AWRI opportunities in a new climate

Case study

Winery greenhouse gas emissions - Winemaking Tasmania

Background

Winemaking Tasmania provides premium contract winemaking services to many of Tasmania's grapegrowers who do not own a winery. Winemaking Tasmania provides red, white and sparkling winemaking, bottling, labelling and storage facilities for its clients from across the state and it also provides contract cider making services to a growing number of producers. The company has a strong philosophy that investment in environmental initiatives drives business resilience and good economic outcomes. A holistic approach to minimising the environmental impact of the winery is taken across the business.

One of the biggest commitments recently undertaken by Winemaking Tasmania was the installation of a solar power system in 2015. However, multiple small initiatives all contribute to the outstanding ranking of Winemaking Tasmania as the lowest greenhouse gas emitter per tonne of grapes crushed in the small winery Entwine membership category.

Greenhouse emission reduction strategies at Winemaking Tasmania

Electricity is the primary source of greenhouse gas emissions (GHGs) from wineries and it is also a significant cost to winery businesses. In 2015, Winemaking Tasmania invested in a 400-panel solar power system which covers 630 square metres. This is supported by five 20 kW high efficiency solar

inverters. It is estimated that the new solar power system will generate 146,000 kWh annually (saving around $30,000) and has offset over 100 tonnes of CO_2 equivalents through reduced power use from the grid.

In 2015 Winemaking Tasmania crushed over 1,200 tonnes of grapes and the winery is expected to increase its capacity in the future. Being a contract processing facility, the winery is designed for many small batches of wine which does not lend itself to optimal efficiency. However, the cultural approach across the business is to maximise efficiency wherever possible. Some of the other initiatives being implemented at Winemaking Tasmania include:

- Minimising the area required for storage by using specially designed plastic racks (Figure 1);
- Maximising the use of ambient temperature to heat and cool the winery and storage areas;
- Installing insulation throughout the facility;
- Training winery staff to be 'energy-wise' and minimise electricity usage.

Figure 1. Plastic racks used to minimise storage space at the winery.

It is also beneficial that Winemaking Tasmania does not have to deal with the extremes of high temperature experienced in other Australian wine regions.

It is expected that the combined impact of these other initiatives will contribute to both further cost savings and reducing the overall emissions from the business.

Greenhouse gas emissions 2014/15

In 2014/15 Winemaking Tasmania was the best ranked Entwine member winery in the 500-2000 tonne (small) category in terms of the total on-site greenhouse gas emissions per tonne of grapes crushed (Figure 2). Contributing to this outstanding ranking was a low ranking in fuel use (in the lowest 13% of members) and electricity (lowest 6% of members). The low fuel ranking is likely to be because Winemaking Tasmania is a contract processing facility which does not have its own vineyards and the associated travel requirements. The low electricity usage is likely to be a result of the combined impact of the energy savings initiatives listed above and also the reduced demand for electricity from the grid because of the solar panel system.

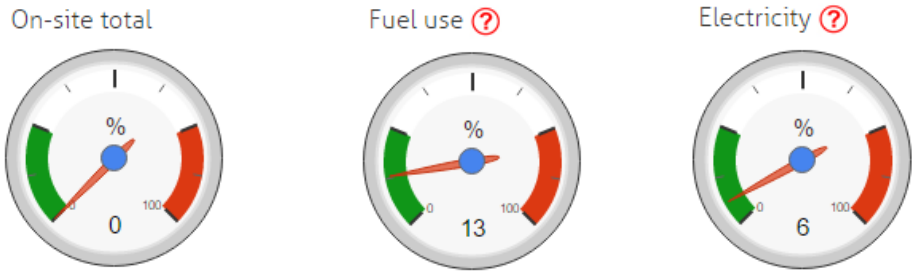

Figure 2. Ranking of Winemaking Tasmania's greenhouse gas emissions per tonne of grapes crushed in 2014/15, compared to similar sized Entwine member wineries. On-site total greenhouse gases (left dial) and greenhouse gas emissions from electricity use (right dial), show that Winemaking Tasmania is the lowest ranked of all similar sized wineries for total on-site greenhouse gas emissions and in the lowest 6% of similar sized vineyards for emissions from electricity.

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References and further reading

Winemaking Tasmania

Winemaking in a changing climate

Improving winery energy efficiency – St Hallett case study

Contact

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