

## An innovative solution to a messy problem

### How the capital could harness the untapped potential of its sewage

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It is a future as repulsive as it is fascinating — that one day a flush of your toilet could fuel Victoria's buses, power entire neighbourhoods and provide clean water to businesses.

That's the untapped potential of sewage, say local environmental advocates.

And while it might be a tad unpleasant to discuss how you can run your Westfalia on your waste, it is the type of thinking set to shape the treatment plants we will eventually build in Greater Victoria.

The Times Colonist has researched and compiled a graphic that shows how extracting water, heat, biofuel and electricity from sewage might work.



CREDIT: Province/Stuart Davis

[2006 pdf: How sewage is processed now and dumped into the ocean](#)

[2007 pdf: How sewage could be processed and transformed into something useful](#)

Send your comments about Greater Victoria's sewage treatment plans to: [letters@tc.canwest.com](mailto:letters@tc.canwest.com).

We hope it helps to get people talking and to kick-start some creative thinking. The more you understand about the process, the better you can direct your politicians to pursue the kind of sewage treatment you want.

Those decisions will happen soon. The Capital Regional District has until June 30 to come up with plans to treat the 127 million gallons of raw waste we dump daily into Juan de Fuca Strait.

That's the deadline set by the provincial government when it ordered the CRD to treat its waste last spring.

The CRD board and its sewage committee are composed of elected municipal officials from around the region. That means, in the next few months, local politicians will plot out what is expected to be the most expensive and complicated project the CRD has ever tackled.

The price tag will likely hit hundreds of millions of dollars. More precise estimates are expected in the next few months.

The CRD could recover some of that money if it harnessed and sold the resources found within sewage, said Stephen Salter, an engineer and volunteer with the Victoria Sewage Alliance pro-treatment organization.

In the past year, Salter and his sewage activists have gathered impressive political momentum for the idea of resource recovery.

His allies — including Esquimalt Mayor Chris Clement and Saanich councillors Vic Derman and Judy Brownoff — now regularly bring up his talking points at CRD meetings, tossing hardball questions to engineering staff and pushing for such things as an international call for ideas from global engineering firms.

Salter travelled to Sweden in October, cataloguing how that country runs buses and taxis off sewage biofuel. Sweden also generates district heating from the warm effluent. Through a variety of state-run and private businesses, Sweden sells the resources from sewage to offset part of the cost of running its plants, Salter found.

He returned with a lengthy slide presentation, which he hawked at numerous public forums, council meetings and CRD committees until most people had seen it twice.

In short, he got people talking.

Salter hopes to influence the answer to this core question: Do we build large secondary treatment plants — using cheaper technology that dates back to the Second World War — or spend more money to draw energy and water from our waste?

Victoria's Dockside Green development plans to treat its sewage onsite, capturing heat from pipes.

Other regions of North America, particularly in dry climates, recover water from sewage to irrigate such areas as golf courses.

One of B.C.'s neighbours to the south, King County, Wash., is using sewage to power a giant fuel cell battery. It is the largest demonstration project of its kind in the world. The project produces enough electricity to power 1,000 homes, but is used to cut power costs at its treatment plants by 15 per cent. With a population of 1.8 million people, King County produces about six times the daily sewage flow of Greater Victoria.

Meanwhile, the federal and provincial governments have provided different levels of encouragement for resource recovery. Former environment minister Rona Ambrose urged Victoria to go from being one of Canada's most visible sewage polluters to one of its most innovative problem-solvers.

In promising one-third funding for treatments plants in September, Ambrose said she'd support spending more money to take advantage of resource recovery.

"I think some of these technologies upfront are more expensive, but the opportunities they create, particularly through energy savings, in the end can be a cost savings," she said.

Although Ambrose has been replaced by John Baird, the Conservative government intends to stick to its funding promise.

The provincial government has been less enthusiastic. It committed its one-third funding by encouraging the CRD to find public-private-partnerships (commonly called a P3) with engineering companies.

That sparked criticism from environmental groups who worry the bottom-line mentality of private business will stifle the exploration of new technologies.

There are no price tags attached to today's diagram because there is no easy way to estimate costs for Greater Victoria. Much depends on the number of plants we decide to build here, on what type of land, at what location, and how, or if, the project changes the existing maze of underground sewage pipes.

Estimates for power consumption, heat and water come from Salter and are personal estimates based on CRD data. They are not official CRD estimates.

The diagram is simply intended to show a snapshot of how resource recovery fits into a larger process.

And it can serve as a reference guide, as we continue to debate the type of sewage treatment we want to see for Greater Victoria.

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