

Green Scene: Solutions to our Piles of Garbage

by Elaine Golds

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[photograph]

[caption: Household waste is problematic for garbage gasification technology, says columnist Elaine Golds, as the process for turning it into fuel and, thus, energy, can create toxic compounds
Metro Creative photo]

[Title in Tri-City News: Toxins make gassing trash dangerous

Sub-title: Garbage gasification sounds good - get rid of trash, get energy in return - but it's not as clean as its proponents suggest]

When Metro Vancouver initiated public consultation this spring regarding how best to deal with solid waste, i.e., our garbage, I was intrigued by the proposal to use this waste to create energy. The concept of taking something for which we no longer had any use, i.e., garbage, and creating something we need, i.e., energy, seemed immensely appealing. However, the more I have delved into the subject over the summer months, the more I have come to realize how misleading first impressions can sometimes be.

The City of Port Moody is presently considering allowing a garbage gasification plant to be constructed on an old landfill site on the Barnet Highway opposite the Reed Point Marina. This plant would take waste from throughout Metro Vancouver, subject it to extremely high temperatures so that it becomes gasified and then, apparently, combust these heated gases to generate electricity. In July, the City signed a letter of intent with a company that is purportedly operating such a pilot plant outside of Ottawa.

Gasification of garbage, which in many respects is similar to incineration, has been tried before...several times, according to various reports. Most recently, a garbage gasification plant opened in Germany in 1999. By 2004, it closed apparently due to financial problems, technical difficulties and public opposition. It turns out municipal waste is a complex mixture that presents a challenge for the gasification process. In addition to hydrogen and carbon monoxide (the most common ingredients in the resulting so-called syn-fuel), highly toxic compounds are also created especially when municipal waste is the starting material. These toxic compounds include dioxins and furans plus some volatile heavy metals including mercury, lead and cadmium. These are not the type of chemicals most people want to have floating around in the air they breathe.

In particular, dioxins and furans are a family of highly persistent chemicals among the most toxic compounds ever created. They are not naturally present in the environment but have been created by manufacturing and combustive processes. Dioxins, which can cause cancers, also disrupt the immune system, interfere with hormonal actions and cause developmental problems. They are known to be active at infinitesimally low concentrations of only a few parts per trillion. In fact, it is now recognized there is no safe level of dioxin. Thus, many people are worried a local gasification facility, if allowed to be built, would create and release dioxins into the local airshed. In 2001, the federal government signed the Stockholm Convention on Persistent Organic Pollutants which, among other commitments, obligates authorities to give priority consideration to waste management methods that avoid the formation and release of dioxins. I expect most residents in the Tri-cities area and surrounding municipalities are hoping Port Moody Mayor and Council will choose to abide by the Stockholm Convention.

It turns out that re-using and recycling products conserves far more energy than can possibly be created by gasification. Excellent summary reports are available on Pembina Institute website (<http://www.pembina.org/pub/1447>). If, for example, a paper product is recycled into a new paper product, then all the energy required to make paper in the first place is conserved. Energy savings up to 26 times greater than obtained from gasification can be gained from recycling some types of plastic.

Studies have shown the solution to reducing our piles of garbage is not as high-fangled as you might think. Rather than fancy new (and pollution-producing) gasification plants, more emphasis must be put on recycling programs and working with producers to avoid unnecessary waste during the manufacturing and packaging processes. An important first step would be to establish policies to divert most kitchen waste to composting programs. The City of Port Coquitlam is to be congratulated for recently introducing such a program for their residents. How ironic that Port Coquitlam appears to be leading the way towards genuine solutions for reducing waste while Port Moody is embarked on a process that is leading its residents astray.