

# Tonsley

Cleantech & Renewable Energy



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The South Australian Government is driving economic growth by building the state's competitive advantage, its export capability, and by supporting new investment.

South Australia is open to new people, new ideas, and new business partnerships.

## Background<sup>1</sup>

The world has an energy balance sheet that in the next couple of decades risks becoming dramatically unbalanced:

- By 2030 worldwide energy consumption is expected to increase by 40 percent (compared to 2009 levels).
- By 2050 water demand worldwide will rise by 55 percent; the largest rises will be in manufacturing, electricity generation and domestic use.

An out-of-kilter energy balance sheet poses many risks for business. For example:

- price rises and price volatility
- changing customer preferences
- resource constraints.

In the cleantech and renewables sector, communities, companies and governments are facing challenges around resource stress – particularly water scarcity, ecosystem decline, and vastly diminished natural resources.

There is no magic solution. The real breakthroughs will be in developing new and better technologies to make better use of our resources – including re-using energy sources more effectively; maximising alternate energy sources such as solar, hydro and wind energy; and storing energy more efficiently and effectively.

The risks we face are also opportunities.

South Australia invites you to help seize those opportunities together.

<sup>1</sup>KPMG, 2015

## South Australia's capabilities and what we've done so far:

Given the potential volatility in this sector, cleantech and renewable energy companies need stable business conditions, along with a developed local market for new technology.

They need to be able to maximise opportunities, while minimising risks.

South Australia offers just such conditions. Our regulatory environment is stable, our workforce is skilled. We are business-friendly; we understand that the greatest advances in technologies do not happen without investment and commitment. And our proximity to developing Asian markets provides an ideal platform from which to launch, market and sell new technology innovations.

Above all, the South Australian Government is a supportive, proactive, collaborative government that seeks to develop energy answers. That is why South Australia has committed to an investment target of AU\$10 billion in low-carbon energy generation by 2025.

- South Australia was the first Australian state to introduce specific **climate change legislation** – the *Climate Change and Greenhouse Emissions Reduction Act 2007*.
- The South Australian Government is also developing a new **Climate Change Strategy**, focused on economic development, sustainable emissions reductions and climate change adaptation.
- South Australia's capital city, Adelaide, is working towards becoming carbon-neutral. This presents broad opportunities for innovation in infrastructure and transport.
- South Australia has also committed to a target of 50 per cent renewable energy by 2025 (right now it is at 41 per cent), and plans to set up a renewable energies agency dedicated to attracting investment and exporting local knowledge.

“We are determined to make Adelaide a showcase city for renewables and clean technology, to attract investment and create new jobs.”

South Australian Climate Change Minister Ian Hunter

“We know South Australia needs a truly international economy that engages with the world; we have to be innovative and support new industries, and these industries and jobs are in the low-carbon economy.”

South Australian Premier Jay Weatherill



## South Australia's capabilities and what we've done so far: (cont.)

- When it comes to the penetration of renewable energy, South Australia leads the nation:

**Wind** – South Australia has 15 operational wind farms with installed capacity of 1,473 megawatts; that is 35 per cent of the nation's installed wind capacity. Eight companies have invested AU\$3.23 billion in capital expenditure in operating projects to date – and there are nine more sites approved or under consideration. (NB Studies have highlighted South Australia's Eyre Peninsula as the greatest untapped wind resource on the National Electricity Market, with an estimated potential capacity of 2,000 – 10,000 megawatts.)

**Solar** – South Australia has the highest solar photovoltaic contribution to electricity demand across Australia (6 per cent), with one in four households having a rooftop solar PV panel (totalling 565 megawatts of installed capacity).

**Geothermal** – South Australia has more than 90 per cent of Australia's geothermal exploration investment. There are currently nine deep wells drilled to reservoir depths across three key projects.

- South Australia's recycling efforts are among the world's best – the state is now achieving a resource recovery rate of more than 77 per cent. We've also achieved a 25 per cent reduction of waste to landfill since 2002/03.
- Looking to improve technologies for recycling wastewater and stormwater? The Water Industry Alliance (WIA) aims to build an internationally competitive, export-orientated water industry made up of clusters of small to medium businesses. Right now there are two specialisation clusters:

- A managed aquifer recharge group (MARHub) – Approximately 30 per cent of the academic papers written on this field originate from South Australian-led research. MARHub will ensure South Australia continues to lead the world in this area of expertise.

- A wastewater group (WaRDA) – an industry leader in the planning, design, construction, monitoring and maintenance of wastewater treatment plants for small communities. By helping companies work together, it is opening doors for its members to access global markets and provide expertise worldwide.

Underpinning all of the above are some of the best brains in the business:

- **University of Adelaide** (Centre for Energy Technology; Research Institute for Climate Change and Sustainability; Adelaide University Research Park)

- **University of South Australia** (Institute of Sustainable Systems and Technologies; School of Mathematics and Statistics, Environmental Mathematics Group; Future Industries Institute)
- **Flinders University** (Molecular Technologies Research Cluster, Centre for NanoScale Science and Technology)
- **University College London** (School of Energy and Resources)

### Tonsley

Tonsley, Australia's first innovation district (located just a few kilometres from the Adelaide CBD), is where industry, university research and education, vocational training, government, and the community come together to collaborate and innovate.

- Tonsley is where world-beating ideas are seeded, nurtured and brought to fruition.
- **Tonsley** was recently awarded the prestigious *6-Star Green Star - Communities* certification from the Green Building Council of Australia.

*“Through achieving 6-Star Green Star – Communities certification, Tonsley has become an exemplar for high quality, sustainable urban renewal both in Australia and around the world”*

GBCA Chief Executive Officer, Romilly Madew.

## Opportunities

Tonsley is attracting quality innovators in the cleantech and renewable energy space, including:

- **ZEN Energy Systems** – Australia's first 100 per cent renewable energy utility provider, and developer of energy storage technology. ZEN is partnering with local energy utility Origin Energy on a proposal to develop a three megawatt solar photovoltaic array covering the eight-hectare Main Assembly Building at Tonsley to supply affordable and sustainable energy to the building's partners.
- **Latent Heat Storage** – a start-up company that is developing and demonstrating large scale thermal energy storage technology and progressing towards manufacturing this technology at Tonsley.
- **Flinders University's Centre for Nanoscale Science and Technology** – is helping to innovate in materials science (e.g. developing low-energy desalination membranes). This centre is also the focal point for the highly successful NanoConnect program, which connects industry with nanotechnology researchers and university facilities.
- The **Collaborative Research Centre for Low Carbon Living** – has active research programs at Tonsley through the Adelaide Living Laboratory.

## The finest minds, wherever they are

We search to connect with the finest cleantech innovators around the globe – for example, our Memorandum of Understanding between the South Australian Government, Flinders University and Prospect SV in Silicon Valley, United States. The partnership allows Australian cleantech innovators to access business networks, markets and sources of capital in the US, and encourages collaboration with US cleantech innovators.

**We mean it when we say we're committed to knowledge-sharing. So, when we seek the best and brightest ideas, we don't just stick to our own backyard.**

Also at Tonsley is the Sustainable Industries Education Centre (SIEC), which trains more than 6,000 students per year in next generation sustainable construction. SIEC is also the place to demonstrate and scale up new technologies with on-site demonstration projects including a cross laminated timber (CLT) demonstration.



## Selling your creation

# “Tonsley connects the dots.”

Brett Jackson, 'Co-HAB' (Tonsley's co-working space)

In South Australia our commitment will not end when your product development does; we are absolutely committed to generating long-term success through the commercialisation of intellectual capital.

At Tonsley, you will have access to the commercialisation support you need:

- Flinders University's **New Venture Institute (NVI)** – inspires, educates and connects innovators and entrepreneurs.
- **Innovyz** – provides end-to-end support to help innovators build and grow companies that bring their creations to market. Innovyz also provides nine-month programs (for universities, individuals, companies and research centres) unique in the world of business accelerators.

South Australia fosters new ideas and innovation, for eventual implementation on a wider scale.

We're about investment and projects that not only meet our own green goals, but can be exported around the world.

**South Australia is open for business.**

“We hit the ground running at Tonsley and have moved at a breathtaking pace... There are not many locations that drive and support such intense growth.”

Philip Vafiadis, Innovyz

**Become a part  
of Australia's first  
innovation district.**

For assistance investing in Tonsley, contact South Australia's Investment Attraction Agency. Our professional team will work with you to further your interest in our state.

Ph: +61 8 8303 2400

# Tonsley

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