

# SAVING ENERGY ON YOUR FARM



Climate Action Initiative  
BC AGRICULTURE & FOOD

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



### Low or No Cost Opportunities for Poultry Farms

Quick ways you can reduce your energy costs right now:

- When replacing fans use high efficiency motors.
- Ensure fans are clean, balanced and in good condition.
- Use external wind covers on fan openings to prevent drafts during cooler periods.
- Repair or upgrade fan louvers to ensure they seal properly when closed.
- Repair building leaks to reduce winter air infiltration.

### What are the next steps?

- Implement low cost/no cost energy saving opportunities immediately.
- Contact the **LiveSmart BC Agriculture Energy Advisor** to evaluate additional energy saving opportunities for your operation.
- Use the LiveSmart BC Agriculture Energy Advisor to help you access incentive funding.
- Implement additional 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.

**Sam Thomas, Prism Engineering**  
[ag.advisor@prismengineering.com](mailto:ag.advisor@prismengineering.com)

[www.bcagclimateaction.ca/energy](http://www.bcagclimateaction.ca/energy)  
604-205-5510

## Additional Opportunities for Poultry Farms

Opportunity	Savings Potential*	Incentives**	Capital Cost	Payback
<b>Retrofit incandescent lamps</b> to dimmable cold cathode compact fluorescent (CC-CFL),  or, light emitting diode (LED) technology – <i>note that product selection is important.</i>	For a barn area of 15,000 ft <sup>2</sup> , expect approximately <b>\$200/year***</b> for 60W incandescent to 23W CC-CFL replacement.	None available	Approximately \$11 per lamp, or \$500 for 15,000 ft <sup>2</sup> of barn.	Approximately <b>2 years</b>
	For a barn area of 15,000 ft <sup>2</sup> , expect approximately <b>\$270/year***</b> for 60W incandescent to 12.5W LED replacement.	BC Hydro PIP and LiveSmart BC [\$8.80 per LED screw-in lamp]	Approximately \$30 per lamp, or \$1,300 for 15,000 ft <sup>2</sup> of barn.	Approximately <b>3.5 years</b> after incentive
<b>Improved barn insulation and sealing of barn envelope.</b> Ceiling insulation in particular has a large effect on heat loss. Improved thermal sealing and insulation also promotes a healthier flock.	Savings will vary depending on climate. As an example, increasing ceiling insulation from R18 to R30 for a barn area of 15,000 ft <sup>2</sup> will save approximately <b>\$900/yr</b> in the Lower Mainland.	None available	Approximately \$7,500 for 15,000 ft <sup>2</sup> of ceiling.	Approximately <b>8.5 years.</b> Added benefits of increased bird comfort and production also.
<b>Retrofit Forced Air Unit Heaters with Radiant Tube or Brooder Heaters (direct-spark).</b> Radiant heat only heats the objects it 'sees', whereas forced air heating has to heat the entire air volume within a space. Radiant heating also reduces ammonia levels and associated ventilation requirements, improving bird health and overall productivity.	Replace with <b>Radiant Tube:</b> Approximately <b>\$3,400/year</b> for a barn area of 15,000 ft <sup>2</sup> .	None available	Approximately \$15,000 for a 300 by 50 ft barn.	Approximately <b>4.5 years.</b> Added benefit of even bird distribution through barn.
	Replace with <b>Brooder Heater:</b> Approximately <b>\$2,000/year</b> for a barn area of 15,000 ft <sup>2</sup> .	None available	Approximately \$400 per brooder heater, or \$8,000 for a 300 by 50 ft barn.	Approximately <b>4 years</b>
<b>Install variable speed drives on your first-stage ventilation fans.</b> This allows full control of air flow and ensures fan capacity is matched to demand. Better air flow control also helps improve bird comfort.	Savings will vary depending on climate and ventilation requirements. As an example, for 15,000 ft <sup>2</sup> of barns with 3 first-stage fans, expect around \$900/yr.	BC Hydro PIP [\$90 per horsepower of fan motor]	Approximately \$9,000 for 3 VSDs at 3hp each.	Approximately <b>9 years</b> after incentive

\* 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.

\*\*\* Savings assume a 30% average dimming factor, operating hours of 5,600 hrs/yr, and an incandescent lighting intensity of 0.17 W/ft<sup>2</sup>.

### Other Resources

- BC Agriculture Energy Advisor: [www.bcagclimateaction.ca/energy](http://www.bcagclimateaction.ca/energy)
- LiveSmart BC Incentive Program: [www.livesmartbc.ca/incentives](http://www.livesmartbc.ca/incentives)
- Fortis BC Incentive Program: [www.fortisbc.com/NaturalGas/Business/Offers](http://www.fortisbc.com/NaturalGas/Business/Offers)
- BC Hydro PIP: [www.bchydro.com/rebates\\_savings/product\\_incentive\\_program.html](http://www.bchydro.com/rebates_savings/product_incentive_program.html)



**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.