

COMPOSTING MATTERS

by Paul van der Werf

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The Capacity to Succeed?

The SSO challenge in Ontario

According to Waste Diversion Organization (WDO) data, about 520,000 tonnes of Ontario's residential organic waste was collected in 2005, a 14 per cent increase from 2004. Leaf-and-yard waste collection was just over eight per cent higher in 2005 than 2004 (although this can be attributed to natural generation fluctuations and population growth).

The real growth area in organic waste collection is with source separated organics (SSO). It grew 30 per cent between 2004 and 2005. It's likely that SSO collection grew by at least that much in 2006.

Like most other provinces, Ontario's enthusiasm to generate garbage has not been abated or matched with enough disposal capacity, resulting in problems that are only belatedly being addressed but that will continue to reverberate and shape the waste management landscape. Serious landfill capacity issues and Ontario's drive to achieve 60

per cent waste diversion has created a considerable momentum to collect and, for the most part, compost SSO.

Will Ontario's enthusiasm to take up this undeniably nobler mantle result in the same issues as we have faced with disposal? Will we find ourselves up SSO's creek without the proverbial paddle?

Capture vs processing capacity

An analysis of SSO capture and processing infrastructure was undertaken using WDO data as a starting point and then undertaking a further analysis of available data. For the purposes of this analysis the review was limited to municipalities greater than 50,000, assumed that that 32 per cent of the residential waste stream consists of SSO, and projected a conservative feasible capture rate of 50 per cent.

It was estimated that up to 1.2 million tonnes of Ontario's residential

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waste consists of food waste and compostable paper. When applying a capture rate of 50 per cent, it is estimated that about 600,000 tonnes of SSO would require processing (if all Ontario municipalities greater than 50,000 decided to collect and process SSO).

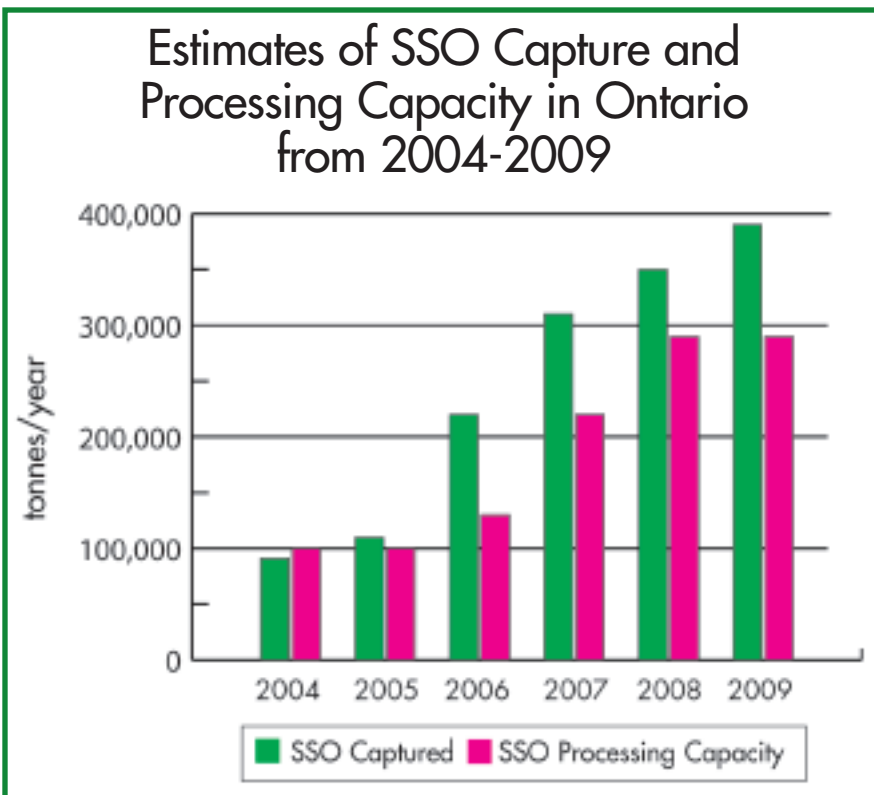
Figure 1 illustrates an estimate of the current and future capture of SSO in the province. This future capture rate is a function of municipalities that are currently in the program implementation phase; developing a plan to divert SSO, or reviewing whether or not to develop a SSO program.

By 2009 it's estimated that the amount of SSO collected will be as high as 400,000 tonnes per year, representing about a four-fold increase from 2004.

In 2006 it was estimated that there was a net SSO processing capacity of 130,000 tonnes per year for residential SSO. This grew from an estimated 100,000 tonnes per year capacity in 2004 and 2005. This growth is a function of considerable new capacity coming on-line but balanced with the closure or scaling back of existing SSO composting facilities.

Current capacity is largely focussed on municipalities servicing their own programs. There are about five private operators that have significant capacity that could accommodate SSO wastes. It is unknown exactly how much residential SSO (as opposed to IC&I SSO) they accept.

Processing capacity calculations are a little misleading and cannot be directly used to develop a collection/processing mass balance. First, many facilities do not always operate at capacity. Second, a municipal facility may have sufficient capacity for its own municipal



needs but not share this capacity with other municipalities. The private sector will see what the market will bear and chose its feedstocks accordingly.

Ontario currently has an SSO processing capacity deficit situation, one which has been building for a number of years. The analysis suggests a deficit of at least 90,000 tonnes per year of residential SSO in 2006 with predicted deficits in the coming two years.

Much of this deficit currently appears to be coming from the City of Toronto and the Region of York. Toronto has the country's

largest SSO program. In terms of resident participation and capture rate, it's a success. The Region of York's SSO program is poised to grow very quickly. Both of the aforementioned municipalities are working to develop Ontario solutions. Other municipalities are set to roll out SSO programs and there is not in all cases a clear strategy to develop the appropriate amount of infrastructure.

Where is it going? Well, it isn't going to Michigan.

Toronto and York are operating under "Plan B" in terms of SSO processing. By design it was

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meant to stay in Ontario, but reduced capacity at its main processor and closure of another facility have forced it look further afield.

While Ontario's processing appeared vulnerable without a Plan B capacity, Quebec appears to be ahead of the curve in terms of having processing capacity on-line and was able to mobilize this capacity to receive a portion of Ontario's SSO.

This "home away from home" may be getting a bit full. There are rumblings in the province about Ontario's SSO eating into the capacity Quebec will need in the future. It seems clear that Quebec's capacity — significant at the moment — is largely temporary and may not be available for Ontario's SSO within five years.

Who's to blame??

It is always easy to point fingers and find someone to blame.

The provincial government is always an easy choice. Would revised composting guidelines help? Yes. Have they impeded development of



new processing capacity? Maybe. Would a clearer waste diversion strategy that moves beyond discussion documents help? Yes. Would the designation of organics help. No.

Mandatory recycling of SSO could impact the ability to obtain carbon credits.

Are municipalities to blame? The best laid plans often don't materialize quite the way one hopes. Perhaps there were not enough baskets to put the eggs in. Facility closures and reductions in their capacity have made life very difficult. That's why we have Plan Bs. (Quebec is a Plan B.)

Is the private sector to blame? Companies seek government clarity with regard to goals. They will only expand when they are comfortable that they will make money. They have not been comfortable building facilities on spec.

The critical reason why Ontario is in this bind is the continuing challenges presented by the composting process. The simplest through to the most sophisticated technologies can work in the right location and with the right operator.


However, we find ourselves in a place where we still have technologies failing (including technologically sophisticated ones). This, in combination with a densely populated southern half of the province, makes it difficult to site, permit and operate SSO composting facilities.

We have been composting for 5,000 years and composting still can stink. Except 5,000 years ago I imagine everything stunk and that is just the way it was. The evolution of composting needs to catch up with the evolution of the people that have to deal with it. Composting technologies need to look and smell like nothing.

Solving the problem

To meet provincial waste diversion targets it will be important to be self-sufficient in the management of SSO. Relying on others solves today's problems only creates new ones for tomorrow.

Ontario needs to develop a comprehensive processing capacity strategy starting with new and improved composting guidelines; the strategy must look at the upcoming capacity needs and at suitable technologies and facility siting. We need to make sure that the new facilities coming on-line work. There are companies and facilities that are doing it right — look at their work to help plan a clear path forward.

This needs to happen now. Not only do we have residential SSO to deal with but looming on the horizon are more IC&I SSO, biosolids and perhaps even papermill biosolids. 

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