Industrial Services FACTSHEET

Winery Energy Efficiency Resource List

The following links were selected by the Washington State University (WSU) Extension Energy Program to provide winery operators and managers objective and timely information resources about energy efficiency.

Washington State Resources

Bonneville Power Administration Winery Incentives

- Your local utility may offer these incentives or technical assistance. *http://www.bpa.gov/energy/n/pdf/BPA_winery_incentives_4-20-09.pdf*

NEEA Regional Training Calendar

- Find upcoming training for plant operators, managers or executives in the Northwest. *http://www.nwalliance.org/participate/calendar.aspx?MODE=CALENDAR&CATEGORY=Industrial*

WSU Extension Energy Program

- Engineering Assistance and Training for Wineries *http://www.energy.wsu.edu/IndustrialEfficiency.aspx*
- *Industrial Energy Newsbriefs*: A free monthly review of articles, reports, news, funding opportunities and trainings. *http://www.energy.wsu.edu/IndustrialNewsbriefs/*
- *Energy Efficiency Resources for Northwest Industries* (pdf), A guide to programs and organizations in the Northwest. *http://www.energy.wsu.edu/Documents/IndustrialResources-jan19.pdf*

Washington Association of Wine Grape Growers *www.wawgg.org*

- *Winery Wise* is an online interactive resource to support sustainable operations and management. *http://www.wawgg.org/index.php?page_id=94*
- *What Do I Need to Know About Energy Efficiency in my Winery-Checklist of Questions? (doc) http://www.wawgg.org/files/documents/WINEWISE-Energy_Efiiciencies_Checklist.doc?PHPSESSID=9e0e0f2d187f7333faf7257f6918d723*

WSU Viticulture and Enology *http://www.wine.wsu.edu*

- *Voice of the Vine* newsletter: *http://wine.wsu.edu/vinevoice/*

Washington State Department of Ecology

- *Technical Resources for Engineering Efficiency* Assistance with planning and implementing reductions in your water, waste and energy use. *http://www.ecy.wa.gov/tree/index.html*

Where to Start:

Encourage staff to reduce energy use and then reward their actions and ideas

Set up and use an energy accounting and monitoring system

Contact the utility company about their efficiency programs

Schedule an energy audit or assessment

Develop a plan to implement results of the assessment

Implement the plan

Re-evaluate the plan annually

Management and Operations Resources

Benchmarking and Self-Assessment in the Wine Industry. Proceedings of the 2005 ACEEE Summer Study on Energy Efficiency in Industry, Christina Galitsky and Anthony Radspieler, Lawrence Berkeley National Laboratory, Ernst Worrell, Ecofysm, Patrick Healy and Susanne Zechiel, Fetzer Vineyards, July 2005. *http:///ies.lbl.gov/iespubs/59957.pdf*

Benefits of Energy Auditing for your Winery. "Practical Winery & Vineyard Magazine", May/June 2005. *http://www.practicalwinery.com/mayjune05/mayjune05p6.htm*

Benefits of Energy Auditing for Wineries and Vineyards (pdf), Wine Institute, Fall 2007. *http://www.wineinstitute.org/files/energyaudit.pdf*

BEST-Winery: Benchmarking and Energy and Water Efficiency Savings Tool and Guidebook, Lawrence Berkeley National Laboratory and Fetzer Vineyards, 2007. Review or download the integrated benchmarking and self-assessment software tool for the California wine industry. *http://best-winery.lbl.gov/*

California Sustainable Winery Program Qualified Wineries. *http://www.sustainablewinegrowing.org/certifiedparticipants.php.* Program guidebook (pdf) includes energy chapter beginning on pg 95. *http://www.sustainablewinegrowing.org/docs/Certification%20Guidebook.pdf*

California Wine Community Sustainability Report 2009 (pdf) – Chapter 9: Energy Efficiency. Reviews plans, actions, technologies and best practices to implement. *http://www.sustainablewinegrowing.org/docs/cswa_2009_report_chapter_9.pdf*

Comprehensive Guide to Sustainable Management of Winery Water and Associated Energy (pdf), Kennedy/Jenks Consultants for the Wine Institute, 2010. *http://www.wineinstitute.org/files/AVF-Guide.pdf*

The Grapes of Wrath: Climate Change and the Wine Industry, PBS, April 30, 2010. A winery manager discusses possible impacts of climate change on the industry. *http://www.pbs.org/wnet/need-to-know/economy/the-grapes-of-wrath-climate-change-and-the-wine-industry/263/*

A Guide to Energy Efficient Innovations in Australian Wineries (pdf), Commonwealth of Australia, 2003. *http://www.ret.gov.au/energy/documents/best%20practice%20guides/energy_bpg_wineries.pdf*

Saving Energy with Tank Insulation, "Wine Business Monthly", 2003. *http://www.winebusiness.com/wbm/?go=getArticle&dataId=27895*

A Texas Winery Saves Energy and Money Thanks to USDA Grant, USDA Blog, 2011. *http://blogs.usda.gov/2011/01/11/a-texas-winery-saves-energy-and-money-thanks-to-usda-grant/*

About the WSU Extension Energy Program

Our staff of approximately 100 includes energy engineers, energy specialists, technical experts, software developers, and energy research librarians who work out of our Olympia, Spokane, and other satellite offices.

Our customers include large and small manufacturing plants and commercial businesses, public and private utilities, local and state governments, tribes, federal agencies and facilities, professional and trade associations, schools, universities, national laboratories, and consumers.

For more information, visit *www.energy.wsu.edu*.

Winery Lighting Upgrades, "Practical Winery & Vineyard Magazine", March/April 2009. *http://www.practical-winery.com/MarApr09/page1.htm*

Why Solar Makes Sense: Boutique Wineries Take Advantage of Incentives. "Wines & Vines", 2007. A summary of eight California wineries that took advantage of solar photovoltaic incentives.
http://www.winesandvines.com/template.cfm?section=features&content=50614

U.S. Department of Energy Program Resources

The U.S. Department of Energy (DOE) operates the Industrial Technologies Program, which offers a range of resources to help you save energy and money, including:

- Corporate Energy Management
  http://www1.eere.energy.gov/industry/bestpractices/corporate_energy.html
- EERE Information Center Technical Assistance,
  https://www1.eere.energy.gov/informationcenter/
  1-877-337-3463 or *eereic@ee.doe.gov*.
- Industrial Assessment Centers: *http://iac.rutgers.edu/database/*
  Search the database of assessment recommendations and data for wineries (SIC Code 2084).
- Software Tools: *http://www1.eere.energy.gov/industry/bestpractices/software.html*
- Training Calendar: *http://www1.eere.energy.gov/industry/bestpractices/events_calendar.asp*
- Library of Publications: *http://www1.eere.energy.gov/library/default.aspx?page=6*

Selected U.S. DOE Publications

- 3E+ Insulation Software: Estimate heat infiltration into chilled glycol lines as well as wine tanks.
  http://www1.eere.energy.gov/industry/bestpractices/software_ssat.html
- Chilled Water System Assessment Tool: Provides energy consumption and operational costs of chillers, pumps and towers under various conditions.
  http://www1.eere.energy.gov/industry/bestpractices/pdfs/chilled_water_tool_fs.pdf
- Tip Sheet #7: Compressed Air System Control Strategies
  http://www1.eere.energy.gov/industry/bestpractices/pdfs/compressed_air7.pdf
- Tip Sheet #4: Analyzing Your Compressed Air System
  http://www1.eere.energy.gov/industry/bestpractices/pdfs/compressed_air4.pdf
- Tip Sheet #8: Stabilizing System Pressure
  http://www1.eere.energy.gov/industry/bestpractices/pdfs/compressed_air8.pdf
- Tip Sheet #10: Engineer End Uses for Maximum Efficiency
  http://www1.eere.energy.gov/industry/bestpractices/pdfs/compressed_air10.pdf

U.S. Environmental Protection Agency Resources

Resources for corporate, facility and energy management including employee awareness, assessments, planning and financial evaluation:

- *http://www.energystar.gov/index.cfm?c=industry.bus_industry_info_center*
- *http://www.energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources*

Case Studies: Energy Efficiency at Wineries

11 LEED Winery Projects in North America, Profiles and photos.
http://www.winespectator.com/webfeature/show/id/42211

Canandaigua Wines: Compressed Air System Upgrade Saves Energy and Improves Performance at a Winery (pdf), U.S. Department of Energy, March 2005.
http://www1.eere.energy.gov/industry/bestpractices/pdfs/perfspot_canandaigua_wines.pdf

From the *California Flex Your Power: Best Practice Guide*

- Vineyard 29: *http://www.fypower.org/bpg/case_study.html?b=food_and_bev&c=Vineyard_29*
- Fetzer Vineyard: *http://www.fypower.org/bpg/case_study.html?b=food_and_bev&c=Fetzer_Vineyard*
- J Vineyards and Winery: *http://www.fypower.org/bpg/case_study.html?b=food_and_bev&c=J_Vineyards_and_Winery*
- Business Case Study: Ernest and Julio Gallo Winery: *http://www.fypower.org/pdf/CS_Biz_GalloWinery.pdf*

Asti Winery: Green Commitment Leads to Energy Management, PG&E, October 2008.
http://www.pge.com/includes/docs/pdfs/mybusiness/energysavingsrebates/demandresponse/incentives/Asti_Integrated_CaseStudy_winery.pdf

Wastewater Energy Program Case Study: LangeTwins Winery (pdf)
http://www.baseco.com/wep/documents/1_LangeTwinsWinery-case-study.pdf

Jordan Winery Upgrades Reduce Energy Use. Practical Winery & Vineyard Magazine. March/April 2010.
http://www.practicalwinery.com/marapr10/jordon1.htm

Frog's Leap Winery Being Green. Winery uses photovoltaic and geothermal energy systems, and is LEED certified.
http://www.frogsleap.com/html/beinggreen.html

More Information

Contact the WSU Extension Energy Program if you have questions about energy efficiency technologies, programs, training or on-site services.

Contact

Christine Love, Industrial Services Project Manager
WSU Extension Energy Program
P.O. Box 43165
Olympia, WA 98504-3165
Phone: (360) 956-2000

Email: epis@energy.wsu.edu
Web: *http://www.energy.wsu.edu/IndustrialEfficiency.aspx*

Note: All web addresses were correct at the time of publication.

Washington State University Extension Energy Program Mission Statement

To advance environmental and economic well being by providing unmatched energy services, products, education, and information based on world-class research.

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