

ENERGY-SAVINGS TIPS BREWERIES & WINERIES

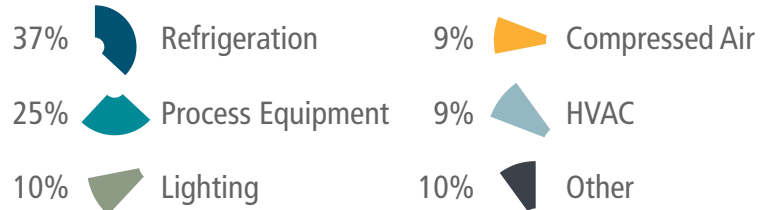
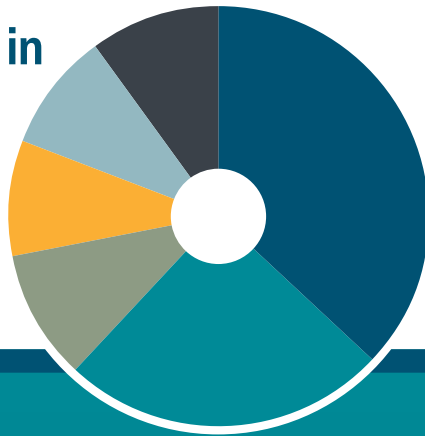


Energy-intensive businesses like breweries and wineries can benefit from energy-saving strategies that promote a sustainable image for the facility, reduce operational costs, and save money.

Most energy efficiency upgrades also improve:

- Comfort
- Safety
- Indoor air quality
- Equipment life

Electricity Use in U.S. Breweries and Wineries



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

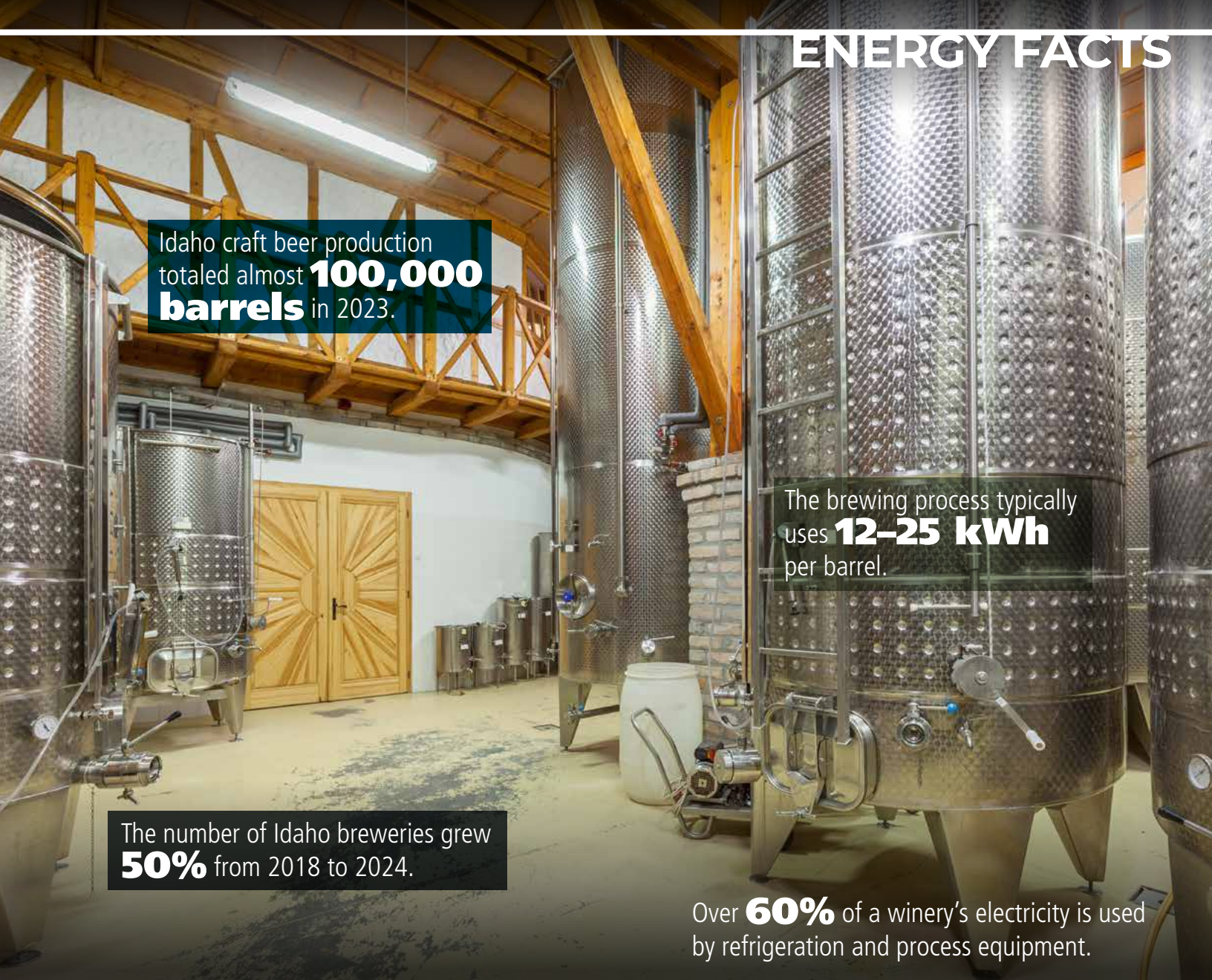
REFRIGERATION AND PROCESS COOLING

- Add or repair insulation to cold-storage areas and tanks used for fermenting and aging to lower refrigeration system energy use by 20% or more.
- Upgrade refrigeration systems to include efficient-control 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 to 3% 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 up to 75%.
- Install auto-closers on reach-in and walk-in cold storage doors.
- Run compressors at full load to maximize efficiency. 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 (VFD) to reduce energy costs by up to 45%. These machines are more efficient at part-loads, reduce noise, and have lower maintenance costs than standard chillers.
- Use refrigeration waste heat from the compressor discharge to preheat boiler water or other hot water requirements. This helps reduce refrigeration system energy and 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 in one to three years.
- Consider exterior lighting improvements. Due to the necessary mounting heights and the fact that they operate for about half the day, energy consumption can increase rapidly. LEDs are a great option as they direct light precisely and reduce light pollution. Additionally, using controls to dim or turn off exterior lights when they aren't needed during certain times of the night can further cut down on energy use.
- Shut off lights when they are not needed, and install occupancy sensors in areas with low traffic like bathrooms and storage areas.
- Take advantage of daylighting (natural ambient light) to reduce the amount of electric lighting needed. Automatic photo-sensor controls that sense daylight help ensure electric lighting is reduced when enough daylight is available.





Idaho craft beer production totaled almost **100,000 barrels** in 2023.

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

The number of Idaho breweries grew **50%** from 2018 to 2024.

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. A 20% reduction in discharge pressure can yield a 20% reduction in energy usage.
- Fix air leaks to reduce a major source of energy loss. Leaks can double the amount of energy required to provide compressed air. These leaks also increase the compressor discharge pressure needed to meet end-use requirements. Visit idlboise.com/about-erl to check out a leak detector and other energy efficiency resources.





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. Install economizers on units that don't currently have them.
- Run conveyor systems only when they're necessary to reduce energy use and demand to conserve lubricants and water. Automatic controls can payback very quickly on these systems.
- Maintain consistent air temperatures by installing high-volume, low-speed circulation fans with diameters ranging from 4 to 24 feet. These ceiling fans can help maintain consistent air temperatures in cellars or warehouses, which reduces cooling needs.
- Install VFDs to existing fans and pumping systems with variable loads to achieve higher efficiency part-load operation.

Additional Resources

- Register for **My Account** at idahopower.com/myaccount to pay your bill, get account information, understand your use, and find more ways to save.
- Contact your local-area energy advisor for support at idahopower.com/energyadvisor.
- Idaho Power has programs available to help customers just like you save energy and money. To learn more, visit idahopower.com/business.



P.O. Box 70
1221 W. Idaho St.
Boise, ID 83702
idahopower.com