

SAVING ENERGY ON YOUR FARM



Climate Action Initiative
BC AGRICULTURE & FOOD

BC PACKING AND COLD STORAGE FACILITIES

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 packing and cold storage facilities in BC. Consider these opportunities and work towards implementing those applicable to your operation.



photo courtesy of Investment Agriculture Foundation

Low or No Cost Opportunities

Quick ways you can reduce your energy costs right now:

- Repair leaky walk-in cooler doors to reduce cooling loads.
- Ensure any fans (including refrigeration condenser and evaporator fans) are clear and free from obstructions.
- Turn hot water supply temperature setpoints down to an appropriate temperature. 55 to 60 °C is sufficient and safe for domestic hot water.
- Install insulation around hot water tanks to limit standing losses.
- Disable hot water heat sources when hot water is not required for extended periods.

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 Packing and Cold Storage Facilities

Opportunity	Savings Potential*	Incentives**	Capital Cost	Payback
Implement night set-back/set-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 .
Retrofit gravity or power vented unit heaters with condensing unit heaters. Condensing unit heaters recover additional heat from the flue-gas, making them more efficient (93%) than standard options (65 to 80%).	For a 200 MBH (output) unit heater, expect around \$1,500/yr*** savings per heater compared to gravity vented, or \$600/yr*** compared to power vented.	None available	Approximately \$4,500 per condensing unit heater installed (200 MBH output).	3.0 yrs for gravity vented base-case. 7.5 yrs for power vented base-case.
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 turned 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.
Condenser-side heat recovery from refrigeration compressors. Reclaimed heat can be used to pre-heat packing rooms or domestic hot water.	Savings will vary depending on situation and potential use of recovered heat. As an example, for an 85,000 ft ² facility, savings of around \$1,400 /yr could be achieved.	None available	Cost will vary depending on access to systems, distance between heat sources, and sizing.	Variable <i>Contact the BC Ag Energy Advisor to evaluate this for your site.</i>

* Savings are estimates only. Savings are based on the following energy costs: Electricity \$0.08/kWh, Gas: \$9.00/GJ, Diesel: \$1.10/litre

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

*** Savings based on 2011 Kelowna weather data and assume unit heaters are sole source of heat.

Other Resources

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



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.