

Shooting the Breeze...

Official newsletter of Denmark Community Windfarm Inc

No 2

April 2004

Special windfarm information bulletin

Only 50 years ago most rural towns provided their own diesel-electric power, hospitals and fire services: communities were more self-reliant.

So why is it that today, with so many advances in technology, many isolated regional towns still struggle to get adequate essential services and facilities?

Wind power currently supplies more than 40 million homes worldwide with clean, pollution-free electricity from the wind.

Building our own community-owned, community-scaled windfarm will bring an important new, leading-edge industry to Denmark, stimulating the local economy, regaining some self-reliance and creating an important example for other regional communities.

Why a windfarm? Electricity from fossil fuels contributes about 40% of all green houses gases

worldwide – with the result that our climate and weather are changing noticeably.

This has prompted the Intergovernmental Panel on Climate Change (IPCC) to call for a 60% reduction in greenhouse gas emissions by 2050.

The proposed Denmark windfarm would prevent about 10 000 tonnes of carbon dioxide and other pollutants being produced each year – that's about 2t for every man, woman and child in Denmark.

This edition of Shooting the Breeze is dedicated to responding to typical questions, clearing up a few points of confusion, and publishing some of the data on which the proposal is based.

The community will make the ultimate decision about whether it wants a windfarm, so it is important that people are fully and properly informed.

CRITERION	1=Lowest, 5=Highest	West Denmark	Sleeman River	Sunny Glen Rd	Morley Beach	Sunrise Road	Crusoe Beach	Nonalup Point	Ocean Beach
1	Geographic setting - extensive flat areas or cleared land, particularly to the NE and SW	2	4	4	5	3	4	4	5
2	Elevation terrain - areas above 50m AHD, or gently sloping landscapes	2	3	3	3	5	3	3	5
3	Surface roughness - tall vegetation, water bodies, plantations, rocky outcrops	3	4	4	4	3	4	4	4
4	Proximity to high voltage transmission - robust 3-phase 22KV powerlines	4	5	5	5	4	5	5	4
5	Proximity to road access - ease of access; within 1.5km of formal access	4	4	4	4	4	4	4	3
6	Proximity to residential development - no closer than 800m to homes or accommodation	3	3	2	2	3	1	2	5
7	Land tenure - avoid national parks & nature reserves; favour private or shire land	5	5	5	5	5	5	5	5
8	Environment & amenity - proximity to wetlands, visibility, existing impacts	5	3	3	3	4	3	3	4
9	Safety & infrastructure - proximity to airfields, communication towers etc	4	3	3	3	3	3	3	5
10	Social & economic - education values, proximity to tourist routes, competition with other landuses	3	3	3	3	4	3	3	4
11	Nominal wind resource - modelled wind energy	2	2	2	2	3	4	4	5
Nominal score		37	39	38	39	41	39	40	49

Table 1: Preliminary site assessment, based on Australian Wind Energy Association guidelines and updated following the Denmark Wind Study (2003). The wind resource model for Ocean Beach exactly matched actual data recorded at the site.

FAQs

Answers to some Frequently Asked Questions about the Denmark community windfarm

Should Denmark have a windfarm?

Wind is abundant, free and non-polluting, so a windfarm will minimise our local reliance on fossil fuels, which are highly polluting, inequitable, increasingly expensive ... and running out. Wind power is the fastest-growing energy source in the world. Denmark has a long record of innovation in caring for the natural environment, so this project is an opportunity for us to continue to lead the way, and encourage other communities in Australia to do the same.

Even the small windfarm we propose is a major business enterprise which will attract investment capital and boost the local economy, through employment opportunities and helping to fund other community projects (more about that later).

Climate change brought about by human activity is happening now, and we all have to deal with it, so a project which is environmentally, economically and socially sustainable, and produces no greenhouse gases is responsible and very worthwhile.

What are the advantages ?

A business owned and operated collectively by the people of Denmark has clear benefits for the local economy. Denmark currently spends about a million dollars a year on electricity, which goes out of the community. With our own windfarm much of the money will return here, benefiting our own families and businesses. It's 'buying local' on a grand scale!

There would be huge environmental benefits too, such as preventing around 10 000 tonnes of carbon dioxide and associated pollutants entering the atmosphere each year. While the wind turbines are large structures they will do a large job for our community:

- create up to three long-term part-time jobs, boosting local financial and technical skills
- employ local and regional contractors on up to 25% of the project cost
- create a new tourism attraction, which could generate additional visitor spending
- increase community cooperation, through having a shared goal
- be a great educational tool for our youth
- like the Bendigo Bank, the project will put some of its profits towards other community ventures, such as cycleways, a swimming pool, and improved youth and aged facilities
- have the potential to improve our local power supply
- create a local company which can sell its services and expertise to other communities
- remind people of our positive commitment to the environment and a sustainable future.

What are the disadvantages ?

- This is the first project of its kind in Australia, so it is complicated, expensive, and breaking new ground in a number of areas
- the proposed coastal location is causing some disharmony in the community
- technical difficulties connecting to the grid need to be overcome.

Is the windfarm site already decided ?

No. A preferred site has been identified and endorsed, based on a number of technical criteria and lengthy investigations over the past 12 months, but there is still a long way to go before any site is approved by the various State and local authorities, and the people of Denmark.

Have other sites been investigated ?

Yes. As part of the project's pre-feasibility stage the whole shire was canvassed before narrowing the search to the seven most likely sites, using criteria laid down by the Australian Wind Energy Association's Best Practice Guidelines for Implementing Energy Projects in Australia. After comparing the sites it became clear that Ocean Beach was the most suitable, for a variety of reasons (see table on front page).

Following this pre-feasibility assessment the wind monitoring mast was erected, which required shire council approval.

Why Ocean Beach ?

The preferred site is on Wilson Head, an A-class reserve adjoining Ocean Beach. The site is high in the landscape, so that the windfarm be almost unseen from the surf club area, and is behind shallow ridges, which will reduce its visibility from other points in the landscape. In short:

- the site is very windy and has sufficient clear space
- it is up to 16% windier than the next-windiest site investigated
- the turbines will be more than 1.8km from any residence or tourist accommodation, reducing visibility and noise
- the existing lime quarry contains suitable road-building materials and access to the site without having to import materials
- a high-voltage line to the site already exists, making connection to the grid technically feasible.

If a better site is identified by the community we will evaluate it as well, as part of a full feasibility study to be done later this year.

Is the site environmentally sensitive ?

Yes, it is in a sensitive coastal landscape. However, as with the Albany windfarm, careful planning and design will minimise impact. The service road will be located low in the landscape, out of sight; any areas disturbed during construction will be carefully rehabilitated, using established techniques; thoughtful micro-siting of the turbines will ensure that they fit harmoniously into the natural contours of the land, minimising visual influence.

There are scattered Priority 3 Rare Plant communities in the reserve but the windfarm will not impact on them.

How much land is needed ?

Turbines need to be located on land without tall trees, plantations, hills or valleys, rough terrain; and at least a kilometre from housing.

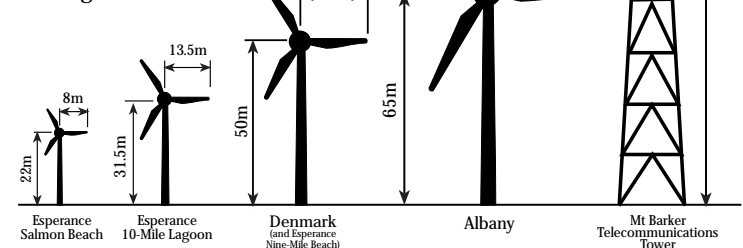
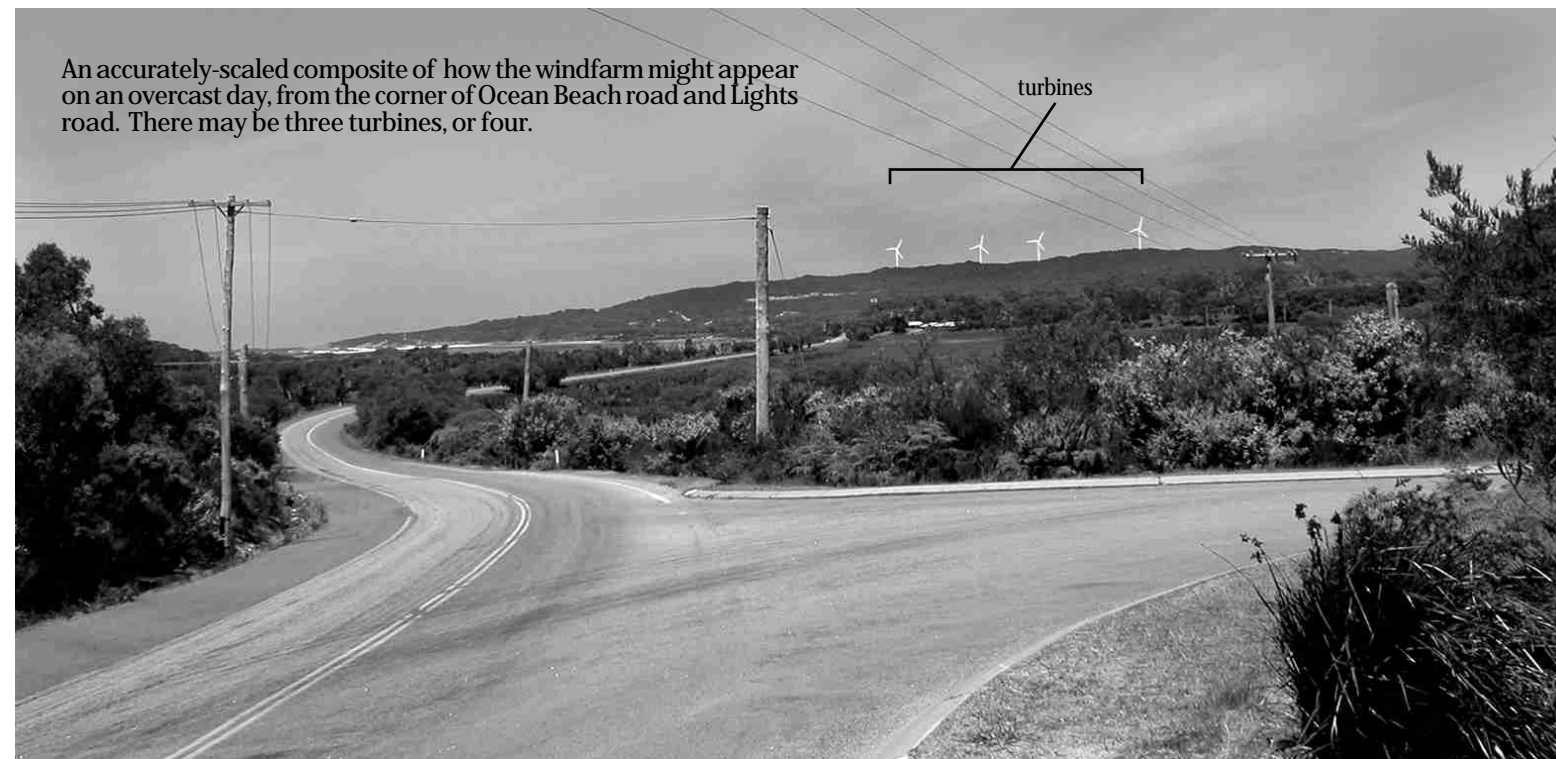


Diagram 1: Comparative size of turbines at various locations



Many of the hills around Denmark have karri trees and/or houses or tourism facilities on them, or other landuses which are incompatible with a windfarm. The windfarm requires an area of clear land about 2km x 3km – and there are precious few areas that size, in a windy spot, without obstructions or other constraints in the shire!

How big will the windfarm be ?

The current proposal is for a 2.4MW windfarm comprising three or four turbines, two-thirds the height and one-third the capacity of the Albany windfarm. It will supply all the electricity we currently use and allows for some growth. Its 'footprint', including a service road and possibly a walktrail, will take up only about one percent of the reserve area, leaving the vast majority unaffected.

Will it get bigger, over time ?

The site is big enough to take one or two more turbines of the size proposed but the capacity of the existing high voltage line needs to be established, through an electrical study. The community can then decide whether it wants the project to build in extra generation capacity to service future population growth. However, part of the project philosophy is to encourage people to actually reduce their energy requirements, through greater energy efficiency and conservation, including more appropriate home design!

Could the windfarm be smaller ?

The proposed windfarm is the optimum size for Denmark, and will be the smallest grid-connected windfarm in Australia. There are economies of scale to be considered, and if the windfarm was any smaller than currently planned the margin for success would be reduced considerably – as would the return on investment, the reduction in greenhouse gas emissions, and the amount of electricity generated.

Does it have to be in Denmark ?

The answer depends on whether you think Denmark people should derive the benefits of being self-sufficient in electricity, and control our own destiny as power consumers. If you want a sustainable, proactive enterprise that benefits our community economically, socially and environmentally, then the answer is yes. If you don't care where your electricity comes from; about helping to reduce greenhouse gas emissions, being innovative, or creating a sustainable industry for our town – or if the sight of turbines really turns you off – then the answer may be no.

Why can't we use power from the Albany windfarm instead ?

We already do, on the rare occasions that Albany's demand is less than its windfarm is producing. The windfarm supplies about 75% of Albany's annual power requirements.

Are we going to see windfarms all along our coastline ?

No. Most coastal land between Albany and Augusta (including the Denmark shire) is 'out of bounds', in national parks and nature reserves. As well, there is no useable grid infrastructure or population centre to justify any other windfarms on or near the south coast.

By the end of this year there will be community-scaled windfarms at Albany (12 turbines), Esperance (15), Hopetoun (1) and Bremer Bay (1). If wind power was ever developed at Walpole, it would involve only one turbine.

How visible will the windfarm be ?

'Visual impact' depends on what you consider to be acceptable. The turbines will be visible, to varying degrees, from various points in the landscape – but so are roads, powerlines, signs and buildings. The lime quarry near the site is also partially visible. Are these 'impacts'? Are they acceptable? Many people consider wind turbines elegant, graceful and majestic symbols of our progress away from reliance on fossil fuel.

Remember: Denmark's windfarm will be much smaller than Albany's, which has become a popular tourist attraction.

Will the turbines be noisy ?

The noise detectable at the base of a modern turbine is roughly equivalent to a normal conversation (see diagram below). The Denmark windfarm will be more than a kilometre from the nearest homes.

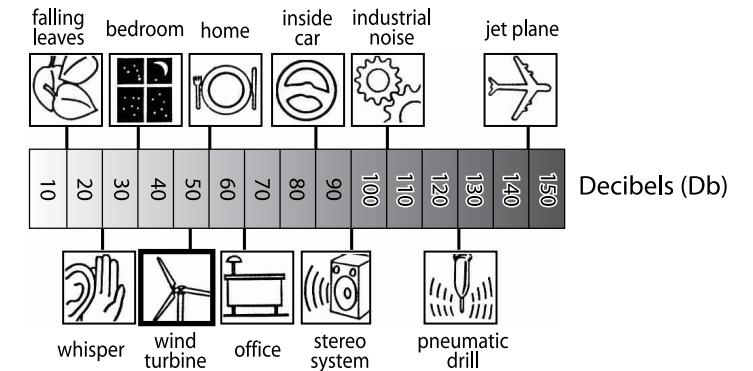


Diagram 2: Comparative noise levels of some common sounds.

Will birds be killed by the blades?

The most recent studies into Australian windfarms indicate a very low rate of birdstrike: one or two deaths per turbine per year – far fewer than are killed by vehicles or powerlines. (It is sobering to note that entire species are being lost to the world every day, through habitat loss caused in part by global warming - which of course is principally caused by fossil fuel emissions). Birds of prey appear to live side-by-side with turbines, without concern.

Will the windfarm reduce the value of my property, if I live nearby ?

No. Evidence from Albany and elsewhere indicates that property values within the viewshed of a windfarm may actually be enhanced.

Will electricity from the windfarm be cheaper ?

No. The windfarm will feed into the state grid, so you will still be buying your electricity from Western Power, at its standard rates. Many people in Perth choose to pay more for 'green power' to support the principle of renewable energy, even though they don't necessarily get it.

When the wind is blowing you will be getting clean, green power from your local windfarm, without having to pay any extra. When the wind is not blowing your electricity will come from coal.

If you invest money in the windfarm you will get what amounts to an electricity 'rebate' each year, so you will effectively pay less for your power.

Who will really own the windfarm ?

Will it really be owned by the Denmark community, or just by a few select individuals? The incorporated body which oversees the project is called Denmark Community Windfarm Inc (DCW), whose management committee comprises local people working in a purely voluntary capacity. Each and every member of DCW is committed to delivering a community-owned project.

A small private company, SkyFarming Pty Ltd, consults to DCW on data collection, technical advice, agency contact and research work. SkyFarming will be repaid its costs, plus an agreed amount in the form of cash and/or equity in the windfarm.

Anyone will be able to purchase shares in the company which will be formed to own and operate the windfarm. DCW is committed to ensuring that the Denmark community retains majority ownership.

How will community ownership be achieved?

A public workshop in September 2003 determined the structure for ownership of the windfarm: a company funded by the public purchase of shares. A trust will be embedded within the company, to which the company will, and shareholders may direct any profits. The trust's charter will be to help finance local community projects – eg dual-use paths, a public swimming pool, and facilities for youth and the aged. Local investors will receive a 'rebate' on their electricity consumption, in the form of a yearly dividend.

Who supports the windfarm ?

The shire council last year gave the windfarm proposal unanimous in-principle support, and approved the erection of the wind monitoring mast at the preferred site. In March this year Council agreed to support ongoing administration and organisational costs, to the tune of \$3000.

Funding applications totalling more than \$450 000 are currently being considered by federal and state government agencies – including the federal Department of Transport and Regional Services (DOTARS), Great Southern Development Commission (GSDC) and Sustainable Energy Development Office (SEDO).

As well as having a paid membership, DCW has received letters of support from numerous organisations, which can be seen at www.Skyfarming.com.au

A recent Victorian survey indicates that 95% of Australians support the use of wind power, compared with 21% who support new coal-based power stations.

If other places are building windfarms away from the coast, why are you proposing to put this one at Ocean Beach ?

The south coast of WA is not comparable with Europe, much of the US or the eastern states of Australia. We have hundreds of kilometres of uninhabited coastline, with small, isolated rural centres at Esperance (pop 32 000) Bremer Bay (300) Albany (30 000) Denmark (4500) and Walpole (500) – about the same area as the entire country of Denmark, Scandinavia, which has a population of 18m and generates 3000MW (20%) of its power from windfarms!

A 2.4MW windfarm servicing our community will have very little impact. The same area in Europe contains millions of people, factories and large businesses, all demanding space and electricity.

How can I have my say ?

Community consultation is a vital component of this proposal. Since it began 12 months ago we have held a number of public workshops, discussion and information sessions, social events and made good use of the media. There will be more opportunities for public comment as the project continues. Of course, the community will make the ultimate decision, when it elects to invest in the project, or not.

How can I get more information ?

- Join DCW to receive regular updates, and/or attend committee meetings ... just fill out the application form below
- keep an eye on the media for our next workshop, information session or other public event
- read our press releases and publications
- join a guided walking tour of the proposed site - phone 9848 2015
- visit the display at the shire offices and the Albany windfarm
- for more information about windfarms visit www.Skyfarming.com.au and www.auswea.com.au/about/myths.htm
- phone one of the DCW committee members listed below.

Contacts

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Membership application

Dnk Bulletin 22404

Name/s (PLEASE PRINT)

Postal Address

Residential Address (IF DIFFERENT).....

Phone..... Fax

Email (PLEASE PRINT)

Fees enclosed: \$5 individual > \$10 household > \$25 corporate >

Signed Date.....

Please post your completed form, with your payment to the address above. Thank you.

OFFICE USE

Mbsp Yr

Date Rec / /

Rcpt No