

## If we're smart, we could turn Australia into a booming manufacturing country based around a low-carbon economy

Story by **Patrick Commins** Photography by **Aaron Francis**

# OUR GREEN

# super

**A**ustralia as a world leader in heavy industry. The revival of aluminium manufacturing and the return of thousands of steelmaking jobs. The rejuvenation of regional towns and ports which have suffered through the transition to a services-based economy.

It may sound like a daydream; an exercise in the counterfactual by a baby boomer nostalgic for an age when Australia "made stuff".

Yet this is not a vision of the past, but of the future. And it's not a flight of fancy. Instead, it's Ross Garnaut's carefully considered, if blue-sky, description of how Australia by the middle of the century can embrace its natural advantages in renewable energy and become, as in the title of his latest book, a "superpower".

"The first thing we've got to do is save our established heavy industrial base by shifting to low-cost renewables," Garnaut tells *The Deal*.

"Aluminium making will die in Australia in the 2020s if we stick with coal. It can be an expanding industry if we use the opportunity to reduce energy costs with high-quality renewables."

His message may sound breathless, but the delivery and the research is not. In fact, the 73-year old speaks in a slow, carefully deliberate tone, like a professor dictating prepared answers. The veteran economist is a rare bird in Australia: a public intellectual who, if not exactly a household name, has achieved a degree of popular recognition not common among economic and policy wonks.

Garnaut has done much to drive policy and debate around how this country addresses the risks of climate change.

He wrote the influential Garnaut Climate Change Review of 2008, a key document which contributed to the introduction of a

short-lived carbon emissions trading scheme in early 2012. Since that early work — and the bruising experience of seeing those policies dismantled by Tony Abbott a mere two years later — Garnaut has moved from the gloomy warnings of his best-selling 2013 book, *Dog Days: Australia after the boom*, to become increasingly convinced that the rapid drop in renewable energy costs has presented Australia with an even bigger opportunity than he had initially estimated more than a decade ago.

Garnaut is keen to avoid joining the daily cut and thrust of politics, and refuses to pass judgment on Scott Morrison's position that Australia's action on climate change will be driven by "technology, not taxation" — a middle ground that the Prime Minister hopes will allow him to avoid committing to a net-zero carbon emissions target at the next major UN climate meeting in Glasgow in November. Still, it's clear that he thinks little of suggestions the government could sponsor the development of a new coal mine.

"The early and orderly movement to zero-emissions electricity is the cornerstone of the decarbonisation of the Australian economy," Garnaut writes in *Superpower*. "It is also the foundation for Australia's emergence as a superpower of the post-carbon world economy."

Like other energy-intensive sectors, Garnaut says the global steel industry "will be reshaped in line with the imperative to move to zero-emissions steelmaking".

Echoing chief scientist Alan Finkel, Garnaut sees hydrogen as the key energy source for Australia. Hydrogen will be used instead of coking coal to make iron metal. The by-product of that process will be water, not carbon dioxide.

"Hydrogen will be made most cheaply in the countries with the best renewable resources," he says. And this country has the "world's best combination of wind and solar ... So we are naturally the world's lowest cost producer of hydrogen in a zero emissions world".

Unlike coal and gas, our comparative advantage in the creation of hydrogen will be one which we will not lose through exports.

Garnaut says the cost of taking Queensland metallurgical coal to Kobe or Shanghai is substantially less than taking it to South

Australia's Whyalla — the site of a steelworks which was slated for closure in 2017 before industrialist Sanjeev Gupta bought it.

The same is not true for hydrogen, which has to be liquefied for transport at great expense, and during which process energy is lost.

"Therefore it's going to be very much more expensive to use Australian hydrogen for steelmaking in Japan or Germany than in Australia," says Garnaut.

"Just as people are not going to build new coal-based power generators in the developed world, they are not going to build new coal-based steelmaking in the developed world.

"So we have an opportunity for early-stage iron making in the carbon-based world economy."

Let's say that the world signs on to and then sticks to a zero net emissions target by 2050 at the UN climate meeting.

Under this — granted, unlikely — scenario, what does the Australian economy look like in 30 years' time?

"If we don't muck up the opportunity, we will be by far the world's largest exporter of iron metal and steel, as well as a global leader in aluminium metal, with production on a scale many times the peak levels of a few years ago," Garnaut says.

He says Australia will be the low-cost home to supply the world's immense demand for silicon that will come from the expansion of photovoltaic solar technology, computing and information technology industries. Plastics will be made not from fossil fuels, but from biomass — of which Australia has the highest per capita land endowment.

"Australia will be the low-cost location for turning a wide range of minerals and rare earths into marketable products," Garnaut says. And in the Australia of 2050 "a high proportion of new opportunities will be in rural and provincial Australia".

There will be special advantages in the centres of coal-based generation, which, in the past, became hubs for electricity transmission. These include Newcastle, Gladstone, Collie, the Upper Spencer Gulf in South Australia and Victoria's Latrobe Valley. There will be special advantages in industrial ports that are the home of energy-intensive industries, including Townsville, Mackay, Gladstone, Portland and Whyalla.



The list goes on. The former coalmining town of Collie in WA "has very rich opportunities".

"There will be advantages in rural centres that are large enough to provide a wide range of commercial and industrial services, while having access to high-quality renewable resources and local biomass," says Garnaut.

Clearly, it will be some years, decades, before Australia fully makes the transition away from fossil fuels.

But Garnaut says we don't have to wait: "We can develop the new low-emissions processing alongside the decarbonisation of the established electricity grid. We don't have to have a 100 per cent renewable sector to households of Sydney and Melbourne before we can have hydrogen-based iron making in Collie, Geraldton and Port Hedland. We should be making the first hydrogen plants happen now."

This summer's unprecedented bushfire disaster, which followed the hottest year on record in 2019, shifted the national conversation around the need to tackle climate change. The sheer scale of the devastation and the choking smoke which blanketed major cities brought home to even cosseted urbanites the risks of not acting to reduce emissions in order to limit global warming in the coming decades.

Even the usually conservative Business Council of Australia

released a paper supporting stronger action on reducing emissions.

But that brief period of political consensus has quickly become unstuck.

By late February heavy rains had brought an end to Australia's "black summer", and Nationals Senator Matt Canavan was telling 2GB radio's Alan Jones that Opposition Leader Anthony Albanese's recently announced support for a target of net zero emissions by 2050 "would be the destruction of the Australian economy, quite simply".

In his book, Garnaut bemoans the demise of Australia's carbon emissions trading scheme, which was legislated in late 2011 and early 2012 and gutted by Tony Abbott a short two years on. Abbott's legacy, Garnaut writes in *Superpower*, is "an incoherent climate and energy policy".

So how do we change the national conversation on these issues? How do we shift from discussing risks and costs — of which there are surely plenty — to emphasising the benefits and opportunities of embracing a low-carbon future?

"By writing and talking about them," Garnaut says simply. He describes his new book as a "bridge" over the yawning divide



between those who warn of catastrophic consequences of not acting swiftly to reduce emissions, and those who say the costs today of such action outweigh the uncertain benefits tomorrow.

And Garnaut is up for the challenge.

He was on the frontline of the struggle to remove the "debilitating" trade protection from the late 1960s until the "final victory" in 1991.

"I know that in this good and conservative country opinions affecting policy change slowly.

"But my experience in that two-decade-long fight on trade liberalisation tells me that sound ideas carefully explained eventually change what is possible politically.

"Eventually you need leaders who are prepared to grasp the opportunity, that then comes to be absorbed into the national discussion. (Bob) Hawke did that between 1983 and '91, when I was his economic adviser.

"I am not so despairing of contemporary Australian democracy as to rule out the possibility that leaders will emerge who are capable of grasping the 21st-century opportunities." **D**

Superpower: Australia's low-carbon opportunity is published by Black Inc.