



# ENERGY SAVINGS TIPS

**Breweries and wineries are energy-intensive businesses that can benefit from energy-saving strategies that promote a sustainable image for the facility, reduce operational costs and save money.**

Most energy efficiency upgrades also improve:

- Comfort
- Safety
- Indoor air quality
- Equipment life

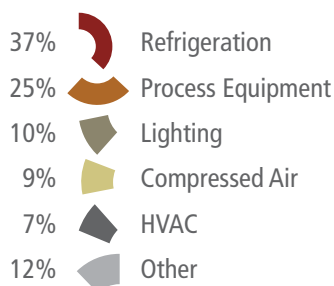
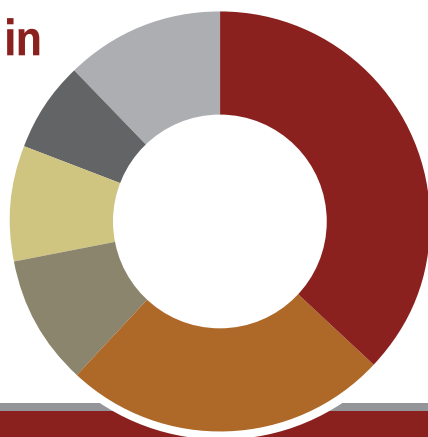
# BREWWERIES & WINERIES



**IDAHO  
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An IDACORP Company

## Electricity Use in U.S. Breweries and Wineries



Source: E-Source, Wineries and Craft Breweries Sector Snapshots, 2018

## REFRIGERATION AND PROCESS COOLING

- Cold storage areas and tanks used for fermenting and aging can lower refrigeration system energy by adding or repairing insulation. Insulation can reduce cooling energy by 25% or more.
- Upgrade refrigeration systems to include efficient controls technology such as floating head and floating suction pressure control. An increase of one degree on the suction temperature or a one degree decrease in condensing temperature can result in savings of 2% for refrigeration systems.
- Keep evaporator coils clean and free of build-up. Dirt and ice build-up can prevent heat transfer and make the refrigeration system work harder to maintain the same temperature.
- Seal refrigerator and freezer doors. Air gaps let warm air enter the refrigerator or freezer, increasing the load on the system.
- Install strip curtains in the doorways of walk-in coolers to reduce air infiltration by 75%.
- Install auto-closers on reach-in and walk-in cold storage doors.
- Compressors are designed to be most efficient at full load. With multiple compressors, run one machine at part-load with other units always running at full load.
- Upgrade to high-efficiency chillers with variable frequency drives (VFDs) to reduce energy costs by 20% or more. These machines are more efficient at part-loads and they reduce noise and have lower maintenance costs than standard chillers.
- Refrigeration waste heat from the compressor discharge can be used to preheat boiler water or other hot water requirements. This helps reduce refrigeration system energy as well heating energy.

## LIGHTING

- Upgrade to LEDs which can last up to 25 years and reduce energy use by over 90%. If you haven't upgraded to LEDs, get a quote from a lighting vendor or contractor. Incentives are available and often lead to project paybacks of one to three years.
- Exterior lighting is often overlooked. Due to the required mounting heights and the fact that these typically run about half of the day, energy use adds up in a hurry. LEDs are engineered to direct the light precisely and minimize light pollution. Think about controls that dim or shut off exterior lighting that is not needed during certain times of night.
- Shut off lights when they are not needed and install occupancy sensors in areas with low traffic like bathrooms and storage areas.
- Daylighting takes advantage of natural ambient light and reduces the amount of electric lighting needed. Automatic photo sensor controls that sense daylight help ensure that electric lighting is reduced when enough daylight is available.







U.S. beer and wine sales totaled over **\$100 billion** in 2018.

The brewing process typically uses **12-25 kWh** per barrel.

The number of Idaho breweries grew **85%** from 2013 to 2018.

Over **60%** of a winery's electricity is used by refrigeration and process equipment.

## COMPRESSED AIR

- Generate compressed air at the pressure needed. Many times, the compressor discharge pressure is set too high and up to 50% can be saved by reducing discharge pressure to what is needed for operations.
- Air leaks are a major source of energy loss, sometimes doubling the amount of energy required to provide compressed air. These leaks also increase the compressor discharge pressure needed to meet end-use requirements. Consider purchasing a leak detector to find compressed air system leaks and fix them as quickly as possible.



### Other Opportunities

- When the facility is unoccupied, raise the temperature during the summer and lower it during the winter. You can also try small temperature changes during working hours. A one-degree change is not harmful to health or comfort and is frequently unnoticed.
- Have a licensed professional check, clean, calibrate and lubricate your economizers once a year. Consider installing economizers on units that don't currently have them.
- Only run conveyor systems when they're necessary to reduce energy use and demand while also conserving lubricants and water. Automatic controls can payback very quickly on these systems.
- High-volume, low-speed fans are circulation fans with diameters ranging from 4 to 24 feet. Also called destratification fans, these ceiling fans can help maintain consistent air temperatures in cellars or warehouses, which reduces cooling needs.
- Fans and pumping systems that have variable loads can benefit from installing VFDs and controls to achieve higher efficiency part-load operation.

### Additional Resources

Register for **My Account** at [idahopower.com/myaccount](https://idahopower.com/myaccount) to pay your bill, get account information, understand your use and find more ways to save.

Review the U.S. Department of Energy's **BEST Winery Guidebook: Benchmarking and Energy and Water Savings Tool for the Wine Industry**.

Idaho Power has programs available to help customers just like you save energy and money. To learn more, visit [idahopower.com/business](https://idahopower.com/business).



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