

CANADA'S DIRTY SECRET

By Nicole Axworthy

ENGINEERING DIMENSIONS

Engineering Dimensions (ISSN 0227-5147) is published bimonthly by the Association of Professional Engineers of Ontario and is distributed to all PEO licensed professional engineers.

Engineering Dimensions publishes articles on association business and professional topics of interest to the professional engineer. The magazine's content does not necessarily reflect the opinion or policy of the Council of the association, nor does the association assume any responsibility for unsolicited manuscripts and art. Author's guidelines available on request. All material is copyright. Permission to reprint editorial copy or graphics should be requested from the editor.

Address all communications to The Editor, *Engineering Dimensions*, PEO, 40 Sheppard Avenue West, Suite 101, Toronto, ON M2N 6K9. Tel: 416-840-1093, 800-339-3716.

Engineering Dimensions is a member of Canadian Business Press.

Indexed by the Canadian Business Index and available online in the Canadian Business and Current Affairs Database.

US POSTMASTER: send address changes to *Engineering Dimensions*, P.O. Box 1042, Niagara Falls, NY, 14304.

CANADA POST: send address changes to 40 Sheppard Avenue West, Suite 101, Toronto, ON M2N 6K9. Canada Publications Mail Product Sales Agreement No. 40063309. Printed in Canada by Renaissance Printing Inc.

SUBSCRIPTIONS (Non-members)

Canada (6 issues) \$28.25 incl. HST

Other (6 issues) \$30.00

Students (6 issues) \$14.00 incl. HST

Single copy \$4.50 incl. HST

Contact: Marika Bigongiari, 416-840-1062, mbigongiari@peo.on.ca

Approximately \$5.00 from each membership fee is allocated to *Engineering Dimensions* and is non-deductible.



Most of us probably don't realize the enormity of our waste problem. Our municipal waste management programs work so efficiently that the average person

doesn't see how much of it there is, or where it goes to die (or sometimes to be reborn).

The last time Toronto caught a glimpse of the reality of its citizens' garbage habit was during the five-week municipal workers' strike in 2009, when garbage collection was brought to a halt and many of the city's parks and outdoor sports rinks became buried up to four metres deep in stinking refuse. As a downtown condo dweller at the time, I remember it well and was particularly struck by the volume of it all, sitting in heaps in the park I used to walk through, creating a stench that the July temperatures only made worse. The short-lived Toronto strike painted a clear picture of the nightmarish relentlessness with which our waste keeps piling up and its need for a place to go.

All of this echoes the persistence of the country's garbage production as a whole. Despite what we might think about Canada's oft-cited environmental ambitions, the country currently leads the developed world in per-capita waste production. In other words, we're among the world's champion garbage creators, and that's not something to be proud of. Worse, still, Canada seems to lack a coordinated way to deal with it all, because less than one-third of that waste is diverted from landfills into recycling, composting or other facilities. Plastics

are a particularly challenging part of municipalities' waste management programs. In "The problem with plastics" (p. 28), Associate Editor Adam Sidsworth speaks with engineering and waste management experts to explore the difficulties dealing with plastic—a waste material that, if not recycled, breaks down into microplastics and is prevalent in landfills and waterways. The sheer enormity of the problem provides significant opportunity for technological changes and specific engineering innovation.

Associate Editor Marika Bigongiari writes about an equally problematic issue in "Tackling our food waste and loss crisis" (p. 34), in which she uncovers a startling statistic: More than half of the food produced in Canada is lost or wasted annually. While all stakeholders have a role to play in reducing food waste, engineering solutions are essential at every point along the food supply chain.

This issue also includes coverage of association business, such as the hiring of our new registrar (p. 17) and changes to By-Law No. 1 that were approved by Council at its February meeting (p. 42). Notably, once confirmed, the bylaw changes give PEO the ability to implement without member confirmation its first P.Eng. licence fee increase since 2008. Finally, PEO's 2019 Annual General Meeting weekend and accompanying Order of Honour (OOH) gala is fast approaching. On May 3, PEO will induct 13 individuals into the OOH, an honorary society that recognizes outstanding service to the engineering profession. For more on this year's inductees, see page 12. [e](#)

THIS ISSUE Our focus is on waste management. Although Canada is a world leader in environmental protection, we are not perfect: We annually lose or throw out 35 million tonnes of food, and many plastics in this country are not recycled, instead going to landfill or, worse, escaping the waste management system and contaminating our ecosystems. In this issue, we examine engineering solutions to food management as well as developing a circular lifespan for plastics in Canada.

