

## Megawatts & Merlot

Just as the Pacific Northwest geography produces valuable hydropower, the region's climate and soils are ideal for growing and producing world-class wines. The regional winery industry has exploded over the last twenty years. In Washington state, which is second only to California in U.S. wine production, it is estimated that a new winery opens every week. Washington currently boasts more than 500 wineries in nine American Viticultural Areas (AVAs). The Oregon winery landscape includes more than 300 wineries in 13 AVAs, and Idaho has a single AVA with approximately 40 wineries.

In addition to its ability to produce quality wines, the region is also known for its aggressive approach to energy efficiency. The Bonneville Power Administration (BPA) and your local public utility recognize that energy efficiency is the first, low-cost source of new energy supply – and are working together to bring energy savings to wineries.

Environmental stewardship that places value on a “best-practices,” agro-ecosystem approach, also involves energy efficiency with the goal of improving land management practices. By saving energy, the winery operator may be able to reduce costs.

Many process applications at wineries – including crushing, de-stemming, pumping, cooling and fermenting – are ripe for energy efficiency improvements. Sustainable water management and water quality related to vineyard irrigation, and winery wastewater treatment also lend themselves to energy efficiency applications. Whether in a new facility or in a retrofit, BPA and your local public utility may offer rebates for energy efficiency projects. Check with your accountant – state and federal tax incentives may also be available for some energy-efficient upgrades or installation of energy-efficient measures in new winery construction.

See the back of this sheet to learn specific ways you can gain energy efficiency in your winery operation.



### Energy savings at work:

#### Ste. Michelle Wine Estates

Ste. Michelle Wine Estates is a collection of distinctive wine estates, each allowed to explore to the fullest extent the unique growing conditions and winemaking practices. The wines of Ste. Michelle Wine Estates receive some of the highest accolades in the industry. And not only is the company's leadership experienced and deeply passionate about the wine industry, they also have taken steps to assure their wineries are energy efficient.



400 Watt High Pressure Sodium (HPS) lighting was retrofitted to high performance T-5, and glycol piping insulation was installed. Ste. Michelle Wine Estates can expect to see a simple payback on their energy bill, after utility rebate, of less than three years for both projects.

## What services and incentives are available?

Wineries can control operating expense through building energy efficiency capabilities in new and existing facilities. Services may include energy audits, design assistance and energy education. Specific incentives are available for many energy efficient activities, including:

**Lighting upgrades.** In addition to energy cost savings from 25-50%, energy-efficient lighting frequently provides longer equipment life, increased employee productivity and morale, and positive reactions from customers touring your winery.

**HVAC improvements.** HVAC system tune-ups and other improvements can lower energy bills, reduce maintenance and overall operating costs, and maintain more uniform temperatures throughout your winery.

**Pipe insulation.** Because pipe insulation is so effective you'll see a return on your investment within a few years. It can help maintain consistent process temperature and even extend the life of equipment. And you can save considerable heating and cooling costs.

**Compressed air improvements.** A compressed air audit can identify technical improvements that can not only provide energy savings, but can reduce downtime, reduce moisture and contamination in the system air, provide more consistent system pressure and restore delivery of adequate pressure to all system components.

**Variable Frequency Drives (VFDs).** VFDs save energy and increase the performance and life span of industrial grade motors, such as those found at wineries (two horsepower and up). VFDs are like dimmers for motors, providing soft starts and slow ramp up speeds that extend the life of the motor. Because specified motors using VFDs draw less power from the utility grid, your local utility may offer rebates, which vary depending on the application and energy-savings potential.

**Refrigeration.** Inefficient evaporators and chillers waste energy and can impact quality in wine making. In storage facilities, frost build up on evaporator coils reducing heat transfer and air flow through the evaporator coil. Chillers plagued with poor heat transfer and refrigerant feed fluctuation impede performance and put equipment at risk. Energy efficient refrigeration systems can help overcome these problems and may save 15% to 20% on energy costs.

## How does it work?

Your first step is to contact your local public utility. They'll work with BPA to conduct an audit on your winery performed by a BPA engineer or a technical service provider familiar with winery operations. Cost-effective measures are identified, and incentives are provided by BPA and your utility for many installed measures.

## Winery Energy Efficiency Resources

First developed by Lawrence Berkeley National Laboratory, the **Best Winery** application was developed to help California wine professionals track and manage their energy and water resources. You can learn more and download an Oregon version of the tool at

[solardat.uoregon.edu/OregonBestWinery.html](http://solardat.uoregon.edu/OregonBestWinery.html)

**Vinewise**, the Washington Guide to Sustainable Viticulture, is an online, interactive guide of business and viticulture topics created by and for Washington state wine grape growers and vintners to determine and assess their current viticulture management practices against industry standards of sustainability. Learn more at [www.vinewise.org](http://www.vinewise.org)

Contact your **local public utility**. They can provide consultation to help your winery become more energy efficient.