2011, Harrison 2011*) **These matters, taken together, mean that the actual noise generated by a wind farm will inevitably exceed predicted levels. The Guidelines do not provide for real testing of actual average levels.**

Wind turbine noise is technical but there are some basic matters which contribute to the position at point 3 above and which can be understood by the lay person with persistence. They include the following:

- ***Compliance testing will underestimate the actual audible noise levels.*** This will occur as long as the noise criteria is set in one standard and the compliance test is set in another. There are two noise criteria used in the Draft Guidelines i.e. $L_{eq,10}$ and L_{90} (see Appendix A). The basic requisite predicted level of 35dbA is set on the $L_{eq10minute}$ criteria. This is a level calculated on averages over 10 minutes. However the compliance testing criteria depend upon a different measurement - L_{90}. The L_{90} measurement ignores the noisiest 90% of each measurement period and measures the loudest A-weighted noise in the quietest 10% of the time. Professor Colin Hansen states (2011):

  > "It is well known that LA90,10 noise levels are always less than LAeq,10 levels by between 2 and 4 dBA (as stated on page 56 of "The Assessment and Rating of Noise by Wind Farms" - ETSU-R-97), so this method of compliance checking significantly underestimates the actual LAeq,10 noise levels due to the wind farm. Also as wind turbine noise is amplitude modulated, the differences between the measured LA90,10 level and the LAeq,10 level can be even greater at times .... LA90 is not a good estimator of LAeq and the LAeq predictions are at least 5 dB less than the measured LAeq."

  Dickinson (2009) states that as a result of setting the standard with one measure and testing in another, "once the wind farm is in operation, it becomes almost impossible to prove any non-compliance" (at p.2).

- ***The Noise Guidelines assume a noise masking effect at high wind speeds i.e.*** as wind turbine noise increases with wind speed,"*this is typically accompanied by an equal or greater increase in the background noise which may completely or substantially mask the wind turbine noise.*" (p.27 and p.6). It is in fact widely known that background noise levels at the receiver do **not** necessarily or typically increase with wind speed at turbine locations. The wind speed at the source (i.e. at the turbine - hub height or otherwise) may well be quite different from the wind speed at the relevant residence. Many wind farms in rural Australia (and those in the Mid-Western area in particular) are proposed to be built in hilly terrain. In some weather conditions, there will be strong wind on top of a hill at a turbine location but hardly any wind on the valley floor. This is where homes are built - often because they are "out of the wind." In these relatively common situations, the excessive noise from the turbines will not be masked. The assumption made by the Guidelines in this respect has been outdated since Van den Berg's work in 2004.

- The accuracy of ***ambient background noise*** results obtained in accordance with the same criteria as proposed in the Draft Noise Guidelines has been questioned. **This in turn affects the predictive modelling upon which the windfarm is approved (predicted noise levels too low) and the accuracy of compliance testing in due course.** One of the problems is the quality of the testing equipment. Equipment complying with the specified Standard does not have to be able to measure true background levels. The equipment will have a lower limit on the sound which it can detect which is governed not just by the lower limit of the sound meter but by the noise floor of the microphone which is used. The quietest data may be unable to be recorded and is cut off, thereby producing an artificially higher level than what is actually occurring.

It is this data which is fed into the regression analysis required by the Draft Guidelines. If the ambient background data is incorrect, no regression analysis applied to the data for predictive modelling can be correct. Recent documented non-compliance at the Capital Wind Farm highlighted that instrumentation used in modelling was not able to record all the sounds to their true low level (The Acoustic Group 2011)

- The methodology of determining background noise at the receiver v's wind speed "at the wind farm" (Appendix B, Figure 3, p.33) using a "best fit" regression analysis has been described as "highly questionable, mathematically and scientifically" (Dickinson 2009). Professor Hansen states that the use of a regression line through a large number of L_{A90} levels to define the background noise level ignores the fact that there are many 10 minute intervals when the actual background noise is well below this artificial level.

- Prediction algorithms assume the spherical spreading of sound from a single turbine, which is often not the case. Standards also assume that turbine sound can be represented by a single point source when this is also not the case. There are a variety of sound sources on a single turbine which, given the size of modern turbines, can be a considerable distance apart.

- Turbines leave a wake which will exacerbate turbine noise and the cumulative effect of wake turbulence and synchronicity on noise has not been accurately modelled even though a receptor residence is unlikely to be impacted by only one turbine.

- Turbines are mechanical creatures. There is acknowledged variation in turbine manufacturer specifications (usually put at 1 - 2 dbA). Modelling based on the specifications does not take these acknowledged deviations into account. Turbines age. As they do so, their components wear, particularly the rotor shaft, bearings and gearbox. Noise emissions increase. "An increase of 10 dB through wear and tear, or even more, should not be unexpected." (Dickinson 2009). In the event of blades becoming corroded, worn or dirty, it can be foreseen that the airflow will become less smooth. With more turbulence, there is more noise.

Noise - Guidelines Appendix B

Council's proposed submission does not deal with various other matters contained in Guidelines Appendix B - the document which contains the detail of the noise guidelines. There are important matters within Appendix B which should be the subject of comment as they are not dealt with satisfactorily by the Guidelines and any amendment to them individually would assist in achieving a better outcome.

Temperature Inversions

Although the Draft guidelines mention temperature inversions at page 7 (Auditing and Compliance), there is no specific reference to temperature inversions in Noise Predictions in Appendix B. Further, temperature inversions appear to be categorized as "worst case periods" which "typically wont occur during the operation of the wind farm or will only occur a minority of the time" (p.36).

The effects of temperature inversions are that the noise produced at the turbine will sound louder at a relevant residence at night than during the day ("elevated sound levels at residences are expected," - Thorne 2011(a), p.17) and that the noise will travel further ("sound levels do not decay as quickly" - Thorne 2011(a), p17) . This effect was documented by van den Berg in 2004 in relation to flat terrain in Europe. He has since shown the same effect in complex or hilly terrain (van den Berg 2007). In fact, temperature inversions in Australia and New Zealand "are a common condition" (Thorne 2011(b) at 266) especially on cold, clear nights.

Notwithstanding that the effect of temperature inversions in augmenting the sound at the receiver is widely documented, **there is no specific requirement to estimate the frequency of temperature inversions for the relevant wind farm. This estimate should be required.**

Tonality

Tonality is a widely recognized and problematic characteristic of wind turbine noise. As such, it is suggested that its management, as detailed in Appendix B should not be based on any assumptions concerning *"well designed and well maintained turbines"* (p.33) but rather on setting appropriate standards to deal with tonality when it is present.

A definition of excessive tonality is provided but the tonal assessment does not deal with narrow band issues. It is possible to have narrow band tones present in a signal and not have a "tonal" noise as outlined in the Draft Guidelines. **Narrow band tones should be included in the assessment**. Further, a penalty is imposed if the tonality is "a repeated characteristic " **but there is no definition of "a repeated characteristic."**

Most importantly, the Guideline states that an absence of tone at an intermediate location is "sufficient proof that the tone at the receiver is not associated with the wind farm's operation." This presumption defies acoustic logic. It is entirely possible for a tone to exist at a receiver whilst not being audible at an intermediate location. Intermediate locations may be shielded from the turbines while residential receiver locations exposed to the sound. **This presumption should be removed.**

Amplitude Modulation

As with tonality, there is a similar presumption that if modulation does not exist at an intemediate location, it will not be audible at a further receiver. The presumption that "absence of excessive modulation in noise emissions measured at an intermediate location is sufficient proof that the modulation is not a feature of the wind farm" does not accord with acoustic reality. **It should be removed.**

Low Frequency Noise

The Guidelines state (Appendix B, p.34): "...low frequency noise is typically not a significant feature of modern wind turbine noise and is generally less than that of other industrial and environmental sources."

Moller and Pederson (2004), well regarded experts in this area, outline the situation differently. As to typical sources, they note:

"Engines, compressors, ventilation systems, traffic and musical instruments are examples of man-made sources, but also natural sources exist like thunder, ocean waves and earthquakes. Driving a car at highway-speed with an open window is a situation where many people expose themselves..." (p.2)

In more recent research (Moller and Pederson 2011), they examined whether or not low frequency noise is a 'significant feature of modern wind turbine noise.' They summarized their research and findings as follows:

"As wind turbines get larger, worries have emerged that the turbine noise would move down in frequency and that the low frequency noise would cause annoyance for the neighbours. The noise emission from 48 wind turbines with nominal electric power up to 3.6 MW is analyzed and discussed. The relative amount of low-frequency noise is ***higher for larger turbines*** *than for small turbines.....****Due to air absorption the higher low-frequency content becomes even more pronounced*** *when sound pressure levels in relevant neighbor distances are considered.* ***Even when A-weighted levels are considered, a substantial part of the noise is at low frequencies,*** *and for several of the investigated large turbines, the on-third-octave band with the highest level is at or below 250 Hz. It* ***is thus beyond any doubt that the low-frequency part of the spectrum plays an important role in noise at the neighbours."***

In contrast to the position expressed in the Guidelines, a volume of authoritative literature confirms that low frequency noise may have a causative role in the adverse impacts recorded by people living near industrial wind turbines - see References. One of the reasons for this is that higher frequencies fall off more quickly as the noise travels away from the turbine and no longer mask the lower frequencies, which travel further. Thus lower frequencies may well be a problem at residences further, rather than closer, to turbines.

To deal with low frequency noise, Appendix B sets a trigger for a "more detailed assessment." The trigger level is too high. **60dbC at night guarantees sleep disturbance.** This develops at about 48 - 50 dbC. The **indoor noise limit needs to be 45 dbC.**

When the C-weighted noise is "repeatedly greater" than the above limits, there is a "detailed assessment" which is triggered. It is not clear what "repeatedly greater" means and whether it corresponds with the later definition of a "repeated exceedance." In any event, the assessment relates to confirming "excessive levels of low frequency noise above the human threshold of hearing." This is problematic as all experts acknowledge that low frequency noise can be heard well below standardized human hearing thresholds and that older age groups are especially vulnerable. O'Neal, Hellweg and Lampeter (Guideline References page 54) point out that even infrasound remains audible at frequencies below 16HZ if the sound level is sufficient. The description of "excessive levels of low frequency noise above the human hearing threshold" is obtained by reference to an archived 2005 UK work which was not tailored to wind turbine noise or to rural areas and is aimed largely at assisting public officials dealing with low frequency

noise complainants. Interestingly, one of the authors of the UK report (Dr Leventhall) wrote of low frequency sound in the same year:

> "Low frequency noise, considered as the frequency range from about 10Hz to 200Hz, causes extreme distress to a number of people who are sensitive to its effects. The sensitivity may be a result of heightened sensory response, within the whole or part of the auditory range, or may be acquired. Onset of low frequency noise annoyance tends to occur in middle age. The noise levels are often low, in the region of a subject's hearing threshold, where there are large differences between individuals.....Special difficulties arise when, despite persistent annoyance, there is no "measurable" noise...10% of the age group [50 - 59 years] has more sensitive hearing...The unfortunate association of one of those people with a low level, low frequency noise leads to considerable distress for the person concerned. A "rule of thumb" may be to take 15 - 20 dB below the ISO 226 thresholds as the cut off for perception." (Low Frequency and Annoyance, *Noise & Health*, v.6, 2004, Issue 23, pp 59-72)

Finally, the extrapolation of C weighted noise levels to a receiver is by *undefined "relevant geometric spreading techniques."* The rate of spread of low frequency noise is not specified. This extrapolation also contradicts basic requirements for actual indoor testing for low frequency noise. *The matter of noise detected inside residences that gives rise to offensive noise should be/can only be addressed by having* ***internal*** *noise criteria.*

Infrasound

The Guidelines set no limits for infrasound and prescribe no testing. There must be a response to this omission.

As the Guidelines contain no noise criteria for infrasound, it must be assumed that the Department gives no weight to authoritative research, both from Australia and internationally, which is strongly suggestive of adverse impacts from the same. There is certainly controversy in relation to the role of wind farm generated infrasound in producing annoyance and disturbance. In this respect, The Draft Guidelines refer to the Sonus Report commissioned by Pacific Hydro and the report of engineers Hell, O'Neal and Lampeter (2011). A list of authorities to the contrary is included at the end of this document. One of the Recommendations of the recent Federal Senate Inquiry was that the National Acoustics Laboratory conduct an assessment of the noise impacts of wind farms with particular reference to infrasound - 2.103.

Given the state of the literature in relation to infrasound, a precautionary approach should be adopted by planning authorities. **A suitable noise criteria for infrasound is 60 dbG.** ***This should be included.*** If infrasound is not present in wind turbine noise to an extent which can impact on relevant residences, application of this criteria will not pose a problem.

In the absence of such a criteria in the Guidelines, it is even more important for the A weighted noise limit to be reduced as proposed by Council.

Application of Penalties

The Guidelines set out a maximum penalty of 5dbA notwithstanding that there may be individual characteristics of low frequency, tone and modulation present with cumulative effect. The penalties should be cumulative if the offending characteristics are present i.e. the penalty could be a maximum of 15 dbA.

Noise predictions

The EIS is required to contain noise predictions at "all locations identified as relevant receivers under these guidelines." More specifically, the noise assessment report requires predicted noise levels "at the closest dwellings to the wind farm." However, the impact of low frequency noise may not be at the closest dwellings and the effect of temperature inversions is that sound will be heard at greater distances from the turbines.

The Guidelines should stipulate that ***sound measurements should be calculated for dwellings and approved dwelling sites within 4 kilometres of the turbines.*** Given the established characteristics of low frequency sound and infrasound to penetrate buildings and resonate, measurements should be calculated for ***inside dwellings***. In the event that this does not occur in the pre-approval stage, then accurate figures for the reduction of noise from outside to inside must be used taking into account the structure/materials of the relevant dwelling.

Compliance

In relation to what is contained in the Guidelines concerning compliance:

The Guidelines contradict themselves in relation to whether there will be compulsory noise compliance monitoring in the first twelve months. Although the Guidelines state that this will be the case (p.7, p.36), Appendix E which actually governs compliance, states only that conditions of consent "may" require the applicant to submit a Noise Compliance Report within twelve months i.e. it it not mandatory. ***The initial compliance report should be mandatory in all cases.***

There is the capacity to ask the Director-General for an independent review of impacts. There is no requirement for the Director-General to order a review. ***If more than one neighbour or if the Community Consultative Committee requests an independent review, such a review should be ordered.***

The Guidelines specify that the independent review shall be carried out by a professional appointed by the proponent. This contradicts all accepted procedures for the appointment of independent professionals. The accepted protocol is for the parties to try and reach agreement as to the independent expert. ***In the event that agreement cannot be reached, the expert is appointed by the relevant professional body, in this case, the Australian Acoustical Society.***

What the Guidelines do not say in relation to compliance:

It is suggested that if no resolution can be achieved, "the proponent may seek to secure a written agreement with the neighbour to allow exceedances of the relevant criteria to occur." This might be achievable if the Guidelines required that the windfarm cease operation if it was non-compliant. ***But they contain no such requirement.***

If the Department intends that, for policy reasons, windfarms will continue to operate notwithstanding non-compliance, then formal legislative provision should be made to compensate affected neighbours. This is the case in all other areas where, for public purposes, land is required. In relation to a private purpose such as mining which is deemed essential for the state, there is separate and specific legislation setting up procedures for adequate financial compensation for those whose land is affected.

(a) The Guidelines should provide that in the event of non-compliance, the wind turbines **will** cease operating to the extent required to rectify the non-compliance; or
(b) The Guidelines provide that in the event that compliance is unable to be rectified, the affected neighbour shall be compensated/acquired at a satisfactory formula set out in associated legislation.

There are only two legitimate alternatives:
As alternative (b) is not proposed, the Guidelines should provide that in the event of non-compliance, the windfarm will cease operating until compliance can be demonstrated.

<u>Proximity of turbines to existing residences</u>

Council has submitted:

- that the 2km buffer should be reviewed to ensure that noise affectation is adequately addressed;
- that the JRPP should call a public meeting as part of its deliberations; and
- that the 21 day exhibition period for a SCC is not sufficient.

Council's submission reflects serious concerns about what has been called "the gateway procedure." These concerns are supported. The following matters are raised:

- The setback is from *existing residences* only. This takes no account of already *approved dwelling sites, dwelling entitlements or subdivision dwelling entitlements* which will be impacted on neighbouring properties. In some cases, they may be effectively negated. To confine the setback to existing residences immediately undermines dwelling entitlements which landholders have been relying upon.

- The existing dwelling criterion ignores the fact that properties within a rural zoning are inevitably, work places. This is the case whether they are large holdings or "hobby farms." *The boundary* is an often-frequented work place. The proposed Guidelines permit turbines immediately adjacent to boundaries provided the home is some distance away. This is regardless of noise, blade glint, shadow flicker or potential blade throw. With any other industrial machine, appropriate setbacks from work areas would be required by OH&S criteria.

- The Guidelines implied recognize that residences within 2 km of a turbine will be severely impacted. It necessarily follows that land areas within 2km of a turbine will be similarly impacted. Unless the setback is from boundaries, turbines placed adjacent to boundaries will "sterilize" neighbouring land with no accounting or damages for the loss of use which follows.

- The existing residence criterion offers no buffers and creates a situation where if one residence is 1900 metres (as the crow flies?) from a turbine and a second residence is 2100 metres from the same turbine, the second residence is deemed to be non-affected.

- The JRPP has no local input. The Panels consist of 3 State nominees and 2 regional nominees so the process is State controlled. The Western region which constitutes the regional nominees contains over 40 Shire Councils.

As Council notes, the set back criterion is inter-related with noise affectation. Given deficiencies with the noise criteria and compliance requirements already raised, it is submitted that the only meaningful way to deal with providing reasonable protection is by **applying a setback criteria of *2 kilometres from boundaries. 2 km boundary setbacks*** overcome the problems above to a large extent. Such a setback does not prevent the development of wind farms. It is open to the proponent to remove closer turbines or to negotiate with an affected landowner.

Further, it is suggested that **the gateway process be abolished**. The limit should be absolute. As long as the gateway process is State controlled, it is unlikely to be effective. **If the gateway process is maintained, the local council representatives on the JRPP should the representatives of the relevant council area.**

b) Community Consultation

Council seeks an extension of the 21 day SCC exhibition period to 42 days and this is supported. 60 days would be even more useful as this is a critical point in the process and public awareness is usually limited at this stage.

The Guidelines set up **Community Consultative Committees**, details of which are set out in Appendix C of the Guidelines. Council's draft submission does not comment on these committees. It is suggested that it should do so as these committees provide the possibility of meaningful local input both in the planning stages and, more importantly, in post-construction stages. The Committee has two potentially important rolls - dealing with complaints handling procedures and dealing with the allocation of community enhancement funds.

The Guidelines provide for a maximum 12 member committee of whom *one member* is "representative" of the local council and *five to seven members* are "representative of the local community and other stakeholders." The local community members are appointed by the State Government. **It is suggested that the local community members should be appointed by Council** who have local knowledge and answerability to the community impacted by the development. There are two or three representatives of the proponent. These are appointed by the proponent. Apparently, the proponent is capable of appointing its own representatives but the community is not.

Funding of the CCC by the proponent should not come out of the community enhancement contributions.

c) Visual Amenity.

The requirement for photo montages for all non-involved residents within 2 kilometres is good but should be extended to 5 kilometres given the size of the turbines and their positioning in locations which may make them highly visible.

e) Health

Council submits that all applications should be referred to the NSW Department of Health. This is supported.

The present Guidelines expressly ignore the recommendations of the 2011 Federal Senate Inquiry in relation to heath and the content of windfarm guidelines. Recommendation 3.99 was that windfarm guidelines include discussion of adverse health effects. This has not occurred. Further, the proposed Guidelines refer to the 2010 Public Statement of the National Health and Medical Research Council. The NH&MRC has already updated its position in relation to health and wind turbines beyond its 2010 Public Statement. An amended Public Statement will be produced by mid 2012. The Federal Senate Inquiry recommended that Guidelines include comments made by the NH&MRC regarding its proposed revision of its Statement. This has not occurred.

f) Decommissioning

Council suggests that ***a bond should be required.*** This is supported.

There is no international evidence that scrap value for turbines will cover or exceed decommissioning costs. The expert report obtained by the FCWTAG in relation to the proposed Flyers Creek Wind Farm in the Blayney Shire suggested a current demolition cost of $100,000 per turbine.

In the absence of a bond, the question remains open as to who will be responsible for the significant costs of dismantling and removal of above ground equipment and site rehabilitation. The Guidelines require, as a condition of consent, proof that in the lease document between landowner and proponent, the proponent undertakes responsibility rather than the landowner. But all this means is that the landowner will have a right to be indemnified by the proponent in relation to these costs and a right to damages if the proponent defaults. If the proponent is impecunious, what happens to the demolition and waste removal? This is not an unrealistic question given the acknowledged fact that the wind industry is being developed with renewable energy subsidies. The capacity of the industry to survive financially if subsidies diminish or cease, is open to question. **For the shire, there is real risk that, in the absence of a proper bond, there will be no financial capacity for proper demolition and waste removal in due course.** Given the extent of present subsidies, there is no financial reason why bonds should not be imposed.

Planning Framework

As Council points out, the present Guidelines are essentially concerned only with criteria for State Significant Development. ***It is therefore essential that Council develop its own Development Control Plan - Windfarms.*** *A number of regional councils already* have such DCP's. The relevance of a local DCP in relation to wind farms is not just to development within the scope of Council's authority. As Council points out, there are a number of wind farm developments which will impact on the region at the SSD level. The relevance of a DCP to SSD windfarms is as follows:

- The SSD process requires consultation with Local Government (p.10). A DCP would provide the benchmark for council's response;
- Council would normally submit a formal Response to the Department of Planning following the exhibition period for a SSD windfarm in the shire. The DCP could provide the basis of that response;
- SSD windfarms are determined by the Planning Assessment Commission upon which Council has no representation. However, the Planning Assessment Commission is required to consider local environmental planning instruments.

In relation to other aspects of the planning process, it is suggested that the "Consultation with Local Government" portion of the Guidelines be amended to include the requirement ***that Council's advice be sought on potential compliance with any Development Control Plan pertaining to windfarms. The proponent should assess the consistency of the proposed wind farm with any relevant provision of a Council's DCP and any proposed deviations should be documented and explained.***:

The remaining important matter is the public exhibition period for the EIS. It is suggested that ***the public exhibition period which is now set at 60 days, be extended to 90 days.*** The EIS for SSD windfarms is an enormous document and any meaningful public response is likely to involve the preparation of independent expert reports. The proponent may have taken 2 years to develop the EIS.

In relation to **Community Infrastructure Contributions**, it has been suggested that a simpler and more transparent system would be to require the proponent to pay to Council an amount per turbine per year and then have those funds used in an open and public manner as laid out in a DCP.

Notes on Sound and Noise Measurement.

The spectrum of sound waves is continuous but is commonly divided into the classifications of infrasound, low frequency sound, mid and high frequency sound:

Infrasound	20 Hz and below
Low Frequencies	20 Hz to 250 Hz
Mid frequencies	250 Hz to 2000 Hz
High frequencies	2000 Hz to 20,000 Hz

The Hertz measurement refers to the cycles per second at which the wave is travelling. Lower frequencies have longer wave lengths than higher frequencies. The force of the wave (referred to as pressure) is measured in decibels (dB).

There are a number of scales available to measure sound energy. Some of these scales weight (i.e. give preference to) particular frequencies in their measurements. The sounds of all frequencies are not heard equally well by humans. The A scale was developed to deal with human hearing. Most studies of community noise have accordingly used the A weighted scale. This scale weights the contributions of sound waves in the 1,000 Hz to 6,000 Hz range. It progressively reduces contributions from about 500 Hz down and 7,500 Hz up. **So the A weighted scale does not give, or purport to give, a pure measure of frequencies outside the range of hearing of the human ear and increasingly distorts the contribution of lower frequencies as it moves down the spectrum.**

The C scale captures sound equally (i.e. without weighting) over most of the audible range down to 31 Hz. After this, it has a decreasing response. It is widely used to measure lower frequencies. Infrasound is usually measured on scales referred to as the G scale or the Z scale. It is not accurately captured by the C scale.

When reading sound measurements, the letter A refers to the fact that the A weighted scale has been used, the letter C that the C weighted scale has been used etc. After the designation of the relevant scale, there usually appears the subscript letter L which denotes that what follows is a description of how, within the scale, the sound has been measured. Next, there is likely to be either the term "eq" or a number. The term "eq", in laymen's terms, denotes an average measure. If a number appears as a subscript, this refers to the fact that the sound has been calculated ignoring the specified percentage of the time. So,

35dbA Leq means 35 decibels, measured on the A scale, calculated as an average

35dbA$_{L90}$ means 35 decibels measured on the A scale but eliminating 90% of the sound recorded i.e. measurin the noise occurring in the quietest 10% of the time.

Any further numbers appearing refer to the intervals over which the sound measure has been calculated. 35dbA$_{Leq10}$ means that the sound has been recorded/measured over 10 minute intervals.

Low frequency waves travel further than higher frequencies and have the capacity to travel through walls and buildings causing resonance. **Tonality** and **Amplitude Modulation** relate to specific characteristics of turbine sound waves. These result in the noise being more annoying than it would be if these characteristics were not present.

References

General

Berglund B., Lindval T., and Schwela D (Eds) 2000, *Guidelines for community noise.* World Health Organization.

Dickinson PJ, 2009 Nonsense on stilts, *Proceedings of ACOUSTICS*, 23-25 November 2009, Adelaide.

FCWTAG 2011, Flyers Creek Wind Turbine Awareness Group Inc, *Submission MP 08_0252* Flyers Creek Wind Farm Proposal.

Harrison J.P. 2011, Wind Turbine Noise, *Bulletin of Science, Technology & Society* 31(4) 256-261

Leventhall G Low Frequency and Annoyance, *Noise & Health*, v.6, 2004, Issue 23, 59-72.

Hanning C(a) 2010 Wind Turbine Noise, Sleep and Health. Now available at www.windvigilance.com.co

Hanning C (b) Wind Turbine Noise and Sleep: The Torment of Sleep Disturbance. First International Symposium on Adverse Health Effects from Wind Turbines, Ontario Canada, October 29-31, 2010. Posted at www.windvigilance.com

Hansen C. 2010 Mechnical Engineering Testing and Consulting, Assessment of Noise from the Proposed Wind Farm Development Around Mt Bryan, Near the Township of Hallett,, The University of Adelaide, SA. Prepared for the ERD Court SA.

The Acoustic Group 2011 Peer Review of Acoustic Assessment - Flyers Creek Wind Farm, *FCWTAG Submission MP 08_0252 Flyers Creek Wind Farm Proposal.*

Thorne B. 2011(b), The Problems with "Noise Numbers" for Wind Farm Noise Assessment, *Bulletin of Science, Technology & Society* 31(4), 262-290

New Zealand Board of Health Report Series: No 21 Noise. HSO. Wellington 1974

van den Berg G P (2004) Effects of the wind profile at night on wind turbine sound, *Journal of Sound and Vibration* 277: 955-70

van den Berg G P 2007 Wind profiles over complex terrain. Presented to the *Second International Meeting on Wind Turbine Noise, Lyon, France*, September 20-21,,2007

See also Federal Senate Inquiry: The Social and Economic Impact of Rural Wind Farms, Canberra, Aust., 2011 Submissions available at http://www.aph.gov.au/Senate/committee/clac_ctte/impact_rural_wind_farms/submissions.htm

Infrasound and Low Frequency Noise

James R. R. (E-Coustic solutions, Okemos, MI, USA) No Rules, No Caution, No Accountability, First International Symposium on Adverse Health Effects from Wind Turbines, Picton, Ontario, Canada, 29-31 October 2010

James RR and Kamperman GW 2009 *Guidelines for Selecting Wind Turbine Sites,* Sound & Vibration July 2009

Siponen D. The Assessment of Low Frequency Noise and Amplitude Modulation of Wind Turbines, 4th International Meeting on Wind turbine Noise, Rome, Italu, 12-14 April 2011

Moller H, Pedersen CS (2004) Hearing at low and infrasonic frequencies. Noise Health 2004;6:37-57.

Moller H & Pederson CS (2011) Low frequency noise from large turbines, *J.Acoust.Soc.AM* 129(6), June 2011

Salt AN (2010) Infrasound: Your Ears "hear"it but they don't tell your brain. Paper presented to the First International Symposium on Adverse Health Effects of Industrial Wind Turbines, Picton, Ontario, October 29-31, 2010

Salt AN Wind Turbine are Hazardous to Human Health, posted at the website of the Cochlear fluids Research Laboratory, Washington University, St Louis: www.oto2.wustl.edu/cochlea/wind.html.

Salt AN and Hullar TE (2010) Responses of the ear to low frequency sounds, infrasound and wind turbines, Hearing Research (2010) 268 (1-2): 12-21

Shepherd KP and Hubbard HH, Physical Characteristics and Perception of Low Frequency Noise from Wind Turbines, Noise Control Eng. J. 36(1) 5-15

Swinbanks M Wind Turbines: Low Frequency Noise and Infrasound Revisited.

Swinbanks MA (2011) The Audibility of Low Frequency Wind Turbine Noise. Paper presented to the 4th International Meeting on Wind Turbine Noise, Rome Conference 12-14 aprill

Swinbanks MA (2010) Letter to the Michigan WERZB Board, Case No U-15899, 5 January 2010.

Thorne B 2011(a) Wind Farms in a Rural Environment and Potential for Serious Harm to Human Health due to Noise. Submission 112, Senate Community Affairs Committee, "Inquiry into the social and economic impacts of rural wind farms," 30 January 2011.

Van den Berg G.P. (2004a) Do wind turbines produce significant low frequency sound levels? 11th International Meeting on Low Frequency Noise and Vibration and its Control, Maastricht, Netherlands, August 30 - September 1 2004

SUBMISSION 2

Response to calls for Public Comment to Draft council response to NSW Planning Department guidelines' regarding Windfarms in NSW.

Councils Draft is in Black type.
My suggestions are in red type.

Council Comments
That:
1. the report by Senior Environment officer on the Draft NSW Planning Guidelines – Wind Farms be received;
2. Council make a written submission to the Draft NSW Planning Guidelines – Wind Farms as detailed in attachment 1 to this report;
3. a Development Control Plan – Wind Farms be developed as part of the review of the Comprehensive Development Control Plan, subject to the failure of the State to satisfactorily amend the Draft NSW Planning Guidelines – Wind Farms in respect to specific provisions for local and regional development.

That Council Develop a Control Plan specific to Windfarm applications, regardless of what level they are lodged at. This will provide council with a basis by which to initially make their own assessment of the application, and respond accordingly, even if it is deemed of state significance.

- - -

What are the long term benefits for;

a- NSW

Reliability of power supplies? I think not. All this is aimed at doing is meeting a political gaol 20/20, set by ????? Does the commonwealth have the power to enforce this target upon the state?

b- Mid Western Shire

Most of the labour required would come from outside the area, as it is a specialised field. The materials would come from overseas, ie towers and blades, and well as the turbine heads themselves.

Cement batching plans on site would not benefit concrete companies in town.

Once operational, predications are for very few local jobs to be created.

Mid Western shire already carries the burden (some may say benefit) of a large number of coal mines, with further proposed. There is also other mineral exploration ie gold in the pipeline. When is enough enough?

Enforcement:

The draft is by definition only a set of guidelines!

What/where are the penalties if the guidelines are NOT followed?

In the planning and application stage they may have some effect, but once a site is operational?

The developers will move on, selling to large institutions. Who will ensure the guidelines are followed then? The Director, NSW Planning! Good luck.

Planning framework

Council has concerns that it may not have the required level of expertise to be able to wholly undertake the assessment of wind farm applications (both local and regional) to an adequate standard. Due to the economies of scale it is unlikely that there would be many small scale wind farm applications where Council would be both the assessing and determining authority. However, given that our region has been identified as an area of medium to high wind speeds (see attachment 2) it is likely that there may be a number of mid scale proposals of up to a value of $30 million where Council will be required to undertake the assessment with the JRPP making the determination. The costs of outsourcing all or part of the assessment to experts in say the fields of noise, electromagnetic interference, ecology (particularly impacts on birds and bats), reflective impacts (from glint and flicker), and the like would not be adequately compensated for by the statutory fees able to be applied. The current maximum application fees for say a $5 million development are approximately $11,000 with this increasing to approximately $18,000 for $10 million, approximately $31,000 for $20 million and approximately $42,000 for a $30 million development. Council has been advised to allow for a minimum assessment fee of $20,000 for a small scale proposal if it were to be outsourced with these consultancy fees ranging anywhere up to $100,000 for one of the larger scale wind farms. The statutory application fees quoted above fall well short of these anticipated consultancy fees which would leave Council out of pocket.
Council seeks that provisions be made in the guidelines / regulations to allow Council to be recompensed for such expenses.
Further Council has concerns that the guidelines outline in section 1.1 and 1.2 criteria for local, regional and state significant development. However, section 1.3 refers only to state significant development and the other two types of development are not referred to again. If Local Government is being given the authority to assess and / or determine small to medium scale wind farms then the guidelines should include sections that will be assistance to Council for both when it may need to advise proponents of requirements to be included in applications as well as for undertaking assessments.
Council requests that the guidelines be amended to include all matters relevant to local and regional wind farm developments.

a) Proximity of turbines to existing residences – as stated below (Community consultation)
Council considers that the 21 day exhibition period for a SCC is not sufficient. For a proponent to be going down this path then there is already a level of concern and in this instance the 21 days could be seen to be only paying lip service to the consultation process and trying to push the application through. Council considers that the JRPP should call a public meeting as part of its deliberations on SCC applications. Council also considers (see comments on Noise) that the 2 km buffer should be reviewed to ensure that noise affectation is adequately addressed.

This point cannot be understated. To have even one turbine situated near someone's home with forever alter the owners' life. As most of these proposals are sited in rural areas, the dwellings in question are somewhat isolated, either by necessity or design, the owners seeking a lifestyle by

choice. To have a wind turbine even 2km from your home that towers 160 metres into the air is not something that many owners were looking for when they moved into their homes. This distance MUST be set at a minimum of 5km.

Imagine the cumulative effect of having a number of turbines in close proximity to ones' home.

The Gateway Process: Is this only for developments in the $5 – 30 million range, as the flow chart indicates that the JRPP determines the SCC?

Who provides the info on the noise and visual issues, the proponent?

In order to address this issue, a set back from a property boundary would also work effectively. A setback of 2km would give neighbouring properties with no turbines some hope of being able to utilise their properties as they plan, both now and into the future.

b) Community consultation - Council welcomes the intent of the guidelines to improve the level of community consultation, however considers that 21 days is not a sufficient period for public exhibition of a Site Compatibility Certificate (SCC) as for a proponent to be going down this path would seem to suggest that there is some level of community concern about the project. Council considers that a longer exhibition period would provide the public with a greater opportunity to investigate matters of concern and make informed decisions and submissions. A JRPP public meeting during this period of exhibition would also indicate a level of genuine desire to consult with the community. A suggested period of 42 days is considered adequate.

The draft states, "Proponents are ***strongly*** encouraged to consult **(should be MUST consult)** with neighbours and others likely to be directly affected by the development.....

You then would need to define what "likely to be directly affected may mean".

It is clear that many people near or within the 2km buffer either didn't know about the development, or were/are ignorant to what it entails. This may come from the following;

- Believing what the developer tells them, either through a desire for financial remuneration,
- Lack of all the information, and a lake of knowledge as to where to find independent opinion/advice,
- Total confusion. This has been noted first hand in some residences' that would be affected by the crudine ridge proposal.
- Would it not be easy for the proponent to set out their initial proposal in some form of introductory letter, and then post it to ALL landholders within a 10km radius of the boundaries of the development. Such lists would be readily available via council. This consultation cannot rely solely on the chance that a landholder hears about it from a friend or reads about it in the media.

- **Community Consultation Committees (for ALL SSD developments)**

- These CCCs give some local input back. Sounds like the Dep Planning is trying to pass the buck, with the CCC responsible for ensuring ongoing monitoring.
- What determines when a "high" level of community interest or concern is reached? Does NSW planning rely on the proponent for this information?
- What happens when the proponent moves on, selling the development. Their knowledge and expertise goes with them. These farms propose to run for 25 years! Governments and ministers change, people move on.
- Reference should be appendix "C".
- Who will be the community members? Will it be "stacked" by people in favour of the development? Who will make the selections?
- The community members should be selected locally by a local body. The council would seem the ideal body to perform this selection function.
- What are the ramifications for non-compliance? Sounds like a toothless tiger!
- When agreement can't be reached, the public committee members may be referred to the director general for possible replacement. What about the proponent?
- When identifying the relevant assessment issues, the guidelines indicate that the level of assessment to be undertaken should be commensurate with the ..... level of community concern regarding the issue! There needs to be a minimum standard set. Being a cynic it would appear that the less "concern" there is, the less work and research they have to undertake (P16).

c) Visual amenity - Council acknowledges that the guidelines in this respect appear to be thorough and comprehensive, however the assessment of such matters as glint, flicker effect of night lighting and the like would require expert assessment outside of Council's sphere of expertise.

There seems to be some ambiguity in this section. The same 2km is mentioned, yet their effect will reach far beyond this.

The fact that the guidelines ask for identification within 10km is good, but it needs to go further. What happens if there is a dispute, with a neighbour feeling

d) Noise – the guidelines state "as shown in Figure 2 (page 6) the criteria established (35dB(A)) in this document are stringent by both Australian and world standards being approximately 10dB(A) lower than most European countries which have significant experience in the management of wind farm noise". This is somewhat over stating the case as the 35dB(A) level is only 5dB(A) lower than the European night time requirements with the UK set at 43 dB(A) and Denmark at 44 dB(A) for day-time. Further, Europe and Great Britain are more densely populated than particularly rural Australia where most of the wind farms are either located or proposed to be located. By default these denser levels of living bring with them much higher levels of background noise generated by the day to day activities of that concentration of people.
Rural Australia by contrast has very low levels of background noise which in farming / grazing areas could be less than 10dB(A) (even during the day) and even small to moderately sized country towns could be as low as 20dB(A) at night time.
Council again raises the issue that the "Industrial Noise Criteria Policy" which would seem to be the basis from which the 'noise criteria' for these guidelines has been taken is

inappropriate for rural areas. The guidelines require that "new wind farm developments should not exceed 35dB(A) or the background noise by more than 5 dB(A), whichever is the greater". Setting a threshold of 35 dB(A) is considered too high for quiet rural areas and a more appropriate figure would be 25 dB(A) as this would allow for 30 dB(A) maximum compared to 40 dB(A) a set in the guidelines. A level of 30 dB(A) is still considered relatively high for residents who have grown accustomed to the peace and quiet of rural areas and the Australian bush. Further, a review of buffer areas for noise affectation in quiet rural areas should be undertaken as noise has a greater impact in rural areas as it is audible for a greater distance due to low background noise levels.

Council's objection to the proposed dbA level as too high is right.
Council's comments in relation to low levels of background noise in rural Australia are spot on.
The use of AS1055 (which used to be called "Noise Assessment in Residential Areas") is inappropriate as a standard for rural areas. An area with negligible transportation noise (R1 in AS1055) is not a rural area.

- Compliance testing will underestimate the actual audible noise levels.
- The assumption of a noise masking effect at high wind speeds is not sustainable.
- Regarding Low Frequence Noise, the Draft Guideline noise limits which trigger a "more detailed assessment" are too high. The guidelines are unclear.
- There is NO reference to INFRASOUND.
- Temperature Inversions.

e) Health - Council considers that all applications should be referred to the Ministry for Health as part of the assessment process.

It is difficult to see how referring health issues to the ministry will be in any way effective. The ministry has already declared it's position, being that windfarms pose no risk to health. How can there be any confidence that the ministry will be objective when such positions are already a matter of public record.

Contracts: In particular "gag" clauses. Proponents prevent the presentation of a true picture of any health effects being experienced by people already hosting the turbines.

f) Decommissioning – Council considers that a decommissioning bond should be required as part of any approval with sufficient funds being retained to adequately cover predicted future costs of decommissioning and rehabilitating the wind farm development.

Councils own regs state that it is the "landholder" that is responsible for the removal of these structures! On current estimates, this will be in the vicinity of $150K/tower net.

g) Auditing and compliance – Council acknowledges that the guidelines set sound parameters for the monitoring and auditing of the operation of wind farms. However, any data and information that is made publicly available should be a format that is meaningful to the general public.
Community infrastructure contributions
In terms of VPAs Council seeks that the Department established in consultation with Local

Government a framework and protocol that would form the basis for negotiating a VPA. This would not be able to be worked out on the number of employees because once the wind farm is operating the number of service personnel needed is relatively small. However, potentially wind farms may have considerable impacts on local infrastructure, particularly the road network and Council considers that fair and reasonable recompense should be made in this regard as well as contributions to other community facilities.

Who will do it?

Who will review results?

CCCs have some part to play. If neighbours have complaints regarding compliance ie noise, who pays to have this checked? Will the person/organisation be independent?

FINANCIAL IMPLICATIONS

There are financial implications to Council with the guidelines in their current format. As outlined above the maximum statutory application fees able to be levied are not adequate to cover any outsourcing to expert consultants should Council be the assessing body. There should be provision in the guidelines and or regulations to allow for fair recompense to Local Government to cover such expenses.

I believe that any land hosting these turbines should be re-classified in terms of rates. Is this a matter for which the local council has autonomous control? I think an industrial zoning might be more appropriate.

There is evidence in this country, and more conclusively from overseas, that siting of these windfarms has had a significant detrimental effect on land and property prices.

STRATEGIC OR POLICY IMPLICATIONS

The guidelines in their current format concentrate on provisions and requirements for State significant development (SDD) with minimal or no detail relating specifically to local or regional developments. It is considered that the guidelines should be amended to include appropriate additional detail that specifically relates to developments other than SDD. In the event that the guidelines are not amended then Council would need to develop its own Development Control Plan which could be undertaken as part of the review of Comprehensive Development Control Plan.

Contribution to Government policy objectives;

There are a number of examples listed. Any EIS should include a mandatory requirement to cost out the benefits to government. This needs to be evidence based. (It is widely believed that the retail cost of electricity will rise dramatically).

This will have a cost in terms of $$$, but also politically.

Additional Issues for consideration by council.

Bland Glint: The guidelines refer continually to a distance of 2km. What happens if a residence more than 2km away is affected by this?

Shadow Flicker: What is the consequence if it exceeds 30 hrs/year???

Who is responsible for measuring this?

What happens if the limit is exceeded?

Economic:

Approval of these types of developments will effectively "sterilise" large areas of the shire. Whilst current types of agriculture ie grazing may be able to continue, and there is some debate about this, future developments would be much restricted by proximity to turbines, irrespective of their location. An example of this would be a landholder who does not have turbines, but has there close to their boundary. Should they want to develop their property by subdivision, with associated building entitlements, their options will be much reduced. This has a net result in reducing the value of the property.

Information of this nature should be included in any EIS.

Site Layout:

Location of all residences within **10km rather** than 5km. (P44). This has been referred to by other submissions and people already feeling the effects of established windfarms.

What is the definition of the "sphere of influence "of a turbine? Does one exist?

Will there be a layoff distance from a neighbouring properties boundary?

The RFS should be directed by the NSW government to develop a strategy for fighting fires near and around wind turbines.

Evidence in the EIS under consultation (P46) of how the proposal was communicated. ie letters to all those effected, plus neighbours within 10km, including names & addresses.

If asked, most proponents will NOT be able to say what the total effect of their proposal will be, as they can't accurately predict the impact once all turbines are up and running.

Effects of any planned development upon larger settlements (Mudgee Township)

As mentioned throughout the draft guidelines, there is a pre-occupation with a setback distance of 2km from a wind tower.

There is literature in existence to suggest that the effects of turbines and windfarms may extend far beyond this. Figures of 10km, and even up to 30 km have been identified!

I list the following by way of example;

I am personally aware that there was initially an area within the Uungala windfarm proposal to site wind turbines on the ridge known as the Merinda Brothers, off Yarrabin Road, Yarrabin. Using basic measurements via Google Earth, the direct distance from this site to the outskirts of Mudgee is just under 15 km, and this is following the topography of the land. The distance by air, which is the distance which is in my opinion more relevant, would be much less. I must stress that the developers have now given me an undertaking in writing that this particular section of the development is now not part of their plans; it demonstrates the point that the guidelines do not consider the wider community implications of the identified issues.

Some of the literature I have read refers to windarms with less than 100 turbines. What will be the collective impact of 330 turbines on the township of Mudgee??

A final point:

Why, when there is so much uncertainty both in relation to the effects of turbines on people and communities, and the arguable environmental/economic benefits, are we racing on with these developments. It seems there are enough windfarms in place now to measure the positive/negatives effects.

Once these farms are up and running, we are committed. The money has been spent, and someone always has to pay, be it physically, emotionally and financially.

Lets take a breath and learn from the mistakes and breakthroughs of others.

Thank you for the opportunity to have input into the councils responsive to what I believe will become a huge community issue.

Regards,

Stephen Lowe

Yarrabin

14 February 2012.

February 13, 2012

SUBMISSION 3

1. Preamble

My husband and I own a 2,000acre property on the Yarrabin Rd. My husband has owned the property for 48years and we have lived on the property for 40years. I am a Science teacher and have been teaching in the Mudgee-Gulgong region for over 40 years.

Up until November 2011 we were part of the Uungala Wind Farm development. in August, 2008 we signed a 5year license to have wind testing carried out on our property and had the prospect of having a number, possibly 8, turbines on our property. We had very little contact with Wind Prospect between these dates.

Although we were told by the wind farm developer that we would be paid between $5,000 and over $15,000 per turbine per year, we declined the offer and cancelled the wind testing license. Our main reasons for this action were:

a. The make-up of the principals of the company responsible for the development, Uungala Pty Ltd, was difficult to ascertain. Also, Wind Prospect, who produce the correspondence and Uungala website, was responsible for the development of Hallet 1 & 2 in South Australia which is having legal issues about noise from turbines.

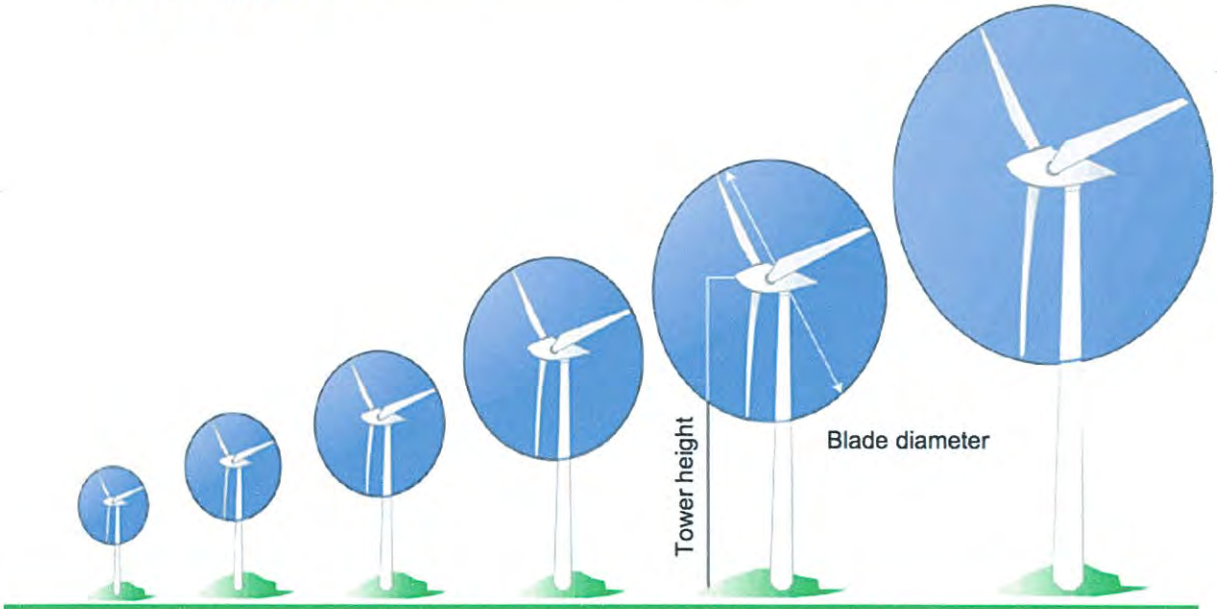
b. We were told by representatives of Uungala Pty Ltd that they would on-sell the wind farm in 2 – 3 years. There was no plan for handling ongoing problems (e.g. complaints about noise from neighbours) we might experience, as turbine hosts, after this date.

c. We have 9 neighbouring properties directly adjacent to our property. Some of these neighbours have permanent residences, others are more recent purchasers who probably intend to build in the future. As late as October 2011 only 3 of our neighbours knew about the Uungala Wind Farm and 2 of these 3 were also potential turbine hosts. We did not like the way the company approached the 330 wind turbine development, information was divulged only on request and many people who would be affected by the development were ignorant of its existence and hence unable to have their say. There was no plan to consultate with, or compensate, our neighbours for the intrusion into their lifestyle and the loss in value of their land.

d. My husband and I are in the process of selling our property in 5 blocks. We had received DA approval from Council in May 2007, but had not placed the blocks on the market until late 2010. We would describe the land we are selling as 'lifestyle blocks' (from 250 to 700 acres) and felt that the presence of wind turbines on neighbouring blocks would reduce the value of the land and increase the time it took to sell.

e. Research has lead to the following conclusions:
   I. The large number of approved and proposed wind farms for the Tablelands is a result of government incentives for alternate energy. What happens when the subsidies dry-up?

- *When wind turbine subsidies dried up in California in the 1990's the turbines built in the 1980's were left and the battle continues to this day as to who is responsible for removing hundreds of derelict turbines. The 1880 turbines are much smaller than the 2012 models.*



	1980	1985	1990	1995	2000	2005
Power	: 30 kW	80 kW	250 kW	600 kW	1.500 kW	5.000 kW
Blade diameter	: 15 m	20 m	30 m	46 m	70 m	115 m
Tower height	: 30 m	40 m	50 m	78 m	100 m	120 m
Energy production per year	: 35.000 kWh	95.000 kWh	400.000 kWh	1.250.000 kWh	3.500.000 kWh	ca. 17.000.000 kWh

BGR Bundesanstalt für Geowissenschaften und Rohstoffe
GEOZENTRUM HANNOVER

The inaudible noise of wind turbines, Lars Ceranna, Gernot Hartmann, and Manfred Henger. Federal Institute for Geosciences and Natural Resources (BGR), Section B3.11 Stilleweg 2, 30655 Hannover, Germany. Presented at the Infrasound Workshop November 28 – December 02, 2005, Tahiti.

- *Ben Lieberman, a senior policy analyst focusing on energy and environmental issues for the Heritage Foundation, asks:*
  "If wind power made sense, why would it need a government subsidy in the first place? It's a bubble which bursts as soon as the government subsidies end."

- Subsidies to renewables totaled $66 billion worldwide in 2010, according to the most recent figures from the International Energy Agency • 9 rue de la Fédération, 75739 Paris Cedex 15, France • www.iea.org

- In January 2011 Spain halted subsidies for renewable energy projects to help curb its budget deficit and rein in power-system borrowings backed by the state that had reached 24 billion euros ($31 billion).

- The Netherlands has also stopped subsidies to turbines because of the credit squeeze.

I. The current NSW draft policy is obviously biased towards wind farm developers with little regard for the health and well-being of rural residents.

There is no definite setback distance as in Victoria where the 2.0 km set-back distance is definite (unless voluntarily waved). In the NSW draft there are 3 pathways in The 'Gateway' Process for the developer to gain permission to build a turbine under 2km from a residence.

There is no pathway for a resident having problems with a turbine to have it stopped or removed. There are only ways (The "Gateway" Process) for the developer to make adjustments to the turbine concerned, or to alter the surrounding landscape by planting trees or building walls.

There is no consideration for neigbouring property owners who may experience, noise, health problems, loss of property values and loss of the ability to put future plans into action.

II. The current draft policy overlooks local elected Councils in favour of a system of appointed committees, regional panels, a Planning Commission and Departmental bureaucrats.

Further to my experiences with the Uungala Wind Farm and in light of research I would request that Council consider the following.

a) Proximity of turbines to existing residences – as stated below (Community consultation) Council considers that the 21day exhibition period for a SCC is not sufficient. For a proponent to be going down this path then there is already a level of concern and in this instance the 21 days could be seen to be only paying lip service to the consultation process and trying to push the application through.

- I feel that at least 60days for exhibition is appropriate. We were first approached in early 2008 by Wind Prospect to be involved in testing for wind on our property. The approval for the first step in the Uungala development was April 2011. If the developer takes 3 years or longer, 60 days for the community, whose life could be drastically affected, to consider an SCC is not unreasonable.

Council considers that the JRPP should call a public meeting as part of its deliberations on SCC applications.

- There is very little substance in the "Guidelines" as to rules for compliance by the proponents, most appears to be optional. They are after all 'guidelines'. From my experience with Wind Prospect information is only divulged on request and unless questions are asked people remain in the dark. I feel open and honest discussion is imperative in these large-scale developments and so would replace 'should' with 'must'.

- The JRPP seems to be just another complicating/mystifying step to remove some of Local Council's role in a development in their region. In my view, Local Council should perform the role of the JRPP.

- I also agree with the recommendation that Council develop a 'Development Control Plan' to cover the development of all wind farms not just those that cost <$5million i.e. for Local, Regional and State significant development. Council will need to supply

representative for Community Consultation Committees and for the Joint Regional Planning Panel who will need guidelines as to their role and responsibilities.

Council also considers (see comments on Noise) that the 2 km buffer should be reviewed to ensure that noise affectation is adequately addressed.

- There is no definite setback distance in the draft as in Victoria where the 2.0 km set-back distance is definite (unless voluntarily waved). In the NSW draft there are only 3 pathways ("Gateways") for the developer to gain permission to build a turbine under 2km from a residence. Victorian guidelines also ensures wind farms would not be permitted within five kilometres of regional growth areas and establishes no-go zones for wind farms in the Yarra Valley, Dandenong Ranges, Mornington Peninsula, Bellarine Peninsula and Great Ocean Road region, the Macedon and McHarg Ranges, and the Bass Coast.

Values in the Wind: A Hedonic Analysis of Wind Power Facilities*
Martin D. Heintzelman Carrie M. Tuttle March 3, 2011 Economics and Financial Studies School of Business Clarkson University.
Martin D. Heintzelman is Assistant Professor, Clarkson University School of Business. His paper uses data on 11,369 property transactions over 9 years in Northern New York to explore the effects of new wind facilities on property values. "We find that nearby wind facilities significantly reduce property values."
"the existence of turbines between up to 1 and 3 miles away negatively impacts property values by between 15.6% and 31%"

- Setback distance should be 2km from a neighbouring boundary, and not a residence. The presence of turbines in close proximity on an adjoining block renders the land unsaleable, or at best saleable at a reduced price. This limits the ability of neigbouring landholders to subdivide, limits where the landholder can build a dwelling and limits the options for future developments of their land.

- There needs to be some degree of compensation for neighbouring landholders.

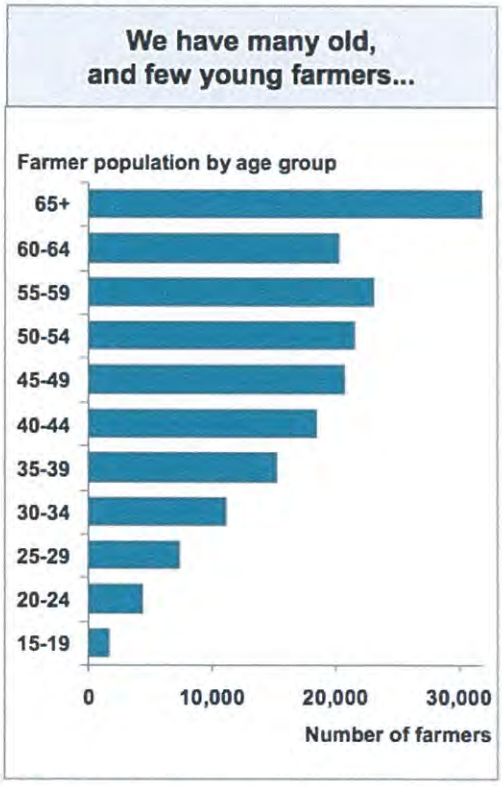
1. The Town of Hammond in New York is working to amend its wind law to require developers siting wind turbines within two miles of a property to sign a value guarantee agreement that would ensure property owners are appropriately compensated should they experience a decrease in value due to the turbines.

2. Denmark: public policy regarding loss of value to real property due to wind turbines. An erector of a wind turbine has a duty to pay compensation for loss of value of real property following the erection of the wind turbine. The size of the loss of value is determined by an appraisal authority. If a property loses more than 1 per cent in value due to the erection of new wind turbines, the owner is ensured full compensation for his loss. The owner of the property must notify his claim for compensation for loss of value to Energinet.dk. As owner of the property you can choose to enter into a voluntary agreement for compensation for the loss of value with the erector of the wind turbine, or you can ask an impartial appraisal authority to make a specific appraisal of the property and determine the scope of your loss.

The claim from the owner of a property affected must be notified before the wind turbine has been erected. The erector of the wind turbine is therefore obligated to visualise the project and

prepare other material as well as provide information to the citizens affected at a public meeting no later than four weeks before the municipal planning process ends. Any claims raised at a later stage will only be assessed as an exception to the rule.

- Turbines too close to neighbouring land creates many social justice issues. Prior to 2007, when "Infrastructure SEP" was introduced, turbines were not permitted on rural land. There are many old, and very few young farmers.



Australia 2020 Summit The Future Of Rural And Regional Australia April 2008

The presence of turbines on neighbouring land, sometimes within metres of a boundary, limits the options for these older members of society to follow their retirement plan often made many years prior to 2007. Why should a neighbour (a turbine host) have so much influence over what a person can do on their own land? Why should one farmer be paid hundreds of thousands to host turbines and in so doing render his neighbours unable to follow strategies 'to get off the land', stuck on a farm remote from the facilities needed to look after them in their old age. This is the case with a number of people I have spoken to who neighbour the Crudine Wind Farm.

- The presence of turbines on neighbouring land restricts what a landholder can do on their own land. Farmers don't just work at their residence, farms are working enterprises. Farmers can spend a good part of the farm year fencing, mustering and working in sheep and cattle yards, moving over their properties spraying weeds and generally observing livestock, fences and weed problems. It also creates OHS issues for asking an employee to work in close proximity to a turbine. Turbines need to be 2km from a boundary fence so that farmers are not restricted in what they can do on their own land.

Either/Or

- 2km is not enough, a 5km setback distance to non-wind farm residences is required.

SA Supreme Court in the Quinn v. AGL Hallett 3 appeal.

The appeal in this case was allowed because evidence came to light that wind turbines owned by AGL, and operating at Hallett 2 Wind Development, are currently incapable of satisfying the current SA EPA Guidelines. This evidence of "tonality" in the S88 turbines had been known to the manufacturers Suzlon, who found "tonality" in the same type of turbines in March 2007 at Hallett 1. Despite prior knowledge of tonality, this information did not come to light in the initial court case in the ERD court in 2010. One of the farmers concerned is 4.6km from the turbines In the November 2011, AGL shut down 16 of its 34 turbines at Hallett Stage 2, between 7pm and 7am. AGL had little choice, as otherwise they would have been operating knowingly in breach of the current SA EPA noise guidelines at certain times, with the general public also aware that they were doing so. Predictably, the residents of the surrounding areas including the township of Mt Bryan have reported some excellent sleeps this week, since these turbines have been shut off.

Amongst the grounds of appeal was a challenge to the EPA SA Wind Farm Noise Guidelines, and specifically whether their limits take proper account of the impact on residents from the wind turbine noise. In other words, questioning the ability of the SA guidelines as they are currently to adequately protect human health.

This case is of significance for ALL AUSTRALIAN STATES currently applying SA EPA wind policies and guidelines which are in similar terms to the SA EPA's 2009 guidelines for wind developments. The adequacy of these guidelines is currently before the court in South Australia for determination, and that those matters should therefore be held over in abeyance until this particular matter is determined.

- Weed spread. Turbines in close proximity to a boundary will limit the ability of the non-hosting landholder to aerial spray for weeds, pests and spread fertilizer. Serrated tussock a weed of increasing importance in the local area, It is spread by wind and we have found 1 hours helicopter spraying proved more efficient in cost and coverage than 5 days with Quikspray equipment on a Landcruiser. Will there be compensation for the extra time required to spray this insidious weed on land adjoining turbines?

- Mudgee has held the Small Farm Field Days for about 30 years and has many residents that have purchased Lifestyle blocks. Even the *Preliminary assessment of the impact of wind farms on surrounding land values in Australia* Prepared for: NSW Valuer General August 2009cursory report showed that for Lifestyle blocks "The possible reduction in value ranged from 6-27% with a weight in the mid twenties percentile."

- Cumulative impacts of turbines from surrounding wind farms also needs to be included. From my property I will possibly see over 300 turbines from Uungala, Crudine, Bodangora and Hargraves Wind Farms and these are ones we know about. There needs to be a register at Local Councils of proposed wind farms at the license signing stage so that residents are able to consider the potential cumulative affect

- Under strategic justification in the Guidelines, does Council have a land use plan for the region for 20-25 years in the future? Do

individuals, especially those adjacent to wind farms need to consulted? This could be included in Councils's DCP.

- How is the set back distance to be measured, on a toppgraphic map, or "as the crow flies"? At such close distances to a turbine a metre either way could be vey significant, either giving a neighbor access to a sign/not sign an agreement or to one of the 2 positions on the Community panel for residents in the 2km zone.

b)Community consultation - Council welcomes the intent of the guidelines to improve the level of community consultation, however considers that 21 days is not a sufficient period for public exhibition of a Site Compatibility Certificate (SCC) as for a proponent to be going down this path would seem to suggest that there is some level of community concern about the project. Council considers that a longer exhibition period would provide the public with a greater opportunity to investigate matters of concern and make informed decisions and submissions.

- That the Community Consultation Committee be formed by Local Councils. Council be responsible for the appointment of local community members to the committee.

- The local Council must be represented on any Community Consultation Committee.

- Effective consultation would involve signed statement from all landholders 5km from a host property boundary

- I feel that 90days for exhibition for a SCC is appropriate. We were first approached in early 2008 by Wind Prospect about being involved in testing for wind on our property and the approval for the first step in the Uungala development was April 2011. If the developer takes 3 years or longer, 90 days for residents to consider an SCC is not unreasonable. In the Uungala Wind Farm there are many 'weekender', lifestyle block owners who adjoin a host property and may not be in the area for months at a time. They need to know about the proposal before they can start to consider its many ramifications.

- In Identifying relevant assessment issues under ecological issues, weeds and feral animal control must be addresses with a plan for their control where aerial treatment on neighbouring land is not possible because of turbine location. Compensation for the extra costs involved because of the limits proximity to a turbine places on a farmers ability to chose the least cost option to eradicate a pest or weed e.g. the cost of aerial spraying versus the land options.

- The economic impact of the wind farm on non-host landholders must be considered, especially with reference to land value and future land use i.e. compensation or buying their land.

- Cummulative impacts of more than one turbine in a wind farm, as well as other windfarms in the region, need to be assessed. The Uungala Wind Farm is close to the Crudine , Hargraves and Bodangora Wind Farms what effect will their interaction have?

- The photomontages need to be for residences, or proposed residences within 5km of a turbine. The SA Hallett case has residents 4.6km from a turbine affected by it's noise. There should be no residences 2km from a turbine.

- InThe relevant landholders consulted in the SCC need to be within 5km of a proposed turbine, i.e. the 2km zone needs to be increased.

A JRPP public meeting during this period of exhibition would also indicate a level of genuine desire to consult with the community. A suggested period of 42 days is considered adequate.

- The JRPP is a cumbersome way of replacing decisions previously made by Local Councils or State Governments. The role of the JRPP is to consider proponents claims for a turbine 2km from a residence that do not have the residents signed agreement. Elected representatives of the community, with the support of the Local Council infrastructure would be better able to fill the role of the JRPP.

- The applicant to demonstrate in the environmental impact statement that effective consultation has occurred prior to lodgement of the application and that issues raised as a result have been addressed in the assessment" How is this to be achieved? In my dealings with Wind Prospect consultation with local Council involved speaking at a regional meeting, community consultation involved putting up a website for a Wind Farm that people knew nothing about (so consequently would not look for a website) and having an Open Day so that people attended in small groups over an extended period.

- Engagement needs to occur with neighbours early in the process that have houses 2 km from a boundary of a host landholder either/or are 5km from a turbine.

- Community infrastructure contributions need to be a set fee per turbine per year, negotiated by and paid to Local Councils. Wind farm developers are not philanthropists, they are simply in it to make money and on-sell quickly.

The Committee recommends that the responsible authorities should ensure that complaints are dealt with expeditiously and that the complaints processes should involve an independent arbitrator. State and local government agencies responsible for ensuring compliance with planning permissions should be adequately resourced for this activity. FEDERAL SENATE - RURAL WIND FARMS INQUIRY 2011

c) Visual amenity - Council acknowledges that the guidelines in this respect appear to be thorough and comprehensive, however the assessment of such matters as glint, flicker effect of night lighting and the like would require expert assessment outside of Council's sphere of expertise.

- As in the rest of the Guidelines the developer is asked to produce something, in this case photomontages of how the turbines will look from residences in the existing landscape, but there are no criteria on which to judge if such images are acceptable.

- Engagement needs to occur with neighbours early in the process that have

houses 2 km from a boundary of a host landholder either/or are 5km from a turbine.

d) Noise – the guidelines state "*as shown in Figure 2 (page 6) the criteria established (35dB(A)) in this document are stringent by both Australian and world standards being approximately 10dB(A) lower than most European countries which have significant experience in the management of wind farm noise*". This is somewhat over stating the case as the 35dB(A) level is only 5dB(A) lower than the European night time requirements with the UK set at 43 dB(A) and Denmark at 44 dB(A) for day-time. Further, Europe and Great Britain are more densely populated than particularly rural Australia where most of the wind farms are either located or proposed to be located. By default these denser levels of living bring with them much higher levels of background noise generated by the day-to-day activities of that concentration of people.

Rural Australia by contrast has very low levels of background noise which in farming / grazing areas could be less than 10dB(A) (even during the day) and even small to moderately sized country towns could be as low as 20dB(A) at night time.

- Strongly support Council's proposal to reduce background noise levels to 20dB(A) for rural areas.

- The acceptable night and evening noise in the Guidelines are the same for rural, urban and suburban areas. This conflicts with the statement in the guidelines "endeavours are made to retain acoustic amenity commensurate with the objectives of the surrounding land uses". It goes without saying that in rural areas, industrial and traffic noise is less than in suburban areas.

Council again raises the issue that the "Industrial Noise Criteria Policy" which would seem to be the basis from which the 'noise criteria' for these guidelines has been taken is inappropriate for rural areas. The guidelines require that *"new wind farm developments should not exceed 35dB(A) or the background noise by more than 5 dB(A), whichever is the greater"*. Setting a threshold of 35 dB(A) is considered too high for quiet rural areas and a more appropriate figure would be 25 dB(A) as this would allow for 30 dB(A) maximum compared to 40 dB(A) a set in the guidelines. A level of 30 dB(A) is still considered relatively high for residents who have grown accustomed to the peace and quiet of rural areas and the Australian bush. Further, a review of buffer areas for noise affectation in quiet rural areas should be undertaken as noise has a greater impact in rural areas as it is audible for a greater distance due to low background noise levels.

- The WHO guidelines are based on road, rail and aircraft noise, not on industrial wind turbine noise.

- Wind turbine noise was perceived as more annoying than transportation or industrial noise at comparable levels, possibly due to its swishing quality, changes throughout a 24 hour period, and lack of night-time abatement.*Studies in Sweden and the Netherlands (Pedersen et al. 2009, Pedersen and Waye 2008, Pedersen and Waye 2007, Pedersen and Waye 2004)*

- The ambient background noise in reality greater is than the current testing reveals. L_{90} measurement ignores the noisiest 90% of the average of the intervals tested. Inversion layers, so common on cool winter nights, are ignored. The guidelines make the assumption that the noise levels from a turbine on windy days will be masked by the sound of the wind in the trees. We have observed on countless occasions the wind blowing on the hills and it very still in the valley where we reside, it all depends on the direction of the prevailing wind. At 160m at the tip of a turbine, the wind speed will not always be the same as at ground level.

- The noise levels for each residence are produced by testing models of the proposed wind farm. If these calculations are incorrect and there are problems then an independent acoustician should be provided, at the proponent's expense, to test noise levels within the residence. No model is perfect, and no equipment is perfect to test it and it is usual practice in disputes like these between a manufacturer and a claimant that an independent person, whose credentials are agreed to by both parties, is used to settle the claim. From the Guidelines: "If the Director-General is satisfied that an independent review is warranted, then the Director-General may require the proponent to commission a suitably qualified, independent expert, whose appointment has been approved by the Director-General, to consult with the landholder to determine his/her concerns, and conduct monitoring to determine whether the project is complying with the relevant assessment criteria." What a farce! How independent can a person nominated by the proponent be?

- If a compliance issue is not resolved (p.37), the regulator will (not may) restrict operation of the wind farm until satisfied that acceptable of the wind farm can be demonstrated. The Guidelines talk of penalties but nowhere does it say that turbines will be turned off if the proponent does not comply with the guidelines, penalties are applied with no consequences.

- There is a limit of 5dB(A) penalty for tonality, amplitude modulation and low frequency noise. A turbine can produce one or three of these with still the same penalty, even though they can have a cumulative effect. The penalty for all three should be 15dB(A)

- The noise levels used to determine the level of noise experienced at a residence cannot be tested at another place. Readings at " supplementary intermediate monitoring locations between the wind farm and the relevant receiver where the signal to noise ratio is higher" (p31). How do they know the signal to noise ratio at the intermediate site is higher if the noise can't test at the site?

- A-weighting discounts infrasound as it is below the level of human hearing. *Although infrasound from modern turbines may be less than from older models, it is nevertheless present. The relevant standards applied in Australia rely only on the dB(A) measurement which does not take infrasound and low frequencies fully into account.*

The measurement of noise as used in the Standards is dB(A). Dr Warwick Williams, a Senior Research Engineer at the National Acoustic Laboratories, explained that the A-weighting heavily discounts the low frequencies and the very high frequencies. *Committee Hansard*, 17 May 2011, p. CA 7.

- Low frequency noise <20dB(A), infrasound, needs to be monitored. A small increase in sound level at low frequency can result in a large increase in perceived loudness. This may be difficult to ignore, even at relatively low sound pressures, increasing the potential for annoyance *(Jakobsen 2005, Leventhall 2006).*

- An Italian study found that infrasound from wind turbines may be detected at some distance from the turbines:

Among these [low frequencies], the most energetic is that at frequency 1.7 Hz which, under particular conditions (i.e., low cultural noise and strong wind) can be clearly observed at epicentral distances as large as 11 km. At this particular frequency, waves depict a complicate pattern of attenuation with distance, characterised by a marked decrease in the decay rate for ranges larger than 2500–3000 m.11
Seismic Noise by Wind Farms: A Case Study from the VIRGO, Gravitational Wave Observatory, Italy. Gilberto Saccorotti, Davide Piccinini, L´ena Cauchie, and Irene Fiori, p. 18.

- **Infrasound,** <20dB(A) should not be discounted. P.33 "It is further expected that the proponent will take all reasonable and feasible measures to avoid and minis eth generation of annoying noise characteristics." Infrasound can be measured. Infrasound has been linked to health problems. Infrasound has been detected from turbines. It must be included.

- **FEDERAL SENATE - RURAL WIND FARMS INQUIRY 2011**
  Committee view
  The Committee considers that the noise standards adopted by the states and territories for the planning and operation of rural wind farms should include appropriate measures to calculate the impact of low frequency noise and vibrations indoors at impacted dwellings.

- The Victorian Government Planning Panel that inquired into the Moorabool Wind Energy Facility found that noise limits and limits on shadow flicker do not necessarily apply to host dwellings because 'such dwellings are effectively part of the wind farm'. Moorobool Wind Energy Facility Permit Application 20091012877, Panel Report, September 2010, p. 6.

- The Clean Energy Council stated that the standards applied in Australia are among the most stringent in the world but, as the Sonus report commented: Regardless of the stringency of the base noise level or the available masking effect of the ambient environment, wind farm standards and guidelines are not established to ensure inaudibility.
  Wind Farms Technical Paper, Environmental Noise, Prepared for Clean Energy Council, November 2010, Sonus Pty Ltd, Adelaide, South Australia, p. 18

Windfall: Wind Energy in America Today, by historian Robert Righter, was recently published by University of Oklahoma Press; it's a follow-up to his 1996 book, a history of the industry through its first commercial boom. As a hearty advocate of wind energy and continued rapid growth of the industry, Righter may surprise some with his strong call for more sensitivity to quality of life concerns of rural residents. "Should rural regions lose the amenities and psychological comforts of living there to serve the city? Should metropolitan areas enjoy abundant electricity while rural people forfeit the very qualities that took them to the countryside in the first place? "
"They do not impact a landscape as much as dominate it....Their size makes it

practically impossible to suggest that wind turbines can blend technology with nature."
On the question of noise, Righter is equally sensitive and adamant, stressing the need to set noise standards based on quiet night time conditions, "for a wind turbine should not be allowed to invade a home and rob residents of their peace of mind." He says, "When I first started studying the NIMBY response to turbines I was convinced that viewshed issues were at the heart of people's response. Now I realize that the noise effects are more significant, particularly because residents do not anticipate such strong reactions until the turbines are up and running – by which time, of course, it is almost impossible to perform meaningful mitigation."

e) Health - Council considers that all applications should be referred to the Ministry for Health as part of the assessment process.

Industrial Wind Turbine Development and Loss of Social Justice?
Carmen M. E. Krogh1
Based on my research, people initially welcomed IWTs into their communities and the adverse impacts were unexpected. When the health symptoms became apparent, there was an expectation that authorities and/or the IWT developer would resolve the issues. Individuals report their distress intensified when attempts to obtain recognition of their situation failed. An unexpected lack of response from a cross section of society, including government officials, industry, medical practitioners led to an exacerbation of their situation.

Failure to obtain recognition and resolution has resulted in some individuals seeking legal counsel, abandoning their home, or continuing to experience the adverse health effects, which ultimately, heightens the feelings of injustice.

- It is very important that current statements of the Ministry for Health are used. The position of the NHMRC used in the Guidelines related to their 2010 position, which is changing as more data becomes available.
- I have concerns that proponents who are putting up large amounts of money and who intended to on-sell in 2-3 years, are promoting a campaign that overlooks an increasing amount of evidence about the harmful effects on the health of the community it leaves behind. Reminiscent of Minamata disease.

f) Decommissioning – Council considers that a decommissioning bond should be required as part of any approval with sufficient funds being retained to adequately cover predicted future costs of decommissioning and rehabilitating the wind farm development.

- I agree, What if wind farm developers are bankrupt at time of decommissioning? Who will remove these 160m high monsters?
- Waste disposal of the one piece, 60m fiberglass blades will create problems.
- Will this override Council regulations, where the landholder may be responsible? There are no enforceable requirements for the removal of existing turbines.

g) Auditing and compliance – Council acknowledges that the guidelines set sound parameters for the monitoring and auditing of the operation of wind farms. However, any data and information that is made publicly available should be a format that is

meaningful to the general public.

- Neighbours who request independent noise monitoring should have it paid for by the proponent. The noise levels are only predicted, using models, up until the turbine is in operation. The Australian climate, topography, level of ambient noise may be unique and hence not 'fit' models. As stated previously the landholder and the proponent should together decide on an independent acoustician to test for compliance, not just the proponent.

- What is the penalty for non-compliance? The turbine in question should be turned off, the proponent given a time to remedy the matter, tested again and if non-compliant decommissioned.

Community infrastructure contributions

In terms of VPAs Council seeks that the Department established in consultation with Local Government a framework and protocol that would form the basis for negotiating a VPA. This would not be able to be worked out on the number of employees because once the wind farm is operating the number of service personnel needed is relatively small. However, potentially wind farms may have considerable impacts on local infrastructure, particularly the road network and Council considers that fair and reasonable recompense should be made in this regard as well as contributions to other community facilities.

- This is a major concern. The amount of the contribution and what it is used for should not be at the discretion of the developer. A more simple and transparent system would be to require the wind farm developer to pay Council an amount per turbine per year. The local council could then ensure that the funds were used in an open and public manner.

FINANCIAL IMPLICATIONS

There are financial implications to Council with the guidelines in their current format. As outlined above the maximum statutory application fees able to be levied are not adequate to cover any outsourcing to expert consultants should Council be the assessing body. There should provision in the guidelines and or regulations to allow for fair recompense to Local Government to cover such expenses.

STRATEGIC OR POLICY IMPLICATIONS

The guidelines in their current format concentrate on provisions and requirements for State significant development (SDD) with minimal or no detail relating specifically to local or regional developments. It is considered that the guidelines should be amended to include appropriate additional detail that specifically relates to developments other than SDD. In the event that the guidelines are not amended then Council would need to develop its own Development Control Plan which could be undertaken as part of the review of Comprehensive Development Control Plan.

- I feel Council will need a DCP regardless of the size of the wind farm. Council will have representatives on CCC & JRPP. The JRPP will have a very controversial role deciding to recommend a turbine placement after a landholder <2km from a proposed turbine has not provided written agreement. A comprehensive set of guidelines would protect the JRPP from claims of nepotism.

Stephanie Newman B. Agr. Dip. Ed.
Hillgrove 828 Yarrabin Road Mudgee

SUBMISSION 4

DRAFT NSW PLANNING GUIDELINES

WIND TURBINES

SUBMISSION

ANN WALKER

237 WORLDS END ROAD
YARRABIN
2850

63730325
annwalker@skymesh.com.au

My name is Ann Walker I bought the property I now live on in 1995. My house was transported from Dubbo in 2006. My father and I have lived here full time since May 2006.

I thought wind turbines were a good / green renewable energy source but my views have been changed since I started to research the for's and against. This was brought about, when I was informed by a neighbour a 330 wind turbines project had been approved for my area.

Green – well that is debatable, when you consider what the turbines are made off. The magnets sourced from China have left a lake of toxic waste and endangered the lives of Chinese farmers, their families and the workers who extract and process the rare earth metals to produce the magnets.
The number of birds and bats that are killed by the wind turbines to produce green energy.
The impact on the area's ecology that is irreversibly destroyed.

Destruction of Rural communities - The impact on the rural communities has been and will continue to be destructive as one neighbour is pitted against another. I can understand farmers seeing only the dollars, because to work the land in Australia is a life of hardship and what they would see as easy money would be hard to resist. Maybe the NSW government would be better placed to review how it could assist farmers.

Property Values - Common sense tells you that property values will fall if you have a wind turbine farm in the neighbourhood.

Cost - The cost of wind turbines on the general public through higher electricity bills is also unacceptable, especially when there is no proven benefit to the community or the impact of "Global Warming". I don't think I would be wrong when I suggest that coal fired power plants will not be turned off no matter how many wind turbines are spinning in NSW. Wind energy can't be stored; wind energy is intermittent and costly.

Minority paying for the over indulgence of the majority – I ask that the NSW government recognizes and accepts, that the introduction of wind turbine farms into the Australian rural communities is a very real threat to a quite and peaceful rural environment. I ask the following questions:

- Why should a rural community be expected to accept major change of lifestyle to support an unattainable 2020 renewable energy target?
- Why should a rural community be expected to generate power(no matter how inefficient the method)to support an urban mentally of overuse of electricity – office blocks lights blazing 24 hours a day etc

Keeping in mind these are the same rural communities that suffer from chronic shortages of doctors, dentists and other medical support personnel, to be able to live in a quiet and peaceful environment.

NSW Government - Please put a moratorium on any further wind turbine farms being introduced until an unbiased and independent study into health effects and the true value of green renewable energy i.e. business costs vs. benefits analysis.

Please Note: The Senate Committee recommendations of which I quote. The motion below was passed by the Federal Senate and the motion is due to be put to the Federal government lower house.

"Below is a copy of the motion which was successfully passed in the Australian Federal Senate:
(a) notes that on 23 June 2011 the Community Affairs References Committee tabled its final report, *Social and economic impact of rural wind farms* containing seven recommendations, including recommendations calling for studies on the effects of wind farms on human health; and
(b) calls on the Government to:
(i) immediately act on the committee's recommendations in the report, "

Setback from Wind Turbines

2 Kilometre Setback

Consider this-
Why should a non host be impacted by the 2 kilometre setback from a wind turbine?
Term - No go zone - Is the area in a non host property that is impacted by the 2 kilometre setback from wind turbines to non host dwelling.

For example if a wind turbine on a host property is placed 500 metres from the host boundary fence line, than the non host is impacted by a no go zone of 1.5 kilometres. The NSW Planning Guidelines: Wind Turbines, requires a wind turbine to have a 2 kilometre setback from a dwelling to cover noise, infrasound, blade glint, shadow flicker (this would also include allowance for blade throw). Therefore it would follow if the non host was a working property and had work sheds etc within this no go zone , the non host would be breaching their duty of care for any workers be they family, employee or contractor, also OH&S implications would have to be considered.
Surely a work place on a working property should also be considered when taking setbacks from wind turbines into account. The effects of noise, infrasound, blade glint and shadow flicker can have an effect on any person(s) inside a house or working in a work place.

Further examples.

- The life span of a wind turbine is expected to be 20 to 25 years. Non host property owners will be restricted from breaking their property into smaller lot sizes/sub dividing, due to the no go zone(s) caused by wind turbine setback. This also supports non host property devaluation.

- Lifestyle is restricted for non host properties. All properties in rural areas are not large working properties. They are properties that were brought with a lifestyle change in mind, one of peace and quite of the country life. Wind turbine setback intrusions (no go zones) would put restrictions on the use of these properties. Property owners have a duty of care for those people who are on the property with owner permission. A no go zone on the non host

property would have to be areas where a family camp over, walks etc are no longer permissible.

Therefore I suggest that the setback of 2 kilometres be from the host's boundary fence line (into the host property) and a further 1 kilometre from the same boundary fence line into the non host property (this would be seen as a safety buffer and not a no go zone), consent would not have to be obtained from the non hosts. For non hosts(s) who had concerns / complaints - a process (similar to the gateway process) should be put in place for these concerns/complaints to be viewed and if necessary this could involve research and/or studies which would have to be resolved before the wind turbine was placed in the area.

If the 2 kilometre setback as it is set out in the NSW Planning Guidelines: Wind Turbines goes ahead in its current format than I would strongly suggest the following.

The 2 kilometre setback intrusion into a non host property

The loss of property use by the non host should be taken into account. The non host not only loses the area (no go zone) but incurs the financial costs to own this area of the property.
The no go zone area of a non host property should be valued by the Valuer General. The valuation of this area (no go zone) should be shown as a separate valuation on the non host Notice of Valuation as issued by the NSW Valuer General. Any rates/ taxes incurred from this valuation should be either the responsibility of the host property where the wind turbine is placed or the Wind Developer.
The Wind Developer should than pay compensation to the non host equal to the NSW Valuer General valuation plus mark up for current market price.

Additionally the no go zone area on the non host property should be taken into account when the non host property owner applies for any Federal government pensions/assistance, as it is not a true asset to the non host.

The author of this submission suggests the setback from a wind turbine be 5 kilometres.

Gateway/Setbacks
The setback (as discussed above) should be unqualified by any "gateway" procedure.

The Australian Federal Government Senate Committee on the social and economic impacts of rural wind farms came up with seven (7) recommendations one of which is:

- "2.69 The Committee recommends that further consideration be given to the development of policy on the separation criteria between residences and wind farm facilities."

Local Council

The Mid Western Regional Council (of which I am a rate payer) has 5 proposed Wind Turbine Farms located on top of mountain ridges between Ilford to Goolma. These projects usually fall within the category of "State significant development" where capital investment is over $30 million. Unfortunately local council does not have input into the determination of these categories.
Wind turbine farms have a divisive impact in local communities. The placement of wind turbines usually has the potential to have neighbour against neighbour. This is especially so when wind turbine(s) are place near a neighbour's dwelling and kilometres away from the host. As the local council is usually the first avenue people go to seek advice or resolution on matters of inters neighbour disputes surely it would follow that local councils will be in great demand to adjudicate and putting further pressure on local council resources. The impact on local road network, traffic implications in the construction period e.g. movement of heavy trucks which will transport turbine parts etc., the burden of all this plus, I'm sure the local council could be able name more concerns.
Why than are the local councils not given more input to what "State significant development" is allowed in the area when they are expected to provide so much? Local councils have the right to put in submissions but again to do the research and appropriate studies the council (or should I say rate payers) are expected to pay the bill.
The author of this submission suggests that the local councils be funded by the NSW government for research and study costs and the Wind Developers for infrastructure costs i.e. roads etc. and not the rate payers.
Wind turbine host properties – As these properties are being used for commercial enterprises, council rates incurred should be commercial instead of the current rural rates. This would help offset some of the additional costs incurred by local council.

Noise

I support the council's objection to the guidelines proposed dbA level as too high. The proposed council limit of 25 dbA (L eg 10min) or background noise (L_{90}) by more than 5 dbA whichever is the greater.
Council's comments on rural Australia having very low levels of back ground noise I fully support. My own experience when I moved into my home in Yarrabin (30 kilometres from Mudgee) from residential living in the Sydney suburb of Menai. The wonderful experience of actually hearing the 'sound of silence' is not believed by city dwellers until they spend sometime on a property such as mine. Quoting again from my own experience, when I go into a city/urban environment and stay overnight I have to use ear plugs to achieve a good night's sleep. I suppose just living in this quite environment your hearing is not used to urban noises e.g. cars, trucks, noisy neighbours etc. Another example from my own experiences of how noise travels in the rural environment - I can hear cars on the Yarrabin road day and night. The road would be approximately 2 kilometres from my home and even the neighbour's dog barking can be heard from the same distance.
The Australian Federal Government Senate Committee on the social and economic impacts of rural wind farms came up with seven (7) recommendations of which -

- "2.44 The Committee considers that the noise standards adopted by the states and territories for the planning and operation of rural wind farms

should include appropriate measures to calculate the impact of low frequency noise and vibrations indoors at impacted dwellings"

- "2.103 The committee recommends that the National Acoustics Laboratories conduct a study and assessment of noise impacts of wind farms, including the impacts of infrasound"

Health

The current research from both Australia and overseas should be taken into account. The Australian Federal Government Senate Committee on the social and economic impacts of rural wind farms came up with seven (7) recommendations one of which –

- "2.101 The Committee recommends that the Commonwealth Government initiate as a matter of priority thorough, adequately resourced epidemiological and laboratory studies of the possible effects of wind farms on human health. This research must engage industry and community, and include an advisor process representing the range of interests and concern.
- "2.102 The Committee recommends that the NHMRC review of research should continue, with regular publication.
- "3.99 The Committee recommends that the draft National Wind Farm Development Guidelines be redrafted to include discussion of any adverse health effects and comments made by NHMRC regarding the revision of its 2010 public statement".

Community consultative committees

The Australian Federal Government Senate Committee on the social and economic impacts of rural wind farms came up with seven (7) recommendations one of Which –

- "2.58 The Committee recommends that the responsible authorities should ensure that complaints are dealt with expeditiously and that the complaints processes should involve an independent arbitrator. State and local government agencies responsible for ensuring compliance with planning permissions should be adequately resourced for this activity."

The deliberations of these committees are to important to the individuals concerned for the process to be rushed. Adequate time should be given for research and studies to be carried out. The author of this submission suggests 90 day period.

The make up of the members of the committees should be selected by local council and also chaired by that body. NSW government would also be expected to fund research and/or studies and cost of committee member's time.

Ann Walker
'Pasadena'
237 Worlds End Road
Yarrabin
2850
63730325
annwalker@skymesh.com.au

SUBMISSION 5

The General Manager,

Mid-Western Regional Council,

PO Box 156,

Mudgee NSW 2850

SUBMISSION REGARDING COMMENTS ON PLANNING GUIDELINES FOR WIND FARMS.

Dear Sir,

We appreciate the opportunity to give you our comments on above planning guidelines. We feel that they should be made much more stringent so as to protect the interests of adjacent landholders and other interested stakeholders.

We are vitally affected by the planned Uungula Wind Farm, a massive project of 330 wind turbines, each approximately 165m high which we regard as inefficient toxic monstrosities, approved by stealth, with no public consultation and to be paid for by our money compulsorily acquired via our electricity bills.

Approving such a massive project by stealth with no public consultation, when it will affect our health, our farm's viability and valuation is preposterous and would never be tolerated by city residents. How is it that 5% of rural residents are to be penalised to help offset the pollution caused by 95% of urban residents with massive traffic jams of vehicles with one person inside with air-conditioning on , air-conditioned buildings and lights left on all night, not to mention incredible amounts of rotting landfill.

How is it that affected residents were not advised of the proposal at the outset, instead of hearing vague media reports of a "windfarm is planned north of Wellington"or a windfarm is planned north of Burrendong Dam. Even the Uungula name is misleading, as Uungula is over the Cudgegong River towards Wellington Even now the map on the web-site for the proposal is very vague and unclear so that it is impossible to chart the exact distance from our property and that of our daughter and son-in-law on the Yarrabin Road.

We were advised by a letter-box drop of alarming information by a concerned local resident who had researched the matter intensively. To realise the potential effect on us and to only be informed in such a manner is appalling. Australian citizens and tax-payers should not be treated as mushrooms. All residents should have had the opportunity to object before it was hurriedly approved just before the last State election. Obviously meeting the agreed green target before 2020 is obviously more important than the effect on farming enterprises and other rural residents.

Having a 2km as a minimum distance from turbines is far too close. 2km has also been chosen not only for noise but for blade fail, when blades shatter and are projected great distances. Noisewise, a minimum of 5km, preferably 10km is necessary as noise is amplified in this hilly terrain (the van den Berg effect). Dogs have been heard barking 5km away and radios have annoyed neighbours 4 km away (having been put on to deter feral goats). Gunshots are amplified from hilltops into adjoining valleys. We feel that windfarm proponents should purchase host farms and BUFFER ZONES as in mining practices.

We feel turbine project companies must be made liable for health and valuation consequences arising from their money-making projects. Host farmers profiting from the annual return from the turbines should be required to reside on their host property, not take the money and live a peaceful life on the coast, leaving their neighbours to bear the consequences.

Council's suggestion of charging them industrial/commercial rates as it is an industrial project is a good one.

There have been many widely researched studies showing how the health of nearby residents has been adversely affected,in spite of statements by the Professor of Public Health of Sydney University that "fears of ill health from wind turbines is 'hysteria' and that there is no research proving the contrary" It would seem that the pro-windfarm spokesmen are either ill-informed or persuaded to give certain opinions. There is no shortage of relevant studies on the subject, performed by highly qualified medical and auditory professionals, showing the effect of the sound and infrasound levels on residents up to 10km away from turbines. There are studies from many countries, including Canada, New Zealand, Holland. Recently NASA advised the President of the United States, Barack Obama, to be cautious of getting involved in the folly of Climate Change.

As farmers we are also concerned as to the effect on animals with ultrasensitive hearing. Expensive working dogs could be rendered useless by hearing loss and stress from infrasound and together with cattle can hear and sense storms and earth tremors hours before humans are aware of them. We wonder if this would be reflected in an inability by livestock to gain weight at a suitable rate, which may impact our farm income.

We are greatly concerned by the toxins involved in the manufacture of these turbines. Each turbine contains approximately 2000kg of Neodymium, a radioactive and carcinogenic substance in the magnet in each turbine. Mining and manufacturing this toxic product is killing the people of Baotou in China. A 6 mile wide lake of radioactive sludge remaining after manufacture remains near the town, killing the animals and farmland. How can this be described as a "green"product Will this toxic substance leach onto the ground and into our pristine waterways? What happens when they catch fire (as they do)? Will our rural fire fighters health be put at risk?

Another concern is the toxicity of the blades, which we understand are made of carbon fibre as opposed to fibreglass of the earlier models. It is our understanding that with the wear and tear and weathering, carbon fibres come loose and blow long distances and are known to be more dangerous than asbestos. We understand that carbon fibre is used in the aircraft industry and when showing signs of wear has to be cut up by operators protected by full personal protection suits and buried in special sites as there is no other safe disposal method. In the event of blade failure what precautions are the nearby residents advised to take? When these toxic monstrosities have reached the end of their service life will they be left to leach their toxins into the surrounding soil and waterways as they are in Canada or will they be decommissioned properly? The mind boggles at the effort in restoring the site, bearing in mind the 2000kg of Neodymium, tonnes of concrete and steel, cabling etc. per turbine.

Who will be responsible for the removal and restoration?

1. If the project owner onsells .
2. If certain turbines are sold to communities.
3. If the host property sells his portion of windfarm.
4. If the original project owner goes bankrupt.
5. What have we overlooked?

Because of their height (several times the height of nearby trees, there is a very great risk of lightning strikes, involving bush fire and step potential killing farm worker and stock.

We feel that birds and other wildlife will be wiped out – just providing a similar site may not suit the bird's and animal's requirements. Large birds will be killed cruelly by blade strike, smaller birds nesting and breeding habits will be disrupted, including the internationally protected rainbow bee eater which comes from overseas in the first week of October to nest in creek banks in this area, raise their young and return to New Guinea about February the following year.

We feel our television, radio, possibly internet will be adversely impacted, as will radio communication necessary for rural fire fighters and emergency services.

Valuation and saleability of our properties must be greatly impacted, as no one in their right mind would purchase a property within 10 km of a wind farm. Who is going to compensate us? Many people have had to leave their homes, been unable to sell their property and have had to live sub-standard lives in caravans or sheds elsewhere because of the noise and other health issues caused by the turbines.

How much of our electricity usage charge, service availability and GST is compulsorily acquired to pay for these toxic monstrosities in the name of free green energy and the host land owner's large yearly remuneration would also come from our pocket by some means.

What royalties are the wind farm companies paying the Government or have they also been let off the hook as in the CSG debacle? The public is very tired of being the scapegoat paying to ensure that the Government looks good in the eyes of the world regarding a very foolish commitment to the 2020 target. A much more sensible approach would be to pay more for people to feed-in solar energy to the grid. There would be much less health and annoyance issues and a more reliable source of energy.

Wind farms have proved to be a dismal failure in many countries and in Canada are left to stand like broken down scarecrows after they have failed.

Please note: All windfarm sites give the Max. site output as value of turbine output rating x No. of turbines of same value. This figure is not the wind farm output capacity. The wind farm output capacity is determined by total output (as above) x % capacity factor – sometimes shown on details of technical data – but can vary considerably depending on size and make, but can vary from 41% for 3.5Mw units to 21% for 0.66MW units as a general broad statement – e.g. 10x 3.5 Mw = 35 Mw. Thus a windfarm of 10 turbines at 41% capacity factor = 35 x 41% =14.35Mw. So actual windfarm output = 14.35Mw.

Why is so much land being destroyed for such inefficient equipment, which will only function when wind speeds are above certain speeds and a brake has to be applied at high speeds (does not always work and they often catch fire instead)

This all seems pointless as the coal fired power stations will still be required to run full time to pick up the load when the wind drops. So we will not only have coal fired power stations plus these ineffective turbines and blackouts are still predicted. Would it not be more practical to improve the knowledge of the bureaucrats and public that the steam from the condensors at power stations is not smoke as is portrayed regularly in the media. Coal fired power stations are still the most cost effective and efficient method of producing reliable supplies of power.

We appreciate the effort MWRC is putting into your submission and the fact you asked for our comment. We too will be giving a submission to the NSW Planning & Infrastructure expressing our concerns. It is very concerning that apparently Local Government is involved in projects up to $5million, and the Joint Regional Planning Panel from $5million up to $30million. Above that figure it seems you are ignored as we are.

Cost and environmental damage, loss of health and financial security seem to be a very high price to pay for such inefficiency. No technical expertise has been developed to control noise levels. Predicted noise levels are unlikely to be accurate and testing sound levels after tower is erected would be futile. It is unlikely that the turbines would be removed or that the Minister of Health would give an unbiased opinion in the event of an appeal, when the Government sees only the 2020 target.

We appeal to your Council to fight for our interests in this matter in any manner possible. We will be suggesting to the Government that they erect these monsters in the grounds of Parliament House, on the foreshores of Lake Burley Griffin and the foreshores of Sydney Harbour so that the politicians can enjoy the wonderful sight and feel completely warm and fuzzy and GREEN.

We believe that your Council can do nothing about the Uungula project at this stage (even if they do rip up your roads) and any further projects above $30million, which is the way proponents are going. We understand there is one planned for the Hargraves area also which will similarly affect us, but obtaining relevant information when there is such secrecy is very difficult.

Once again, many thanks for your efforts.

Your faithfully,

Rita R. Gibbins
G. Gibbins

G.J. & R.A. Gibbins

"Carinya"

48 Worlds End Rd.,

Yarrabin NSW 2850

9/2/2012

ctd over

GO TO ATTACHMENT 6.2.16

9th February, 2012

References include:-

1 Evaluating the impact of wind turbine noise on health-related quality of life by Daniel Shepherd et al.

Reference of Neodymium dangers –

2 http://www.dailymail.co.uk/home/moslive/article-1350811/In-China-true-cost-Britain

3 Explicit Cautionary Notice To Those Responsible For Wind Turbine Siting Decisions by Waubra Foundation, Dr. Sarah Laurie, Medical Director

List of other references attached.

undertaking large-scale deployment of wind turbines need to consider the impact of noise on the HRQOL of exposed individuals. Along with others,[31] we conclude that night-time wind turbine noise limits should be set conservatively to minimize harm, and, on the basis of our data, suggest that setback distances need to be greater than 2 km in hilly terrain.

Acknowledgments

We are grateful to our colleagues and others whose reviews substantially improved the manuscript. We are especially grateful for the thorough review undertaken by Professor Rex Billington, who as the WHO Director of Mental Health in the 1990s oversaw the development of the WHO's program into quality of life, health and the environment.

Address for correspondence:
Dr. Daniel Shepherd,
School of Public Health, Auckland University of Technology, Private Bag 92006, Auckland 1142, New Zealand.
E-mail: daniel.shepherd@aut.ac.nz

References

1. Thorne R. Assessing intrusive noise and low amplitude sound [PhD thesis]. Palmerston North, New Zealand: Massey University; 2008.
2. Pierpont, N. Wind Turbine Syndrome: A Report on a Natural Experiment. Santa Fe, New Mexico: K Selected Publications; 2009.
3. Salt AN, Hullar TE. Responses of the ear to low frequency sounds, infrasound and wind turbines. Hear Res 2010;268:12-21.
4. Pedersen E, Waye KP. Perception and annoyance due to wind turbine noise: A dose-response relationship. J Acoust Soc Am 2004;116:3460-70.
5. Pheasant RJ, Fisher MN, Watts GR, Whitaker DJ, Horoshenkov KV. The importance of auditory-visual interaction in the construction of 'tranquil space'. J Environ Psychol 2010;30:501-9.
6. Lercher P. Environmental noise and health: An integrated research perspective. Environ Int 1996;22:117-29.
7. Kaltenbach M, Maschke C, Klinke R. Health consequences of aircraft noise. Dtsch Arztebl Int 2008;105:548-56.
8. Miedema HM, Vos H. Demographic and attitudinal factors that modify annoyance from transportation noise. J Acoust Soc Am 1999;105:3336-44.
9. World Health Organisation. Night noise guidelines for Europe. Copenhagen: WHO; 2009.
10. World Health Organisation. Constitution of the World Health Organization. Available from: http://whqlibdoc.who.int/hist/official_records/constitution.pdf. [Last accessed on 2011 Mar 2].
11. Berglund B, Lindvall T, Schwela DH. Guidelines for community noise. Geneva: World Health Organisation; 1999.
12. Niemann H, Maschke C. WHO LARES Final report on noise effects and morbidity. Berlin: World Health Organisation; 2004.
13. Dratva J, Zemp E, Felber Dietrich D, Bridevaux PO, Rochat T, Schindler C, *et al*. Impact of road traffic noise annoyance on health-related quality of life: results from a population-based study. Qual Life Res 2010;19:37-46.
14. Harry A. Wind turbines, noise and health. Available from: http://www.flat-group.co.uk/pdf/wtnoise_health_2007_a_barry.pdf. [Last accessed on 2011 Mar 2].
15. Pedersen E, Hallberg LR, Persson Waye K. Living in the Vicinity of Wind Turbines - A Grounded Theory Study. Qual Res Psychol 2007;1:49-63.
16. Pedersen E, Waye KP. Wind turbines – low level noise sources interfering with restoration? Environ Res Lett 2008;3:1-5.
17. van den Berg F, Pedersen E, Bouma J, Bakker R. 24. Visual and Acoustic impact of wind turbine farms on residents. FP6-2005-Science and Society-20, Project no. 044628. A report financed by the European Union; 2008.
18. Salmond C, Crampton P, Atkinson J. NZDEP 2006 index of deprivation. Wellington: Department of Public Health, University of Otago; 2007.
19. Connor JL, Kypri K, Bell ML, Cousins K. Alcohol outlet density, levels of drinking and alcohol-related harm in New Zealand: A national study. J Epidemiol Community Health 2011;65:814-6.
20. Statistics New Zealand. New Zealand: An urban/rural profile 2005. Available from http://search.stats.govt.nz/search?w=urban-rural-profiles. [Last accessed on 2011 Jan 5].
21. Bakker HH, Rapley BI. Sound characteristics of multiple wind turbines. In: Rapley BI, Bakker HH, editors. Sound, noise, flicker and the human perception of wind farm activity. Palmerston North, New Zealand: Atkinson and Rapley; 2010.
22. Botha P. Wind turbine noise and health-related quality of life of nearby residents: a cross-sectional study in New Zealand. ; INCE Europe. ISBN: 978-88-88942-33-9. Rome, Italy: Proceedings of the 4th International Meeting on Wind Turbine Noise; 2011. p. 1-8.
23. Feldman PJ, Steptoe A. How neighbourhoods and physical functioning are related: the roles of neighbourhood socioeconomic status, perceived neighbourhood strains, and individual health risk factors. Ann Behav Med 2004;27:91-9.
24. *Tabachnick BG, Fidell LS. Using multivariate statistics. 5th ed. Boston:* Allyn and Bacon; 2007.
25. Shepherd D, Welch D, Dirks KN, Mathews R. Exploring the relationship between noise sensitivity, annoyance and health-related quality of life in a sample of adults exposed to environmental noise. Int J Environ Res Public Health 2010;7:3579-94.
26. Pedersen E, Persson Waye K. Wind turbine noise, annoyance and self-reported health and well-being in different living conditions. Occup Environ Med 2007;64:480-6.
27. Pedersen E, Larsman P. The impact of visual factors on noise annoyance among people living in the vicinity of wind turbines. J Environ Psychol 2008;28:379-89.
28. Yamazaki S, Nitta H, Fukuhara, S. Associations between exposure to ambient photochemical oxidants and the vitality or mental health domain of the health related quality of life. J Epidemiol Community Health 2006;60:173-9.
29. Suter A. Noise and its effects. Available from: www.nonoise.org/library/suter/suter.htm. [Last accessed 2011 Jan 5].
30. Jabben J, Verheijen E, Schreurs E. Impact of wind turbine noise in the Netherlands. INCE Europe. Aalborg, Denmark: Proceedings of the 3rd International Meeting on Wind Turbine Noise; 2009. p. 1-9.
31. Pedersen E, van den Berg F, Bakker R, Bouma J. Response to noise from modern wind farms in The Netherlands. J Acoust Soc Am 2009;126:634-43.

How to cite this article: Shepherd D, McBride D, Welch D, Dirks KN, Hill EM. Evaluating the impact of wind turbine noise on health-related quality of life. Noise Health 2011;13:333-9.

Source of Support: Nil, **Conflict of Interest:** None declared.

2

GO TO ATTACHMENT 6.2.16

Click here to print

Mail Online

In China, the true cost of Britain's clean, green wind power experiment: Pollution on a disastrous scale

By SIMON PARRY in China and ED DOUGLAS in Scotland

Created 7:32 PM on 26th January 2011

This toxic lake poisons Chinese farmers, their children and their land. It is what's left behind after making the magnets for Britain's latest wind turbines... and, as a special Live investigation reveals, is merely one of a multitude of environmental sins committed in the name of our new green Jerusalem

The lake of toxic waste at Baotou, China, which as been dumped by the rare earth processing plants in the background

On the outskirts of one of China's most polluted cities, an old farmer stares despairingly out across an immense lake of bubbling toxic waste covered in black dust. He remembers it as fields of wheat and corn.

Yan Man Jia Hong is a dedicated Communist. At 74, he still believes in his revolutionary heroes, but he despises the young local officials and entrepreneurs who have let this happen.

'Chairman Mao was a hero and saved us,' he says. 'But these people only care about money. They have destroyed our lives.'

Vast fortunes are being amassed here in Inner Mongolia; the region has more than 90 per cent of the world's legal reserves of rare earth metals, and specifically neodymium, the element needed to make the magnets in the most striking of green energy producers, wind turbines.

GO TO ATTACHMENT 6.2.16

The Waubra Foundation Inc.
PO Box 1136
South Melbourne
Victoria, 3205
Australia

Reg. No. A0054185H
ABN: 65 801 147 788

Tel: 61 + 3 8640.0105
E: info@waubrafoundation.com.au
www.waubrafoundation.com.au

EXPLICIT CAUTIONARY NOTICE

TO THOSE RESPONSIBLE FOR WIND TURBINE SITING DECISIONS

Including Specifically Directors of Wind Developers, Publicly Elected Officials from Federal, State and Local Government, and Bureaucrats in Relevant Departments

BE ADVISED that, as a result of information gathered from the Waubra Foundation's own field research, and from the clinical and acoustic research available internationally, ***the following serious medical conditions have been identified in people living, working, or visiting within 10km of operating wind turbine developments.*** The onset of these conditions corresponds directly ***with the operation of wind turbines:***

- chronic severe sleep deprivation;
- acute hypertensive crises;
- new onset hypertension;
- heart attacks (including Tako Tsubo episodes);
- worsening control of preexisting and previously stable medical problems such as angina, hypertension (high blood pressure), diabetes, migraines, tinnitus, depression, and post traumatic stress disorder;
- severe depression, with suicidal ideation;
- development of irreversible memory dysfunction, tinnitus, and hyperacusis.

Other symptoms include those described by Medical Practitioners such as Dr Amanda Harry, and Dr Nina Pierpont in her landmark Case Series Crossover Peer Reviewed Study (submission No 13 to the Australian Federal Senate Inquiry into Rural Wind Farms) and published in Dr Pierpont's book entitled "Wind Turbine Syndrome, A Report on a Natural Experiment", 2009, published by K-Selected Books, Santa Fe.

These serious health problems were also identified by Australian GP Dr David Iser in 2004. Dr Iser formally notified the Victorian Government of the time after his patients became unwell following the start up of the Toora wind project. His warnings were ignored without being properly investigated by the authorities and politicians.

All this and supportive material has been made available to the Boards of the major developers, State Ministers for Health and Planning and senior health bureaucrats. The time for denial, and of using the Clean Energy Council to shoulder the increasingly difficult task of denying the link between adverse health and operating wind turbines, is over.

At the Toora and Waubra wind projects, some seriously ill affected residents have been bought out by the developers; but only after they signed confidentiality agreements specifically prohibiting them from speaking about their health problems. This buy-out activity would support a conclusion that developers are aware of the health problems.

Meanwhile, wind developments have continued, with developers asserting that their projects meet acceptable standards, and thereby implying that they cannot be causing health problems.

The Foundation is also concerned that Vibroacoustic Disease, as recorded and described by Professor Mariana Alves-Pereira's team from Portugal, will develop in people chronically exposed to wind turbines. The disease has already been identified in the occupants of a house with levels of infrasound and low frequency noise identical to levels the Foundation is recording in the homes of affected residents in Australia.

The Foundation is aware of over 20 families in Australia who have abandoned their homes because of serious ill health experienced since the turbines commenced operating near their homes. Most recently, five households from Waterloo in South Australia have relocated, where the larger 3 MW turbines have had a devastating

GO TO ATTACHMENT 6.2.16

impact on the health of these residents. Some of these people have walked away from their only financial asset, to live in a shed or a caravan on someone else's land.
The Foundation notes the mid-2010 advice from the National Health and Medical Research Council that a "***precautionary approach***" be followed. We are not aware that either industry or planning authorities have adopted this exceedingly valuable and important advice.

The Foundation's position, as the most technically informed entity in Australia upon the effects of wind turbines on human health, is this: ***Until the recommended studies are completed, developers and planning authorities will be negligent if human health is damaged as a result of their proceeding with, or allowing to proceed, further construction and approvals of turbines within 10km of homes. It is our advice that proceeding otherwise will result in serious harm to human health.***

We remind those in positions of responsibility for the engineering, investment and planning decisions about project and turbine siting that their primary responsibility is to ensure that developments cause no harm to adjacent residents; and, if there is possibility of any such harm, then the project should be re-engineered or cancelled. To ignore existing evidence by continuing the current practice of siting turbines close to homes is to run the dangerous risk of breaching a fundamental duty of care, thus attracting grave liability.

The Waubra Foundation, 29 June, 2011

Enquiries: Dr Sarah Laurie, Medical Director, 0439 865 914

Email address: sarah@waubrafoundation.com.au

SUBMISSION 6

CVL Linda Shaw

SUBMISSION WIND FARM PLANNING GUIDELINES

14th February, 2012

This Submission is in support of the proposed Crudine Ridge Wind Farm in the Mid Western / Bathurst Regional Council area.

We are involved as a host landowner for the proposed Crudine Ridge Wind Farm. The developing company involved is Wind Prospect CWP.

Extensive consultation has taken place between Wind Prospect CWP and the proposed 16 landholder hosts. Wind Prospect CWP has held community Open Days, consultations with Mid Western and also door-knocked all bordering neighbours to the proposed wind farm to personally discuss any issues.

Discussions have been taking place with the proposed 16 landholders over the last 4 years since February, 2008. The land involved has been selected by Wind Prospect CWP because of its high altitude and wind quality and also because the whole proposed area has relatively few houses and buildings.

The proposed turbine locations by Wind Prospect CWP on the individual properties concerned concur with CSIRO and NSW Government guidelines and, in fact, Wind Prospect CWP has been developing the site plans to best practice of the released guidelines.

Wind Prospect CWP has, over the past 4 years, extensively surveyed fauna and flora, archaeological, Aboriginal artefact, historical and noise level, using professionals in each field. Wind speed test equipment has been in place throughout the proposed site over these 4 years.

Wind Prospect CWP will also provide a Community Fund of about $ 200000 annually for the 25 year life of Crudine Ridge Wind Farm. This money will be available to be spent by a Committee within the proposed area and surrounding villages.

The Crudine Ridge Wind Farm will be a positive for the area once established. It will provide a boost in employment during construction. District accommodation, food and fuel facilities will benefit. Permanent staff will be retained for the 25 year life of the wind farm. Local contractors, e.g. fencing, concreting, gravel, turbine road links, will be used.

The landholders involved will have access to better funding for farm improvement and sustainability. Extra money will be available to spend through local agricultural suppliers and contractors. This is most welcome after a decade of expensive drought expenditure and loss of income. Our family have been here since the 1840's and

have farmed continuously since the 1920's. We will not be jeopardising this history and commitment to farming our land well.

Thank you.

D. L Croake

Irene Croake

Daryl and Irene Croake.

"Oak Hills"
1329 Pyramul Road
Pyramul NSW 2850

Email: croake.oakhills@bigpond.com

SUBMISSION 7

TO: GENERAL MANAGER
MID-WESTERN REGIONAL COUNCIL
86 MARKET STREET
MUDGEE NSW 2850
phone: 63-78 2850
fax: 63 78 2815

RE: LETTER REGARDING WIND FARM GUIDELINE

FROM: Ian PRICE
"GLEN-MAYE"
SALLY'S FLAT
NSW; 2850
0429 351 002

(16/2/2012 - PROBLEM SENDING FAX)

IAN PRICE.
"GLEN MAVE."
SALLYS FLAT.
2850
13. 2. 12.

MIDWESTERN REGIONAL COUNCIL.

TO WHOM IT MAY CONCERN,

AS A PARTICIPANT OF CURDINE RIDGE WIND FARM, AND HAVING READ THE N.S.W. GOVERNMENTS DRAFT PLANING GUIDLINES (ON WIND FARMS) - I HAVE READ IN THE MUDGEE PAPER THAT COUNCIL SEEMS TO HAVE A POLICY THAT THEY WANT TOUGHER GUIDE LINES.

I FIND IT HARD TO BELEIVE COUNCIL WOULD WANT TOUGHER GUIDES LINES, THAN WHAT NSW GOV. HAVE PUT FORWARD, THE BENIFITS OUT WAY THE LOSSES.

1. THE INFLOW OF CAPITAL TO THE AREA, I.E. FARMERS TO THE TOWN BUSNESS'S IN THOSE TOWNS AND THES WORK THAT WILL BE CREATED, AND THE ON GOING MAINTENANCE OF THOSE TURBINES.
2. A REDUCTION IN THE AMOUNT OF COAL & GAS USED.
3. A 16 Klm. ROAD THAT WILL BE BUILD FROM THE HILLEND BATHURST RD TO ARONS PASS RD, WILL BE A BIG BOUNS FOR FUTURE FIRE FIGHTING.
4. SOME OF THIS CAPITAL INFLOW FROM THE TURBINES WILL BE ABLE FARMERS TO UPGRADE A LOT OF PASTURE AND BE A BIG HELP WITH WEED CONTROL.
5. AT 35 DECABELS I FEEL MUDGEE WOULD ON SAY A SATURDAY WOULD CREATE MORE THAN 85. DEC. Bs WITH MOWERS, WHIPPER SNIPERS, BLOWERS, GENERAL TRAFFIC ETC.
6. I HAVE BEEN AND SEEN WINDTURBINES IN ACTION IN SOUTH AUSTRALIA AND N.S.W. I DONT FIND THEM NOISEY AT ALL AND TO ME DIONT DISTRACT FROM THE LANDSCAPE.

THEY IN FACT HAVE ADDED A NEW LOOK TO THE COUNTRY SIDE, WHICH IS NOT THAT HARD TO LOOK AT.

WE HAVE TO MOVE INTO THE FUTURE WITH TURBIN -AS COAL & GAS RESERVES SLOWLY ARE USED, WE MAY JUST HAVE TO HAVE MORE & MORE TURBINES TO MEET OUR POWER NEEDS OF THE FUTURE

PLEASE BE VERY CAREFULL OF YOUR DECISION ON THIS MATTER

YOURS

Dan Price.

Att: Catherine Van Laeren

We wish to comment on the recent article in the local Mudgee paper "The Weekly" titled Windy Argument .

We, as landowners of property in Crudine are happy participants of the "Crudine Ridge Wind farm

Apart from the obvious fact that this is a financial boost to the income being derived from the farm and hence the opportunity for us to offer more employment to our local community, we have by our acceptance of the agreement with Wind Prospect/CWP the ability to help provide a constant and natural supply of electricity without having to emit large quantities of carbon dioxide and other pollutants into the atmosphere. And, unlike nuclear energy, there are no dangerous by products that have to be stored for centuries to come.

There is also the fact that Wind Prospect has proposed a community fund of approx. $200,000.00 annually for use in and around the local communities/infrastructure. Wind Prospect/CWP will use local contractors and local resources where possible, with the result that this regional area will benefit once construction has commenced.

This must result in a win win situation for both the local community and Mudgee itself.

Wind Prospect/CWP have met and are happy to work within the new State Government guidelines and have carried out extensive investigations into environmental and cultural impacts within the proposed area. The results of the environmental and cultural studies were of major importance to us when making our decision in whether to participate in this project. We are satisfied with the outcome of these studies and see no need for any repeat studies to be conducted.

We acknowledge your concerns over the costs that you envisage may result for the Council in regards to roads etc. but as the old saying goes "you can't make money without spending money". We need to support and encourage investment in our regional areas.

Sincerely

Michael & Joy Healey

0263377714

SUBMISSION 9

----- Original Message -----
From: Brenden Cole
To: council@midwestern.nsw.gov.au
Sent: Friday, February 03, 2012 4:24 PM
Subject: Fw: Crudine Ridge Windfarm

----- Original Message -----
From: Brenden Cole
To: council@midwestern.nsw.com.au
Sent: Friday, February 03, 2012 2:03 PM
Subject: Crudine Ridge Windfarm

Att. Catherine Van Laeren,

I wish to make some comments following a recent article in The Weekly (Mudgee Paper).

As a landowner involved in the proposed Crudine Ridge Windfarm, I want to state my full support for the proposal.

The obvious benefit of Windfarms is that of renewable energy, however there are significant financial benefits to the farmers involved, and to the local

community both in employment and community funding.

Wind Prospect/CWP is proposing a community fund upwards of $200,000 ANNUALLY for local communities around the wind farm area. That will have a dramatic effect

on infrastructure much needed in local communities and villages.

Farms in the area involved will be virtually droughtproofed because of the extra income injection. Employment on these farms will also be boosted because

of extra available income.

A great deal of employment will be created during the construction phase of the windfarm and this will have an impact on local and outside contractors, as

well as accomodation and service industries surrounding the proposal.

Wind Prospects has already conducted extensive and expensive investigations into the environmental and cultural (including Aboriginal) impact in the

area, and I beleive any further investigation would be unnecessary duplication.

It would appear that The Crudine Ridge Windfarm Project fits within the new guidelines of the State Government and may well turn out to be a model

windfarm in NSW.

Your faithfully, Brenden Cole

"Turon Hill" Sofala. 2795. 63377752 0427 377752.

FAX TO 63782815
16/2 circa 9.30 pm

"Woodlands"
Sally's Flat Rd.,
Pyramul 2850
15/2/2012
Phone 63738143

SUBMISSION 10

To Cr. D. Kennedy
mayor
Mid Western Council
Mudgee.

FROM Owain + Judy Rowland-Jones.

Dear Mr. Kennedy,

We would like to present some concerns for your consideration regarding the Cumbine Ridge Wind Farm

1. State of roads, roadside

- In our area the site is expected to be accessed by one or more possible roads into the site – all are unsealed for much of their length, winding, narrow in parts, close roadside vegetation, numerous causeways, tight bends – distances of 18, 13, 5 Km unsealed could be involved.
- With well above average vehicle movements of heavy trucks and loads, wide + long lengths, the condition of local roads can only deteriorate further unless adequate and major roadwork is done prior to construction.

2. Dust – human / livestock health

- Our property boarders two of the unsealed roads likely to be used (and another if they change their thoughts of where the wind operator might access the site). Under normal conditions we often have a severe dust problem from the hardening roads caused by existing traffic volume and also wind blown (without any traffic). The property has residing on it 10 people (the owners, plus 3 cottages with tenants). One family

has 4 children including a baby of 5 months. All the houses are within 50 | 100 m of the dust affected roads Our most productive land fronts the roadway (2.5 Km and for much of the year cattle and sheep rotate rotate through these paddocks adjoining the road.

- Some sections of the roads contemplated to be used have sections whereby nil visibility can occur with vehicle movements causing "dust storms."

3 Construction vehicle movements

Communities need to be informed beforehand of construction vehicle movements. Some questions needing to be discussed and addressed include:-

- Will vehicles move in convoy or individually?
- Will times | dates of vehicle movements be given well in advance? With narrow, impassable sections on many parts of the existing roads there will be few opportunities to pass safely. This will result in extended time for local residents, school buses to commute. It can also result in extended time for emergency services (ambulance, police, fire brigade) as well as employment travel and livestock movement and transport. As we are 60 Km from Mudgee (the nearest town) a normal time of approximately 50 minutes will be increased considerably.

4 Other factors

In our situation we have 3 additional houses on the property (all currently leased) with the occupants generally commuting to work outside the district. They may feel that dealing with increased problems of dust, road noise, time travelling inconvenience, is not worth putting up with and relocating elsewhere.

It may then be difficult for us to attract suitable replacement tenants for these reasons. This, of course, would result in a loss of income for us, plus additional maintenance and security of unoccupied dwellings.

- The wind farm operator proposes to set up a road-base crushing plant to provide for internal site roads approximately 2·2 Km from our residence. Adequate noise / dust control needs to be in place for all nearby residences.

Health issues / tower noise

Whether or not turbines cause health problems is subject to debate and research. Personally I feel it is more of a mental health issue for affected residents. The thought of devaluation, difficulty in selling a property as a consequence, as well as many of the other factors mentioned earlier can cause a deterioration of the mental well being of those directly affected and needs to be addressed. Even if the maximum noise output proposed is not reached, it is not necessarily the noise level output which is the problem, but rather the constant and regular frequency of the noise (even at very low levels) which can cause cerebral irritation And adversely affect mental health. The above are real causes for concern and need to be addressed.

Potential community social problems

There appears to be some disharmony resulting from the introduction of windfarms between the "haves" and the "have nots." (families, neighbours,) Some "have nots" may be employed by "haves" on a regular / casual / full time basis (shearing, fencing, animal husbandry, etc) and may be reluctant to voice their objections to wind farms impacting on them for fear of jeopardising their employment. This can add to their stress and affect mental well being.

General

Devaluation of property is of great concern.
In the recent Valuer General's "A Brief guide to th Valuation Process" it states under the heading "what factors are considered when valuing land
1. Nearby development and infrastructure
2. Views.

These factors, without doubt, will have a negative impact on our valuation. This will no doubt result in a decrease in rates giving the Council even less much needed money.
Due to the nature of our property it would most likely appeal to a city buyer in preference to a typical country farmer. We are forever trying to improve our property and increase its value.
City people may like the idea of clean energy, but they won't have a wind farm "in their backyard"
It also causes future subdivision to be financial unviable.

There is an ageing population in this area. And everyone knows that one day they will have to sell in order to be close to amenities and medical assistance. The capital from their property will be needed to fund them into a retirement village or nursing home. What is going to happen to people if their properties become unsaleable — and what type of legacy is this to leave to our children, through no fault of our own?

This is a very unsuitable area for a wind farm. If traffic is delayed during construction people health or even life could be at risk due to the fact that medical assistance is unable to be accessed in time; their property could be put at risk of fire due to delays of fire trucks and their capital eroded due to devaluation. Does any Government, company or individual have the right to wilfully put a community in this potential situation?

We trust you will give these concerns your genuine consideration and inform us on how you view them and how you intend to address them

Thanking you

Yours sincerely

Judy Rowland-Jones

SUBMISSION 11

Mrs Vera Sorensen
"Karlo"
773 Sally's Flat Rd.
Pyramul 2850
Ph. 02 63738221
6th Feb '12

Mr Manish Bennett.
G.M.
Mid-Western Regional Council.
P.O Box 156
Mudgee 2850

Dear Sir.

I am writing to voice my concerns regarding the proposed Gaudine Ridge Wind Farm by Wind Prospect CWP Pty Ltd.

The closet turbine to our property is 2.98K. We will be looking at 106 turbines.

I am very concerned about the possible devaluation of our property. It is only a small property (034h), but it is super. Fine wool production country. As we are retirement age, I feel it will be very hard to sell the property when the time comes to sell if the prospective buyer sees 106 turbines on the horizon.

The noise from the turbines is also of great concern. The turbines are to the east of us & we get most of our wind from the east. The constant noise will be upsetting in what is a very peaceful environment. I also feel the noise will be disturbing to the stock.

Another concern to me is the local roads. Who is going to pay for the

damage done by the big trucks bringing in the heavy loads. Council - lights rules for everyone, or perhaps the host farms could pay.

As a citizen of the community, I feel that everyone should have been consulted regarding the proposal, instead of finding out about it after it was already signed, sealed as far as the host farms were concerned.

I would like to know why the host farms a getting $10000-00 a turbine. Perhaps they should get less, the other properties affected have far growing tree lines put in to block the sight, sound of the turbines. The work to be paid for by the proponent.

Sincerely
W J Tomlin

SUBMISSION 12

Catherine van Laeren
Mid Western Regional Council
Market St Mudgee

MID-WESTERN REGIONAL COUNCIL
RECEIVED
17 FEB 2012
CUSTOMER SERVICE CENTRE

NE & LA Mattick
'Blackwillow'
1050 Blackwillow Rd
HARGRAVES NSW 2850
eMail: HTP@IFIXCOMPUTERS.COM.AU
PH: 6373 8624

Regarding Council submission on the NSW Draft Guidelines for Wind Farms.

Dear Catherine,

Having read the Mid Western Council's submission to the NSW Department of Planning, I notice that there is a request for a lower noise levels from Wind Farms.

In reality if the figure of 25dB(A) was applied to a development, then it would likely never proceed. As the noise guidelines proposed by the NSW Planning Minister are already the strictest in the World.

If you could reference a white paper by the peak Science body, our CSIRO, on pp36 for example is this quote:

A comparison by the National Health and Medical Research Council (2010b) found the noise contribution from a ten-turbine wind farm measured at a distance of 350m (35-45 dbA) placed it between the noise level of a quiet bedroom (35 dbA) and a car travelling at 64 km/h (55 dbA). It has been noted that background noise, especially wind passing through vegetation close to the residence, can act to mask turbine noise (Diesendorf, 2011).

The report is available online at http://bit.ly/A1N1rg for which I will include a summary.

Another factor raised is the distance between Turbines and occupied houses. Resentment can occur between neighbours' in and around Wind Farms and this is an underlying aggravation for communities', regulators' and developers' alike.

The CSIRO report talks of something I have long considered relevant in this process; an SLO or Social Licence to Operate and I believe the Mid Western Regional Council should have regard to this principle and seek its implementation with the NSW Planning Rules for Wind Farms.

When this policy is integrated and the disadvantaged parties become a part of the Wind Farm through perhaps equity payments for example, most of the stress in this needed industry will disappear

N.E. Mattick

A0420 225.

Yours,
Neville Mattick
"Blackwillow"
Hargraves

COUNCIL
17 FEB 2012
☐ SCANNED
☐ REGISTERED

Boughen, N. (2010) "Charting the territory: Exploring stakeholder reactions to the prospect of seafloor exploration and mining in Australia," *Marine Policy* 34: 1374–1380.

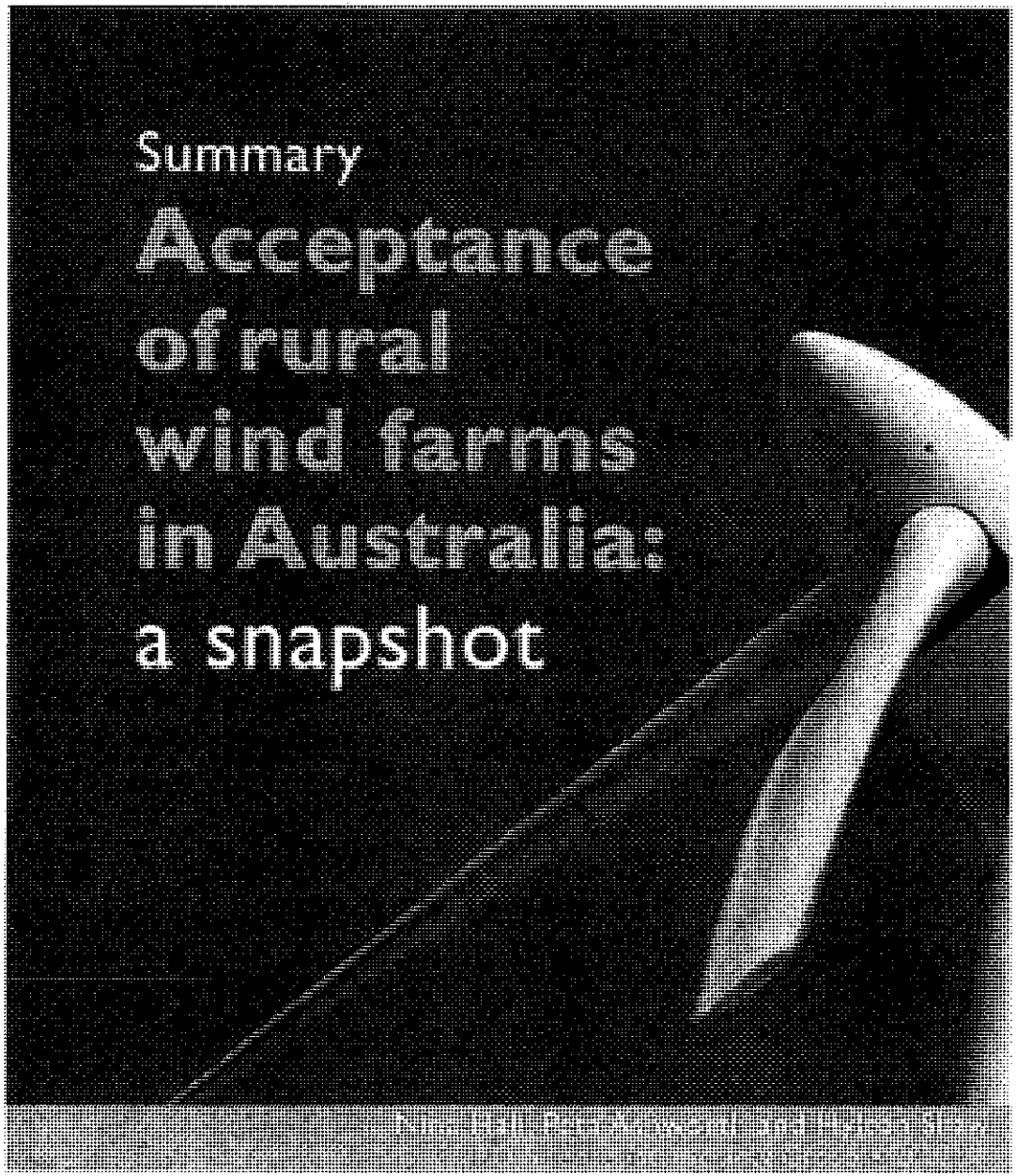
Parkinson, G. (2011) "Can wind beat the noise?", *Climate Spectator*, June 24. URL (consulted 24 June): http://www.climatespectator.com.au/commentary/can-wind-beat-noise?utm_source=Climate%2BSpectator%2Bdaily&utm_medium=email&utm_campaign=Climate%2BSpectator%2Bdaily

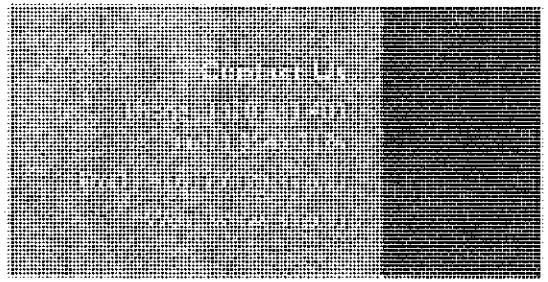
Parsons, R., and Moffat, K. (2011) "Constructing the meaning of social licence," Canberra: CSIRO (forthcoming).

Thomson, I., and Boutilier, R. (2011) "Social Licence to Operate," *SME Mining Engineering Handbook*, Colorado: Society for Mining, Metallurgy and Exploration. pp. 1779-1796.

Dr Nina Hall
Social Scientist
Science into Society Group
CSIRO Energy Transformed Flagship

Phone: (07) 3327 4589
Email: nina.hall@csiro.au





Your CSIRO

Australia is founding its future on science and innovation. Its national science agency, CSIRO, is a powerhouse of ideas, technologies and

GS: SUMMARISED

The study produced four high level findings, which are briefly outlined below.

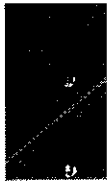
There is stronger community support for the development of wind arms than might be otherwise assumed from media coverage.
This includes support from rural residents who do not seek media ittention or political engagement to express their views.

The actual and perceived local costs and benefits of wind farms are strongly influenced by the design, implementation, and community engagement processes.
Many of the benefits can be shared or communicated in ways that would enhance community support for the development of wind farms in a region.

Existing regulatory approaches provide an appropriate framework for negotiating wind farm developments, but there is scope for improving outcomes.
This study of nine wind developments found that while community concerns were sometimes overstated, limiting opportunity for community nput risks undermining potential local support. The alternative of more prescriptive rules and processes to protect perceived community nterests can risk forgoing developments that could deliver local benefits and achieve local support.

The emerging notion of a 'Social Licence to Operate' provides a useful framework for wind farm developers to engage local communities in ways that could enhance transparency and local support, and complement formal regulatory processes.
This approach could provide a structured and cooperative framework for exploring strategies for reducing potential adverse impacts, sharing financial benefits equitably, and building local trust and understanding through a clear communication process.

Despite the prevalence of popular media articles, there is minimal academic



As one commentator stated, wind energy

> *"relies on a Social Licence to Operate ... It's simply not enough to be clean and green, the industry needs to be adept at engaging the local community"*
> Parkinson, 2011.

The discussion regarding community responses to wind farms can be considered under the umbrella concept of a 'Social Licence to Operate' (SLO). This proposed term describes the ongoing acceptance or approval for a development granted by the local community and other stakeholders (Corvellec, 2007; Thomson & Boutilier, 2011; Parsons & Moffat, 2011).

An SLO is referred to as 'ongoing' to reflect that it is a dynamic approval process that must be continually renegotiated as beliefs, opinions and perceptions can change when new information is acquired (Thomson & Boutilier, 2011). It is likely to consist of community expectations regarding the type of impact a new development will have and the behaviour of the developer (Parsons & Moffat, 2011). An SLO will be affected by the "degree of match" between these expectations and the developer's delivery on commitments (Parsons & Moffat, 2011).

While industries are subject to legal and other regulatory requirements, an SLO incorporates the additional aspects to which the industry meets the expectations of local communities, wider society, and various constituent groups.

At times, the demands and expectations for a development will result in an SLO with conditions expected by the community that may be tougher than those imposed by regulation (Gunningham *et al.*, 2004).

By definition, there is no legal requirement for a Social Licence to Operate in the wind or other industries. However, Corvellec (2007) notes that an informal SLO can develop as wind developers seek acceptance of their proposals through open communication at local meetings, local government engagement, applications and various required assessments. In instances where wind developers have gone beyond formal compliance to engage with the community, the developer's credibility has been raised with authorities and the community, and has been noted to positively influence the political and regulatory processes underpinning the granting of formal licences (Mason *et al.*, 2010).

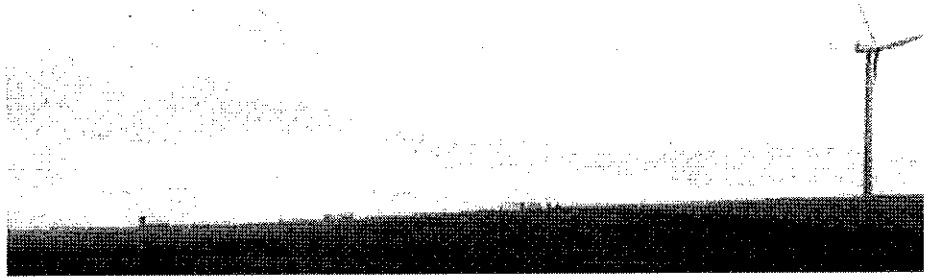
To contribute to the growing discussion on SLO, this research offers some foundations for an SLO relevant to wind farm development in Australia. Mason *et al.*, (2010) described an acceptable development as one where the potential

positive imp
trade-off to
where ther
and trustwo
industry an

These 'pote
'trust-buildi
the findings
research ar
developme
positive imp
commonly
interviews
of a wind fa

The study f
community
could be in
intentionall
Operate' a
for transpa
community

There is ev
community
approache
approval a
and would
achieving A
Target in a
in-depth di
3.1 in the f



Summary

Acceptance of rural wind farms in Australia: a snapshot

Exploring community acceptance of wind farms: the imperative

The CSIRO Energy Transformed Flagship aims to lower greenhouse gas emissions by providing sustainable, efficient, cost effective energy solutions for electricity supply and transport.

The current policy context in which the Flagship works includes the Australian Government's amended Renewable Energy Target (RET). This Target seeks to provide 20% of Australia's electricity generation from renewable energy sources by 2020.

Wind-generated electricity is a proven renewable energy technology with excellent resources in Australia. It is anticipated that wind could contribute the early majority of renewable energy generated for the large-scale RET.

The uptake and installation of wind farms, however, is currently slow owing to the low cost and volatility of the Renewable Energy Certificate price, regulatory factors as well as community resistance. This resistance presents a 'social gap' between the documented high levels of support for wind farm development and the lower success rate and cited opposition in the media to wind farm development proposals. If popular media articles were to provide the only evidence for or against wind farms, opposition in the media would dominate—hence the need for a more academic study of community acceptance of rural wind farms in Australia.

Public consent is central to achieving cuts in Australia's greenhouse gas emissions through a combination of technological innovation, economic reform, and societal change, according to CSIRO research (Ashworth, 2011). This report provides a snapshot of community acceptance level regarding Australian wind farms from a variety of stakeholder perspectives.

Commu
the met

The resea
methods,
informatic
newspape
semi-struc
with a ran
with wind

The medi
19 newsp
2010 four
oppositior
for suppo
rejecting

- landsca
  impacts
- noise in
- poor cc

The most
rural wind

- as a me
  human-
- reduce
- support

ectricity is a proven renewable
with excellent resources in Australia.

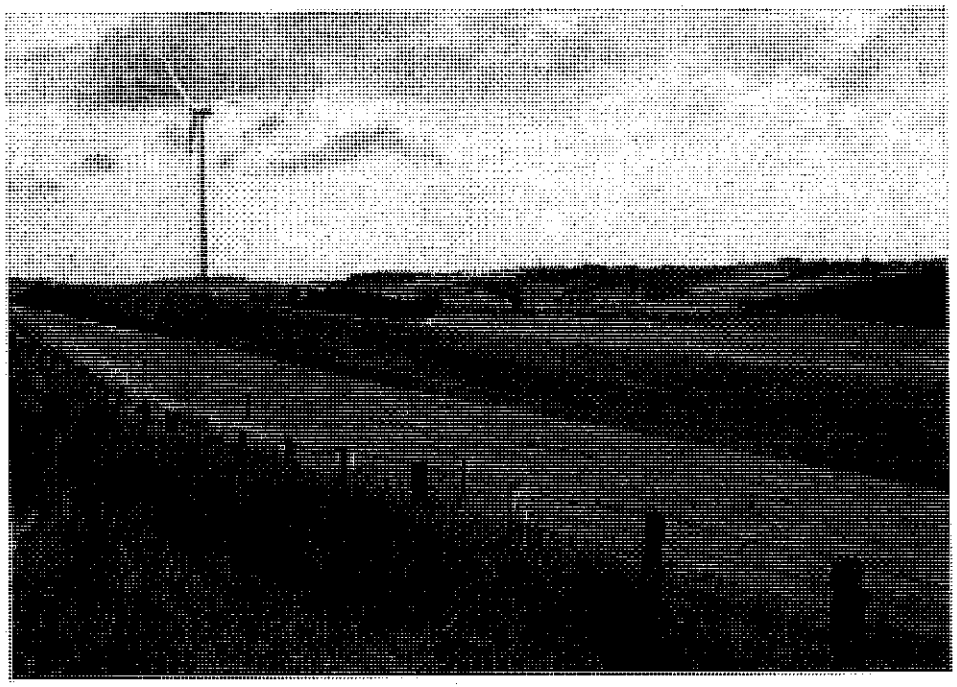
: case
ly

w
)

al,
l
ow
ared,
e
id
:ach
ious
:
farms
re a
energy
'erences
l farm,
: (often
:ale

itative

:
ent,
l the
ogical
on 4 of



Stakeholder views of wind farms

As noted above, this research consulted a range of stakeholders on their perceptions of wind farms, and identified both a diversity and similarity of views:

- Wind company representatives were supportive of wind power, but many businesses were vulnerable to community acceptance issues.
- Local government representatives held mixed views on wind farms. Some welcomed the resulting regional development, while others observed the significant angst caused by wind farm proposals.
- Turbine hosts, all farmers in this sample, supported wind farms and generally did not hold concerns about visual, noise or other negative impacts.
- Community members publicly opposing local wind farms spoke as self-appointed representatives for others nursing grievances with wind farms. Most were hobby farmers with small acreages, former professionals, and/or members of Landscape Guardian groups.
- Community members publicly supporting their local wind farm were motivated by the 'climate friendly' nature of wind farms, as opposed to that generated from fossil fuels. They appreciated regional development, increased local identity, potential employment and financial opportunities arising from wind farm developments.

Consultation: key game-changer

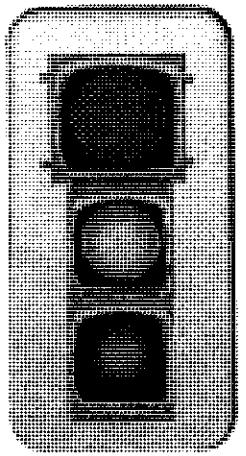
Inadequate consultation and engagement with the community is described as a key process contributing to social conflict around wind farm development in Australia.

As outlined in the technical report, the sense of acceptance and ownership of a local wind farm can differ according to both the scale but, perhaps more importantly, the depth and agency involvement allowed in the consultation process. For example, a wind farm approved using the Ministerial consent enabled by the legislative 'critical infrastructure clause', where appeal was prohibited caused significant community distrust of the process and developers themselves.

This issue alone sets the main stage for encouraging methods by which all stakeholders feel empowered and accepting of wind farm energy.

Towards wind farm acceptance: vital issues

The following findings are arranged in Table 1 (page 6) using the 'traffic lights' system to indicate key issues that affect community acceptance of wind farms in Australia. The findings are ranked using the following colour codes:



RED
An issue that is an acknowled problem.

AMBER
An issue that is a 'game-chang has the potential to enhance it has the possibility to increas

GREEN
A benefit that is already being is already being managed.

The issues noted in amber colour are those that, with sufficient attention,

Dr. Alan C Watts OAM
H.D.A. B.Sc. M.B.Ch.B. L.R.C.P. M.R.C.S
Highfield
Carcoar New South Wales 2791
Phone (02) 6367 3222 Mobile 0418292 887

SUBMISSION 13

February 7, 2012

Dr. S. Hambleton,
President,
Australian Medical Association,
PO Box 6090,
KINGSTON ACT 2604

Dear Dr. Hambleton,

Re: **INDUSTRIAL WIND TURBINES AND HUMAN HEALTH**

It would appear that the Australian Medical Association does not have a policy on industrial wind turbine developments and their potential harm to human health. However the AMA does make reference to the desirability of renewable energy, especially wind energy, because of possible adverse effects on health associated with potential climate change.

It is clear that there is a significant amount of information emerging, both nationally and internationally, concerning health implications of wind turbines. These effects include noise, blade flicker, blade glint, and social disruption at many levels resulting in mental and physical ill health in people residing in close proximity. Specifically, turbine noise consists of two types:

1. Audible noise and
2. Most importantly low frequency noise (LFN) and infrasound (inaudible).

Noise is obviously a continuum and both categories can cause annoyance (as defined by the WHO) and sleep disturbance with protean ramifications. Infrasound is thought to be implicated with other adverse physiological health sequelae observed in some people living in rural areas that have been industrialised with wind turbines developments.

In 2011 the Federal Senate held an Enquiry into The Social and Economic Impact of Rural Wind Farms. The Enquiry was extensive with in excess of 1000 submissions, including a very significant number from members of the public who maintain their health has been adversely impacted by industrial wind turbines (IWT). I enclose a copy of the Senate's seven recommendations following this enquiry for your information. These recommendations were released in June 2011 and importantly contain amongst others a recommendation calling for research into the health impacts of IWTs as a priority (Rec.4). Further the Senate also recommended "States and Territories... measure to calculate the impact of low frequency noise and vibration indoors" (Rec.1) and "infrasound" (Rec.6).

I find it surprising that the AMA does not have a position on this very important and emerging health issue because it is obviously a core responsibility of the AMA to ensure Australian health concerns are featured publicly and particularly promoted into the political arena.

Email: alancwatts@bigpond.com
Provider Number: 0498104H

I therefore urge the AMA to join the many Australian doctors and scientists who are currently requesting that independent research be conducted into the effects of IWTs on human health. This research of course should be funded by the wind industry which currently is the only sector profiting in a monetary sense from these developments. The Australian tax payer already compulsorily contributes the wind industry by way of industry subsidies namely: Renewable Energy Certificates (REC) and Carbon Credits (CC) as well as largely undisclosed favourable taxation concessions eg. forward payments.

This evolving health issue will not diminish in magnitude, and indeed will worsen as these increasingly large wind turbines continue to proliferate throughout rural Australia. It is obvious this emerging Public Health issue mandates that the AMA has a policy on this matter.

The AMA urgently needs to develop a policy on IWTs and health that is clearly independent of health within the climate change debate and instead seeks to protect those whose health is afflicted by IWT noise, both now and in the future. Currently within some segments of the medical profession, particularly Public Health, there is a view that the dangers of climate change take precedence over individual health issues. This regrettable Public Health opinion of an acceptable level of ill health is considered by them to be the price payable by the few for the perceived "greater good". Affected rural residents have been termed "collateral damage" and even, tellingly, "road kill". This is obviously untenable and reprehensible coming from any level of government but is particularly so when it comes from the medical profession. Deliberate sacrifice of human health and its denial in a country such as Australia is not acceptable on any level, ever.

In addition a forceful expression of support for the implementation of the Federal Senate Enquiry into The Social and Economic Impacts of Rural Wind Farms recommendations released in June 2011 is not only very appropriate but embarrassingly long overdue.

Yours sincerely,

Dr. Alan Watts OAM

ATTACHMENT 6.2.16




Monthly Management Plan 2011/2012 Reports – January 2012

Mid-Western Regional Council

Budget Review - Monthly

January 2012

A progressive and prosperous community
that we proudly call home

Contents

Executive Summary

I am pleased to present the February Monthly Report for Councils consideration.

Budget variations for this month include some grant funded weeds projects, allocation of the RTA funded State Roads projects, allocation of the water telemetry budget, an allocation to cover partially grant funded purchase of a mobile glass crusher and a transfer from State Road Warranty Works Reserve to cover resealing of Castlereagh Hwy problem areas as a result of the previous contractors replacement.

This month has seen completion of the following projects:

- Urban Reseals - Dawson St, Mellon St, Medley St, Loftus St, Lynne St
- Rural Reseal - Kains Flat Rd
- Ulan Road Flood Repairs
- Pump Repalacement Water Reservoir Flirtation Hill Mudgee
- Gulgong Preschool Roof Replacement
- Rylstone Depot Capital Works

Works are also continuing on many other projects as we progress through the third quarter for this financial year.

Warwick Bennett
General Manager

Financial Commentary

Proposed Budget Variations

Budget variations included in the January Report are listed in full on page 4, and include the following impact on funding sources:

Funding Source	**Amount**	**Impact**
Unrestricted Cash	$ 0	Nil
Transfers to Unspent Grants	$ 0	Nil
Transfers from S94	$ 0	Nil
Transfers from Reserves	$ 96,000	Reduction

Organisational Support Expenditure	***YTD***	***Budget***
Consultants	$ 0	$ 40,000

Leonie Johnson

January Monthly Report			
Management Plan Activity	**Variation**	**Amount**	
GENERAL FUND			
Contra Variations			
Regulatory Control Capital	Grant received from Weeds of National Significance Incentive funding	15,000	C
Regulatory Control Capital	Construction of shed for weeds education - Mudgee Showground - grant funded	(15,000)	C
Regulatory Control	Grant received for Weeds Management Aerial Inspections	7,000	C
Regulatory Control	Contract Aerial Inspections of Serrated Tussock	(7,000)	C
Regional Roads	Reduce regional road administration expenditure - contributions to regional bodies	8,296	C
Regional Roads	Adjust final Block funding amount receivable for 2011/12	(8,296)	C
Development & Environment Control	Increase Other DA fees received	5,000	C
Development & Environment Control	Cost of license for AutoCAD Software - mapping	(5,000)	C
State Roads	Allocate budgets from Shoulder & Drainage Works	452,437	C
State Roads	Approved RTA Work Orders - Heavy Patching, Accidents, Lambing Yard Ck Shoulder works, Sofala Bends	(452,437)	C
State Roads	Transfer from Reserves - State Road Warranty Works	96,000	C
State Roads	Reseal State Road Warranty Works - Castlereagh Hwy	(96,000)	C
Total Contra Variations		0	
TOTAL GENERAL FUND		**0**	
WATER FUND			
Contra Variations			
Water Supply Capital	Reallocate Water Telemetry - Budget Only	20,000	C
Water Supply Capital	Water Telemetry - Rylstone	(20,000)	C
Total Contra Variations		0	
TOTAL WATER FUND		**0**	
WASTE FUND			
Contra Variations			
Solid Waste Management Capital	Reduce Kandos landfill closure	6,000	C
Solid Waste Management Capital	Contribution to Mobile Glass Crusher program	(6,000)	C
Total Contra Variations		0	
TOTAL WASTE FUND		**0**	
Code			
F - Favourable			
U - Unfavourable			
C - Contra			

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Roads & Bridges								
Income	(475)	(1,417)	(1,567)	30%	0	(1,567)	30%	
Capital Works								
URBAN RESEALS - BUDGET ONLY	0	301	0	0%	0	0	0%	Budget Only - budget fully allocated
URBAN RESEALS - INGLIS STREET	14	28	28	48%	0	28	48%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - LEWIS STREET	0	18	0	0%	0	0	0%	Budget transferred Sept QBR
URBAN RESEALS - LYONS LANE	3	0	6	56%	0	6	56%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - SECOND STREET	3	0	5	66%	0	5	66%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - DENISON STREET	12	21	21	59%	0	21	59%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - COURT ST	5	0	11	50%	0	11	50%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - SPRING ROAD	28	0	39	71%	0	39	71%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - GAWTHORNE PLACE	8	12	12	68%	0	12	68%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - HONEY LANE	3	0	12	24%	0	12	24%	Completed Nov 2011, awaiting final costs
URBAN RESEALS - SMITH STREET	0	15	15	0%	0	15	0%	Reseal planned for Feb 2012
URBAN RESEALS - DAWSON STREET	3	0	10	34%	0	10	34%	Completed Jan 2012, awaiting final costs
URBAN RESEALS - MELLON ST	6	0	9	67%	0	9	67%	Completed Jan 2012, awaiting final costs
URBAN RESEALS - MEDLEY STREET	12	0	23	52%	0	23	52%	Completed Jan 2012, awaiting final costs
URBAN RESEALS - LOFTUS STREET	4	12	12	30%	0	12	30%	Completed Jan 2012, awaiting final costs
URBAN RESEALS - LYNNE STREET	8	0	15	56%	0	15	56%	Completed Jan 2012, awaiting final costs
URBAN RESEALS - HERBERT ST	0	0	14	0%	0	14	0%	Reseal planned for Feb 2012
URBAN ROAD REHABS - BUDGET ONLY	0	209	0	0%	0	0	0%	Budget Only - budget fully allocated
URBAN ROADS KERB & GUTTER CAPITAL	9	15	15	57%	0	15	57%	Works ongoing through the year
REHAB - DEPOT ROAD	0	0	10	0%	0	10	0%	Works completed 2010/2012 - unspent grant to be reallocated.
REHAB - MAYNE STREET	0	0	29	0%	0	29	0%	Works Planned for March 2012

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
REHAB - LEWIS STREET	29	0	18	167%	0	18	167%	Complete, savings from other Urban Reseals to cover over expenditure.
REHAB - LEWIS/HORATIO INTERSCTN	3	96	156	2%	0	156	2%	In negotiations with RMS over design and scope of works.
REHAB - MARKET ST (PERRY TO DOURO)	251	0	258	97%	0	258	97%	Complete
RESHEETING - URBAN ROADS	0	12	12	0%	0	12	0%	Works planned for fourth quarter
URBAN ROADS LAND MATTERS CAPITAL	1	20	20	6%	0	20	6%	Matters progressing as prioritised
REHAB - LOUEE ST	4	0	200	2%	0	200	2%	Works planned for fourth quarter
RURAL SEALED ROADS RESEALS BUDGET	0	875	0	0%	0	0	0%	Budget Only - budget fully allocated
RURAL RESEAL - LUE RD-PYANGLE	42	0	33	126%	0	33	126%	Complete
RURAL RESEAL - LUE RD-ROCKY WATERHOLE INTERSCTN	0	9	9	2%	0	9	2%	Reseal planned for Feb 2012
RURAL RESEAL - KAINS FLAT RD	36	60	60	60%	0	60	60%	Completed Jan 2012, awaiting final costs
RURAL RESEAL - LUE RD-HAYES GAP TO WEST	1	62	62	1%	0	62	1%	Budget adjustment proposed in Dec QBR to change location of reseal
RURAL RESEAL - GLEN ALICE RD-RLWY TO C/WAY	6	0	24	25%	0	24	25%	Reseal completed November 2011, awaiting final costs
RURAL RESEAL - MT VINCENT RD	3	58	58	6%	0	58	6%	Reseal planned for Feb 2012
RURAL RESEAL - YARRAWONGA RD	0	41	0	0%	0	0	0%	Budget adjustment in Dec QBR moved budget to Bridge Maintenance
RURAL RESEAL - WINDEYER RD	4	55	55	8%	0	55	8%	Reseal planned for Feb 2012
RURAL RESEAL - YARRABIN RD	6	37	37	15%	0	37	15%	Reseal planned for Feb 2012
RURAL RESEAL - SPRING RIDGE RD	0	18	18	0%	0	18	0%	Reseal planned for Feb 2012
RURAL RESEAL - GLEN ALICE RD-SEG 30-40	23	0	55	42%	0	55	42%	Reseal completed November 2011, awaiting final costs
RURAL RESEAL - NARRANGO RD-SEG 30	23	45	45	50%	0	45	50%	Reseal completed November 2011, awaiting final costs
RURAL RESEAL - OLD MILL RD	0	26	26	0%	0	26	0%	Reseal planned for Feb 2012
RURAL RESEAL - NARRANGO RD-SEG 50	6	0	25	24%	0	25	24%	Reseal completed November 2011, awaiting final costs
RURAL RESEAL - BOTOBOLAR RD	24	0	41	58%	0	41	58%	Completed Jan 2012, awaiting final costs

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
RURAL RESEAL - BERYL RD	27	0	42	64%	0	42	64%	Reseal planned for Feb 2012
RURAL RESEAL - CANARY RAIL CROSSING	3	0	10	29%	0	10	29%	Completed
RURAL SEALED ROAD REHAB & WIDENING	0	286	0	0%	0	0	0%	Budget Only - budget fully allocated
RURAL REHAB - LUE RD (HAVILAH NTH)	2	0	30	7%	0	30	7%	Reseal planned for Feb 2012
RURAL REHAB - HENRY LAWSON DVE	30	0	60	50%	0	60	50%	Completed Jan 2012, awaiting final costs
REHAB/RESEAL - SPRING CREEK ROAD	69	0	80	86%	0	80	86%	Completed Jan 2012, awaiting final costs
REHAB/RESEAL - LUE RD HAVILAH MISSING LINK	1	0	686	0%	0	686	0%	Design completed.
REHAB/RESEAL - HENRY LAWSON DRV S BENDS	1	0	200	0%	0	200	0%	Works to commence in February
CUDGEGONG ROAD GUARDRAIL REPLACEMENT	92	0	150	62%	0	150	62%	Part Complete, remainder to be completed in March 2012
FUTURE YRS REFS - BUDGET ONLY	1	40	40	3%	0	40	3%	No REFS needed to be contracted out at this stage
RURAL SEALED ROAD LAND MATTERS	2	0	0	0%	0	0	0%	Realignment of road reserve on Henry Lawson Drv - budget to be allocated from Urban Sealed road Land matters in March QBR
RURAL SEALED REGIONAL ROAD RESEALS	0	586	0	0%	0	0	0%	Budget Only - budget fully allocated
RURAL SEALED REGIONAL ROAD REPAIR PROGRAM	0	800	0	0%	0	0	0%	Budget Only - budget fully allocated
MR598 COPE ROAD WIDENING	0	0	80	0%	0	80	0%	To be completed as part of the Ulan WTS upgrade.
REPAIR - GOLLAN RD MR7512	11	0	400	3%	0	400	3%	Work to commence in February 2012
REPAIR - ULAN RD MR214	407	0	406	100%	0	406	100%	Complete
ULAN ROAD FLOOD REPAIRS	46	0	45	103%	0	45	103%	Complete
PITTS LANE/ULAN RD INTERSECTION	338	892	892	38%	0	892	38%	Work commenced due for completion in March 2012
ULAN & COPE ROAD UPGRADES	17	70	246	7%	0	246	7%	Culvert headwall work commenced, road works to commence in February 2012
REHAB - BYLONG VALLEY WAY DABEE TO BRIDGE	2	0	60	4%	0	60	4%	Works to commence in February
BYLONG VALLEY WAY HEAVY PATCHING PROGRAM	136	0	150	91%	0	150	91%	Part complete
REG RESEAL - FARRELLY ST	0	0	57	0%	0	57	0%	Reseal planned for Feb 2012

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
RURAL SEALED REGIONAL ROAD LAND MATTERS CAPITAL	2	17	17	13%	0	17	13%	Matters progressing as prioritised
SEAL EXTENSION - ULAN-WOLLAR RD	0	600	600	0%	0	600	0%	Awaiting scope of works
RESHEETING - BUDGET ONLY	1,011	942	1,342	75%	0	1,342	75%	Continuing throughout the year
UNSEALED ROADS LAND MATTERS CAPITAL	1	6	6	18%	0	6	18%	Matters progressing as prioritised
REPAIR - HILL END ROAD	4	0	55	7%	0	55	7%	Reseal planned for Feb 2012
SEAL EXTENSION - HILL END ROAD	161	0	225	71%	0	225	71%	Part complete, to be sealed in February
SEAL EXTENSION - WOLLAR ROAD	0	290	0	0%	0	0	0%	Budget reallocated to Hill End Road
CARWELL CREEK BRIDGE	378	850	850	44%	0	850	44%	Commenced
BRIDGE GUARDRAIL REPLACEMENT HILL END RD	22	0	25	87%	0	25	87%	Complete
BRIDGE GUARDRAIL REPLACEMENT GOULBURN RIVER XING	26	0	25	102%	0	25	102%	Complete
Total Capital Works	3,369	7,422	8,270	41%	0	8,270	41%	
Net Result	2,894	6,005	6,703	43%	0	6,703	43%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Carparking, Cycleways, Streetscaping & Footpaths								
Income	0	0	0	0%	0	0	0%	
Capital Works								
STREET SCAPE CAPITAL IMPROVEMENTS	2	15	15	12%	0	15	12%	Trees in Perry Street to be removed and replaced these works to be undertaken in April
STREETSCAPE IMPROVEMENTS - BELLEVUE ESTATE	5	16	16	30%	0	16	30%	Ongoing maintenance throughout the year
STREETSCAPE - BIN REPLACEMENT PROGRAM	15	15	15	103%	0	15	103%	Completed
FOOTWAYS - CAPITAL BUDGET ONLY	19	65	65	29%	0	65	29%	Continuing throughout the year
FOOTWAYS - BUS SHELTERS	0	0	35	1%	0	35	1%	Grant received from Ministry of Transport for new bus shelter at Ilford rest stop
PEDESTRIAN - KANDOS TO CLANDULLA	0	40	40	0%	0	40	0%	Awaiting response from ARTC
PEDESTRIAN - CHARBON PEDESTRIAN BRIDGE	0	100	0	0%	0	0	0%	Awaiting response from ARTC
PEDESTRIAN - GLEN WILLOW WALKWAY	0	50	0	0%	0	0	0%	Work continues with extension of pathway and landscaping in April
CYCLEWAY - BELLEVUE	0	0	233	0%	0	233	0%	Work planned for fourth quarter
CARPARKING CAPITAL - CNR SHORT/PERRY STREETS	0	0	25	0%	0	25	0%	Reseal planned for Feb 2012
CARPARKING CAPITAL - MORTIMER ST	22	700	700	3%	0	700	3%	Planned to commence March 2012
CARPARKING CAPITAL - MEMORIAL HALL	0	0	4	0%	0	4	0%	Reseal planned for Feb 2012
CARPARKING CAPITAL - PRINCE OF WALES	0	0	4	0%	0	4	0%	Reseal planned for Feb 2012
Total Capital Works	63	1,001	1,151	5%	0	1,151	5%	
Net Result	63	1,001	1,151	5%	0	1,151	5%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Water Supply								
Income	0	0	0	0%	0	0	0%	
Capital Works								
WATER NEW CONNECTIONS	77	121	121	63%	0	121	63%	Provision of new connections to subdivisions and other new development types as and when required.
WATER AUGMENTATION - RYLSTONE & KANDOS	(15)	0	150	-10%	0	150	-10%	Electricity supply upgrade to the new river pumping station, Powdered Activated Carbon Dosing Unit replacement and Telemetry System upgrade programmed for February to June 2012.
WATER CHLORING DOSING PLANT RYL & CHARBON	0	12	12	0%	0	12	0%	Installation of chlorination plant at the Charbon to Clandulla water pumping station programmed for February to June 2012.
WATER METERS - REPLACEMENTS INCLUD. PARKS	3	0	15	18%	0	15	18%	Lawson and Redbank Parks meters remain to be installed this year.
WATER TELEMETRY - BUDGET ONLY	0	20	20	0%	(20)	0	0%	Minor upgrades of water supply telemetry systems, including phasing in updated hardware. Budget allocated to Rylstone Link.
WATER TELEMETRY - RYLSTONE LINK	0	0	0	0%	20	20	0%	Purchase of Telemetry hardware for Rylstone.
WATER LOSS MANAGEMENT WORKS	9	25	25	35%	0	25	35%	Provision of magnetic flow meters to reservoirs in Rylstone and Kandos. Works commenced.
WATER RESERVOIR HIGH ZONE	0	0	20	0%	0	20	0%	Installation of concrete pit to house magnetic flow meter assembly. Construction has commenced, however completion has been delayed due to inclement weather.

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
WATER MAINS - CAPITAL BUDGET ONLY	0	240	31	0%	0	31	0%	Budget only. Original budget allocated to individual projects.
WATER MAINS - MARKET STREET	4	0	10	42%	0	10	42%	Works complete.
WATER MAINS - LEWIS STREET	45	0	75	61%	0	75	61%	Mains replacement. Works commenced. Estimated completion is February 2012.
WATER MAINS - DISCONNECTIONS	0	0	25	1%	0	25	1%	Disconnection of potable water system from the parks system. Delayed due to inclement weather. Rescheduled to complete in April School Holiday period.
WATER MAINS - DECOMMISSION	1	0	15	4%	0	15	4%	Decommissioning of old mains following mains replacement. Ongoing program.
RAW MAINS EXTENSION - GOLF CLUB	18	0	51	36%	0	51	36%	Works complete.
WATER PUMP STATION - CAPITAL BUDGET ONLY	1	40	0	0%	0	0	0%	Budget only. Original budget allocated to individual projects.
WATER PUMP STATION - BURUNDULLA	0	0	8	0%	0	8	0%	Upgrade of Burrundulla well field. Start date yet to be finalised.
WATER PUMP STATION - MUDGEE RIVER INTAKE	5	0	5	98%	0	5	98%	Upgrade works at river pump station to rectify subsidence. Works programmed for April-May 2012.
WATER PUMP STATION - COURT STREET	2	0	10	21%	0	10	21%	Works complete.
WATER PUMP STATION - GULGONG RIVER	1	0	15	5%	0	15	5%	Finalisation of land matters. This should be completed by March 2012.
WATER PUMP STATION - CHARBON	6	0	7	87%	0	7	87%	Works complete.
WATER PUMP STATION - GULGONG CLEARWATER	0	0	10	0%	0	10	0%	Refurbishment of Clearwater pump programmed for April 2012.
WATER RESERVOIR - FLIRTATION HILL MUDGEE	5	0	15	30%	0	15	30%	Pump motor replaced. Final invoices yet to be received.

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
RAW WATER SCHEME GULGONG	263	1,700	1,700	15%	0	1,700	15%	Contractor has completed approximately 50% of pipelines contract. Fletchers bore has been drilled. Other works include upgrading the Elcom pumping station, installation of pump at Fletchers bore, reservoir pipework and the installation of an irrigation control system.
WATER TREATMENT WORKS - MUDGEE	23	30	60	38%	0	60	38%	Remedial works around pond two to stop stormwater infiltration programmed for February 2012. Contract for concept design for treatment plant upgrade commenced.
STANDPIPES INSTALLATION	2	0	14	15%	0	14	15%	Standpipe assemblies being fabricated in February 2012 for subsequent installation.
WATER TREATMENT PLANT - GULGONG	0	0	30	0%	0	30	0%	Contract for concept design for treatment plant upgrade commenced.
WATER METERS - BULK	60	90	90	67%	0	90	67%	Ongoing program to replace water meters greater than 15 years old.
VALVE REPLACEMENT PROGRAM	0	0	10	0%	0	10	0%	Replacement of damaged and aging valves in reticulation system. Ongoing program to be completed by June 2012.
Total Capital Works	514	2,278	2,543	20%	0	2,543	20%	
Net Result	514	2,278	2,543	20%	0	2,543	20%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Sewerage Services								
Income	0	0	0	0%	0	0	0%	
Capital Works								
SEWER NEW CONNECTIONS	15	45	45	32%	0	45	32%	Provision of new connections associated with new development.
SEWER AUGMENTATION - RYLSTONE & KANDOS	181	240	270	67%	0	270	67%	Design is 90% complete.
SEWER AUGMENTATION - MUDGEE	1,141	11,000	10,931	10%	0	10,931	10%	All major earthworks for the new sewage treatment plant are complete. Tenders are being assessed for the Putta Bucca Pump Station construction. Request for Tenders for Power Supplies closes in February.
SEWER MAINS - CAPITAL BUDGET ONLY	0	278	33	0%	0	33	0%	Budget only. Original budget allocated to individual projects.
SEWER MAINS - MORTIMER STREET	0	0	30	0%	0	30	0%	Mains replacement works programmed to commence February 2012.
SEWER MAINS - BURRUNDULLA RD	0	0	40	0%	0	40	0%	Mains replacement works programmed to commence March 2012.
SEWER MAINS - GULGONG S/GROUND EXT	18	0	35	51%	0	35	51%	Works complete.
SEWER MAINS RELINING	0	0	140	0%	0	140	0%	Works scheduled for completion by May 2012.
SEWER PUMP STATION - CAPITAL BUDGET ONLY	0	40	40	0%	0	40	0%	Budget only. Original budget will be allocated to individual projects.
SEWER PUMP STATION - INDUSTRIAL	131	0	161	82%	0	161	82%	Prefabricated pumping station programmed to be installed March 2012.
SEWER TREATMENT WORKS - MUDGEE	28	45	45	63%	0	45	63%	Reserved for urgent works.
Total Capital Works	1,514	11,648	11,771	13%	0	11,771	13%	
Net Result	1,514	11,648	11,771	13%	0	11,771	13%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Waste Management								
Income	0	0	0	0%	0	0	0%	
Capital Works								
RURAL WASTE DEPOT UPGRADES	0	30	0	0%	0	0	0%	Budget has been reallocated.
MUDGEE WASTE DEPOT UPGRADES	67	100	120	56%	0	120	56%	New amenities building 95% completed. Quotes have been called for new weighbridge computer system and proposals currently under review.
WASTE - LAND MATTERS	0	2	2	0%	0	2	0%	Nearing completion - LPI to complete valuation by 10/2/2012
KANDOS & ILFORD WASTE DEPOT UPGRADES	11	20	45	25%	0	45	25%	Fencing to complete and security camera to install at Ilford. Some difficulty is being experienced finding a suitable camera for remote locations.
NEW RECYCLING BINS	3	0	18	18%	0	18	18%	Completed.
REMOTE SECURITY CAMERAS AT WTS	8	40	40	21%	0	40	21%	Trial camera at Queens Pinch. Other sites being investigated including Bylong and Home Rule.
KANDOS WASTE DEPOT LANDFILL CLOSURE PLAN	0	50	31	0%	(6)	25	0%	Some of this budget has been reallocated to more urgent capital upgrade works including Ilford. It is likely no further works will occur on this site this year.
RELOCATE ULAN WTS	3	0	126	2%	0	126	2%	Property issues have largely been resolved with gazettal of the transfer of ownership to Council advertised. Staff are now finalising quotes to commence construction of the new facility in March.
RWTS COLLECTION FACILITIES UPGRADE	59	0	100	59%	0	100	59%	Final cages are being produced with some delays due to extended close down period over the Christmas break. Cages to be rolled out on to sites commencing February.

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
MUDGEE RECYCLING - NEW LIFT	34	0	37	94%	0	37	94%	Complete
MOBILE GLASS CRUSHER	5	0	0	0%	6	6	83%	Partially grant funded program for the purchase of a mobile glass crusher with four nearby Councils. MWRC will have a 1/5th share in the mobile unit valued at $100k.
Total Capital Works	191	243	519	37%	0	519	37%	
Net Result	191	243	519	37%	0	519	37%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Stormwater & Drainage								
Income	0	0	0	0%	0	0	0%	
Capital Works								
DRAINAGE CAPITAL IMPROVEMENTS	2	475	475	0%	0	475	0%	Catchment A drainage works approved at Dec 11 Council meeting. Contractor engaged for channel works; property matters proceeding for basin works. Negotiations with developers recommenced.
CULVERT INSTALLATIONS	34	70	70	48%	0	70	48%	Continuing throughout the year
CAUSEWAY IMPROVEMENTS	0	60	0	0%	0	0	0%	Budget Only - budget fully allocated
CAUSEWAY IMPROVEMENT - WHYALDRA	0	0	10	0%	0	10	0%	Unspent grants from prior year - to be rolled into new causeway works in fourth quarter once savings on Buckaroo Lane and Ulan Wollar Rd causeways are ascertained.
CAUSEWAY - AARONS PASS	0	0	2	0%	0	2	0%	Unspent grants from prior year - to be rolled into new causeway works in fourth quarter once savings on Buckaroo Lane and Ulan Wollar Rd causeways are ascertained.
CAUSEWAY - BUCKAROO LANE	0	0	30	1%	0	30	1%	Works to follow completion of Ulan Wollar causeway
CAUSEWAY - ULAN WOLLAR RD	5	0	30	16%	0	30	16%	Fisheries permit obtained, works to commence in March weather permitting
Total Capital Works	40	605	617	7%	0	617	7%	
Net Result	40	605	617	7%	0	617	7%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Mudgee Airport								
Income	0	0	0	0%	0	0	0%	
Capital Works								
MUDGEE AIRPORT FENCING	21	50	59	36%	0	59	36%	Quotes being obtained and still waiting on CASA response to fence heights
MUDGEE AIRPORT - FUEL PUMP SEAL	0	0	20	0%	0	20	0%	Delayed due to the weather and resources currently on other roads projects
Total Capital Works	21	50	79	27%	0	79	27%	
Net Result	21	50	79	27%	0	79	27%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Corporate & Community Buildings								
Income	0	0	0	0%	0	0	0%	
Capital Works								
CORPORATE BUILDINGS UPGRADE BUDGET ONLY	0	100	4	0%	0	4	0%	Budget Only - budget fully allocated
MUDGEE ADMINISTRATION BUILDING UPGRADE	4	0	58	7%	0	58	7%	Rear doors to administration completed and internal works to customer service area commenced.
OLD POLICE STATION UPGRADE	0	0	20	0%	0	20	0%	Not commenced. Rising damp investigation to be completed by June 2012
GULGONG ADMIN BUILDING	0	0	12	0%	0	12	0%	New sliding entrance door to Administration building to be completed in February.
KANDOS MUSEUM	38	14	90	42%	0	90	42%	Ongoing program to upgrade exhibitions and entrance to Museum continues through to June 2012.
UPGRADE DEPOT AMENITIES BUILDING	4	0	5	87%	0	5	87%	Completed
KANDOS LIBRARY BUILDING IMPROVEMENTS	4	0	4	101%	0	4	101%	Completed
STABLES COMPLEX - CAPITAL	40	0	40	101%	0	40	101%	Completed
CAPITAL UPGRADE - KANDOS HALL	10	0	43	23%	0	43	23%	Completion of road upgrade to the hall and minor concreting works by June.
CAP UPGRD-CLANDULLA FACILITIES	4	5	5	80%	0	5	80%	Completed

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
CAPITAL UPGRADE - WINDEYER TOWN HALL	4	0	10	39%	0	10	39%	Allocated funds from rural halls upgrade budget. Building to be insulated and new oven installed. Insulation has been purchased.
CAPITAL UPGRADE - BUNGABA TOWN HALL	0	0	5	0%	0	5	0%	Minor upgrades to Bungaba Hall by their committee. To be completed by June.
CAP UPGRD-COMMUNITY BLD-BUDGET ONLY	2	100	1	118%	0	1	118%	Budget Only - budget fully allocated
Total Capital Works	109	219	295	37%	0	295	37%	
Net Result	109	219	295	37%	0	295	37%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Swimming Pools								
Income	0	0	0	0%	0	0	0%	
Capital Works								
POOL RENEWAL	113	3,000	1,400	8%	0	1,400	8%	Major part of this project is currently out to tender and will be reported to March Council for approval to proceed
Total Capital Works	113	3,000	1,400	8%	0	1,400	8%	
Net Result	113	3,000	1,400	8%	0	1,400	8%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Parks & Reserves								
Income	0	0	0	0%	0	0	0%	
Capital Works								
PUBLIC TOILETS - CAPITAL UPGRADES	0	80	14	3%	0	14	3%	Budget Only - budget fully allocated
PUBLIC TOILETS - ILFORD REST STOP	75	0	65	115%	0	65	115%	Toilets completed and functioning. Grant funding has enabled further works to upgrade bus shelter and install bollards and further landscaping.
PUBLIC TOILETS - BABY CHANGE ROOM	17	0	15	115%	0	15	115%	Completed
MUDGEE SHOWGROUNDS - REDEVELOPMENT	337	0	333	101%	0	333	101%	Completed
GLENWILLOW SPORTS GROUND UPGRADES	1,428	0	1,664	86%	0	1,664	86%	Internal main field fencing and landscaping in front of grandstand will be completed in February
WESTEND COMPLEX UPGRADE	90	0	89	101%	0	89	101%	Completed
KANDOS SPORTS OVAL	169	750	750	23%	0	750	23%	Under contract to be completed by May 26. Slab poured with structural steel to be erected in February.
BILLY DUNN OVAL UPGRADE	11	15	15	72%	0	15	72%	Completed
RYLSTONE SHOWGROUND UPGRADE	0	0	40	0%	0	40	0%	Received grant and loan approval for works on the Rylstone Cattle Pens
KANDOS NETBALL COURTS	35	0	60	59%	0	60	59%	Awaiting advice from Netball club re: grant monies to contribute to a third court
MUDGEE SKATE PARK	0	20	20	0%	0	20	0%	Awaiting designs
GULGONG SKATE PARK	0	35	35	0%	0	35	0%	Awaiting designs
VICTORIA PARK - FENCING	0	0	4	2%	0	4	2%	To meet with Cricket club about additional works
VICTORIA PARK - DEMOLISH CANTEEN	0	0	4	0%	0	4	0%	To be completed by June
PASSIVE PARKS - LANDSCAPING IMPROVEMENTS	3	30	30	8%	0	30	8%	Additional Paths and gardens to be done March / April
APEX PARK - CAPITAL UPGRADE	15	0	15	99%	0	15	99%	Completed

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
PLAYGROUND EQUIPMENT UPGRADE	13	80	80	16%	0	80	16%	Quotes received and play equipment to be ordered, expected to be completed March / April
CHARBON PLAYGROUND - CAPITAL UPGRADE	41	0	40	101%	0	40	101%	Completed
ANZAC RESERVE PLAYGROUND - CAPITAL UPGRADE	29	0	25	115%	0	25	115%	Completed
LAWSON PARK PATHWAY FITNESS PROJECT	163	0	209	78%	0	209	78%	Works continue with landscaping around static equipment in February and sealing of the pathway in Lawson Park.
LAWSON PARK LANDSCAPING	71	300	300	24%	0	300	24%	Footpaths and bollards will be completed in February. BBQ and shelter are ordered and quote for irrigation are underway.
Total Capital Works	2,496	1,310	3,806	66%	0	3,806	66%	
Net Result	2,496	1,310	3,806	66%	0	3,806	66%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Libraries								
Income	0	0	0	0%	0	0	0%	
Capital Works								
LIBRARY BOOKS	42	76	76	56%	0	76	56%	Ongoing program to purchase library books and resources continues through the year.
MUDGEE LIBRARY BUILDING IMPROVEMENTS	120	3,675	3,811	3%	0	3,811	3%	Contract signed with CCA Projects and works have commenced. Temporary library opened at the Stables.
Total Capital Works	162	3,751	3,887	4%	0	3,887	4%	
Net Result	162	3,751	3,887	4%	0	3,887	4%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Regulatory Control								
Income	0	0	0	0%	0	0	0%	
Capital Works								
REGIONAL POUND FACILITIES	4	150	150	2%	0	150	2%	Awaiting noise assessment report.
WEED CONTROL - EDUCATION SHED	0	0	0	0%	15	15	0%	Grant funded weeds education shed to be constructed at the Mudgee Showground.
Total Capital Works	4	150	150	2%	15	165	2%	
Net Result	4	150	150	2%	15	165	2%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Cultural & Community Services								
Income	0	0	0	0%	0	0	0%	
Capital Works								
MEALS ON WHEELS CAPITAL	0	0	4	0%	0	4	0%	Grant funded capital - review of required expenditure to be completed
HM&M CAPITAL	1	0	6	16%	0	6	16%	Review of works to be completed
COMM. TRANSPORT- VEHICLE PURCHASE	57	125	185	31%	0	185	31%	Ongoing vehicle purchase throughout year
AGED CARE UNITS - CAP -COOYAL/ANDERSON ST GULGONG	7	0	10	72%	0	10	72%	Minor works to replace smoke detectors to completed. Contractor to install in February.
AGED CARE UNITS - CAP -MUDGEE ST RYL	5	7	7	73%	0	7	73%	Minor works to replace smoke detectors to be completed. Contractor to install in February.
LG HOUSING - CAP -DENISON STREET UNITS	0	0	6	1%	0	6	1%	Minor works to replace smoke detectors to be completed. Contractor to install in February.
LG HOUSING - CAP - WALTER STREET UNITS	2	0	18	10%	0	18	10%	Minor works to replace smoke detectors and install water saving devices to complete. Contractor to install in February.
Total Capital Works	72	132	236	31%	0	236	31%	
Net Result	72	132	236	31%	0	236	31%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Administrative Services								
Income	0	0	0	0%	0	0	0%	
Capital Works								
GULGONG PRE SCHOOL	14	0	15	92%	0	15	92%	Completed. Roof replaced.
IT NETWORK UPGRADES	25	38	38	65%	0	38	65%	Operations link complete.
IT CORPORATE SOFTWARE	31	30	66	46%	0	66	46%	Operating software upgrade to be completed mid February 2012.
IT WEBSITE DEVELOPMENT	19	0	45	43%	0	45	43%	Website upgrade project underway with training scheduled for February and go-live for upgrade in March.
PLANT PURCHASES - LIGHT COMMERCIAL	0	300	300	0%	0	300	0%	Vehicles now ordered for delivery prior to May 2012
PLANT PURCHASES - HEAVY PLANT	674	2,725	2,725	25%	0	2,725	25%	Tender report to February Council for approval
PLANT PURCHASES - MINOR PLANT	16	35	35	44%	0	35	44%	Additional items will be ordered in March 2012
RYLSTONE DEPOT CAPITAL WORKS	2	0	2	100%	0	2	100%	Completed
RURAL FIRE SERVICE - STATION UPGRADES	7	0	0	0%	0	0	0%	This is fully RFS funded
RURAL FIRE SERVICE - BYLONG STATION UPGRADE	2	0	70	2%	0	70	2%	This is fully RFS funded
Total Capital Works	789	3,128	3,296	24%	0	3,296	24%	
Net Result	789	3,128	3,296	24%	0	3,296	24%	

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
Capital Works Program - Economic Development								
Income	0	0	0	0%	0	0	0%	
Capital Works								
ILFORD TOURIST INFO BAY SIGNAGE	2	0	8	24%	0	8	24%	Further works required currently under review - to be completed with Ilford bus shelter works.
LUE RD TOURIST INFO BAY SIGNAGE	10	0	10	101%	0	10	101%	Complete
BYLONG TOURIST INFO BAY SIGNAGE	2	0	2	98%	0	2	98%	Complete
GOOLMA TOURIST INFO BAY SIGNAGE	2	0	4	45%	0	4	45%	Further works required currently under review - to be completed by third quarter
SALEYARDS - CAPITAL BUDGET ONLY	0	78	78	0%	0	78	0%	Saleyards Committee has agreed to repairs on the truck turning area that has been programmed into the road works schedule for this year.
PROPERTY - MUDGEE AIRPORT SUBDIVISION	597	292	707	84%	0	707	84%	Works nearing completion, sealing works and sewer works continuing. All other works complete.
PROPERTY - KANDOS SURPLUS LAND BLOCKS	4	3	3	109%	0	3	109%	Lot 17 Sec 21 Dunn St - unsold. Severely impeded by water drainage easement. Currently seeking costs to rectify. Lots 11 & 12 Sec 24, 45 Dunn St, no road reserve but Council Rd and powerlines constructed through. Investigating feasibility of subdividing or ripping up bitumen & selling both lots.

$'000	Actual YTD	Original Annual Budget	Revised Annual Budget	% Revised Budget	Proposed Variations	Proposed Annual Budget	% Proposed Annual Budget	Comment
PROPERTY - LIONS DRIVE SUBDIVISION	15	6	23	65%	0	23	65%	Project completed - all allotments sold. Settlement lots 8 & 10 on 14/2.
PROPERTY - FURNITURE ONE REDEVELOPMENT	792	1,700	1,813	44%	0	1,813	44%	Construction is experiencing minor delays due to the wet weather however Target are still on track to be opening in June 2012
COMMERCIAL PROP - EX SES BUILDING	0	7	7	4%	0	7	4%	Not commenced. Details of works required to be finalised.
Total Capital Works	1,425	2,087	2,657	54%	0	2,657	54%	
Net Result	1,425	2,087	2,657	54%	0	2,657	54%	

Key Statistics

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	YTD
ROADS & BRIDGES													
Kilometres of road graded (Target 900km pa)	82	69	61	126	21	68	69						496
2010/11	160	81	167	92	106	43	41	17	45	62	36	35	884
Kilometres of roads resealed (Target 31km pa)	-	-	-	-	6	2	11						19
2010/11	-	-	-	-	-	-	-	3	-	-	-	2	5
Kilometres of roads resheeted (Target 45km pa)	10	11	22	6	11	15	10						84
2010/11	12	2	29	3	1.8	-	-	3	8	6	10	7	81
WATER SUPPLY													
Broken main incidents (Target 0)	3	10	2	4	6	6	7						38
2010/11	19	11	9	24	11	7	2	12	11	9	16	16	147
Days achieved water quality targets (Target all days)	31	31	30	31	30	31	31						215
2010/11	31	31	30	31	30	31	31	28	31	30	31	30	365
Water consumption - trimester (000's kL)	-	-	-	404	-	-	-						404
2010/11	-	-	-	378	-	-	-	528	-	-	-	586	1,492
Days of interrupted service more than 4hrs (Target 0)	-	-	-	-	-	-	-						-
2010/11	-	-	-	1	1	-	-	-	-	1	-	-	3
SEWERAGE													
Number of blocked main incidents	36	38	33	21	27	14	16						185
2010/11	34	45	24	17	35	35	10	14	19	16	20	13	282
SOLID WASTE MANAGEMENT													
Tonnage of waste to landfill	1,509	4,187	1,526	1,728	1,556	*	*						10,506
2010/11	1,714	832	1,570	1,450	1,591	1,508	1,435	1,254	1,731	1,242	1,386	1,255	16,968
Number of missed bins (Target 0)	-	-	-	2	4	-	-						6
2010/11	-	-	2	1	-	-	2	-	2	1	1	-	9
Tonnage of recycling collected	290	270	228	240	480	*	*						1,508
2010/11	292	214	312	349	439	347	285	235	305	268	306	289	3,641
	* No Statistics available for December due to systems issues at the time of print												

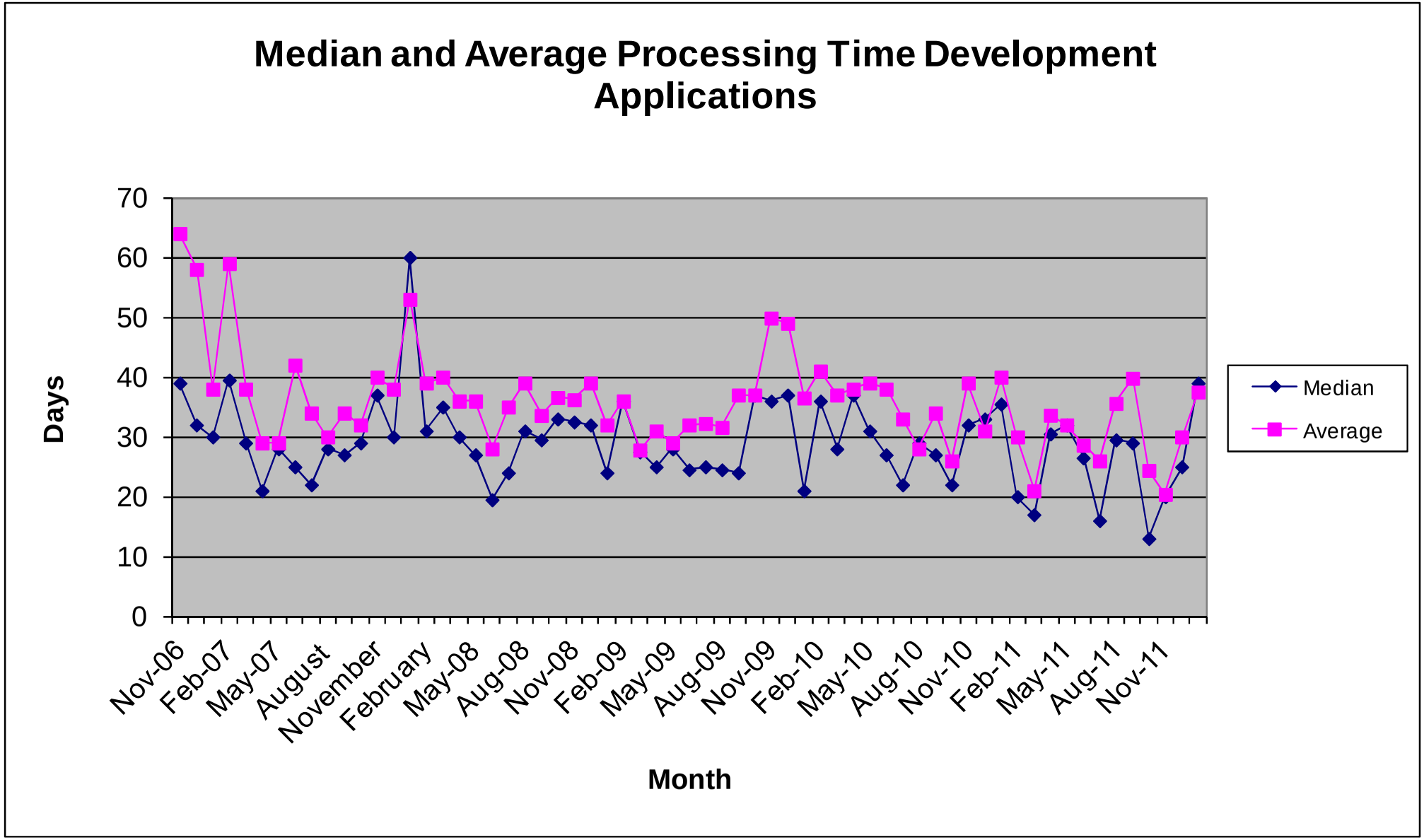
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	YTD
MUDGEE AIRPORT													
Landings	385	437	312	325	334	341	492						2,626
2010/11	441	413	376	406	372	404	378	449	386	401	486	495	5,007
CEMETERIES													
Burials/interments	6	19	14	14	8	7	10						78
2010/11	17	10	18	13	10	12	19	5	18	20	10	9	161
SWIMMING POOLS													
Gulgong	-	-	39	1,108	2,881	3,719	4,138						11,885
2010/11	-	-	170	1,175	2,975	1,814	5,040	4,614	1,110	482	-	-	17,380
Mudgee	-	-	396	3,835	9,777	4,458	13,021						31,487
2010/11	-	-	816	4,897	9,449	4,328	16,100	9,541	3,311	1,124	-	-	49,566
Kandos	-	-	134	1,151	2,532	1,779	2,868						8,464
2010/11	-	-	105	876	2,068	1,420	4,958	2,971	935	219	-	-	13,552
PARKS & RESERVES													
Vandalism incidents	2	21	8	6	5	2	2						46
2010/11	8	3	2	2	2	5	4	2	6	6			40
Related expenditure	$ 2,000	$ 92,500	$ 2,000	$ 8,000	$ 2,100	$ 700	$ 820						108,120
2010/11	$ 800	$ 6,000	$ 1,000	$ 1,000	$ 1,000	$ 120,000	$ 200	$ 100	$ 600	$ 600			$ 131,300
	Note: Westend Complex repairs are included in the August expenditure reporting												
LIBRARIES													
Borrowings	9,845	10,302	9,912	9,162	9,076	8,223	6,349						62,869
2010/11	12,503	11,479	11,337	10,004	10,420	8,441	10,257	9,957	11,176	9,481	10,250	10,413	125,718
Borrowings - Mobile Library	247	551	389	471	399	322	106						2,485
2010/11	355	471	489	345	430	3	126	364	546	259	489	581	4,458
New resources purchased	350	535	370	359	354	572	116						2,656
2010/11	346	414	340	444	602	237	386	249	382	353	604	350	4,707

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	YTD
REGULATORY CONTROL													
Weeds													
Properties inspected	112	64	77	125	89	23	41						531
2010/11	101	41	126	78	81	-	-	-	5	11	34	172	649
Target													750
Properties reinspected	3	15	23	2	2	19	29						93
2010/11	-	-	-	13	4	-	-	-	103	20	2	5	147
Target													150
Infringement notices issued	-	-	-	-	-	-	-						-
2010/11	-	-	-	-	-	-	-	-	-	-	-	-	-
Kilometres sprayed	-	213	168	-	1,220	639	1,357						3,597
2010/11	-	337	-	156	103	131	170	287	-	-	-	-	1,184
Target													2,200
Parking Control													
Patrols conducted	6	15	16	11	10	8	-						66
2010/11	7	10	14	13	12	10	1	14	18	11	13	4	127
Animal Control													
Animals impounded	35	32	31	44	42	40	59						283
2010/11	49	47	46	43	45	43	45	39	64	39	25	33	518
Companion animals registered	12	7	18	17	10	15	28						107
2010/11	16	9	22	13	16	19	19	20	24	18	8	10	194
Food Control													
Inspections	5	1	1	26	16	7	-						56
2010/11	6	1	1	-	-	2	2	3	2	9	26	91	143
ADMINISTRATIVE SERVICES													
Records													
Correspondence items in	2,627	3,088	2,829	3,801	3,389	2,431	3,308						21,473
2010/11	2,363	2,463	2,555	2,657	2,900	2,535	3,149	5,369	3,082	2,191	2,716	2,761	34,741
Answered within 14 days (Target 100%)	95%	95%	97%	92%	99%	97%	93%						23.9%
2010/11	97%	95%	97%	93%	97%	95%	94%	97%	97%	93%	96%	98%	95.8%
Phone calls received	4,077	4,434	4,368	4,861	5,017	4,996	3,931						31,684
2010/11	4,383	4,171	4,207	4,639	5,136	4,797	3,647	4,045	4,859	3,759	4,293	4,637	52,573
Customer Service													
Works requests	269	398	350	293	363	262	447						2,382
2010/11	459	366	362	416	516	659	471	363	359	321	300	296	4,888
Finance													Monthly Average
Accounts Receivable Balance	$ 679,960	$ 621,955	$ 551,505	$ 513,681	$ 466,470	$ 939,668	$ 2,046,424						$ 831,380
Accounts Payable Turnover	$ 7,494,535	$ 5,547,571	$ 6,933,578	$ 3,439,934	$ 6,891,995	$ 5,690,134	$ 5,133,433						$ 5,875,883

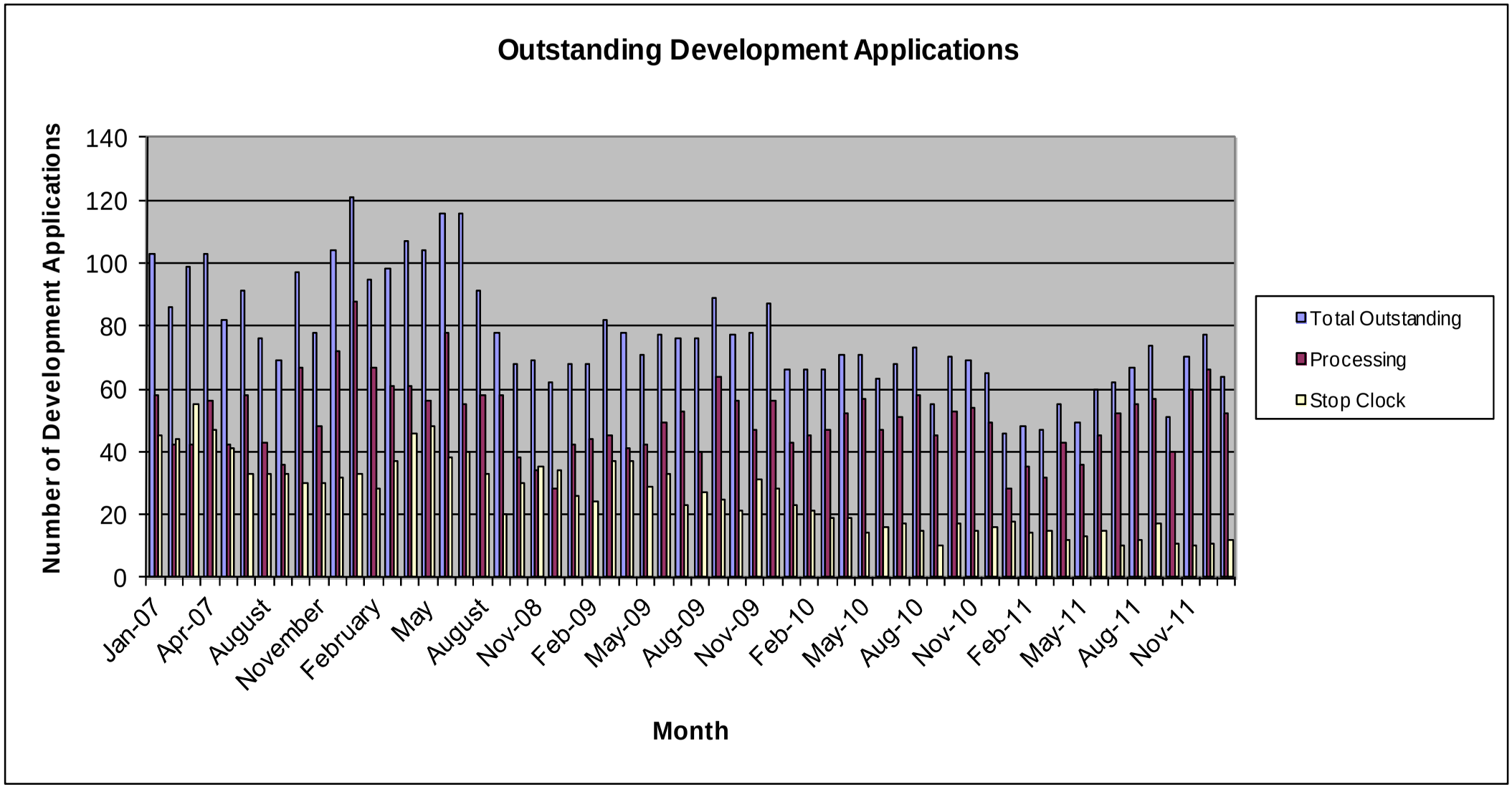
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	YTD
ECONOMIC DEVELOPMENT													
Caravan Parks													
2010-2011	12	6	51	57	61	151	33						371
2010/11	12	15	22	133	35	96	21	15	25	98	8	5	485
Saleyards													
Stock sold - sheep	274	179	201	194	231	237	189						1,505
2010/11	297	228	221	**137**	251	164	107	235	82	190	207	146	2,265
Stock sold - cattle	1,643	1,481	2,052	2,217	3,096	1,670	2,384						14,543
2010/11	2,600	1,856	3,473	2,911	2,589	1,574	2,511	5,131	3,303	3,091	4,405	2,141	35,585

This report covers the period for the month of January 2012.

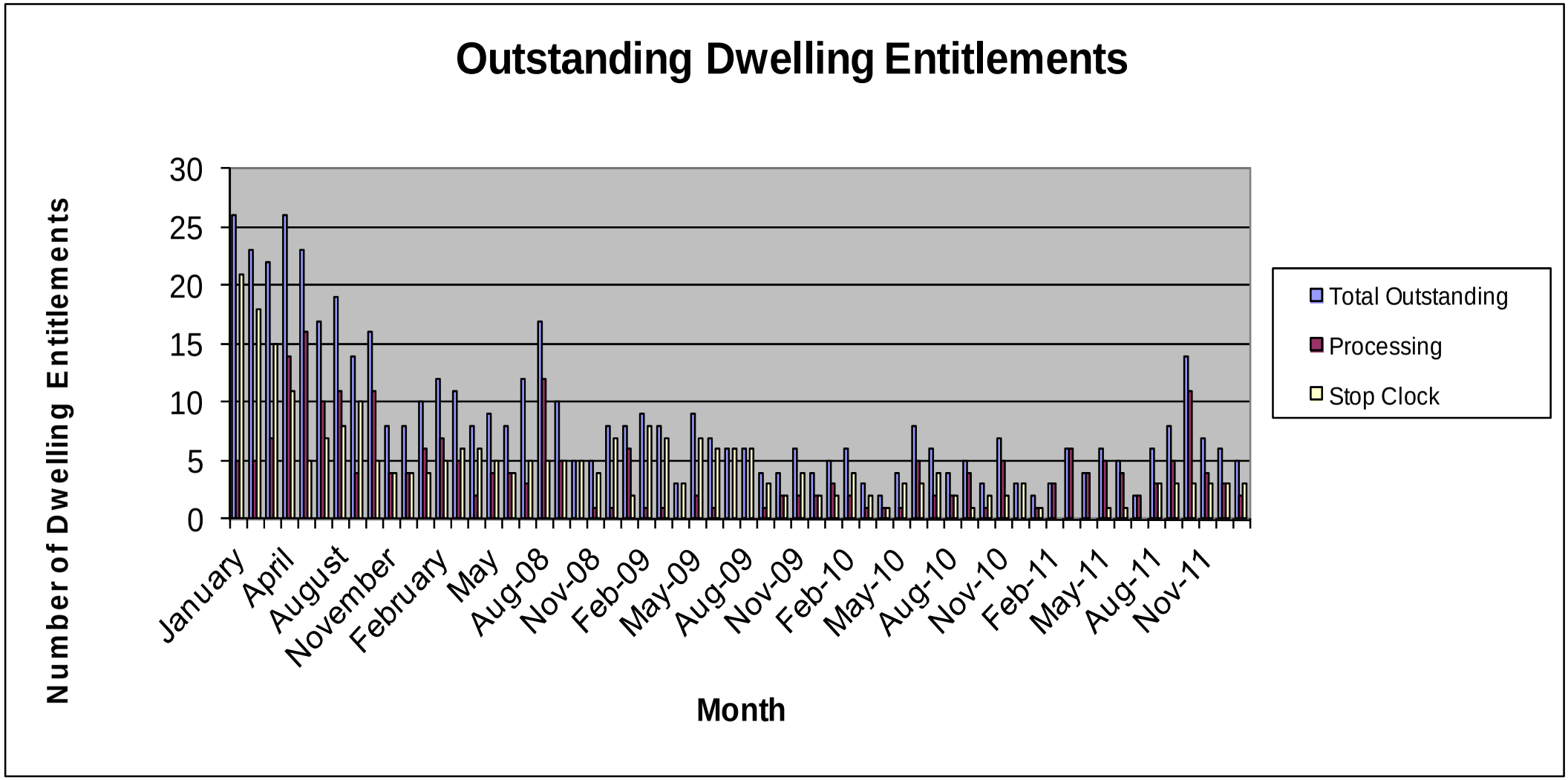
Graph 1 indicates the processing times up to 31 January 2012, with the month of January having an average of 37.5 days and a median time of 39 days.



Graph 2 indicates the total number of outstanding applications (excluding dwelling entitlements), the number currently being processed and the number on "stop clock".



Graph 3 relates solely to dwelling entitlements and indicates the number of outstanding dwelling entitlement applications, the number on stop clock and the number being processed.



Monthly Development Application Processing Report – January 2012

The Planning and Development Department determined 14 Development Applications either by Council or under delegation during January 2012.

Development Applications Determined – January 2012

Appl/Proc ID	Description	Street Name	Locality	Decision
DA0070/2012	Subdivision - Torrens Title	Glen Alice Road	RYLSTONE	#APPIssue
DA0185/2012	Commercial Premises	Depot Road	MUDGEE	#APPIssue
DA0187/2012	Dwelling House	Edgell Lane	BUCKAROO	#APPIssue
DA0192/2012	Sign	Short Street	MUDGEE	#APPIssue
DA0193/2012	Dwelling House	Henry Lawson Drive	EURUNDEREE	#APPIssue
DA0195/2012	Dwelling House	Robertson Street	MUDGEE	#APPIssue
DA0198/2012	Alterations & Additions	Court Street	MUDGEE	#APPIssue
DA0200/2012	Dwelling House	Clare Court	MUDGEE	#APPIssue
DA0201/2012	Tourist Accommodation (owners do not live in)	Putta Bucca Road	PUTTA BUCCA	#APPIssue
DA0202/2012	Sign	Church Street	MUDGEE	#APPIssue
DA0206/2012	Shed less than 150m2	Tinja Road	PUTTA BUCCA	#APPIssue
DA0211/2012	Alterations & Additions	Spring Flat Road	SPRING FLAT	#APPIssue
DA0212/2012	Shed less than 150m2	Havilah Terrace	MUDGEE	#APPIssue
DA0216/2012	Dual Occupancy	Tebbutt Court	MUDGEE	#APPIssue

Monthly Development Application Processing Report – January 2012

- **Development Applications currently being processed**

Appl/Proc ID	Description	Street Name	Locality	Decision
DA0205/2012	Alterations & Additions	Blue Springs Road	BUNGABA	Processing
DA0213/2012	Alterations & Additions	Ilford Sofala Road	SOFALA	Processing
DA0231/2012	Alterations & Additions	Lue Road	CAMBOON	Processing
DA0240/2012	Alterations & Additions	Mortimer Street	MUDGEE	DCU
DA015/2012	Animal Establishment	Abattoirs Road	MENAH	Processing
DA0217/2012	Boarding House	Black Lead Lane	GULGONG	FurthInf
DA0179/2012	Boundary Adjustment	Wollar Road	COOYAL	Processing
DA0043/2012	Carport	Trefusis Avenue	MUDGEE	Processing
DA0226/2012	Carport	Cainbil Street	GULGONG	Processing
DA0204/2012	Change of Use	Angus Avenue	KANDOS	Processing
DA0220/2012	Change of Use	Henry Lawson Drive	BOMBIRA	Processing
DA0369/2011	Change of Use	Spring Flat Road	SPRING FLAT	Processing
DA0253/2009	Child Care Centre	Court Street	MUDGEE	FurthInf
DA0188/2012	Commercial Alterations/Additions	Industrial Avenue	MUDGEE	Processing
DA0189/2012	Commercial Alterations/Additions	Industrial Avenue	MUDGEE	Processing
DA0201/2012	Commercial Premises	Henry Lawson Drive	EURUNDEREE	Processing
DA0218/2012	Commercial Premises	Nullo Mountain Road	OLINDA	Processing
DA0157/2011	Dual Occupancy	Lower Piambong Road	MENAH	FurthInf
DA0191/2012	Dual Occupancy	Lions Drive	MUDGEE	Processing
DA0207/2012	Dual Occupancy	Inverness Avenue	MUDGEE	Processing
DA0224/2012	Dual Occupancy	Kellett Drive	MUDGEE	Processing
DA0276/2008	Dwelling House	Bocoble Road	BOCOBLE	FurthInf
DA0003/2012	Dwelling House	Avisford Court	MUDGEE	Processing
DA0154/2012	Dwelling House	Pyramul Road	WINDEYER	Processing
DA0214/2011	Dwelling House	Castlereagh Highway	BURRUNDULLA	Processing
DA0219/2012	Dwelling House	Bellevue Road	MUDGEE	Processing
DA0222/2012	Dwelling House	Tara Loop Road	ILFORD	Processing
DA0225/2012	Dwelling House	Tebbutt Court	MUDGEE	Processing

DA0239/2012	Dwelling House	Crossings Road	MENAH	Processing
DA0106/2012	Home Industry	Market Street	MUDGEE	Processing
DA0311/2011	Light Industry	Swords Court	MUDGEE	FurthInf
MA0029/2012	Light Industry	Sydney Road	MUDGEE	Processing
DA0057/2012	Mine	Ulan Road	ULAN	FurthInf
DA0176/2012	Residential Flat Building	Burrundulla Avenue	MUDGEE	Processing
DA0327/2011	Shed>150m1	Horatio Street	MUDGEE	Processing
DA0174/2012	Shed less than 150m2	Rayner Street	MUDGEE	Processing
DA0232/2012	Shed less than 150m2	Burrundulla Road	BURRUNDULLA	Processing
DA0235/2012	Shed less than 150m2	Dowling Street	LUE	Processing
DA0152/2012	Subdivision – Community Title	George Campbell Dirve	BOMBIRA	Processing
DA0177/2012	Subdivision – Torrens Title	Bellevue Road	MUDGEE	DCU
DA00208/2012	Subdivision – Torrens Title	Robertson Street	MUDGEE	FurthInf
DA0376/2011	Subdivision – Torrens Title	Henry Bayly Drive	MUDGEE	FurthInf
DA0199/2012	Subdivision – Torrens Title	Robertson Street	MUDGEE	Processing
DA0214/2012	Subdivision – Torrens Title	Coxs Creek Road	RYLSTONE	Processing
DA0233/2012	Subdivision – Torrens Title	Campbells Creek Road	CARCALGONG	Processing
DA0370/2011	Subdivision – Torrens Title	Tongbong Street	RYLSTONE	Processing

Heritage Development Applications currently being processed

Appl/Proc ID	Description	Street Name	Locality	Decision
DA0087/2012	Alterations & Additions	Gladstone Street	MUDGEE	FurthInf
DA0271/2011	Alterations & Additions	Short Street	MUDGEE	FurthInf
DA0223/2012	Alterations & Additions	Nicholson Street	MUDGEE	Processing
DA0228/2012	Alterations & Additions	Nicholson Street	MUDGEE	Processing
DA0237/2012	Alterations & Additions	Gladstone Street	MUDGEE	Processing
DA0135/2012	Boarding House	Main Street	ULAN	Processing
DA0221/2012	Change of Use	Cox Street	MUDGEE	DCU
DA0197/2012	Commercial Alterations & Additions	Oporto Road	MUDGEE	Processing
DA0377/2011	Demolition	Short Street	MUDGEE	Processing
DA0347/2011	Demolition	Medley Street	GULGONG	Processing
DA0151/2009	Depot or Storage Facility	Inglis Street	MUDGEE	FurthInf
DA0150/2012	Dual Occupancy	Belmore Street	GULGONG	Processing
DA0209/2012	Dwelling House	Denison Street	MUDGEE	DCU
DA0175/2012	Garage	Cox Street	MUDGEE	DCU
DA0236/2012	Garage	Mealey Street	MUDGEE	Processing
DA0238/2012	Garage	Henry Bayly Drive	MUDGEE	Processing
DA0227/2012	Public Building	Nicholson Street	MUDGEE	Processing
DA0144/2006	Units for aged/People with Disabilities	Perry Street	MUDGEE	FurthInf