Fact sheet

Wind Farms

Generating electricity from wind

How does it work?

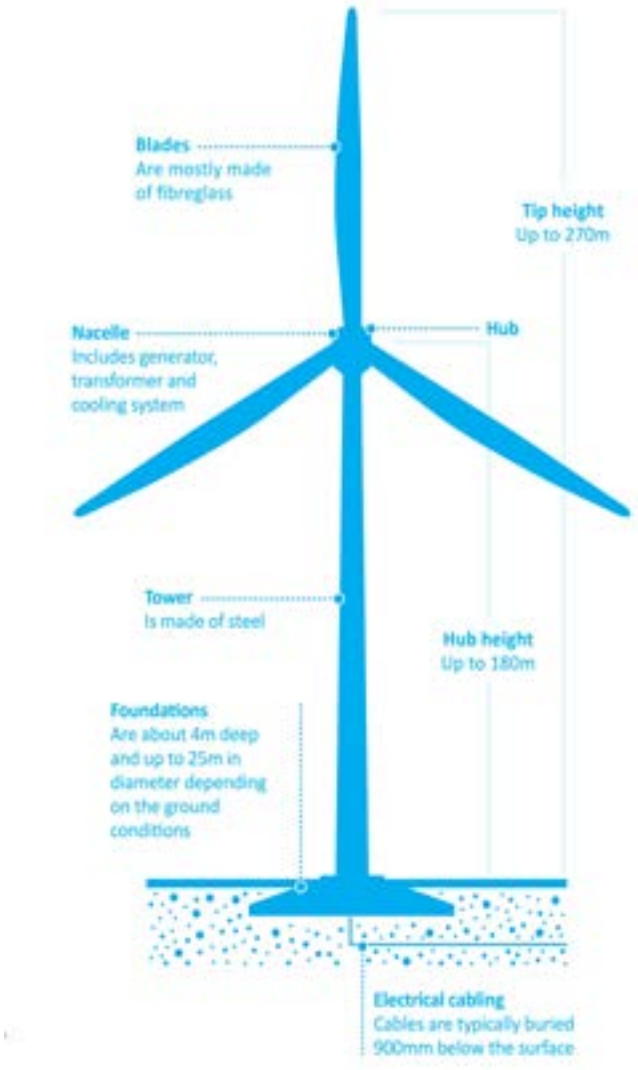
Wind turbines capture energy from the wind that flows over each blade, much like how an aeroplane's wing generates lift.

The rotating blades drive an electrical generator to produce electricity.

The wind turbine has many major components – three blades, a hub, nacelle, tower, and foundation. The nacelle is the housing at the top of the tower, which contains the drive train, gearbox, generator, controls, and cooling equipment.

The tower connects the nacelle to the reinforced concrete foundation and is designed to withstand strong winds.

Onshore wind turbines available today are up to 7.8+MW. Just one 7.8MW turbine could power up to 5500 Australian homes per year.



Is wind energy cost-effective?

Wind and solar power are the lowest-cost new-build energy technology available in Australia[1]. When comparing the Levelised Cost of Energy (LCOE) of energy technologies nationwide, new wind and solar remain approximately half that of new coal and gas.[2] Wind farms have the key advantage of free fuel (wind) to produce the energy.

How green is wind energy?

Manufacturing and installing wind turbines require materials such as steel, concrete, fibreglass, copper, and other mined minerals and metals, all of which have a carbon footprint.

The amount of time it takes a turbine to generate enough clean energy to pay back the energy used in the manufacturing process is as low as 5 months[3], which is only ~ 1/60th of its operating life.

Once turbines are built, they produce carbon-free energy for decades. Wind energy has a carbon footprint that is 99% less than coal-fired power plants, 98% less than natural gas, and 75% less than solar.[4]

Provide feedback

Email **AUProjects@equis.com** or phone 1800 161 249.

To learn more about our projects you can:

- Visit our **website.**
- Register at **engagement hub** to follow our projects.
- Attend a project information session.

We encourage you to follow our project by registering on our engagement hub. On the engagement hub you can provide feedback, subscribe for project updates, register as a supplier and register ideas for community benefits.

We will publish project information on our engagement hub and website, including upcoming information sessions, project updates, newsletters, and fact sheets.

Endnotes

1. CSIRO GenCost 2022-23, p54 s5.1.2, https://www.csiro.au/-/media/EF/Files/GenCost/GenCost2022-23Final_27-06-2023.pdf
2. CSIRO GenCost 2022-23, p54 s5.1.2, https://www.csiro.au/-/media/EF/Files/GenCost/GenCost2022-23Final_27-06-2023.pdf
3. https://www.vestas.com/en/sustainability/environment/energy-payback
4. https://www.forbes.com/sites/christopherhelman/2021/04/28/how-green-is-wind-power-really-a-new-report-tallies-up-the-carbon-cost-of-renewables/?sh=3a9fea173cd9

Need more information

Call toll free on 1800 161 249

Visit www.equis.com.au

Email AUProjects@equis.com

Follow www.linkedin.com/company/equisdev

Register equis.engagementhub.com.au