

South Australia

The state of South Australia is a front-runner when it comes to renewable energy. Already today more than 40% of the electricity produced in the state comes from renewable resources.

This means that the state target of at least 33% renewable electricity by 2020 has already been met.

South Australia has now set a new target of 50% by 2025. South Australia's leading position in this race to renewables is further supported by the fact more than 1/4 of the homes in the state have installed photovoltaic panels, the highest level in the country and at an international comparison. Despite this high utilisation of solar energy, it is presently the wind farms that generate most of the renewable electricity in South Australia.

As a consequence of the increased production of renewable electricity, coal-fired power stations in Port Augusta are scheduled to close down, including a coalmine in Leigh Creek. This is naturally a hard blow for the people employed at these sites but, at the same time, the renewable industry has grown significantly in South

Australia the last few years, generating new jobs. Since 2001 the installed large-scale renewable energy capacity per capita is larger in South Australia compared to the other states and territories.

Compared to the other parts of Australia, South Australia seems to have strong and clear visions about renewable energy, backed by established goals and policies.

In 2004 an ambitious target was set to be the leading state in Australia with respect to wind and solar power generation within 10 years, and to increase the use of electrical renewable energy to comprise 15% of the total consumption.

By 2009 16.4% of renewable energy consumption was reached by the state. In 2007 the target was increased to 20% by 2014 and in 2009 it was further increased to reach 33% by 2020. As mentioned above this has already been achieved and the current target is

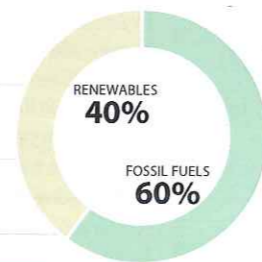
South Australia was completely powered by renewable energy between 9:30am and 6pm on 30 Sep 2014.

In February plans were announced to turn Adelaide into the world's first 'carbon neutral city'.²

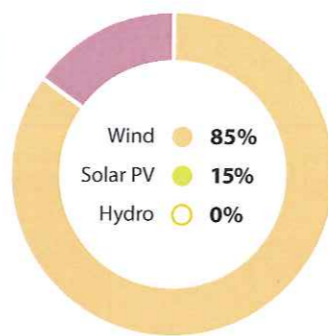
PERCENTAGE OF DWELLINGS WITH ROOFTOP SOLAR¹



SOUTH AUSTRALIA ENERGY MIX



SOUTH AUSTRALIA RENEWABLE ENERGY GENERATION



University of South Australia

ARTICLE BY: **PROF MATS ANDERSSON**
SOUTH AUSTRALIAN CHAIR IN ENERGY
UNIVERSITY OF SOUTH AUSTRALIA

now set to 50% by 2025.

These high ambitions have largely been possible to meet because of the support from the state. In an initiative to further support the growth of renewable industry in South Australia, RenewablesSA has been created. The state supports several renewable energy projects, two of which are described opposite.

In the long run there is only one sensible energy source to rely on, the sun. This is something that nature learnt several billion years ago, through the evolution of photosynthesis. Compared to all other types of renewable energy sources, solar energy is the most abundant. In Australia the solar intensity on land is especially large, compared to most countries.

The exact technology that will be used in the future to capture the energy from the sun is not possible to predict and it might be a combination of several different technologies. Even so, we will need to be smart and adapt to differing local environments, from using the building of our cities to utilising our deserts for large solar installations. ^{3,4}

Manufacturing Brilliance – Heliostat SA



Jason May
Chief Executive Officer
Heliostat South Australia

Heliostat SA is using next generation solar technology to help establish the new sustainable global community. Concentrated solar power (CSP) and photovoltaic (PV) are the dominant solar technologies used to generate energy. These have both emerged as a reliable and efficient solution, particularly for high load, high-energy demand applications such as industrial and utility-scale operations. Heliostat SA designs and manufactures world-leading CSP heliostats and solar array products for renewable energy power systems. High concentration heliostats with advanced control systems deliver high optical efficiency, and improve receiver thermal efficiency, ultimately reducing capital costs. Our systems incorporate the latest technology from Australia's leading research organisation, CSIRO, and Heliostat SA's mission is to be at the centre of the vibrant new advanced manufacturing sector.

We are leading the global quest towards a cleaner and greener future – we believe this should be driven by socially responsible, renewable energy power generation. Through the founding partners (Precision Components, University of South Australia, May Brothers and Enersalt) we service the growing global demand for research and development, manufacturing, and exceptional project management within the clean energy sector. ^{5,6}

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Green Power with a Water Benefit



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The Jamestown Floating Solar Plant is the world's first solar array located on a waste-water treatment plant. It utilises a sun tracking system, cooling systems to keep the panels at optimum operating temperature and a concentrating system that reflects light back onto the panels. This community project powers the on-site treatment plant, Council Properties and will also be supplying power to the town center to help local businesses be cost competitive. The entire project – with the exception of the panels – was made in Australia, demonstrating commitment to local investment.

The system does not require any land usage and can be deployed on any kind of water body. This helps minimise water evaporation loss and reduces blue green algae, all while being nearly twice as efficient as land-based solar.

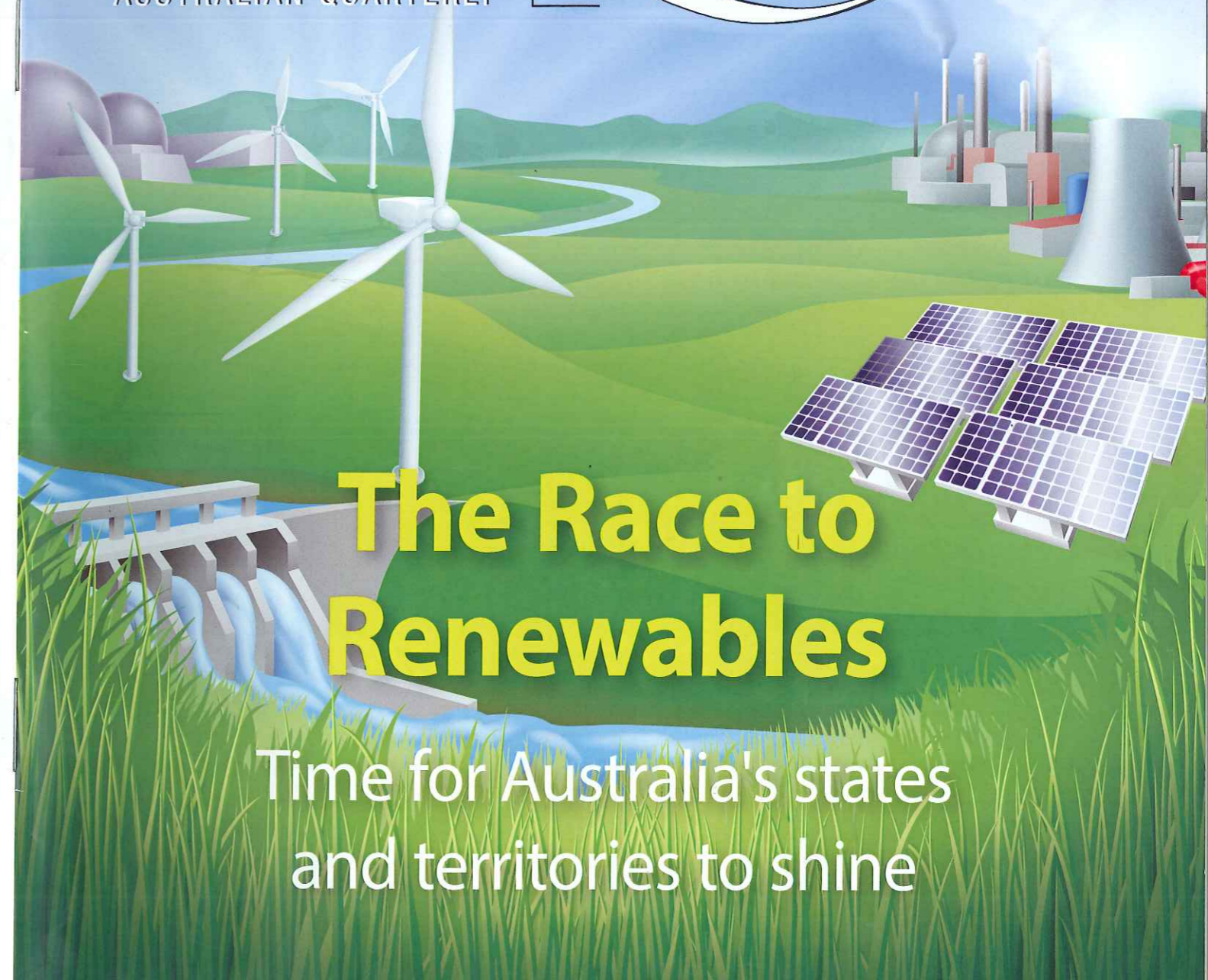
On a global scale, the potential for floating solar is enormous, generating on-site power at competitive prices and solving water issues for rural and off-the-grid communities. This technology can be manufactured in Australia, positioning us to benefit globally from this innovative home-grown solution. ^{7,8}



Felicia Whiting
Director
Infratech Industries Pty Ltd

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AUSTRALIAN QUARTERLY



The Race to Renewables

Time for Australia's states and territories to shine



**DOES AUSTRALIA
HAVE A RACE
PROBLEM?**

DISINTERMEDIATION:
Digital Wildfires in the Age
of Misinformation

SPECIESISM
– the Ism that Isn't

The Race to Renewables

Though modern political debate has shifted from the existence of climate change towards what our obligations are to combat it, the debate is no less heated. In the face of vacillating Federal commitments, many of Australia's states and territories are now taking on the response themselves, setting targets and wooing investors. The battle ground for the climate is increasingly a state issue as regional governments see the financial incentives of fostering advanced research opportunities and attracting smart investment. The Race to Renewables is on.

REPRESENTATIVES FROM EVERY STATE AND TERRITORY

Does Australia Have a Race Problem?

When British comedian John Oliver referred to Australia as "the most comfortably racist place I've ever been", the response was predictably defensive. Much of the commentary smacked of classism and the popular belief that only extremists hold racist views. Yet racism is embedded in Australian history as much as it is encoded in the social and political structures of the twenty-first century. And yet, we seem reluctant to talk about racism even when high-profile incidents, such as the recent Adam Goodes episode, shove our collective prejudices right under our noses.

GREGORY SMITHERS

Disintermediation: Digital Wildfires in the Age of Misinformation

In 2013, the World Economic Forum identified 'Digital Wildfires' – the viral transmission of misinformation – as one of the biggest risks facing global society. The power and prevalence of social media is having profound effects on our lives, and the widespread digital distribution of rumour, conspiracy theories and spurious pseudoscience are having repercussions on economies, governments and communities. By freeing information from the mediating influence of traditional media, our understanding of our world has profoundly changed. But with great freedom, comes great risk.

ALESSANDRO BESSI AND WALTER QUATTROCIOCHI

Speciesism – the Ism that Isn't

The 1960's revolutions against racism, sexism and classism, also gave rise to the idea of 'speciesism' – a human prejudice in favour of our own species. The problem with this view, however, is that it ignores the basis of social cohesion in humans. It is precisely because we belong to one species that makes what happens to any other member of our species more important than what happens to any member of any other species. Dr Allen Greer takes a philosophical look at the principal that launched the modern animal rights movement.

ALLEN GREER

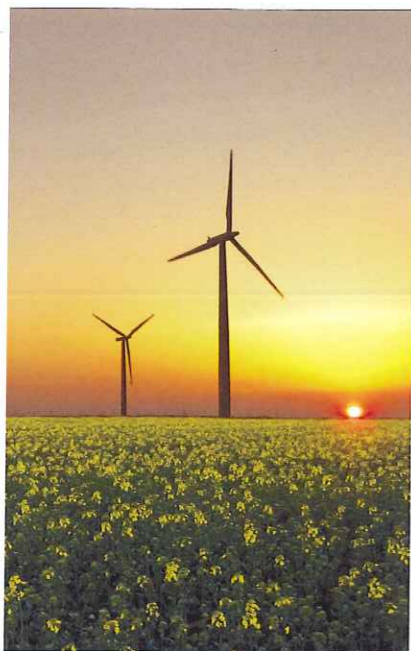


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