

## COMPOSTING MATTERS

by Paul van der Werf

"I don't see the threat. I see the evolution in the possible management of organic wastes."



# The Gas is Greener on the Other Side

Industry impacts from emerging on-farm anaerobic digestion

**B**ermuda's Marsh Folly Composting Facility, a former landfill, was so named because of the chequered history of trying to locate a landfill on top of marsh and peat bog. For many years the waste conveniently sunk into the depths of the marsh. The waste stopped sinking one day and this is how it came to find itself turned into the composting facility that resides there today.

The facility accepts all manner of organic wastes — mostly leaf and yard wastes that abound on the verdant island, but also animal carcasses, biosolids and cruise ship food wastes. On this small island all organic wastes go to one place. There is neither question nor competition. This would be a case of the "grass is greener" for some but certainly not Canada's reality.

The face of organic waste management may be starting to shift in Canada. More anaerobic digestion may be just around the corner. It has been at the corner for a long time — holding abundant promise — peeking out every now and again. This promise has been distant and largely unrealized mostly because the scale required for cost-effective anaerobic digestion is high.

This has meant that only large facilities such as the City of Toronto's Dufferin Organic Processing Facility can be sustained. Because of the required scale, composting remains the default way to manage organic wastes. It's a robust process that can work in many situations. It can be high tech or a pile in someone's backyard.

The omnipresent issue of the day, climate change, is like the Borg. When this "Goreified" deity touches an issue it is assimilated and, as they say, resistance is futile. Under the banner of green energy production some recent regulatory changes may be shifting the viability of anaerobic digestion, certainly as it relates to agriculture and possibly impacting some municipal solid wastes.

Late in July, Ontario's Ministry of the Environment and Agriculture Food & Rural Affairs (OMAFRA) introduced amendments to the *Nutrient Management Act* and *Environmental Protection Act* (EPA). Ontario Regulation 394/07 amends Ontario Regulation 267/03 under the *Nutrient Management Act*. It encourages the development of on-farm anaerobic digestion with the intent of reducing greenhouse gas outputs by converting them to energy. The amendment allows for the receipt of some off-farm waste. Ontario Regulation 395/07, which

amends Ontario Regulation 347 under the EPA exempts these operations if they meet the conditions of the Nutrient Management Regulation from requiring a Certificate of Approval.

There has been considerable consternation from parts of the composting industry about inequitable approvals requirements and threats to feedstocks. I don't see the threat. I see the evolution in the possible management of organic wastes.

### Approvals

Certainly from my side of the fence (as a consultant) getting approvals for any waste management infrastructure can be a long process. Ministry staff seem to be unnaturally loaded down with work to the point that even getting a reviewer assigned to an application can take months. The process itself is thorough but slow and expensive. I can understand that come compost facility operators would find it galling that the agricultural sector gets what appears to be a free pass.

On many levels the agricultural sector has always played and ploughed on its on playing field. It is not a level playing field — never has been and I doubt will ever be. Stating the ultra-obvious: farmers produce food. We, on the other hand, manage waste. Enough said?

I remember the days when I managed a composting facility in London. I always found it ironic how carefully I had to manage leachate generated from food wastes and leaf-and-yard wastes while literally less than a kilometre down the road in bucolic beauty the farmer's

cows got to stand in the creek to do their business.

There is a misperception that on-farm anaerobic digestion is unregulated and that these new amendments further this lack of regulation. That is untrue; farmers do not get a free pass on this issue. Farms have to go through their own approvals process. In Ontario, this includes the submission of a Nutrient Management Strategy under the *Nutrient Management Act* and submission of a facility design prepared by a professional engineer to the environment ministry that reviews and approves these strategies and can add conditions. As well, the ministry can inspect facilities. The standards themselves are quite prescriptive and quite clearly spell out requirements for a gamut of issues such as feedstock requirements and restrictions, standards for materials, structural and siting requirements and so on.

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### Feedstock

These on-farm facilities can accept up to 25 per cent, to a maximum 5,000 cubic metres per year, of off-farm IC&I wastes. In real terms, and depending on the densities of feedstocks, this maximum would range from 1,000 tonnes for solid feedstocks such as nursery wastes to 5,000 tonnes per facility for liquid food wastes. Allowable off-farm wastes include waste from the production of animal feeds, food processing wastes, horticultural wastes from greenhouses, nurseries and fruit and vegetable wastes.

These are not the composting industry's bread and butter feedstocks. It's waste from the residential sector that continues to drive composting and, quite frankly, provides most


of this industry's revenue. IC&I wastes supplement a composting facility's income rather than drive it.

Allowing off-farm wastes is not the so-called "thin edge of the wedge." It's the opening of a new frontier. It provides another outlet for IC&I organic wastes that currently aren't well captured and largely end up in landfills. There they sit and generate methane, which may be partially captured.

The driving force behind these new amendments is green energy. Everything seems to be geared green these days. The current climate change frenzy is leading to a re-think of carbon management. Whether we landfill, compost or digest, we're all in the business of carbon management. Anaerobic

digestion offers a very powerful solution — reduced greenhouse gas emissions and electricity back onto the grid.

The facilities that arise from these amendments, if properly run, will be a good thing. It will provide another option of dealing with agricultural wastes and possibly result in greater capture of IC&I organic wastes.

In conclusion, it's important to look circumspectly at the macro view rather than the micro view of our current existence. 

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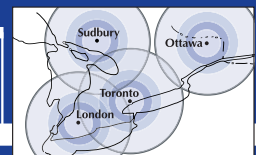


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