

De Bortoli Wines case study: Zero waste winery



De Bortoli Wines' goal to be a 'zero waste winery' is driving an innovative approach to clean energy in the local community.

At De Bortoli, we actively pursue commercially available renewable energy technologies to achieve our emissions reduction target and to inspire innovation and technological advancement in the Riverina region. Developing this strategy helped us to explore new opportunities brought about through changes in technology and energy pricing.

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Summary

De Bortoli Wines is aiming to be Australia's first 'Zero Waste Winery'. The winery has identified clean energy targets and measures that will support achievement of its zero waste vision. This includes going 'beyond the fence line' to assist households in the Riverina reduce their energy consumption and transition to renewable energy.

The drivers for De Bortoli Wines include reducing exposure to increases in electricity and gas prices and improving its reputation by creating a sustainable legacy for future generations.

This case study highlights how a community-focused business strategy can reap benefits in both brand reputation and cost savings.

About De Bortoli Wines

De Bortoli Wines is the second largest family-owned grape growing and wine making business in Australia. Founded in 1938, the company employs around 500 people in Australia, the United States, United Kingdom and the European Union. The company's largest winery, located in Bilbul NSW, employs 250 people and was the focus of the clean energy strategy.

Current energy situation

Electricity and natural gas account for around 90% of energy consumption at the Bilbul site (see Figure 1). Natural gas is primarily used for the site's evaporators.

De Bortoli Wines is already advanced in demand-side solutions, having implemented significant energy efficiency and greenhouse gas reduction initiatives across the winery.

Recent improvements include: refrigeration refits, control systems on pumps and lighting, compressor upgrades, power factor correction, LED lighting upgrades, and heat exchangers to facilitate transfer heat from warm liquid to cold liquid.

The site has also installed a solar PV system (230 kilowatts) to reduce their electricity use by 2.5% and a solar thermal preheater to reduce gas use by 28%.

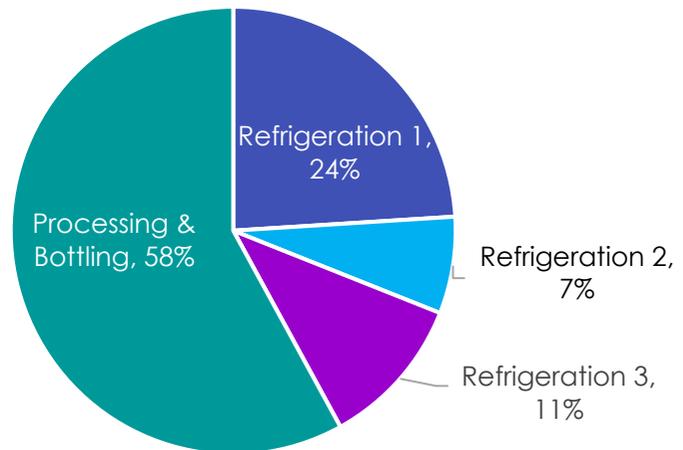


Figure 1: Electricity consumption by end use for the Bilbul site

What is a clean energy strategy?

The NSW Government is actively encouraging businesses to develop clean energy strategies for achieving 100% renewable energy and emissions reduction.

A strategy includes an individually crafted mix of measures for reaching a clean energy target. Measures might include energy reduction, energy efficiency, on-site solar or other renewable energy, off-site procurement of renewable energy or purchase of carbon emission offsets.

Fast facts: De Bortoli Wines energy situation and clean energy strategy

	Electricity consumption	<ul style="list-style-type: none">Estimated at 5,800 megawatt-hours per annum
	Energy cost	<ul style="list-style-type: none">Estimated at \$1.2 million per annum
	Clean energy target	<ul style="list-style-type: none">'Zero Waste Winery' goal
	Possible measures	<ul style="list-style-type: none">Energy efficiency and on-site renewablesRegional renewables and energy efficiency

Setting a target

De Bortoli Wines are considering two clean energy targets: one internal and one external. Both targets are driven by the company's aspiration of becoming Australia's first 'Zero Waste Winery'.

De Bortoli Wines has recognised that becoming a zero waste winery requires broader consideration of the company's role in the Riverina community as a leader and influencer. This presents the opportunity for the winery to achieve larger-scale change beyond its own footprint, to that of neighbouring communities and businesses within the Riverina.

This aspiration drives work on reaching year-on-year productivity targets, reduces the risk of exposure to future electricity and gas prices and drives De Bortoli Wines towards 'world's best practice' for action on climate change. In doing so, De Bortoli Wines aim to set a standard for their industry and beyond.

Exact figures associated with the targets will be finalised by the Board, but fall under two types of targets:

Emissions Reduction – at a minimum, achieve site-based emissions reduction (Scope 1 and 2) in line with Australia's Kyoto targets (15-25% below 2000 levels by 2020), COP21 targets and the NSW Government aspirational objective of net-zero emissions by 2050.

Community Energy Independence – by 2025 aim to achieve the highest possible percentage of participating households in the Griffith community (and broader Riverina) adopting energy-efficient home improvements and renewable energy (with the exact target to be set with project partners).

Measures to reach the target

The clean energy strategy identified a range of options to achieve the proposed targets.

De Bortoli Wines is investigating the following high priority measures:

Energy efficiency

- overhaul refrigeration and process plant to improve efficiency by 10%
- install voltage optimisation to reduce electricity consumption by 2%
- develop a formal Energy Management System compliant with ISO 50001

On-site renewable energy

- expand solar PV (ground-mounted): 1.2 megawatts with or without battery

storage, around \$400,000 savings annually.

- pyrolysis to create biogas to offset natural gas use, and possibly to convert to electricity via cogeneration

Regional renewable energy

- a hybrid renewable energy system – solar PV and biomass – to be developed with other businesses in the local area

Household energy

- a proposed program to assist communities and households reduce energy consumption and implement renewable energy (the exact targets are still to be set with the project partners).

De Bortoli Wines' key clean energy strategy takeaways

Think creatively about the opportunities: The clean energy strategy process helped De Bortoli Wines explore new options. It highlighted an opportunity to use the company's reputation and influence to reduce energy consumption and emissions in the local community.

Collaborate with government: Involvement in the NSW Government's Sustainability Advantage program helped De Bortoli Wines to access knowledge and expertise. Collaboration with government also provided opportunities for De Bortoli Wines to collaborate with other businesses.

For more clean energy case strategy studies and a how-to guide for developing a clean energy strategy, visit energy.nsw.gov.au/clean-energy-strategies. While every reasonable effort has been made to ensure that this document is correct at the time of printing, the State of NSW, its agents and employees, disclaim any and all liability to any person in respect of anything or the consequences of anything done or omitted to be done in reliance or upon the whole or any part of this document. October 2018 © Crown Copyright State of NSW through NSW Department of Planning and Environment 2018.

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