

# State of Organic Waste Diversion in Ontario

By Paul van der Werf

Recent years have seen an increase in mostly residential programs to divert organic waste, usually via composting. Despite these and many other waste diversion programs, the amount of waste produced by Ontarians continues to increase. Using data from Statistics Canada it is estimated that between 2000 and 2006, residential and IC&I waste disposal increased by about 12 and 20 per cent respectively.

To have a hope of meeting Ontario's waste diversion goal of 60 per cent, considerable efforts need to be made. Eventually fundamental changes in how we produce and ultimately dispose of waste need to be made. Organic waste makes up 40 to 50 per cent of residential and 10 to 15 per cent of IC&I waste. Its diversion already has and will continue to play an integral part in meeting this 60 per cent waste diversion target.

## Current Situation

Using Waste Diversion Organization (WDO) data, Figure 1 depicts residential organic waste capture from 2002-2007. About 400,000 tonnes per year of leaf and yard waste is captured and this holds fairly steady from year to year. The diversion of source separated organic (SSO) waste continues to steadily grow. In 2007, about 196,000 tonnes was diverted from about 1.6 million households or about 160 kg/household (i.e., over all households with this service.)

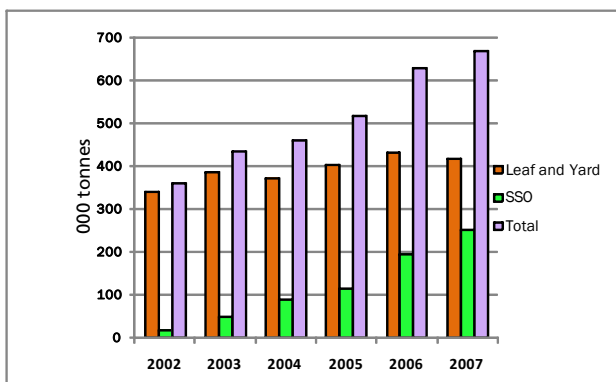


Figure 1. Annual Leaf and Yard Waste and SSO Capture Rates

SSO capture has been much more successful than its processing when examining capture versus processing capacity. Figure 2 depicts predicted SSO capture rate and compares it to actual capture rate (WDO data) as well as estimated SSO processing capacity. The estimated capture rate and processing capacity are estimates made using available data. It is clear that a significant gap between processing capacity and capture rate has existed. This lack of processing capacity created considerable challenges for some municipalities. While residents embraced green bin programs SSO had to be sent as far away as Quebec and New York to be processed — a bit of déjà vu, albeit in different locales, to the waste situation. This export was met with various levels of success but in the long term is not an ideal situation.

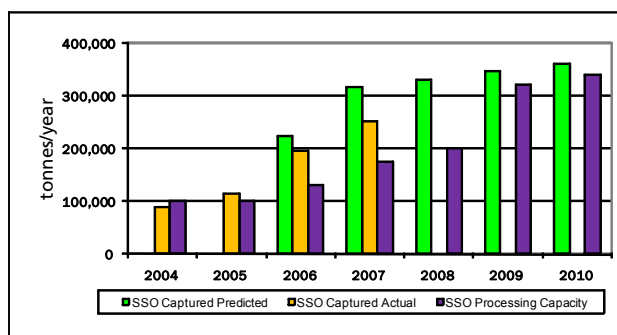


Figure 2. Estimated Processing Capacity Versus SSO Capture

This lack of processing capacity put considerable strain on both domestic and export processing capacity and led to some very significant cases of poor performance. In some cases this led to facilities with significant odour problems. These odour problems were created at facilities where primary processing took place and at curing facilities. Indeed, the curing of SSO in many cases was not well thought out and poorly implemented.

It is likely that in the future the impact of this disparity and its impact will be viewed as a growing pain for an industry in development. The amount and quality of processing capacity needs

to continue to expand whether it is composting, which is the current default process for dealing with SSO, or anaerobic digestion, which is showing real signs of further development in Ontario

Recently developed infrastructure seems to be easing this disparity and has allowed Ontario to begin to turn the corner and have adequate processing capacity available in the market place. This includes a fully expanded Orgaworld facility in London. It now receives close to 100,000 tonnes/year of SSO from York Region and Toronto. Orgaworld is also constructing a similar sized facility near Ottawa.

Universal Resource Recovery Inc. recently operates a 60,000 tonne/year facility in Niagara. Integrated Municipal Services (IMS) is currently expanding their composting facility, near Thorold to include Gore™ Cover technology. Indeed Gore™ Cover will boast almost 200,000 tonnes/year of processing capacity in Ontario by the end of 2009, including facilities owned by All Treat Farms in Arthur, the Region of Peel, and Norterra Organics, near Kingston.

Overall, this increase in processing capacity has led to significant change. No longer are municipalities going to the marketplace and giving a grace period for processing capacity to be online. An example of this is

Waterloo Region's recent approach to require processing capacity to be in place within about three months of their RFP for SSO processing capacity's closing.

It will take another two years or so for processing capacity to perfectly match and hopefully exceed that which is collected. This will continue to include more composting infrastructure but also see the growth of anaerobic digestion. Ultimately with some excess capacity comes the ability to attract IC&I organic wastes in greater quantities.

Ultimately for organic waste processing to be successful the industry needs to be built using well-designed and well-operated infrastructure.

Given the nature of SSO, odour control systems and facility management systems need to be very well developed and implemented. The composting and anaerobic digestion brand needs to be improved so that people will understand that it is completely beneficial not just beneficial with the significant possibility of a negative downside (i.e., odour).

Once residential wastes have been successfully tackled a serious examination of IC&I wastes need to be made. Given that current processing capacity available for SSO can cost up to twice as much as landfill disposal

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— even when trucking all the way to Michigan, it is easy to understand the IC&I sector reluctance to sign on to diverting organic wastes. The bottom line counts.

Clearly, organic waste collection and processing is integral to meet the province's 60 per cent waste diversion goal. There are a number of factors that can help facility the growth of organic waste processing capacity.

Factors for success include the following:

1. Technologically and operationally solve odour as an issue once and for all.
2. Develop clear and up-to-date regulatory guidance documents and requirements.
3. Facility owners need to refine the economic model so that organic waste can better compete with landfill.

The organic waste diversion industry has come a long way. With additional efforts organic waste processing can be the environmental effective and ultimately cost-effective alternative to disposal. **WE**

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