

Solar heating at DB's Redwood Cidery

Brewing a Better New Zealand

DB Breweries has been focused on reducing greenhouse gas emissions in production for many years.

Our emissions in production come mainly from natural gas, purchased steam and electricity in our breweries and cidery. We monitor these emissions and have programmes in place to help lower them – like investment in infrastructure, energy efficiency, using renewable energy sources and waste reduction. Our specialist Total Productive Management (TPM) teams manage these efforts and regularly examine resource consumption at our production sites, as well as including efficiency provisions in our rolling capital expenditure plans when plants and equipment is upgraded.

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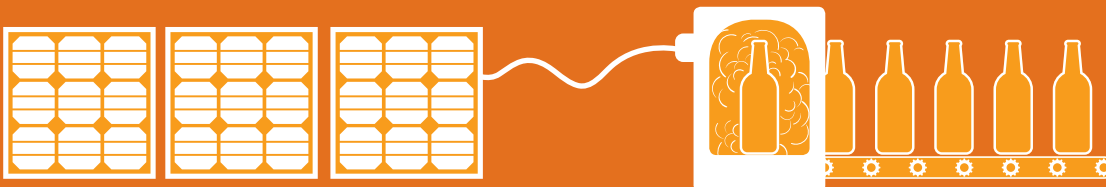
Cider and sunlight

Our Redwood Cidery in Nelson produces around 60% of New Zealand's cider. The cidery wanted to reduce its electricity use in production, particularly the energy used for hot water generation for its bottling line sterilisation.

Due to the high number of sunshine hours in the region, we commissioned a hot water solar unit for the bottling line sterilisation process, which was, until then, done through electricity only. The unit was installed in March 2015 and includes:

- four banks of 30 evacuated tubes and manifolds
- an expansion vessel
- a solar controller and solar powered pump
- frame pitched to 45°
- an SC300 controller

Throughout the first year of commissioning, the team used a combination of electric and solar for the bottling line sterilisation process and results were encouraging. In 2016, bottling operator Aaron Eynon noticed that the bottling line was using 15 hectolitres of water but was filling up to its 30 hectolitre capacity. We changed the procedure to only use 15 hectolitres, leading to increased efficiency of the solar unit and further reduced electricity consumption.



Next we changed the sterilisation timings, a simple move with a big impact. Sterilising before the production shift started had resulted in heat loss in the sterilisation tank overnight, wasting the solar generated heat from the previous day. Once we moved to sterilising at the end of the shift, the time required for electrical heating reduced from five hours to two hours. We also started using thermal heated water to top up the tank after sterilisation instead of cold water. This kick starts solar heating and means thermal use is minimal.



About DB Breweries

DB Breweries is one of New Zealand’s most iconic companies and we’ve been brewing beer at our main site in Waitemata since 1930.

Today we produce and sell a wide range of high quality beers and ciders, including premium global brands such as Heineken, Tiger and Lagunitas, local favourites Tui and DB Export, and leading craft brands Monteith’s, Tuatara and Black Dog. We also operate Drinkworks, which markets and distributes premium beer and cider in Australia, and have a direct interest in 21 licensed premises in Auckland through Joylab, a joint venture with JAG Hospitality Group.

DB is 100% owned by HEINEKEN Asia Pacific Limited. While our shareholding is global in nature, DB remains very much a New Zealand company with strong ties to the local community. All of our breweries, and our cidery, have long histories in New Zealand and are embedded with a strong sense of Kiwi pride.

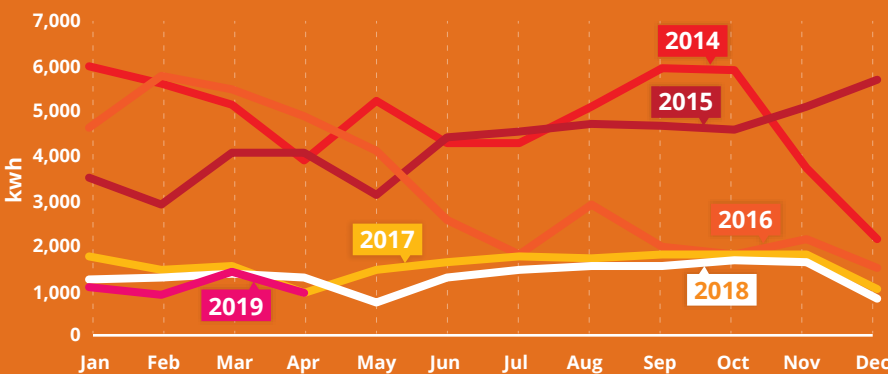
Top tips

- No idea is too small. Part of our sustainability ethos is ‘drop by drop’. When added together, ideas for improving efficiency can make a measurable difference to overall energy and carbon emission reduction.
- Don’t rest on your laurels. Using solar power in sterilisation was a good start, but by continually looking for ideas to use solar as efficiently as possible, we reduced our energy consumption more than we anticipated.
- Ideas can come from anywhere. Aaron Eynon’s observation of the sterilisation line capacity was a simple change, but has increased efficiency of the solar unit.

The outcomes

The unit has consistently reduced our electricity consumption from 2.54-kilowatt hours per hectolitre packed product in 2014 to 0.71 in 2018.

Sterilisation Hot Water Tank Electrical Consumption



More information

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