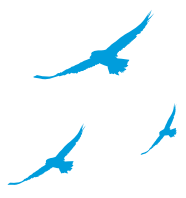


AUSTRALIA: A CLEAN ENERGY SUPERPOWER



Generations of Australians love our sun, wind and waves.

And now they're key to our energy future. More sun strikes our continent than any other. Our wind is powerful. Our researchers are smart, our workers skilled. Wind, solar, and sustainable biomass are ready-to-go, right now. Reliable power plants can be built quickly. Geothermal and wave power have huge potential.

Yet our economy still depends on energy sources that pollute our air and water, and make climate change worse. A pollution-dependent economy isn't safe for our children or our future.

There's work to be done, and we need the best Aussie brains to rise to the challenge. If we do it right, Australia will thrive in the 21st century with a clean energy economy, and create millions of jobs. Imagine our country powered by our abundant clean energy; where clean is cheap, our energy supply is secure, and innovative companies build a sustainable prosperity.

When it comes to clean, renewable energy, Australia should lead the world.



BROOME

If you've ever watched the sun set over Cable Beach in Broome, you'll know that the tides in this area are enormous. The North West Shelf is home to Australia's best tidal resource. Barrage tidal technologies have similar environmental impacts as hydro dams, changing the ecology of the coastline. Newer developments using underwater turbines may be less disruptive.

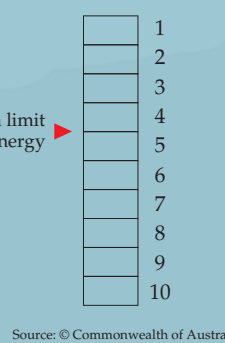
PERTH

An underwater wave farm is set to produce power and drinking water. Buoys tethered to pumps are pushed around by the waves, causing pressurized seawater to be pumped into shore to drive a turbine or reverse osmosis desalination. After building a five-megawatt demonstration plant, Carnegie Corporation then hopes to compete on price with wind. CEO Dr Mike Ottaviano says Australia's waves are "the equivalent of a Saudi Arabia of an oil field that hits our shores every day of the week, every day of the year." (But much cleaner)

NARROGIN

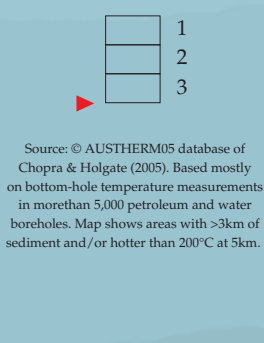
Maltese trees can fix salinity and generate power at the same time. Oil mallee is providing feedstock for bioenergy production, plus other products like eucalyptus oil and activated carbon. Fast-growing branches are harvested while roots remain up to 20 metres underground, helping fix salinity problems. Trees are planted in "mallee alleys," managing water, while farmers keep farming wheat or sheep in between the rows. One square kilometre of mallee could supply enough electricity for 4000 homes.

SOLAR ENERGY
Annual average solar radiation
Megajoules/m² per day



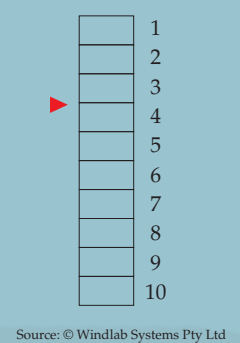
Source: © Commonwealth of Australia (Bureau of Meteorology, 2005)

GEOTHERMAL ENERGY
Temperature at 50m depth
Degrees Celsius (°C)



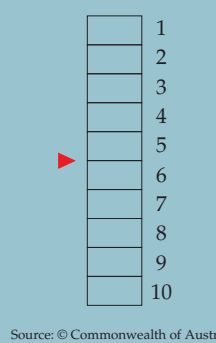
Source: © 2007/2008/2009 Database of Climate & Hydrology (2005). Based on data which includes temperature measurements to a maximum of 200m depth and water level. May show some variability. 200m is the limit of the data.

WIND ENERGY
Average wind speed at 80m above ground level
Metres per second



Source: © Windlab Systems Pty Ltd

WAVE ENERGY
Highest wave power
Kilowatts/m²



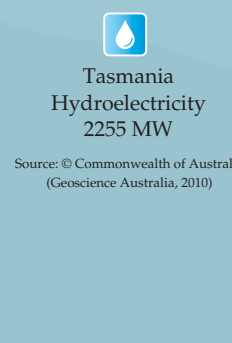
Source: © Commonwealth of Australia (Commonwealth Australia, 2010)

TIDAL ENERGY
Total annual tide kinetic energy
Gigajoules/m²



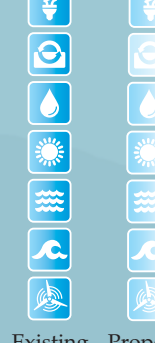
Source: © Commonwealth of Australia (Commonwealth Australia, 2010)

HYDRO ENERGY
Capacity of hydro facilities per state
Megawatts



Source: © Commonwealth of Australia (Commonwealth Australia, 2010)

RENEWABLE ENERGY PROJECTS



Source: © Commonwealth of Australia (Department of the Environment, Water, Heritage and the Arts)

JOBS



Source: © Commonwealth of Australia (Department of the Environment, Water, Heritage and the Arts)

SOUTH AUSTRALIAN COAST

The South Australian coast is windy. Thanks to the Roaring Forties blowing across miles of open ocean, this coast is brilliant for wind power. Australia has some of the best wind resources in the world. Even our less windy sites would be considered good or excellent in Europe. South Australia is home to almost half of Australia's wind power.

WIND POWER AND BIRDS

Wind farms are less threat to birds than climate change (or buildings). Properly sited wind farms pose little risk to birds. Britain's Royal Society for the Protection of Birds supports wind power as they say climate change is a bigger threat. Like any tall structure, turbines kill small numbers of birds, but buildings and cars cause thousands of times more deaths; land-clearing kills millions of birds, and climate change presents birds with a major extinction threat.

WIND POWER IS A GLOBAL SUCCESS STORY

In 2009, global wind capacity grew 31%. There is huge demand for onshore wind power, which can be installed quickly, and pays back the energy debt from its construction in just six months. China has doubled capacity for five years running—that's 100% growth every year. Wind is the fastest growing energy source in Australia with an average annual growth of 69.5% this decade.

EYRE PENINSULA

Investment bank Macquarie Capital says South Australia could double its energy production using wind alone, and sell the excess to the eastern states. The expansion would require one new powerline, and the upgrade of another.

JAMESTOWN

"Wind brought our kids back." While many rural towns bleed young people looking for work in the cities, Jamestown is defying the trend with record population growth. Young people and families are moving in, and millions of dollars are flowing to local businesses, including farmers, electricians, even the

Australia's first community-owned wind farm is being built by Hepburn Wind. It will generate more power than is used by the houses of Daylesford. The idea is popular in Europe, and most of the wind turbines in Denmark are owned by community cooperatives.

The waves of Bass Strait have made many a sailor ill. Now they will be harnessed by a BioPower Systems pilot wave power unit, fully submerged and tethered to the sea floor. As it oscillates back and forth with the waves, the motor creates power, with each unit capable of generating 250 kilowatts.

ARCHER POINT

Archer Point is a wild, windy place and will soon be home to a wind farm to power much of Cape York. Traditional owners look forward to sharing in profits and jobs, and freeing small communities from reliance on diesel generators.

ATHERTON TABLELAND

While most of Australia's wind resource is on the southern coast, the highlands and coast of Queensland are also breezy enough to generate wind power.

Creating Jobs – Cutting Pollution

[Subheading] Strong action to clean up pollution will create extra jobs in all regions

The [island] figures represent how many extra jobs will be created by strong action by 2030, compared to weak action. The jobs are not just in renewable energy, but all industries.

Weak action means a price on greenhouse pollution with an emissions trading scheme, but Australia's actual pollution continues, as we meet our targets by importing international permits to pollute.

Strong action means a price on greenhouse pollution with an emissions trading scheme, with real cuts to pollution at home in Australia, plus a suite of complementary policies.

Source: Creating Jobs – Cutting Pollution: a roadmap for a cleaner, stronger economy (ACF/ACTU)
<http://www.acfonline.org.au/jobs-map>

HERVEY BAY

Transition Hervey Bay is just one of many "Transition Towns" springing up in towns and suburbs all over Australia, which aim to create resilient, creative and well-connected communities that are able to meet the challenges peak oil and climate change.

ARMIDALE, GUYRA, WALCHA & URALLA

"Farming the Sun" is a community enterprise-driven program in the New England High Country, making solar power, and energy efficiency affordable for households by bulk buying and "clustering" systems, and networking locally. The program has harnessed both renewable power and people power, rapidly installing \$4 million worth of solar installations and reaching 1% of people in the region. Working together made clean power up to 50% cheaper for ordinary people.

NEWCASTLE

Some of Australia's abundant sunshine is captured at CSIRO's National Solar Energy Centre in Newcastle. Solar thermal technology uses mirrors to reflect sunlight onto a tower, concentrating the heat. CSIRO use the solar array in combination with natural gas to create "solar gas," which can be stored and transported. They will also store energy in molten salt in order to dispatch pollution-free solar power at night.

CANBERRA

Electric cars can run on 100% clean energy. Australian company, Better Place, is trialling an electric vehicle recharging and battery switching network across Canberra. When not being driven, electric car batteries will store energy, which can feed into the grid, providing one solution for storing clean energy to provide baseload power.

LATROBE VALLEY

Better known for coal, the Latrobe Valley is also blessed with cleaner energy resources. The huge brown coal reserves provide a perfect insulating blanket for hot rocks below, which can be tapped for geothermal power. University of Melbourne researchers say they can have a demonstration plant up in just a few years, on the way to producing very large scale geothermal energy. Brown coal's high water content means it's more polluting when burnt, but a better insulating layer when left in the ground, making this potentially one of the best geothermal sites on earth.

KING ISLAND & FLINDERS ISLAND

King Island and Flinders Island used to be dependent on diesel generators, but now the wind and wave-swept islands are moving to a combination of clean energy from wind, wave, solar and bioenergy, managed with a smart grid, showing the way for a model for other remote locations. The islands may soon add 100% clean energy to their famous attractions of clean food and wild beaches.