A RENEWABLE FEAST
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KEY FINDINGS

1

More than 40,000 Australian businesses are switching to renewable energy, substantially reducing their power bills and helping address climate change.

› Australian businesses – from big corporates to small enterprises – are making the transition to renewable energy.

› It makes sense to ditch expensive and polluting fossil fuels and switch to clean, low-cost renewable energy.

› Three quarters of Australians would choose a product or service made with renewable energy rather than one produced using fossil fuels.

› Gas and electricity are expensive for Australian businesses. Gas prices have tripled over the past five years while electricity prices for small business owners have increased by 80% to 90% in the past decade.

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Australians can use their purchasing power to support renewable powered businesses and, in doing so, enjoy a climate-conscious festive season. Here are a few examples of Aussie businesses making the switch:

› Victoria’s Meredith Dairy is using 100% renewable energy, having installed solar on their farm and purchase accredited GreenPower from the grid.

› In South Australia, Sundrop Farms is producing thousands of tonnes of truss tomatoes each year with solar thermal energy and sea water - it is the first commercial scale facility of its kind in the world.

› Sydney-based wholesale bakery, Bakers Maison is running on solar power thanks to the local community, where 20 investors contributed almost $400,000.

› Australia’s biggest brewer, Carlton and United Breweries is making the switch to 100% renewable energy alongside more than 150 other global corporations as part of an international renewable energy program.
It is vital that Australian businesses continue to lead on the transition to renewable energy, particularly in the absence of credible national climate and energy policy.

- The burning of coal, oil and gas is cranking up the intensity of climate change.

- Extreme weather events are worsening because of climate change.

- Australia’s greenhouse gas pollution levels have risen four years in a row; if we are to effectively tackle climate change we must quickly reverse this trend.

- The solutions are here now, and it makes economic sense for Australian businesses to switch from fossil fuels to renewables.
1 INTRODUCTION

The global transition to renewable power is well underway. Last year, a record amount of new renewable energy capacity was added worldwide.

In 2017, more solar photovoltaic (PV) capacity was installed around the world than coal, natural gas and nuclear combined (REN21 2018). Approximately 17 countries now generate more than 90% of their electricity from renewable energy sources (REN21 2018). Renewable energy is also now the lowest cost form of new power generation; cheaper than electricity from new large-scale coal and gas power stations (BNEF 2018).

More than 150 global corporations are taking advantage of cost-competitive renewable energy and choosing to act on climate change by committing to 100% renewable energy (RE100 2018). These companies include major food and drink producers such as Danone, Kellogg’s, Mars, Nestle, Starbucks and Anheiser-Busch InBev, which owns Australia’s Carlton and United Breweries (producers of Victoria Bitter, Carlton Draught and Crown Lager).

Australian businesses, and households together with state and local governments, have been leading the way on renewable energy, in light of the ongoing absence of credible national climate and energy policy.

Australian businesses are experiencing high gas and electricity prices. Gas prices have tripled over the past five years (AIG 2017) and electricity prices for residential and small business owners have increased by 80% to 90% in one decade (ACCC 2017). Now, more and more businesses in Australia are transitioning to renewable energy in order to take back control of their power bills and reduce their greenhouse gas pollution.

Over 40,000 Australian businesses are already reaping the benefits of switching to renewables, with the total capacity of business solar installations doubling since the start of 2016 (SunWiz 2018). These businesses are investing in renewable energy because it makes good business sense.
This report follows the Climate Council’s Renewables & Business (2018) report, focusing attention on the growing range of food producers in Australia and New Zealand making the switch to renewable energy.

As we head into the festive season, this report brings together a feast of renewable food and drinks, showcasing Australian growers and manufacturers who are using clean energy.

This report profiles a range of food and beverage businesses both large and small, from across the country. From global corporations, to local farmers and craft breweries, it highlights food producers using renewable energy to take control of their bills and reduce their carbon pollution (Figure 1). This report provides information for Australian families wanting to enjoy a climate-conscious festive season by choosing to support businesses taking action on climate change.

In Australia, a survey commissioned by the Australian Renewable Energy Agency (ARENA) found over three quarters of Australians would choose a product or service made with renewable energy over a comparable product that is not (ARENA 2017).

The world has just experienced the hottest five-year period (2013–2017) ever recorded. This record is part of a sharp, long-term upswing in global temperatures, with 17 of the 18 hottest years on record all occurring in this century. This increasing global heat, driven primarily by the burning of fossil fuels, is exacerbating extreme weather events in Australia and around the world. Australia is already experiencing the impacts of climate change. Heatwaves are now hotter, lasting longer and occurring more often. Rising ocean temperatures are triggering coral bleaching events on the Great Barrier Reef. Climate change is also increasing extreme bushfire weather in southern and eastern Australia, while climate change is likely worsening drought conditions in southwest and southeast Australia. Across Australia, extreme weather events are projected to worsen as the climate warms further, increasing the vulnerability of Australia’s ageing energy infrastructure to blackouts.

In order to tackle intensifying climate change, we need to swiftly and deeply reduce our greenhouse gas pollution by switching to renewable energy and storage technology.

See following page for figure 1: A few of the Australian and New Zealand producers making the switch to clean, reliable renewable energy and storage.
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<th>Product</th>
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2 CASE STUDIES

CASE STUDY 1

Meredith Dairy
Location: Meredith, Victoria
“A cheese board to be cheery about”

Churning out cheese requires a whole lot of heat and energy. Which is why Meredith Dairy has installed a 99kW solar system on its farm (Meredith Dairy 2018a). Best known for its cheeses, Meredith Dairy produces a range of products including goats milk, cheese and yoghurt.

The farm also uses a solar hot water system and biomass fired boiler to provide hot water for its cleaning and processing (CEC 2018).

When Meredith does take electricity from the grid it purchases 100% GreenPower (Meredith Dairy 2018b). GreenPower is a program that any household or business can sign up to requiring electricity retailers to source additional renewable energy on your behalf. GreenPower is a guarantee that the electricity you buy supports the development of new renewable energy projects, like wind and solar plants (GreenPower 2018).

The GreenPower scheme ensures that retailers source additional renewable energy over and above their requirements under Australia’s Renewable Energy Target. Meredith Dairy, along with many other businesses and households, are harnessing their purchasing power to ensure they consume 100% renewable energy.

Meredith Dairy has also undertaken a number of sustainability initiatives, including biodiversity surveys and protects its native grasslands, bush and wetlands that fall within the property boundary (Meredith Dairy 2018b). They also engage in extensive tree-planting and re-vegetation practices.

The Cameron family who run Meredith Dairy are acutely aware of climate change and its impacts. Therefore, this company is taking a whole system approach to their farming practices to ensure the farm, business and lifestyle is there for future generations (Meredith Dairy 2018b).

When Meredith does take electricity from the grid it purchases 100% GreenPower.
WATERMELON, GOATS CHEESE & MINT SALAD RECIPE

Ingredients
› 160g Meredith Dairy marinated goats cheese*, drained
› 500g watermelon, cut into pieces
› 1/2 bunch of fresh mint, leaves only
› 2tbsp pistachios, roughly chopped
› 1/2 red onion, peeled and sliced finely
› 1tbsp freshly squeezed lemon juice
› Salt and pepper

Method
In a small bowl combine red onion, lemon juice and 1tsp salt and leave for 15 minutes.
Finely shred any big leaves of mint, leaving small ones whole.
Gently toss watermelon and goats cheese together, add shredded mint leaves, leaving small leaves to decorate.
Drain red onion, discarding lemon juice and scatter with the pistachios over the watermelon salad.
Season with whole mint leaves, black pepper, and serve.

*refer to Figure 1.
Some of Australia’s largest fresh food produce markets have installed solar power:

- **Sydney Markets** - 3MW of rooftop solar, totalling 8,500 solar panels. That is enough solar to power close to 730 homes. The solar panels provide enough electricity to supply 11% of the market’s annual power consumption (Energy Matters 2018).

- **South Australian Produce Market** - This newly revamped market has installed solar and battery storage - consisting of a 2.5MW solar array, coupled with a 4.2MWh Tesla lithium-ion battery (One Step Off the Grid 2018e). This renewable hybrid system will supply most of the wholesale market’s energy needs, and will save stallholders a combined total of more than $500,000 a year.

- **Brisbane Markets Limited** - In 2015, in a bid to reduce their dependence on power from the electricity grid and protect themselves from rising power prices, Brisbane Markets Limited (BML) installed more than 3,000 solar panels on three buildings across its 77 hectare site (Figure 2). This installation was complemented in 2017 by an additional 5,000 solar panels across seven buildings, bringing the total number of solar panels on site to 8,249, generating 3MWh of solar electricity annually. BML will commence installation of a further 6,800 solar panels on the roofs of 12 buildings from January 2019 (BML 2018).

- **Queen Victoria Markets** - This Melbourne institution which began trading in 1878 has installed 252kW of solar power (EcoGeneration 2018). The solar system has cut greenhouse gas pollution by 1,314 tonnes of carbon dioxide since it was installed in 2003, and is providing enough energy to power the equivalent of 46 Australian homes a year (C40 2011).
South Australia is a leader in Australia’s renewable energy race (Climate Council 2018). The state has the largest amount of installed wind and solar capacity and is home to the world’s most powerful battery (AEMO 2018).

On the outskirts of Port Augusta, in the Australian desert, Sundrop Farms produces 15,000 tonnes of truss tomatoes every year, with solar thermal energy and sea water (Figure 3). These tomatoes are then sold exclusively to Coles Supermarkets via a ten-year offtake agreement. It is the first commercial scale facility of its calibre in the world. Sundrop Farms has built a 20 hectare solar thermal greenhouse which uses solar thermal technology for its electricity, heat and to desalinate its water (CEC 2018). The on-site 39MW solar thermal plant is made-up of 23,000 mirrors directed towards a 127 metre high ‘power’ tower (RenewEconomy 2016) (Figure 4).

Thanks to its solar thermal plant, this South Australian tomato grower gets around 90% of its energy from renewable energy, displacing the use of more than 2 million litres of diesel per year (ABC 2016). The tomato greenhouses also produce more than 450,000m$^3$ of freshwater per year, equivalent to 180 olympic size swimming pools.

Port Augusta is transforming itself from a coal town into a renewable energy hub attracting $5 billion in investment.
GAZPACHO RECIPE

Ingredients

› 5 medium sized Sundrop tomatoes*
› 1 clove of garlic, peeled
› 1 onion, peeled
› 1 red pepper, seeds removed.
› 1 cucumber, peeled
› 600 ml of juice from Sundrop tomatoes*
› 300 ml olive oil
› 150 ml red wine vinegar
› Sugar, salt and pepper

Method

Chop up the tomatoes and vegetables and blend using a stick blender until smooth.

Add the tomato juice, olive oil and vinegar and blend.

Sieve the mixture and add sugar, salt and pepper to taste.

Refrigerate for one hour.

Serve in small glasses or soup bowls, and enjoy under an umbrella in the glorious sunshine. Garnish with croutons, parsley, more diced vegetables or anything else that you fancy!

*refer to Figure 3.

**Sundrop Farms Recipe** - http://www.sundropfarms.com/reinier-annemaries-gazpacho/

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**Figure 3**: Sundrop Farms uses solar thermal energy to grow 15,000 tonnes of truss tomatoes annually.

**Figure 4**: The Sundrop solar thermal plant located in the middle of the desert.
Bakers Maison is a Sydney-based wholesale bakery, which employs 120 people and is open every day of the year (ABC 2017).

When the bakery wanted to install more solar panels, on top of its existing 100kW system, to take control of their rising utility bills, it invited the community to co-invest in the project. Within six hours, 20 investors had contributed almost $400,000. By working together with the community, Bakers Maison was able to install 225kW of solar on its rooftop in Revesby (Figure 5). Under this innovative program, the 20 investors, mainly from the surrounding community, now receive payment from the energy the panels produce over a ten-year period. After this time, the panels will be owned by the business and the energy they produce can be used for free (ABC 2017).

The advantage of working with community investors is that companies which cannot afford the upfront capital costs of solar are still able to benefit from lower power bills in the long run, and community investors receive a return on their investment (Climate Council 2018).

Within six hours, local investors from the community had chipped in almost $400,000 for the bakery's solar installation.
BOX 2: TIPS FOR CLIMATE-CONSCIOUS FESTIVITIES

› Support renewable energy by switching your electricity to 100% GreenPower, or consider installing rooftop solar. And why not try solar powered lights and decorations?

› Take public transport or organise carpooling with the family.

› Purchase ethical and sustainable gifts.

› Watch where you shop (refer to Box 1).

› Keep cool - efficiently - with fans, or energy efficient reverse cycle air conditioners.

› Going camping? Take a small solar panel to provide you with clean electricity to light your site and keep the food fresh (Figure 6).

› Reduce your waste - go easy on the wrapping paper by reusing last year’s wrap or a good ol’ fashioned santa sack instead. Decomposing waste in landfill produces greenhouse gas pollution like carbon dioxide and methane. The same goes for the food. With all those leftovers, invest in some beeswax wraps or reusable containers.

› Make sure the dishwasher is full before turning it on - this will save on energy and be more water-efficient.

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Figure 5: Bakers Maisons community-powered rooftop solar installation in Sydney.

Figure 6: Take advantage of the Australian sunshine on your next camping trip by using solar panels.
Australia’s biggest brewing company, Carlton and United Breweries (CUB) is making the shift to renewable power. Its parent company, Anheiser-Busch InBev, has committed to 100% renewable energy across its global operations by 2025 (One Step Off the Grid 2018a).

Investing in renewable energy means CUB will save on its power bills and have greater certainty of electricity supply and pricing which is vital for such a large manufacturing business (CUB 2018).

CUB produces many of Australia’s most popular beers including VB, Fat Yak, Crown and Carlton Draught. Consumers will soon be able to enjoy a beverage knowing their beer is produced with 100% renewable energy.

CUB has signed a contract with the new 112MW Karadoc solar farm in Victoria and has plans to install solar panels on its facilities right across Australia (One Step Off the Grid 2018a) (Figure 7).

Anheuser-Busch InBev is part of the RE100 program, which comprises global businesses committing to powering their operations with 100% renewable electricity. The RE100 program is a growing global initiative, now involving over 150 of the world’s largest corporations including Apple, IKEA, Burberry, Carlsberg, Coca Cola, Ebay, Facebook, Google, H&M, Kellogs, Lego, Microsoft, Nike, Starbucks and Walmart (RE100 2018). In just the past six months 14 new companies have joined the program, including Sony, PwC and US ride-sharing company Lyft (AFR 2018).

Global confectionery giant Mars Inc. is part of the program and recently announced a corporate power purchase of solar energy, to deliver 100% of the electricity needed to power its Australian operations by 2020 (RE100 2018).

Mars Australia has committed to 100% renewable electricity across all of its Australian sites by 2020. The company is making the switch to solar with a 20-year power-purchase agreement.

The RE100 program includes over 150 of the world’s largest global businesses that have committed to powering their operations with 100% renewable electricity.
Melbourne Water: Metropolitan water authorities in Melbourne have a target to reduce their emissions to ‘net zero’ by 2030. These authorities are taking steps to transition away from reliance on fossil fuels to renewable energy. For example, Melbourne Water generates more renewable energy than it uses and has committed to no longer purchasing combustion engine vehicles and is shifting its fleet of vehicles to zero emissions electric vehicles (Melbourne Water 2018a; 2018b).

SA Water: SA Water has installed 5MW of solar at three of their water treatment facilities and will be operating in the first half of 2019 (SA Water 2018a) (Figure 8). In addition to this, they are installing solar at 93 of their sites, across South Australia, in the next few years. SA Water is also looking to install battery storage and has a target to reach zero net electricity costs by 2020 (SA Water 2018b).

Queensland Urban Utilities: This southeast Queensland water provider is using biofuel technology by converting the waste from 300,000 people into electricity. This electricity is then being used to run its sewage treatment plant in Brisbane, as well as Australia’s first poo-powered electric vehicle. Urban Utilities has also installed 134kW of solar power across 13 of its sites, supplying over 20% of its electricity (Queensland Urban Utilities 2018).

A number of water authorities around Australia are investing in renewable power to reduce their greenhouse gas pollution and overall operational costs.
Renewable energy provides an affordable, reliable, clean source of energy to small and large businesses across a wide range of sectors, both on and off the grid. There are numerous Australian food and beverage companies which are now using low cost renewable energy and storage to reduce greenhouse gas emissions and to control their electricity bills.

Accessing clean energy can come in many forms - from solar, wind and battery storage, to biomass from waste products - as the five core case studies in this report demonstrate. Whether installing rooftop solar, utilising community power or signing up to a global initiative, there are many avenues to jump on board the renewables boom.

Despite federal government inaction on climate change, Australian businesses are getting on with the transition to renewable power. This report has profiled Australian festive produce powered by renewable energy. A more extensive list of renewable powered food and drinks are provided in Appendix 1 and 2.

Why not see how many renewable products you can include in your family festive feast this year?
A number of Australian wine, beer and beverage companies are making the switch to renewable energy, including (but not limited to):
Melbourne, SA Water and Urban Utilities - see Box 3.

Bickfords Cordial, SA - installed 817kW of solar power across four sites in South Australia, estimated to reduce greenhouse gas pollution by 673 tonnes per year (Zen Energy 2018).

Daylesford Hepburn Mineral Springs Company, VIC - purchases clean energy from the community wind farm Hepburn Wind (The Advocate 2017).

Moores Hill, TAS - Tamar Valley winery in Tasmania is powered by 100% renewable energy from onsite solar panels and battery storage (Moores Hill 2018).

4 Pines, NSW - the 4 Pines brewing company recently launched a 100kW solar crowdfunding campaign (One Step Off the Grid 2018b).

Stomping Ground, VIC - has installed 100kW of solar panels generating enough power to cover the small business’s sizeable energy needs (One Step Off the Grid 2018c).

Stone & Wood, NSW - has a 100kW solar system at the Murwillumbah brewery, providing about 15% of the site’s electricity (Stone and Wood 2018).

Young Henry, NSW - used a community-funding model to install 29.9kW solar on its Newtown establishment (One Step Off the grid 2018c).

Bright Brewery, VIC - expect to save around $18,000 a year through the installation of 50kW solar system to supply all of its electricity needs (One Step Off the Grid 2018c).

Helios Brewing, QLD - this brewery not only uses rooftop solar for power, but has installed a solar thermal system which heats water to over 90°C. The hot water is then stored in tanks before being used in the brewing process. The brewery also has plans to install battery storage, and cuts its waste to landfill by giving its spent grain to local pig farmers (One Step Off the Grid 2018d).

Grand Ridge Brewery, VIC - this brewer installed its 100kW rooftop PV system more than four years ago and generates the majority of its energy from solar (One Step Off the Grid 2018d).

The Grove Distillery, WA - went "off the grid" completely early this year, with 220 solar panels and battery storage (One Step Off the Grid 2018d).

Ego Estate, VIC - the first Australian winery to be powered by 100% wind energy generated on-site (Wine Companion 2018).

Madura Tea, NSW - has installed over 400 solar panels to power its operations.

Australian wineries are making the switch to solar power - Wineries around the country are installing significant amounts of solar power, such as Barossa wineries - Yalumba (1.39MW) and Pernod Ricard winemakers (2.8MW) (AGL Solar 2018; Drinks Bulletin 2018). Plus South Australian producer Gemtree wines has installed a 10kW system at their cellar door (Gemtree 2018).

Single O, NSW - has installed solar panels on its coffee roasting plant.
### SHOPPING LIST

Host your own renewable-powered feast this festive season! This shopping list will get you started, showcasing some of the Australian and New Zealand food and beverage producers who are using renewable energy as a way of cutting their greenhouse pollution - and their power bills.

<table>
<thead>
<tr>
<th>Name</th>
<th>Where</th>
<th>What</th>
<th>Type</th>
<th>Link</th>
</tr>
</thead>
</table>

### The Perfect Cheese Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Where</th>
<th>What</th>
<th>Type</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Name</td>
<td>Location</td>
<td>Products</td>
<td>Energy Source</td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Kia Ora Piggery</td>
<td>Yarrawalla, VIC</td>
<td>Meat</td>
<td>Bioenergy</td>
</tr>
<tr>
<td></td>
<td>Pace Farms</td>
<td>Various, NSW</td>
<td>Eggs</td>
<td>Solar</td>
</tr>
</tbody>
</table>
## Drinks

<table>
<thead>
<tr>
<th></th>
<th>Location</th>
<th>Product</th>
<th>Energy Type</th>
<th>Website/Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomping Ground Brewing Co</td>
<td>Melbourne, VIC</td>
<td>Beer</td>
<td>Solar</td>
<td><a href="https://www.stompingground.beer/sustainability/">https://www.stompingground.beer/sustainability/</a></td>
</tr>
</tbody>
</table>

A RENEWABLE FEAST
REFERENCES


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