

Rosier option for sewage

Projet Montréal looks to Chicago for example on best use for sludge

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MONTREAL GAZETTE

Where most see sewage, Sylvain Ouellet sees black gold.

Every year, Montreal incinerates 267,000 tonnes of sewage sludge,

the muddy substance left over after the city's mammoth waste water treatment plant filters the solids from the sewage water, product of our toilets, storm drains and snow dumps. What remains is 45,000 tonnes of ashes, dumped in

a landfill, and copious amounts of global warming gases. The plant's incinerator produces a quarter of all the greenhouse gases emitted by city operations, said Ouellet, the environmental critic for municipal opposition party Projet Montréal.

Rather than burning or dumping it, Chicago has been drying all of its sludge for more than 30 years, creating biosolids, similar to topsoil but richer in nutrients, that is given

for free to build parks and to restore old mining properties, or converted into fertilizer pellets for retail sale.

Milwaukee has been selling its sewage sludge since 1925, creating a fertilizer known as Milorganite sold to farmers, golf courses and homeowners. Saguenay sends most of its treated sludge to farmers' fields. Other municipalities collect the methane gas to produce energy.

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CITY

'Enormous economic potential'

SLUDGE FROM A1

Montreal uses a portion of the heat created in the incineration process to warm its waste water plant, saving about \$2 million a year in energy costs. But the city could be doing much more, Ouellet says.

"Several cities, such as Chicago, have already understood the potential of this sludge, notably in terms of recovering phosphorous (to use as a fertilizer), for energy production or using the fertilizer potential of biosolids," he said.

In 2020, Montreal's waste water plant incinerator will be at the end of its useful life. The cost of replacing it is roughly a quarter of a billion dollars. Because of the complexity surrounding the reuse of sewage sludge, the city needs to open the discussion to public consultation now, Ouellet argues. As an example of how long the process can take, he said, Montreal expects to have city-wide composting in place by 2019 — 11 years after it first started looking into the idea.

"We have a chance now to create locally a green economy by taking the time to reflect on how we want to use our sewage sludge," Ouellet said. "There is enormous economic potential that we would be crazy not to exploit. But to do so, we have to avoid the trap of simplicity, that would direct us to just rebuild a similar incinerator."

Reusing sewage sludge efficiently and cost-effectively is complicated, in part because many balk at the idea of spreading something derived from human feces on their fields or vegetable gardens. Converting sewage sludge to agriculture grade



A city worker climbs onto the huge bank of racks that dry the sludge created as millions of litres of waste water are cleaned daily at the Montreal sewage treatment facility. ALLAN McINNIS/MONTREAL GAZETTE FILES

biosolids can be either very costly, as Chicago has learned, or requires large amounts of time and space for drying lagoons where the sludge must air out for up to two years. Chicago's drying areas cover more than 93 acres. Montreal's sub-zero winter climate would pose challenges to the drying process as well.

Mention the idea to Richard Fontaine, the director of Montreal's waste water division, and he rolls his eyes. Montreal's plant bills itself as the third largest in the world, and deals with too much sludge to convert it all into biosolids to be used as topsoil, he told the Montreal Gazette.

"It's a complex issue, and there

is a lot of study required," he said. There is also the issue of harmful pathogens and metals found in sewage run-off, particularly in a city like Montreal with numerous industries and pharmaceutical companies.

"Some of the recent studies now show there is very low risk in land-applied biosolids, so there is no human or environmental risk from bacteria," said Dr. Bu Lam, manager of municipal programs for the Canadian Water Network, a government funded organization of researchers specializing in water management. "In terms of emerging substances (such as those found in personal care products

or pharmaceuticals), there is not a whole lot of literature or background research on the topic yet ... So with biosolids, the question becomes, what happens if some of those substances accumulate (over years or decades) — will it have an impact on the environment and the organisms in the environment?"

In Chicago, lawmakers created legislation forcing industries to remove heavy metals like mercury and lead and other pathogens from their waste water before dumping it in the sewage system, so the biosolids wouldn't be contaminated.

For most municipalities, there is rarely a one-size fits all approach, Lam said. Partial composting, par-

tial landfill application and part energy recapture is sometimes the most prudent bet. In Canada, roughly a third of municipal sewage sludge is incinerated, a third is landfilled, and the other third is spread on agricultural fields, Lam said. In Quebec, one-third is spread on agricultural land, 22 per cent is put in landfills and 48 per cent is incinerated, particularly in large cities like Montreal, Quebec and Longueuil, according to a 2012 study by environmental research agency Irstea. In France, 70 per cent of sludge is spread on fields.

The City of Montreal declined a request for an interview on the topic. In October, city council rejected Projet Montréal's motion for a public consultation because officials said the city is already studying the issue and planning consultations. There can't be just one solution, councillor Jean-François Parenteau said during October's council meeting.

The Montreal Metropolitan Community's environmental commission will hold a public consultation as part of the Montreal regional plan on managing garbage and recyclables and sludge, which is slated for publication in the spring. The city's standing committee on water, the environment and sustainable development is also holding a public consultation on the plan, and will be studying the issue in the fall of 2016.

Ouellet worries it's not soon enough.

"If we want advanced technologies, we need to be asking the questions right now," he said. rbruemmer@montrealgazette.com twitter.com/renebruemmer