



## "Sexy" energy project could use raw sewage

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Publish Date: March 9, 2006

Sewage-heat recovery as an energy source in Southeast False Creek?

This may not sound like everyone's favourite topic, but don't tell that to Vision Vancouver Coun. Heather Deal. At the March 2 city services and budgets meeting, Deal and the rest of council voted unanimously in favour of supporting "in principle" the creation of a neighbourhood energy utility (NEU) to provide for space heating and hot water to multifamily residential, commercial, institutional, and industrial buildings. This would cover city-owned areas in Southeast False Creek, as well as private lands within the development-plan area.

Recovering heat from downtown sewage is looking like it will be the primary energy source, pending further study of other systems.

"I'm very excited by this," Deal said shortly before the vote. "This is a sexy project."

Council has earmarked \$14 million for the NEU-called "sustainability in practice"-from the capital fund. Staff will report back to council by the end of the year once they have a final analysis recommendation for the system. They have \$970,000 in immediate funding until that time.

According to Tom Osdoba, manager at the city's sustainability office, this will be used to finalize the design of the distribution pipes for the hot-water system and begin serious design work on the sewer-heat-recovery plant, and explore whether there is any legitimate concern in the near term for biomass heating.

The plant will generate heat from sources such as sewage, biomass (burning wood to waste), and cogeneration (trapping energy to produce electricity). At the March 2 meeting, Osdoba outlined why the timing is good for an NEU.

"BC Hydro has been very supportive of this project moving forward," Osdoba said. "They really want to see people getting away from electric heat. More electricity to do space heating and hot water is a very low-value use of electricity. So increasingly, we're trying to get lower-grade sources of energy to provide space heating and domestic hot water. That's the direction we're going in by looking at biomass or certain types of alternatives to that."

Osdoba and his team, along with city-projects engineer Brian Crowe, have looked into sewage-heat recovery as a viable primary option for providing energy. Ground-source heat, or "geothermal exchange"-extracting heat from the ground through underground wells-was dismissed as too costly. Biomass heating is the simplest method and offers the best return on reduction of greenhouse-gas emissions, but it also has potential air-quality implications. Nevertheless, biomass will continue to be explored as the project moves forward, according to Osdoba. Demolition waste and wood fuel pellets could also come into use.

On a March 6 tour of the development site, Osdoba noted that the sewer pipe from downtown

runs underneath the Cambie Street Bridge. A sewer-heat recovery system would involve tapping the heat at the south end and sending that through heating pipes carrying water to the Southeast False Creek buildings. Heat pumps would boost the temperature further, like geothermal heat, and natural-gas furnaces would still be used as backup.

At council, Osdoba said this represents a "stand-alone business operation" where costs would be recouped through utility rates and property taxes levied on businesses and homeowners. Area residents and companies will cut greenhouse-gas emissions and energy costs with sewer-heat recovery, he explained.

"In addition, there's two ways of looking at energy: energy price and energy cost," Osdoba said. "The price is the rate that's set per unit of energy, and that's what's regulated by B.C. Utilities Commission if you look at what BC Hydro or Terasen provides. But the energy cost is another equation. One of the things to factor into the base case of stage one of Southeast False Creek is we're requiring the buildings to use 30 percent less energy than a conventional building in the marketplace. We're doing 30 percent better than business as usual already within Southeast False Creek just on building design....They're already going to be using less energy, yet at the same rate we have lower energy costs than we had before."

Until now, Osdoba added, electricity rates in British Columbia have been so cheap that developers have not factored capital-intensive projects into construction. Osdoba told council that times are changing.

"We think we're pretty close to being able to say that sewer-heat technology, which is high-capital and low-energy, is pretty much comparable with natural-gas boilers, which are less-capital and more- energy, and electricity, which is almost no-capital and all-energy."

In response, NPA Coun. Kim Capri said she was "blown away" and "excited" by the report, but was still "playing catch-up" and getting all the facts straight. Deal asked if the model could be replicated in the proposed East Fraserlands development.

"The short answer to that is yes," Osdoba replied.

Mayor Sam Sullivan said the NEU proposal was "interesting" but touted "financial sustainability" as a good reason to seek potential private-sector input. "Wouldn't we be better off pursuing a public-private partnership?"

Osdoba said he'd discussed this with private-sector parties, adding that he felt there could be problems getting them involved early on.

In a survey of council candidates prior to the 2005 election, the Straight asked: "Do you favour supporting the city in the development of its own energy utility?" COPE left the question unanswered, and Vision Vancouver's contingent answered yes. NPA Coun. Suzanne Anton wrote she was "unlikely" to favour such an idea "but would need to know more". NPA Coun. Elizabeth Ball said she "had not researched the issue", while NPA Coun. Peter Ladner answered yes. NPA Coun. B.C. Lee answered no, and NPA Coun. Capri stated that it was "not a priority".

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