

# There is power in wind

A resource for the wind industry





## Did you know?



*Clean Energy Council*

- The Federal Government has committed to reduce Australia's greenhouse gas emissions to 5 per cent below 2000 levels by 2020.
- Electricity currently accounts for around one third of Australia's greenhouse gas emissions.
- The Federal Government has set a target for 20 per cent of Australia's energy to come from renewable sources by 2020.



## Did you know?



*Clean Energy Council*

- Australia has some of the best wind resources in the world.
- Wind energy is currently the most cost-effective renewable energy source in Australia.
- A single turbine can produce enough energy to supply up to 2000 average households each year.
- There are currently 54 wind farms operating across Australia generating around 5500 gigawatt hours of electricity annually.



## Did you know?



*Clean Energy Council*

- Wind energy currently provides 2 per cent of Australia's electricity consumption.
- More than 750,000 households in Australia are currently powered by wind energy.
- Wind energy generation capacity in Australia has grown by around 30 per cent each year for the past 10 years (32 MW to 1993 MW).



## Did you know?



*Clean Energy Council*

- There is another 1200 MW of wind capacity currently being built in Australia and another 8700 MW of projects proposed around the country.
- Australia's largest wind farm at Waubra has 128 turbines with 192 MW capacity.
- Australia's next largest wind farm is Macarthur in south-west Victoria, due to be completed in 2013. It will consist of 140 turbines with 420 MW of capacity (enough to power 220,000 homes).



# Did you know?



Clean Energy Council

## Top four wind energy producing countries

China (42,287 MW)

United States (40,180 MW)

Germany (27,214 MW)

Spain (20,676 MW)



Australia (1993 MW)



## Did you know?

Nine out of 10 Australians support renewable energy such as wind and solar.





# Health and Safety



Clean Energy Council

## QUESTION

- Do wind turbines affect people's health?

## ANSWER

- There is no peer-reviewed, scientific evidence to link wind turbines to adverse health effects.
- Thousands of people around the world live near wind farms without suffering ill effects.
- Wind energy is pollution free, improving overall air quality.



## QUESTION

- Are wind farms fire safe?

## ANSWER

- Wind turbines are equipped with comprehensive lightning protection systems that transfer high voltages and currents safely to the ground.
- Fire risk is very low. The flammable parts are located high above the ground, away from vegetation. High voltage connections are underground.



## QUESTION

- Are wind turbines noisy?

## ANSWER

- Australia's controls on wind farm noise are among the strictest in the world.
- Noise from wind turbines is similar to other types of noise in our day-to-day environment, such as a household refrigerator.



## QUESTION

- Do wind turbines produce infrasound that can affect people?

## ANSWER

- Infrasound - low frequency vibration - is not audible to humans.
- Infrasound generated by wind turbines is no different to infrasound emitted from natural sources such as wind and rivers and is lower than artificial sources such as traffic and air conditioning.
- Scientific studies have found the low level of infrasound emitted by wind turbines poses no health risks.



## QUESTION

- Are wind turbines economically viable?

## ANSWER

- Wind energy is the most cost effective form of renewable energy in Australia.
- A carbon price on polluting energy sources such as coal make wind energy increasingly more competitive.
- The cost of producing energy from wind has dropped by 80 per cent in 25 years and should continue to drop.



## QUESTION

- Do wind farms drive up electricity prices?

## ANSWER

- The cost of energy is rising. Network costs and wholesale electricity prices account for more than 90 per cent of power bill increases.
- Renewable energy schemes - that drive investment in clean energy - will account for only 4 to 7 per cent of price rises to 2020.



## QUESTION

- Are wind turbines a reliable source of energy?

## ANSWER

- Wind farms are sited to take advantage of consistent winds and provide wind energy to the grid about 90 per cent of the time.
- The power grid is a dynamic system, designed to ramp up or down to respond to changing demand. Back-up energy is available for all types of generation including wind, gas and coal.



# Benefits



Clean Energy Council

## QUESTION

- What are the benefits of wind farms?

## ANSWER

- Cut pollution.
- Provide cost effective clean energy.
- Increase local employment and investment opportunities.



# Benefits for landholders



Clean Energy Council

## QUESTION

- What are the benefits of wind turbines for landholders?

## ANSWER

- A secure long-term income stream that is drought-proof and complements farming income.
- Additional land conservation measures are often part of wind projects.
- Land can be easily restored if turbine is removed.



# Benefits for regional communities



Clean Energy Council

## QUESTION

- What are the benefits of wind farms to regional communities?

## ANSWER

- Provide opportunities for employment and regional development.
- Stimulate local services offering further opportunities for growth in employment, investment and new skills.



# Benefits for the wider community



Clean Energy Council

## QUESTION

- What are the benefits of wind farms to the wider community?

## ANSWER

- Wind energy reduces overall greenhouse gas emissions, helping to reduce the risks of climate change.
- Offers a cheap, reliable alternative energy source.



# Get involved



*Clean Energy Council*

## QUESTION

- How can I show my support for wind energy?

## ANSWER

- Log onto [cleanenergycouncil.org.au](http://cleanenergycouncil.org.au)
- Register as a supporter and receive regular updates on the wind industry.
- Get involved!



*Clean Energy Council*

For more information visit  
[cleanenergycouncil.org.au](http://cleanenergycouncil.org.au)