Resources from Sewage; Power from the People!

Ask not what we must do for sewage - ask what sewage can do for us.

Debating the "science" is a dead end.

Victoria's raw sewage kills fish.
"At 30 mins, all fish dead." From the March 23, 1998 96-hour Acute Lethality Test of Macaulay Point and Clover Point sewage for the Sierra Legal Defence Fund by BC Research and EVS Environmental Consultants. No one at the CRD will go on record to say the outfalls comply with existing environmental legislation.

Why not recover the resources?

There's enough green energy in our sewage to provide:

- Fuel for 200 transit buses AND 4,000 cars, *or*
- Electricity for 2,000 homes, *or*
- Natural gas for 5,000 homes

The greenhouse gas reductions would equal the emissions from about 6,000 cars.

The value of the energy is about $6 million/year.

Can you imagine...

Our transit buses running on biogas?
Politicians driving biofuelled cars to work?
Whale watching boats running on biodiesel?

Kristianstad Sewage/Biogas Plant

The city of Kristianstad, Sweden sells biogas from sewage to its citizens for CDN$0.32/litre.

- University of Toronto scientists & engineers estimate sewage contains 5 to 10 times the energy needed to treat it.
- Modern anaerobic treatment plants recover resources from sewage, including biofuels.
- Anaerobic treatment/biogas plants also produce biofuels from sludge.
- Anaerobic treatment/biogas plants take less space, require fewer chemicals, cost less to run, and are enclosed in vessels.
- Over 3,000 biogas plants are operating in Europe, producing natural gas from sewage & landfills.
- Sweden runs 5,300 vehicles and much of its urban public transit on biogas.

What will it cost?

Based on existing treatment plants in BC, we estimate:

To build: $150-180M before grants, $50-60M after Canadian and BC grants
To operate: $90/home/year, less $ from resources

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Links to information about recovering resources from sewage:
If you enter "sewage" + "biogas" into Google, you'll see 138,000 pages. Here's a stating point:

American Bioenergy Association	http://www.thinkenergy.com/assn/rs195080.html
Anaerobic Bacterium Degrades Dioxins	http://www.techmonitor.net/techmon/03may_jun/was/was_persistent.htm
Anaerobic Treatment Advantages	http://www.draaisma.net/rudi/anaerobic_wastewater_treatment.html
Australian Bioenergy from Sewage	http://www.greenhouse.gov.au/challenge/methane/mwbquickref.html#4
Biodiesel Association of Canada	http://www.biodiesel-canada.org/
Canadian Biogas Association	http://www.biogas.ca/
Canadian Renewable Fuels Assoc.	http://www.greenfuels.org/
Dockside Project	http://www.docksidegreen.com/project_overview/index.php
European Biofuels Projects	http://www.managenergy.net/indexes/I59.htm
European Links to Biofuels Projects	http://www.energie-cites.org/page.php?lang=fr&dir=3&cat=3&sub=3
Finland Biogas	http://www.biomatnet.org/secure/Other/S919.htm
French Bio-fuels for Buses	http://www.trendsetter-europe.org/index.php?ID=542
Norwegian Buses on Sewage Biogas	http://www.newconnexion.net/article/05-01/theroad.html
Sustainable Development Technology	http://www.sdtc.ca/en/index.htm
Swedish Bio-fuels for Buses	http://www.ias.unu.edu/proceedings/icibs/mansson/paper.htm
Swedish Bio-fuels for Buses	http://list.web.net/archives/sludgewatch-l/2005-June/001145.html
Swedish Bio-fuels for Buses	www.fv-sonnenenergie.de/fileadmin/fvsonne/publikationen/ws2003/02_d_biogas_01.pdf
Y19 Bacteria Produce Hydrogen	http://www.undp.org.in/programme/GEF/dec%2002/dec02/news.htm

We could hold a design competition, and invite the best ideas for resource recovery from across Canada. What are we waiting for?