

SAVING ENERGY ON YOUR FARM

BC VINEYARDS & WINERIES

Reducing energy consumption is an excellent way to reduce operating costs, as well as minimize environmental impacts. Below are some of the key energy saving opportunities applicable to vineyard and winery operations in BC. Consider these opportunities and work towards implementing those applicable to your operation.



photo by Sandra Tretick

Low or No Cost Opportunities

Quick ways you can reduce your energy costs right now:

- Disable or isolate air compressors when not required for extended periods of time. This can be automated using a time-clock.
- Consider zero-trimming. This reduces tractor fuel use, cost, and maintenance, as well as the associated greenhouse gas emissions.
- Early morning irrigation will reduce evaporative losses of water relative to irrigating during the daytime.
- Use the irrigation calculator available from the Irrigation Industry Association of BC (IIABC) to optimize your water application rate, at: www.irrigationbc.com
- Turn off kitchen exhaust hoods when not in use.

What are the next steps?

1. Implement low cost/no cost energy saving opportunities immediately.
2. Contact the **LiveSmart BC Agriculture Energy Advisor** to evaluate additional energy saving opportunities for your operation.
3. Use the LiveSmart BC Agriculture Energy Advisor to help you access incentive funding.
4. Implement projects and benefit from energy cost savings!

LiveSmart BC Agriculture Energy Advisor

The BC Agriculture Energy Advisor is a **FREE** resource available to assist producers with the following:

- Provide direction and guidance to reduce on-farm energy consumption;
- Visit farms to identify and quantify energy saving opportunities;
- Help to access financial incentives for energy upgrades where possible;
- Support with implementing energy efficiency measures;
- Monitor and verify energy savings;
- Provide technical information and fact sheets.

Agricultural producers are encouraged to contact the Energy Advisor at any time.

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Additional Opportunities for Vineyards and Wineries

Opportunity	Savings Potential*	Incentives**	Capital Cost	Payback
Lighting upgrades: Replace incandescent lamps with compact fluorescents or LED. Replace T12 fluorescent lamps with T8 or T5 lamps.	Variable, but as an example, for 2 x 110 watt T12 lamps (magnetic ballast), replacement with 4 x 32 watt T8 lamps will save approximately \$40/yr if on 12 hrs/day.	BC Hydro PIP / LiveSmart BC – varies depending on lamp type – \$30 per fixture for this example.	Approximately \$200 per fixture installed for this example.	4.8 yrs for this example.
Implement night set-back/up of space heating/cooling systems. Install or use existing programmable thermostats to drop your night-time heating setpoint and raise your night-time cooling setpoint.	Variable, but as a rule of thumb, expect 3% savings on your heating bill for each degree you set back your night temperature, and 1% on your cooling bill for each degree you set up your night temperature.	None available	If new thermostats are required, expect around \$200 per programmable thermostat installed.	Quick. Expect between 0 and 2 years .
Install kitchen demand controlled ventilation for kitchen exhaust and make-up air units. This system varies the exhaust and make-up air fan speeds based on cooking, reducing the ventilation heating/cooling load and fan energy requirements.	Savings will vary based on cooking demand. As an example, for a 2,000 cubic feet per minute (cfm) exhaust fan, \$2,500 in ventilation and fan energy savings would be typical.	BC Hydro PIP / LiveSmart BC For an exhaust fan motor <5hp, incentive is \$1300. For 5-15hp incentive is \$4300.	For the example shown, an installed cost of \$15,000 would be typical.	Approximately 5 years after incentive.
Insulate wine tanks to reduce refrigeration load. This can even be done using simple bubble-wrap type insulation.	For an operation cooling 300,000 litres of wine annually, expect electrical savings of around \$1,600 per year .	None available	Cost will vary depending on type of insulation used. Between \$8,000 and \$25,000 could be seen for a total tank volume of 300,000 L.	Variable. For example between 5 and 15 years .
Use electro-dialysis for wine stabilization rather than cold stabilization. Savings are achieved through a reduction in cooling requirements in comparison to the reduced electrical consumption used for electro-dialysis.	For an operation stabilizing 300,000 litres of wine annually, expect electrical savings of around \$2,200 per year .	None available	Variable depending on whether this is outsourced to a mobile unit or the equipment is purchased in-house.	Variable

* Savings are estimates only. Savings are based on the following energy costs: Electricity \$0.08/kWh, Gas: \$8/GJ

** Incentives may change without notice. Check with the BC Agriculture Energy Advisor for current incentive amounts.

Other Resources

- BC Agriculture Energy Advisor: www.bcagclimateaction.ca/energy
- LiveSmart BC Incentive Program: www.livesmartbc.ca/incentives
- Fortis BC Incentive Program: www.fortisbc.com/NaturalGas/Business/Offers
- BC Hydro PIP: www.bchydro.com/rebates_savings/product_incentive_program.html
- Agricultural Irrigation Calculator: www.irrigationbc.com



DISCLAIMER: All savings, capital costs, and incentive amounts shown in this fact sheet are estimates only and are not guaranteed. It is recommended that the producer contacts the BC Agriculture Energy Advisor to better quantify these for their own site before proceeding with a project.