



Farmers Target Increased Energy Efficiency

Across Alberta, agricultural producers are using new ideas and emerging technology to reduce their energy consumption. Growing Forward 2 is making this easier.

For greenhouse operators in Alberta's challenging climate, managing energy costs is an issue of the highest importance.

Consider Broxburn Vegetables, which operates a three-acre greenhouse growing peppers, tomatoes and cucumbers near Lethbridge. According to owner Paul de Jonge, the need to carefully manage energy costs has led him to try a number of different approaches over the years.

Some years ago, he ran the greenhouse with coal. While cost-effective, he considered the fuel too dirty for his liking. More recently, he used a natural gas boiler that's 95% efficient. The drawback here is that natural gas prices can be volatile, and when prices are high, it can take a bite out of his profitability.

Late in 2014, de Jonge unwrapped a piece of equipment that he believes has the potential to transform his energy destiny. It's a Japanese-made co-generation unit, acquired with cost-sharing from the *Growing Forward 2* [On-Farm Energy Management Program](#).

The unit's engine runs on natural gas, producing electricity for lighting, other fixtures and motors in the greenhouse. The unit also produces heat, which is captured and used to heat the greenhouse.

"It's nowhere near enough heat for the whole greenhouse," says de Jonge, "but I believe every BTU I capture is a BTU I don't have to put in."

Disappearing electricity bill

De Jonge is waiting to see how much difference the unit makes to his normally formidable electricity bill. He believes the best-case scenario is that he won't need power from the grid for several months of the year, and will only pay a demand charge in these months.

For de Jonge, this new co-generation unit has the potential to deliver what he considers the best of both worlds: a manageable cost, with the versatility to use captured heat to run his greenhouse. He likes that *Growing Forward 2* funding was available for this purpose.

"By encouraging production to be more energy efficient, we can become more competitive with greenhouse operators in places like Mexico," he says.

Program's popularity highlights producer commitment

Over the past year, the *Growing Forward 2* On-Farm Energy Management Program has received more than 400 applications for a wide variety of projects that improve energy efficiency on Alberta farms.

Alberta Agriculture and Forestry's Jason Price, who manages the program, notes there are many possible changes that an Alberta producer can make to start reducing their energy consumption. For those in the early stages, Price recommends you start here.



Get to know your energy bill. Know what's normal and what's not, know which equipment is using the most energy and consider putting in sub-meters for greater insight.

Think about and manage energy at a systems level. Are cooling processes going on at the same time as heating processes? Marry them up wherever possible.

Compare efficiencies between your existing equipment and the latest models. The return on investment can make updating worthwhile.

Whether you've already adopted new energy management solutions on the farm, or are relatively new to these practices, you're part of a movement that Price predicts will continue to gain momentum.

"I would characterize interest in this area as a steady march," says Price. "Producers are increasingly engaged with energy management. Climate change plays into it, but producers are also concerned with sustainability and want to be good stewards. Energy management is high on their list. The program is steadily growing, and that reflects the producer's interest."