

SAVING ENERGY ON YOUR FARM

BC GRAIN FARMS

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 grain operations in BC. Consider these opportunities and work towards implementing those applicable to your operation.



photo by Tomas Bercic

Low or No Cost Opportunities for Grain Farms

Quick ways you can reduce your energy costs right now:

- Minimize the amount of times you work your land. If your soil type permits, consider zero-till or minimum-till techniques.
- Ensure aeration fans using belt-drives are well maintained. Where possible, use direct drive fans rather than belt-drive.
- Ensure vehicles and mobile equipment are not left idling unnecessarily. Installing idling timers on larger equipment can be cost effective.
- Regularly check tire pressures. Over-inflated tires can slip on loose or steep terrain, increasing fuel consumption. Under-inflated tires cause unnecessary drag which also increases fuel consumption.

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 Grain Farms

Opportunity	Savings Potential*	Incentives**	Capital Cost	Payback
<p>Replace tractor driven dryer conveyors with electric motors. Cost savings result from lower operating costs. A reduction in greenhouse gas emissions is also achieved.</p>	<p>For an average dryer used for 1 week per year, around \$600/yr in cost savings could be achieved by converting to an electric drive.</p> <p>CO₂ emissions will also be reduced by around 1.7 tons/yr.</p>	None available	Expect around \$2,300 including installation for a 10hp motor.	3.8 years for this example.
<p>Lighting upgrades: Replace incandescent lamps with compact fluorescents or LED. Replace T12 fluorescent lamps with T8 or T5 lamps.</p>	<p>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.</p>	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.
<p>For operations producing upwards of 250,000 bushels/yr, install automated dryer controls to measure moisture content of grain and vary auger speed accordingly. This prevents over-drying of grain and improves the standard deviation of end-product moisture content, increasing profit margins.</p>	<p>For an operation drying 250,000 bushels/yr, expect natural gas savings of around \$1,500/yr.</p> <p>CO₂ emissions will also be reduced by 8.3 tons/yr.</p>	None available	Costs will vary for each application, but around \$15,000 would be typical.	10 years for this example (excluding increased revenue from better quality end product.)

* Savings are estimates only. Savings are based on the following energy costs: Electricity \$0.08/kWh, Gas: \$9/GJ, Diesel: \$1.10/litre

** 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
- 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.