



# Wineries

Many processing applications at wineries including irrigation, harvest, and storage are ripe for energy improvements.



## Upgrade to Efficiency

Energy-saving enhancements such as lighting upgrades, HVAC, pipe insulation, compressed air, Variable Frequency Drives (VFDs), and refrigeration are all eligible opportunities for utility incentives. Reduce utility costs and improve cash flow with energy-efficient upgrades from the field to the office.

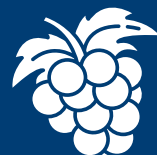
### LIGHTING

In addition to energy-cost savings of 25 percent to 50 percent, energy-efficient LED lighting upgrades can increase visual acuity and lighting equipment life, improve security, and may also improve worker safety, productivity, and quality of work. You can save energy by converting old incandescent, halogen, and fluorescent lights to more efficient LEDs anywhere lights

## Lower Your Energy Costs

You work long, hard hours to keep your agricultural business bountiful and profitable. But how much time does it leave to consider how to operate at a lower cost?

Upgrading to energy-efficient tools and devices is proven to help you do just that—without sacrificing productivity. Available utility incentives can put cash back into your hands.



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# Tips for Reducing Energy Use

are used. LEDs last longer than other types of bulbs and come in a wide selection of colors and temperatures (warm or cool light). Adding lighting controls increases savings.

## **COMPRESSED AIR VFDS**

As much as 80 percent of the energy used to produce compressed air turns into heat. For many compressors over 15 horsepower, a lot of energy is still being wasted even when using very little air. By adding VFD technology, an air compressor can slow down, use less energy, and still deliver the required airflow. Savings of more than 50 percent have been documented.

## **PUMP HOUSE THERMOSTATIC CONTROLS**

During cold winters, pump house temperatures can fall below zero and threaten to freeze or burst pipes. Heaters are often used to prevent freezing conditions during those cold months. Thermostatic controls manage the operation of the heaters to prevent freezing pipes or tanks and shut off automatically when temperatures rise. Installing thermostatic controls can be as easy as plugging a device in between the space heater and the outlet.

## **WATER SYSTEM LEAK ABATEMENT**

Not all leaks in large water distribution systems are visible. Municipal water districts, golf courses, and irrigation distribution systems are examples of systems that may benefit from a leak-detection system survey. These surveys are typically conducted by companies that use

ultrasonic sound checks or other specialized equipment. Repairs made as a result of a survey help reduce water and pumping costs, and may be eligible for energy-efficiency incentives from your utility.

## **BATTERY CHARGER UPGRADE**

If you use indoor machinery such as fork trucks and lifting equipment, you may benefit from upgrading the battery chargers. Consider replacing a large, older battery charger with a new, high-frequency, solid-state unit. Solid-state battery chargers require far less standby power and increase the conversion efficiency from AC to DC. To be eligible, replace an existing battery with a new, high-frequency type battery charger with a rated input power of more than 2 kW that uses 10W or less of standby power, and a minimum power conversion of 89 percent. This measure does not apply to small, household-type chargers for products such as cell phones, toothbrushes, or power tools.

## **CUSTOM PROJECTS**

Wineries and their systems are often highly complex and unique. For this reason, many agricultural energy-efficiency opportunities are best approached as custom projects. For these projects, BPA has a bench of customer service engineers available to help customer utilities in identify custom project opportunities for retrofit and new construction. Any project expected to save energy is potentially eligible.