

Our Outback districts bring many visitors who, like local residents, wish to experience 'the outback' which includes beautiful expanses of differing natural environments, beautiful natural colours of the ocean and lands as far as the eye can see, with the only sound being from the natural environment both during the day and at night, the magnificent night sky's uninterrupted by structural lighting and produced noises that drown out the beauty and silence of a natural environment. Townships and cities close to or within these districts offer the choice for those who do not want to travel further into the true Outback a less congested and raucous experience than they would have in the State capital and other larger Regional towns.

In considering this I have focused on one issue which has the potential to destroy some of our most peaceful and naturally beautiful vistas within the Outback of South Australia.

I refer to Industrial Wind Turbines and to a lesser degree the relatively new prospect of Large Scale Solar projects.

To assist with understanding some of my concerns I am including quotes from 'The **Productive Economy Background Paper**', prepared as a basis for Changes being proposed for new Zoning Codes which is interesting to read jointly with the papers provided for the Planning and Design Code under discussion at present.

"1.3 Mining and exploration

**In terms of managing impacts on sensitive receptors, it is important to note the EPA can 'preference' environmental guidelines in favour of more sensitive receptors** (e.g. tighten noise restrictions where activities impact on nearby housing)." PAGE 16 (Ref: *Environment Protection Authority (2007) Guidelines for separation distances. Environment Protection Authority South Australia, Adelaide*). (my emphasis, also note that receptors is possibly used instead of 'people')"

While the EPA can 'preference' environmental guidelines in favour of more sensitive receptors there is no 'preference' available to them or those sensitive to Infra Sound and Low Frequency noise from Industrial Wind Turbines.

Nothing in the proposed changes alters this.

"1. Key issues, challenges and opportunities

**A review of planning policy and the development assessment process regarding renewable energy generation facilities, is needed, to ensure development outcomes meet the expectations of the South Australian community.** One of the most prevalent issues is in relation to siting decisions, such as the disruption of existing land uses or the use of valuable arable land for energy consumption (e.g. the use of productive farmland for solar farms or biofuel production)." PAGE 16 (Fritsche, U. et. al. (2017) Global Land Outlook Working

Paper: 'Energy and Land Use', UN Convention to Combat Desertification, International Renewable Energy Agency, September 2017). (my emphasis)"

The access to and use of arable and productive land is important for our future food requirements. If these lands are to be useful into the future then the contamination and filling of these lands with industrial facilities for the production of energy will not ensure their security for food production. Heat from solar panels, will leave land barren and possibly unsuitable even for grazing purposes.

Further, the massive concrete foundations/footings used for Industrial Wind Turbines, service roads and now the use of Battery's for energy storage more arable and productive land is being 'reassigned'.

With concerns rising with respect to the possible changes in hydrology within Industrial Wind Turbine sites food production could become more difficult. Therefore it is becoming more important to ensure we manage arable and productive lands more carefully.

The process of creating new Codes would have been an opportunity to look into the existing Planning Regulations and processes so changes could be enacted which would take these concerns into account and allow for future changes as situations change.

Rather the Assessment process remains as it was created in 2012, after the State Government undertook a Ministerial Development Plan Amendment, to accommodate the Wind Turbine Industry. It's interesting to note the then Government decided not to action a number of recommendation made by their Advisory Committee after holding a number of community meetings.

The present Code Zoning system being considered has not made any changes to the Planning Policy covering the assessment of Industrial Wind Turbines. Recommendations within the Background Paper have been ignored as they were in relation to the MDP in 2012.

As a result community members who are and could possibly be living with the results of this policy have little opportunity when projects are proposed to be heard or to prevent their environment becoming a danger to their health and wellbeing as well as arable and productive lands being placed under increasing stress.

The following quotation from the '**Productive Economy Background Paper**' attempted to rectify this situation, but again it was not considered in the proposed Code Zone changes.

**“Policy also needs to be updated to respond to the new forms of development and technological changes.** This means providing improved guidance regarding the intensity, location and impacts of these developments...” (my emphasis)

“Wind farms

Wind farms have been extensively developed in South Australia and policy guiding these has been reflected in the SAPPL General Section since 2012. **Now that the industry is well established, policy should be reviewed to amend and update policy with regards to:** (my emphasis)

- **design (including consideration of height, scale and intensity) impacts upon surrounding environments and subsequent need for buffers (my emphasis)**
- location (including off-shore development)
- **associated infrastructure (including roadways, power lines and substations)**
- **procedural matters (such as public notification requirements)**
- **assessment pathways provided under current legislation.”**

Design considerations of Industrial Wind Turbines should be a high priority due to them increasing in height and capacity for almost every project presented, some projects are also requesting replacing smaller turbines already approved for larger size and capacity ones.

This currently does not elicit new environmental and noise assessment reports being provided, so not only do the people living near these turbines have the possibility of being adversely effected, but the environment could also be susceptible to damage with the loss of native creatures, flora and possibly adverse effects on local hydrology and other adverse effects.

The need for more appropriate regulations governing all aspects of Industrial Wind turbines should be a high priority when changes to Planning Regulations are proffered.

“Solar farms

**Solar farms are a rapidly emerging land use that requires clear policy guidance.** Of particular concern is that **solar farms do need to be situated on valuable primary production land and would be best located in poor quality landscapes.** It is also important to manage any **environmental impacts relating to heat and dust** on neighbouring properties as well as glare management that can negatively impact adjacent land uses or transport modes (road and air in particular).” PAGE 28 (Kaza, N and Curtis, M (2014) The Land Use Energy Connection, Journal of Planning Literature Vol 29, Issue 4, pp. 355 – 369, First Published July 14, 2014.) (my emphasis)”

Firstly is it clear they need to be sighted on valuable primary production land?

However, it's clear those who created the Economy Background Paper were concerned about the implications of more of our productive land being compromised with the growth in the demand for Renewable energy production and were keen to ensure more research, consideration and regulations were implemented, not only for the Natural Environment but also for the human environmental. Yet none of these recommendations have been taken up in the proposed Planning Regulation Zoning Code changes.

This is also reflected in the following quotation.

### "3.1 Renewable Energy

The development of renewable facilities in South Australia continues to present opportunities and challenges for communities, particularly in the regions. Beyond the familiar renewable energy generation facilities, such as wind and solar, a range of other technologies (e.g. geothermal, hydrogen, hydropower, tidal and biofuels) continue to emerge, as well as related energy development such as grid-scale storage batteries. In relation to land use, the establishment of these facilities can significantly alter landscapes, land use and biodiversity, particularly in rural areas. There is a need to ensure that the establishment of renewable energy facilities are carefully located and designed. At this time, there is limited land use planning policy and guidelines in relation to renewable energy facilities and associated development. This matter is proposed to be addressed by the Commission through the development and application of the Code." PAGE 27. (my emphasis)"

The second paragraph notes the possibility of such installations causing significant alteration to landscapes and the biodiversity of areas and states currently there is limited land use planning policy and guideless with respect to renewable energy facilities. This is something members of the public have been saying since the MDPA in 2012 was secured by the then South Australian Government.

The seven years since changes were last made to assist the industry the renewables industry has changed significantly and there is a need to ensure best practice to maintain our environment and biodiversity as well as a healthy population is at the forefront of any Planning Regulations.

1. "Separation distances / buffers should be measured from the boundary of the tenancy lease as well as associated operations – including heavy vehicle transport routes." PAGE 17

While this quote is from the section relating to Mining it should also be relevant to Industrial Wind Turbines.

Industrial Wind turbines currently can be located 1km from a home and can be located at a neighbouring properties boundary, while setbacks of 2km are approved at the boundary of a Township.

In both cases setbacks should be set at a distance which will not cause problems for people living and working on rural and regional properties.

For instance a distance of a minimum of 5km from a residence or place of work with a minimum of 2km or further if a home is located closer to a boundary fence on a non-participant's property boundary if the Turbines have a capacity factor of 2.5MW.

Noise levels produced by individual turbines as well as projects should be monitored constantly, and should a turbine or project produce more noise than the regulated standard which prevents adverse effects, shutdown should occur until the turbine or project can meet or operate below the accepted standard.

Standards should be set in accordance with the latest research from independent acousticians using monitoring equipment which records ALL forms of noise/sound, independent medical authorities and fauna, flora and avian environment specialist.

Setback Regulations should be dependent on the size of the turbines and include consideration for the numbers being proposed. Accumulated impacts need to be assessed to ensure the safety from adverse effects on local people and communities.

The size of turbines and capacity output of projects should be restricted by Regulation. At present there are no rules governing the size of turbines or their capacity. This has led to an increase in size and capacity that does not take into account the effects on visual amenity or human health nor the health of the environment including native fauna, flora and avian species that may live or travel through these projects.

Currently there are limits set as to the height and spacing of buildings in all proposed Zones, there is nothing to control the height, numbers and spacing of Industrial Wind turbines, or Large Scale Solar Farms.

If a proposal was submitted for the building of a coal fired energy plant it would be restricted with respect to its location, size and all sorts of

other environmental requirements, but only very basic regulations are required for Industrial Wind Turbines and Large Scale Solar Plants.

In South Australia the consideration of Visual Amenity has been removed from consideration of Industrial Wind Turbine projects, so they have a clear road to being able to be installed anywhere except within the Greater Adelaide area, ie the Barossa Valley and McLaren Vale districts or the Hills zone face, which are protected from having Industrial Wind turbines projects to secure their Visual Amenity.

The size of turbines now being used ensures there is nothing that can be done to prevent them from being seen from great distances. Even when changes were made to Planning Regulations in 2012 these turbines could not be hidden from view by planting trees or towers having a neutral colour that's meant to help them settle into the environment. So how can these turbines of much greater size be expected to be able to be hidden, to prevent detracting from the magnificent vistas of our State and in the case of this document our Outback.

Apart from the Flinders Ranges there is little land in our Outback that has sufficient hills/mountains to hide or even minimize the impact of these turbines. For instance looking from the highway heading toward Coober Pedy via Glendambo, from Port Augusta there are wonderful views of valleys sunken into the plateau area.

Even looking from the Flinders Ranges into the plains would reduce the pleasure tourists and others have of our spectacular vistas if Industrial Wind Turbines interrupted the splendid views.

There has been a suggestion that these turbines could be utilised along the new route for the proposed second Grid into NSW.

This could be possible, if turbines were set at least 2km from the road, and allowed for the road to be widened at a later date should it become necessary. Setback is required to ensure the safety of passing traffic etc. so if a turbine falls over it cannot fall onto a passing traffic. So setback has to be a minimum of the height of the turbine with its blades plus extra to allow for debris being scattered as the turbine hits the ground.

Turbines along the route should also have to be setback from any homes or workplaces along the route to a distance of at least 5km to prevent adverse health effects.

## **FINALLY**

On page 29 of the document:

“Development Plans seek to promote the provisions of the Planning Strategy and include planning or development objectives or principles. They are currently the principal documents in South Australia used to assess development. At present, every Local Government Area has a Development Plan. These documents will transfer into one Planning and Design Code for the State under the new legislation.”

While each Local authority has their Development Plans these were altered in 2012 when the then Government created regulations with respect to the inclusion of Industrial Wind Turbines. While there was a need to recognise this form of industrialisation, regulations were not created in the best interests of the population. Local authorities and the people of South Australia were notionally given the opportunity to influence the adoption of these Regulations but as stated previously Recommendations made by a Committee who attended community meetings to hear citizens and Local authority concerns were not adopted.

This current process of making changes to the way Design Codes are operated was an opportunity to secure much needed changes and the introduction of significant and relevant regulations in relation to the process of authorisation of Renewable Energy Production project applications.

It was an opportunity for Regulations designed with the assistance of qualified independent experts in areas such as acoustics, engineering, medical practitioners, local authorities; Visual Amenity experts and members of the public to ensure the environment for humans, flora, fauna and avian beings can live and share our environments without harm into the future.

This States Planning Regulations are in desperate need of forward thinking and planning in relation to these new technologies before they destroy our Sate.

To continue to work with the very meagre ill-advised Regulations as they are is to ignore the people and environment of this State, we need a wide ranging view of what is happening. No other industry would be given the opportunity to operate with the minimal controls the Renewable's Energy industry.

While the process of organising the Planning Codes under 'one roof' perhaps has some worth, though it does appear to be very cumbersome, unless the area of Planning for Renewable energy projects is seriously considered and dealt with, in a manner that secures our environment for the near and distant future then we will see our beautiful State disappear behind a visual and physical barrier of industrial structures with the loss of arable and productive farming land.

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