

by Paul van der Werf

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Door Wide Open

Food waste can now be turned into compost, electricity or biofuel. Eating food provides us with sequestered solar energy, but we have largely ignored tapping into that energy once it becomes a waste. There's value in the energy of food we don't consume, if we allow its transfer back to the farmer's field. Capturing food waste's energy is the best strategy for accomplishing this.

In March, the Canadian Farm and Food Biogas conference was held in London, Ontario (www.gtm-conference.ca/site/index.php/canadian-farm-and-food-biogas) to discuss these kinds of issues.

On-farm biogas generation is part lingering post-Walkerton nutrient-management inclinations married to energy mining of agricultural wastes (tied together with the third prong: revenue streams for that energy and possibly from off-farm food wastes).

Ontario's *Green Energy Act* and its policies are controversial and routinely maligned. Some view it as an unsustainable subsidy machine. But sometimes real problems need good solutions, which in turn need a little help.

Wind turbines (which Ezra Levant recently likened to crucifixes!) and solar panels simply collect available energy. Similarly, the anaerobic digestion of food wastes into biogas is an elegant solution because it addresses the management of wastes *and* captures nutrients and energy.

There are currently about 30 biogas projects in various stages of development in Ontario, with about 10 fully operational. Currently about 6,000 kWh of electrical capacity is online. The Agri-Energy Producers of Ontario represents these facilities. Started by agriculture for agriculture they have been broadening their stage; to reflect this they changed their name post-conference to the Biogas Association.

"We want to include the entire value chain including farmers but also project funders, banks, technology suppliers and possible off-farm sources of waste," says Jennifer Green, Executive Director of the association. "The name change is recognition that we have been advocates on behalf of the industry and its many players."

The industry faces some challenges, among them the outcome of the Feed in Tariff review in Ontario. Currently, biogas converted to electricity gets a FIT of 10 to 19.5 cents per kWh. The hope of the Biogas Association is not so much for an increase but a FIT that follows the Consumer Price Index. Another issue is to get gas accepted as a renewable natural gas so that it can be used as part of the supply mix. The association has submitted an application to the Ontario Energy Board to that effect.



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ORGANIC MATTERS

There are considerable opportunities to capture energy and recycle nutrients from off-farm wastes.

“There’s a common misconception that the nutrients from off-farm wastes are going to lead to overloading on farmers fields; this is just not the case,” says Green. “The goal is to find the ‘sweet spot’ that creates efficiencies from all angles.”

As I have written previously, there have been challenges aligning the goals of off-farm food waste recyclers with on-farm sensibilities. There’s wariness from the agricultural sector of off-farm food waste, whether raw or processed, set in history.

As Doug Carruthers, from Organic Resource Management Inc. (ORMI), describes it, “Back in the 1980s the solid waste industry thought it

was doing the agricultural industry a favour by delivering food waste to farms for a few dollars.”

Farmers used this for animal feed. This ultimately led to examples of serious issues with animal health and ultimately resulted in the regulation of food waste that could be brought onto the farm. Couple this with the historically uneven (although now moving in the right direction) success in making farm fields a major home for compost, and you get the true potential of food waste recycling at the farm level (which is barely touched).

The receipt of off-farm wastes offers farmers a valuable source of revenue. Currently under the *Nutrient Management Act*, facilities can accept up to 25 per cent of off-farm wastes. There’s a move afoot to take up to 50 per cent. This is a pretty significant double-edged sword:

While the revenue may be tempting there’s a considerable risk of odour issues. The same material-handling issues that challenged composters have the potential to challenge on-farm installations that may not have the requisite odour abatement infrastructure.

Same food. Same odour.

Today, about 100,000 tonnes of off-farm wastes in Ontario are processed on-farm and this is going to grow. For this to be mutually successful, farmers and the waste industry need to learn from one another and finally begin to effectively and responsibly close the loop. ♻️

Paul van der Werf is president of 2cg Inc. in London, Ontario. Contact Paul at www.2cg.ca

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