

Power on the Wind!



Abbey Caskie, Lucy Lewington and Luke Worth

Uranquinty Public School



Creative Catchment Kids

Creative Catchment Kids is an initiative of Wirraminna Environmental Education Centre. It aims to improve engagement between our funding partners and school students by providing opportunities for positive and authentic ventures that encourage students to develop creative solutions to agriculture and natural resource management issues.

www.wirraminna.org/creative-catchment-kids/

Wirraminna Environmental Education Centre

The Wirraminna Environmental Education Centre is located in Burrumbuttock, north of Albury in southern NSW. Since 1995, the centre, which is adjacent to Burrumbuttock Public School, has provided opportunities for discovery and learning about the natural environment, the ecology of the local woodlands and the beauty of native plants.

www.wirraminna.org

Enviro-Stories

Enviro-Stories is an innovative literacy education program that inspires learning about natural resource and catchment management issues. Developed by PeekDesigns, this program provides students with an opportunity to publish their own stories that have been written for other kids to support learning about their local area.

www.envirostories.com.au

Power on the Wind!

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This book has been published as part of the 2015 Creative Catchment Kids program and associated with Enviro-Stories, a PeekKdesigns education program. For more information about sustainable energy use, head to the Wirraminna website for your copy of the Energy and Water Saving Education Kit for Schools.

Energy and Water Saving Education Kit

The Energy and Water Saving Education Kit for schools is designed for Stage 2 and 3 students to help them understand how energy use and water used can impact on climate change. The kit contains teacher notes and lessons on sources of energy and energy saving, electricity consumption and saving water.

www.wirraminna.org/sustainability-trailer/



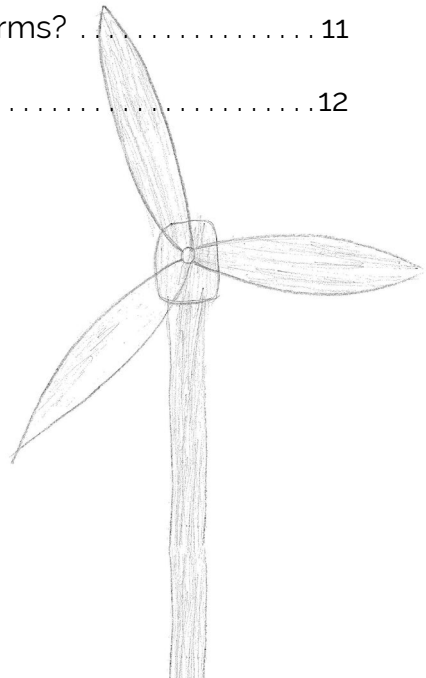
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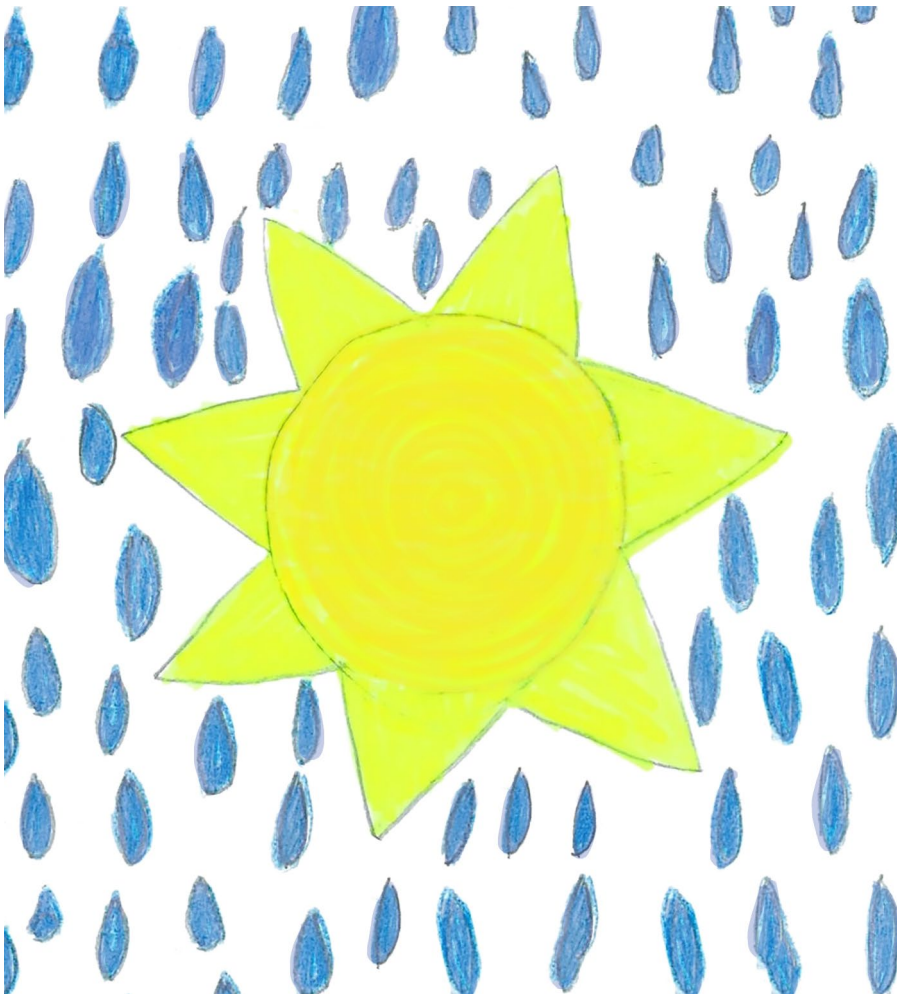
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What is renewable energy?

Renewable energy is energy generated from natural resources such as sunlight, wind, rain, tides and the heat from earth. Renewable energy technologies vary from solar power, wind power, hydro power, biomass and biofuels for transportation.





What is wind power?

Wind power is now the cheapest source of large-scale renewable energy. It includes generating electricity from the naturally occurring power of the wind.

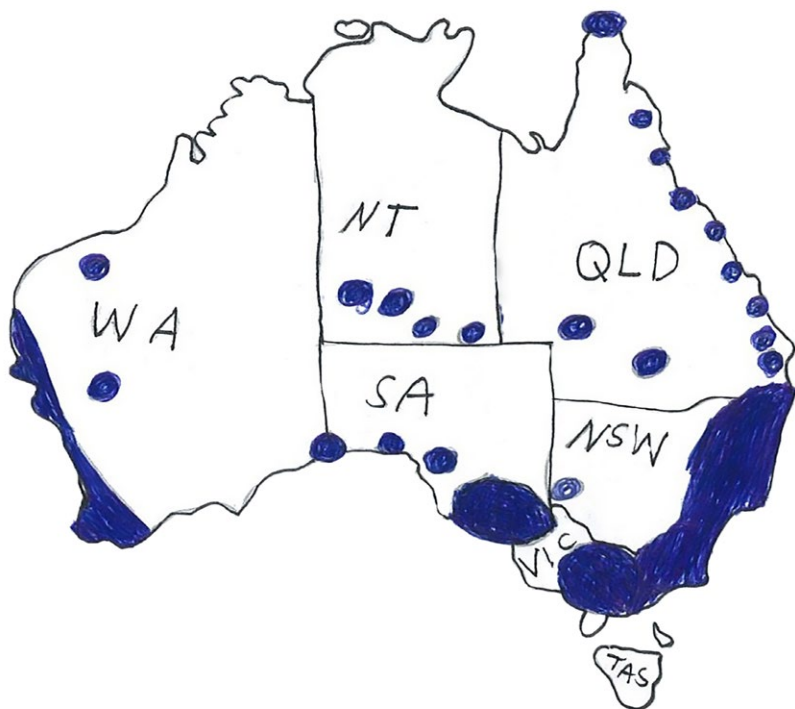
How is wind power produced?

Wind power includes converting wind energy into electricity by using wind turbines.

A wind turbine is made up of three propeller like blades called a rotor. The rotor is attached to a 20 metre tall tower. The wind turns the blades that spin a shaft, which connects to a generator, making electricity. The electricity is sent through transmission lines to a substation, then on to homes, businesses and schools.

A wind turbine is the modern advancement of the windmill. Instead of using the wind to lift water or move heavy rocks to grind seeds, wind is used to turn an electrical generator to make electricity. Sometimes, students mistake our model wind turbines for a fan. While a fan uses electricity to produce wind, a wind turbine uses the wind to produce electricity.





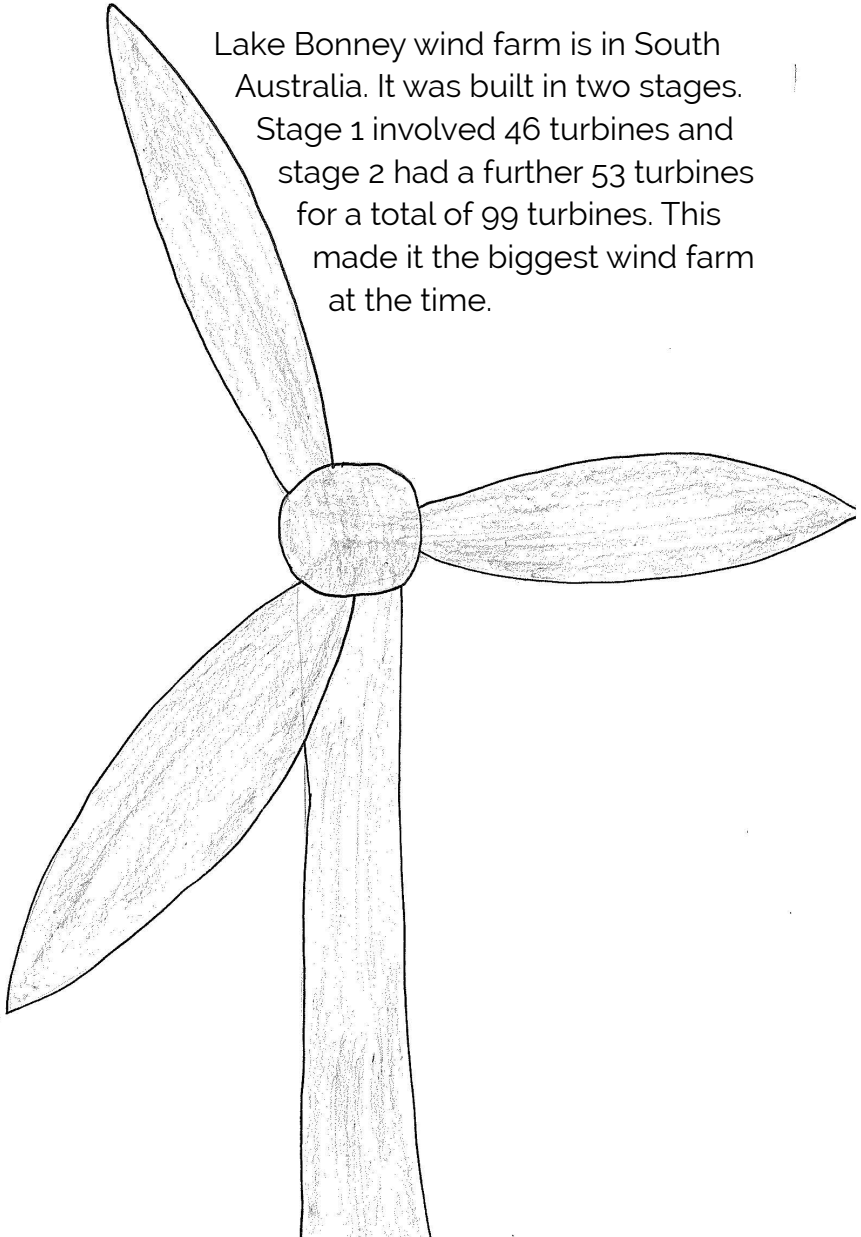
Wind farms in Australia

In 2014 the Australian wind farms produced over 30 percent of Australia's clean energy. At the end of 2014 Australia had 1866 wind turbines spread across 71 wind farms.

State	Installed capacity(mm)	Number of turbines	Number of projects
South Australia	1205	561	16
Victoria	939	454	13
Western Australia	491	308	21
New south wales	282	170	9
Tasmania	310	124	7
Queensland	12.5	22	2
Northern territory	0	0	0

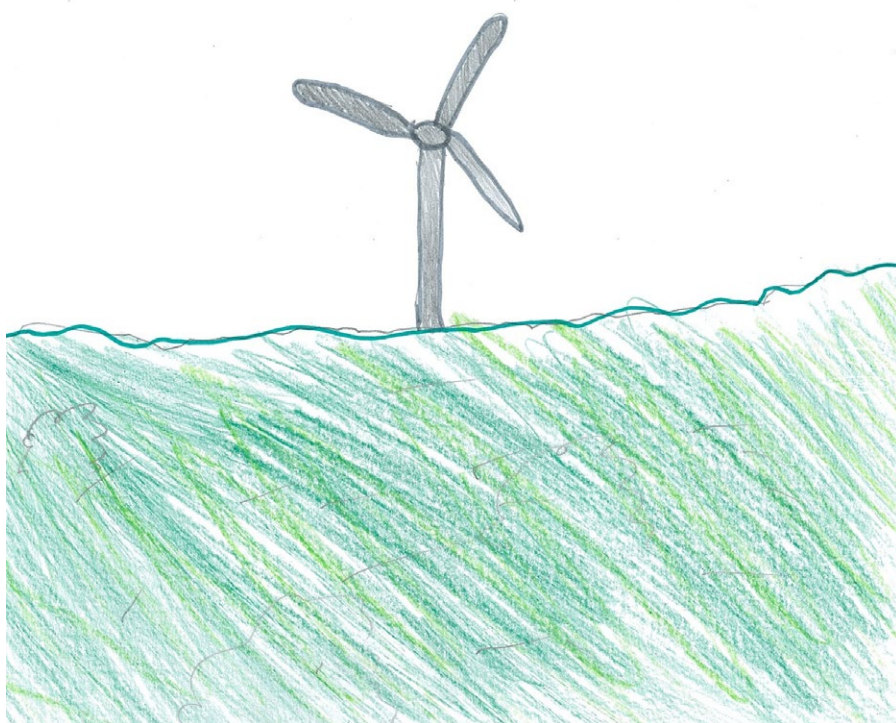
Lake Bonney Wind Farm

Lake Bonney wind farm is in South Australia. It was built in two stages. Stage 1 involved 46 turbines and stage 2 had a further 53 turbines for a total of 99 turbines. This made it the biggest wind farm at the time.



Snow Town Wind Farm

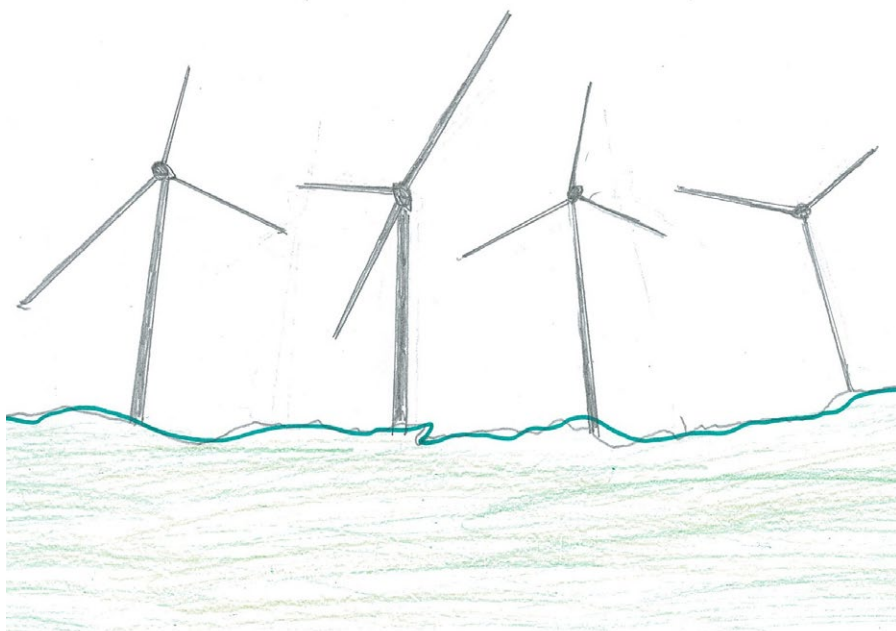
Snow Town Wind Farm is located on the Barunge and Hummocks Ranges, west of Snow Town. Snow Town is located around 150 kilometers north of Adelaide. There are now over 120 operational turbines.



Wind farms around the world

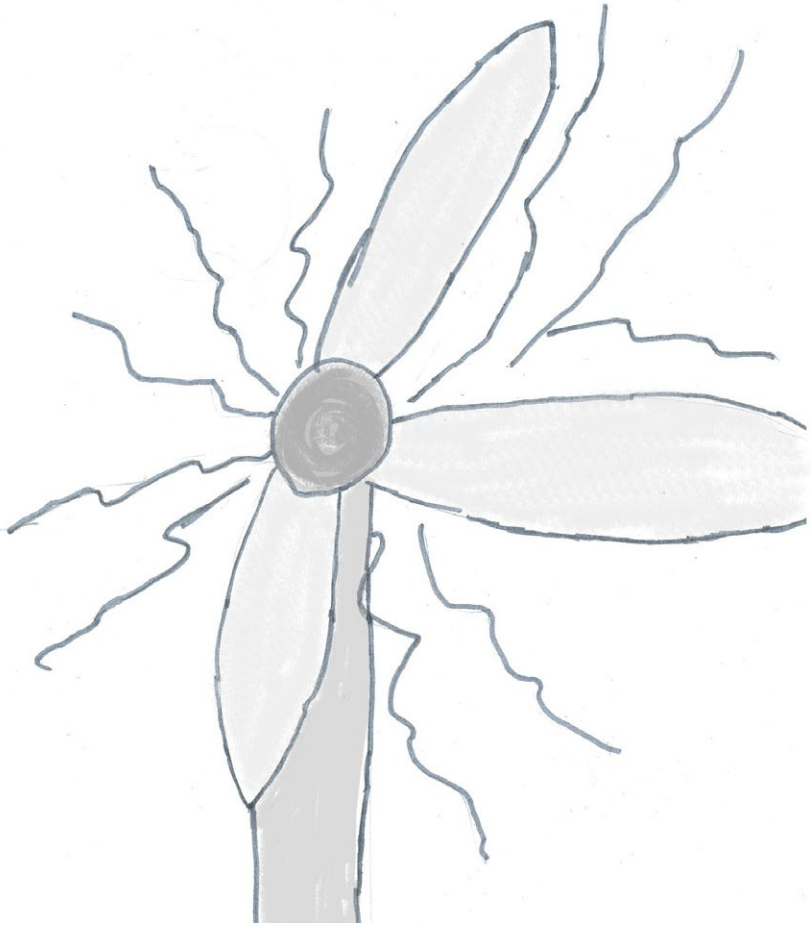
At the end of 2012, there were more than 225,000 wind turbines functioning around the world, in over 80 countries. The top eight wind farms in the world are all operated in the United States of America.





How wind power benefits the environment

Wind turbines are used to convert wind into electricity. They are a better choice than conventional power plants and non-renewable sources that emit air pollutants and greenhouse gases.



Why people don't like wind farms

The reason people don't like wind farms are because they think they are too big and ugly. They also think that they are too loud and take up to much farming country.

Fun Wind Farm Quiz

1. How tall is a wind turbine?
2. How many wind turbines were there in Australia at the end of 2014?
3. At the end of 2012 there were more than 225,000 wind turbines. In how many countries were these wind farms functioning?
4. The top eight wind farms in the world are all operated in what country?
5. In what three places does the energy go to from the wind farm?
6. What are the natural resources that come from renewable energy?
7. Where is Snow Town Wind Farm located?
8. Where is Lake Bonney Wind Farm located?
9. Is wind power the cheapest source of large-scale renewable energy?
10. What other forms of energy are there?

1. 200m 2. 1866 3. 80 4. United States 5. Schools, homes and buildings 6. Sunlight, wind, rain and heat from earth 7. Barunga and Hummocks Ranges west of Snow Town 8. South Australia 9. Yes 10. Solar power, wind power, hydro power and biomass power.



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2015 Year 4 and 5, Uranquinty Public School

CONGRATULATIONS

Wirraminna Environmental Education Centre and the Creative Catchment Kids Program won the 2015 NSW Junior Landcare Team Award and will be competing in the 2016 National Landcare Awards.



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