

Windmills in the Australian Landscape

The earliest known windmill was designed for pumping water in Persia in about 500-900 AD. The first European windmills were built in France and England in the 12th century, however, no windmills were built on the Australian continent until after European settlement in the late 1700's. This was because the indigenous Australians were nomadic, hunters and gatherers, without permanent residences and with only those tools or weapons that could be easily carried. Their only domestic animal was a wild dog (dingo)

1. Grassshelter Georgraphe Bay area.



Soon after European settlement windmills were built in coastal areas to grind the crops grown by the settlers, these early mills were constructed of wood and then stone, in the general shape of windmills the settlers were accustomed to seeing in England.

2. Winchester' mill, built at South Perth in April 1833 by the millwrights Paul and James LOCKYER, replaced by "Shenton's Mill" ceased operation in 1859. Acquired by the WA State government in 1929, restored 1957. Restoration more imagination than reconstruction as Shenton's Mill construction details are not known.



By 1824 a brick tower windmill, the first on the western side of the Great Dividing Range, was constructed by Thomas Fitzherbert HAWKINS, (probably utilizing convict labour), about 3 kilometres from the settlement on the Macquarie River, HAWKINS, his wife and their large family arrived in Sydney in January 1822 and by April had received, as free settlers, a grant at Bathurst, where for good measure Thomas was appointed Commissariat storekeeper. The family took eighteen days to trek from Sydney to Bathurst arriving on the 23rd of April 1822. Construction work on the mill evidently started in mid-1823, when it was advised that "Mr. Hawkins, of Bathurst, is about erecting a windmill, upon quite new principles to any heretofore in this Colony, in the newly-discovered Country (Bathurst). The machinery of this expensive undertaking is several tons in weight, and will afford no small difficulty in being conveyed over the mountain". As the early settlers left the coastal plains and moved inland to settle the dry inland areas they quickly became aware of the lack of surface water and were dependent on water which collected in rock holes and soaks, and eventually from rainwater collected in tanks from the roofs of buildings.



3.The Old Mill, South Perth ceased operation in 1859. Acquired by the WA State government in 1929. Restoration in 1957 more imagination than reconstruction as original Mill construction details not known.

4.Old Wonnerup Mill near Busselton Western Australia [Photo- Dec. 2004.] Timber work from this old mill used to restore Shentons Mill in 1957.

They quickly realised the value of light windmills of steel and wood construction and production of these began locally.



5. The Windmill is a unique icon scattered all over the

Australian Continent, sentinels standing guard over precious water supplies that give and sustain life, so much so that for the Year of the Outback in 2002 a special 50cent coin was minted featuring a windmill. The windmill is a fitting symbol of the outback - representing perseverance in a harsh environment, a sense of timelessness, and the contribution of the outback as a wellspring for the Australian ethos.



The windmills depicted on this page are a cross section from outback areas of Australia, where many were and are used to pump water from ground aquifers, and from tanks and dams filled from artesian and sub artesian bores, they are still the cheapest and most reliable pumping machine man has invented. A possible alternative use of a windmill is shown in the 1937 Granites Mine photo which shows the small "stamp battery", a windmill with a truck parked nearby and two large water tanks on the left. Windmill sizes range from 5ft wheels on 20ft towers to 35ft wheels on 70ft towers.



6.Granites Gold Mine Northern Territory "Reproduced courtesy of Museum Victoria"





7. The "Southern Cross" windmill was the forerunner of a whole range of windmills and other agricultural machinery manufactured and sold under the trade name of 'Southern Cross' from 1903, and serves as a monument to the early pioneering days, the hardships and the ingenuity of the pioneers. The 8ft Mill was by far the most popular windmill, well over 60,000 were manufactured and the 200,000th Southern Cross Windmill was manufactured by year 2000.

8. The "Comet" Windmill, which is as well known and prevalent as the Southern Cross windmill throughout Australia, started in 1879 and was invented after the founder, Sidney Williams, trialed all makes and models from around the world and put together the best features of each to develop the Comet. The company makes 13 different sizes which includes one of the largest made the 35ft windmill. Comet is very well known and respected in the Outback for its quality and longevity of its products. Comet mills are known to have lasted for more than 30 years without any service or repairs. Sidney Williams also were the fore runners in agricultural equipment including stock troughs, floatvalves, tanks and stands, ploughs, steel buildings, windmills and pumps. Comet is 100% Australian made and owned and a very big part of the Australian history, the Comet mills are known for their capacity to pump large quantities of water for long distances, being a direct acting mill which means less parts for maintenance, less friction loss and more pumping power, (every wheel turn creates a pumping stroke).



9. 1902 Wickham Terrace, Brisbane, Queensland. The Windmill was built by convict labour in 1828 and was originally used to grind flour and maize for the young colony. It was converted to a signal station in 1861 and used for experimental radio and television broadcasts in the 1920s and 1940s.



10. The Lily Windmill is an authentic 16th Century design brick "ground-sail" mill. The five story full size Dutch Windmill, with its 22 Ton cap and a sail length 24.6 meters, is one of the largest traditional windmills



of

ever built in Australia. The Lily Windmill is the only fully operational flour producing windmill in Australia.

11. Purpose built windmill "Coffee House" Bargara Qld .



The explosion into renewable energy use has seen a further change to the Australian Landscape since about 1987, with the establishment in most states of electricity generating 'wind farms'. Although situated close enough to large population and industrial areas, it is important that the location allows for the dissipation of the loud noise generated by the turbines, the sound intensity is directly proportional with the speed of the windmill. The energy extracted from the wind and converted into mechanical energy and then electrical energy by the generator must be stored, since it is not generally used all at once it is important to keep a surplus of energy for usage when the wind is not blowing fast enough, despite the corrections that can be made in the pitch of the aerofoil blades, and when the windmill is out of service or the demand is especially high. Storing the wind's energy effectively is the key to its long-term use and various means of storage are being used and new methods investigated.

12. Aust. 1st windfarm Breamlea, Victoria. Photo Andrew Woodroffe, 10/11/2002



by

13. Albany Western Australia



14. Esperance Western Australia



15. wind power in Antarctica

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