

*"The odour molecules are decomposed to their non-odorous element forms such as carbon, hydrogen and nitrogen atoms."*



# Closing the Gap

The column "The Capacity to Succeed" (February/March edition) highlighted the gap between source separated organics (SSO) collected and processing capacity in the Ontario. I provided an estimate of current SSO capture, estimated future SSO capture and estimated SSO processing capacity in the province.

As highlighted in the Waste Diversion Ontario 2006 and 2007 data-call information, SSO capture continues to increase in Ontario, although the rate of increase is lower than was predicted.

In 2006 there was a 38 per cent increase in households that had access to green bin collection and a pretty incredible 71 per cent increase in SSO collected. This increase in SSO collected is in part due to maturing organics programs as well as a full year of data from green bin programs initiated in 2005. On average, the 1.2 million households with access to the green bin program diverted about 160 kg/year each.

In 2007 there was a 33 per cent increase in households that had access to green bin collection and a 28 per cent increase in SSO collected. On average the 1.65 million households that had access to the green bin program by that point diverted about 150 kg/year.

Processing capacity has increased significantly since 2007. Some of the composting facilities have developed their full capacity potential and a number of new facilities have come online. More facilities are planned for 2009.

Estimating capacities is an imperfect science, to say the least. In round numbers it's estimated that in 2008 there's about 325,000 tonnes of annualized SSO processing capacity. It's likely that SSO processing capacity will approach 400,000 tonnes in 2009. This includes estimates for the capacities of fully operating facilities and part capacities for those facilities starting operations in 2008. It's likely that this figure is an overestimate because in many cases rated facility capacity also includes any carbonaceous amendment that must be added to SSO. Furthermore, rated facility capacity does not assume that a facility is running at full capacity. Finally, spare capacity in one facility is not necessarily always used as merchant capacity for SSO outside of the facility's jurisdiction.

The significant gap in Ontario's SSO processing capacity is starting to be filled. It's clear given the continued movement of some SSO out of Ontario that this has not been fully resolved. However, the processing gap is clearly narrowing and could potentially be fully closed within the next two years, and certainly within five years. It seems there's a mindset to establish local processing capacity to the extent possible.

Notwithstanding that, there are a number of potentially large new programs to the east (Kingston, Ottawa) and the west (Region of Waterloo and possibly City of London) that could require additional processing capacity. In the east this processing capacity is planned if not under construction. In the west this is less so.

### Universal Resource Recovery

The Region of Niagara is undergoing a transformation with regard to available SSO processing capacity with two new facilities being developed. Universal Resource Recovery Inc. (URRI) is an example of a company that's developing new SSO composting capacity. It has recently developed a new composting (and C&D waste) facility, near Welland, Ontario.

They've taken the second "R" (reuse) to heart and it forms an integral part of their facility. Unfortunately the province is littered with old manufacturing facilities that have been shuttered for one reason or another. It's heartening when one of these old facilities is converted to a new use; an efficient reuse of resources.

URRI, an environmental recycling company, purchased the old Welland Pipe site in May, 2006. The site has a staggering 350,000 square feet of building space and the whole site is on about 60 acres. Permitting was received for the use and operation of a waste processing site to be simultaneously used for composting and the mechanical separation of construction and demolition materials. The facility will serve southern Ontario and is set to operate 24/7.

The facility will accept approximately 62,500 tonnes of compostable materials and 105,000 tonnes of C&D materials annually.

Composting occurs under an approximately 160,000 sq ft building. The facility includes receiving areas for SSO, food waste, yard wastes and wood. The various feedstocks are mixed in a substrate preparation area. The feedstocks are composted in channels (Transform Compost System) with the compost cured in a dedicated area. The facility also has a dedicated screening and product storage areas.

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The enclosed channel system reverts back to a technology that has lost some of its steam over the last few years. Feedstocks are placed at the input end of a channel and uncured compost is removed in four to eight weeks. The composting material is turned and mixed one to three times per week using a compost turner.

Appropriate composting temperatures of 55 to 65°C are maintained by powerful blowers that aerate the composting material. The blowers are controlled by timers and/or temperature feedback. Temperature monitoring and blower controls can be effected via a computer.

A specialized odour control system is used at this facility. "Air Phaser" is a non-thermal



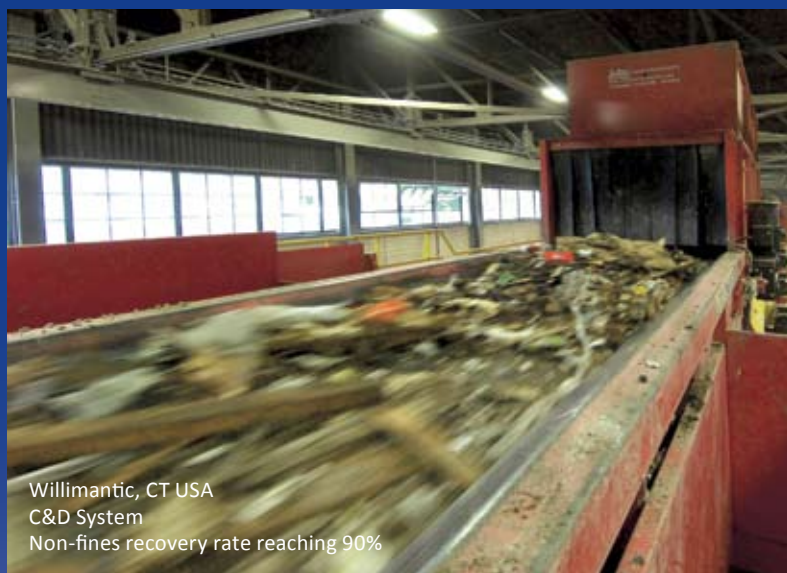
plasma technology and is designed to treat odourous air emissions by using electricity. In non-sciency terms think of it as a bug zapper for odour molecules. The odour molecules are decomposed to their non-odourous element forms such as carbon, hydrogen and nitrogen atoms. This technology is relatively new to Canada and for use at composting facilities.

It will be interesting to see how well this technology works and if it represents a viable alternative to biofiltration, the current industry standard for odour control.

This composting facility and others that are being developed are all steps in the right direction. The enthusiasm of residents to divert their SSO is starting to be matched

by Ontario's growing composting industry. It is very satisfying to see Ontario's SSO and quite frankly the revenue that comes with it stay at home — where it belongs. ♻️

*Paul van der Werf is president of 2cg Inc. in London, Ontario. Contact Paul at [www.2cg.ca](http://www.2cg.ca)*



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