

The stealth incinerators [Part 3 of a series]



Urban Woodwaste Recyclers' Scott Temreck holds a clump of shredded wood at the firm's New Westminster yard that will become fuel at a local cement plant.

Mario Bartel / Burnaby News Leader

By [Jeff Nagel - BC Local News](#)

Published: **May 14, 2010 9:00 AM**

Updated: **May 14, 2010 9:59 AM**

Wood makes up 20 per cent of the region's waste stream and diverting more of it from the landfill is a critical plank in Metro Vancouver's plan to increase recycling.

But much of the wood already being collected isn't really recycled.

Instead, it's being burned to power local industries that can then claim to have greened their businesses by cutting carbon emissions.

It's an under-the-radar trend Metro Vancouver officials acknowledge has implications for everything from air quality to Metro's own waste incineration plans.

The poster child for wood recycling is Urban Woodwaste Recycling.

Trucks continuously roll in to the firm's New Westminster yard, adding to a vast pile of scrap wood, pallets and even logs that await processing.

Workers and machines sort the material, filter out contaminants, recover commodities of value and then grind most of the wood into either fuel or compost.

"The real market is fuel," says Scott Temreck, director of fuel marketing and research at Urban Woodwaste.

Other materials are extracted and sold – Temreck points to bins of wire, cable, aluminum, nails and other metals – but they are byproducts.

"The only reason we can recycle is that we make money from the fuel."

A key customer is the Lafarge cement plant in Richmond, which burns mainly coal to cook cement for the concrete used to build sidewalks, bridges and buildings.

Urban Woodwaste ships Lafarge process-engineered fuel (PEF) – shredded wood with small amounts of paper and non-recyclable plastics added to boost combustion.

After a two-year experiment, Lafarge now burns 15 per cent PEF.

"We'd like to get up to 40 per cent of our fuels being alternative," says Randy Gue, Lafarge's director of business development and resource recovery.

He claims the wood-based fuel burns somewhat cleaner than coal (although critics argue wood may be contaminated, and cement plants are often less scrutinized and use less advanced scrubbing technology than waste incinerators.)

But the real motivator is money. Lafarge pays less for local wood fuel than it does importing coal.

And wood has another big advantage.

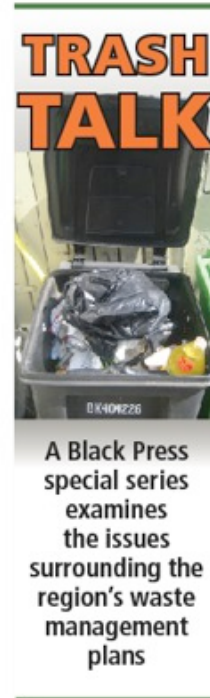
It's counted as a carbon-neutral fuel because it's assumed new forests grow to replace those cut down, unlike the burning of coal, which adds net 'new' greenhouse gases to the atmosphere.

The carbon advantage

Switching from coal to wood has allowed Lafarge to claim a huge reduction in greenhouse gas emissions – 189,000 tonnes of carbon dioxide over three years.

Lafarge converts those credits to cash by selling them to Offsetters Clean Technology, which in turn sells them to the Pacific Carbon Trust, the provincial government's clearing house for greenhouse gas offsets.

Provincial government agencies, including school districts and health authorities, are under orders to become carbon-neutral, and are expected to pay the trust \$25 for each tonne



A proposed new Metro Vancouver waste-to-energy plant is highly contentious. But pressure to fight climate change is leading some industries to use waste as fuel as well.

This third installment in a Black Press series on waste management examines carbon emissions and the influence they exert.

PREVIOUSLY IN THIS SERIES:

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Part 2 – [Is burying best?](#)

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of carbon emissions they can't avoid internally.

That means taxpayers' dollars subsidize Lafarge's shift to wood fuel.

The trust says the alternative PEF fuel is "cleaner" but those calculations are based solely on greenhouse gas reductions, without examining impacts on local air pollution.

B.C.'s escalating carbon tax is also an incentive to switch.

Lafarge pays carbon tax on the coal it burns but not on wood-based fuel, making wood cheaper in comparison with each passing year.

The company doesn't rule out broader use of unsorted waste as a fuel in the future, either.

Technologies exist to turn garbage into finger-sized fuel pellets that could also feed the cement plant, Gue said, but added that would depend on such a processor setting up shop here.

Lafarge isn't the only local industry burning up part of the waste stream.

Used tires collected from across B.C. for recycling end up at a plant on Annacis Island.

But not all of them become recycled rubber products. Close to 30 per cent of the tires – 3,000 a day – are instead burned as fuel at sites such as Lehigh Northwest Cement in Delta, the region's other big cement plant.

Lehigh is also looking at using wood-based fuel from Urban Woodwaste.

"Both cement plants are very interested in alternative fuels," says Metro planning manager Ken Carrusca. "I have never seen the cement industry as interested as they have been in the last few months."

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MORE RESOURCES

For the public meeting schedule, reports, feedback received so far and the plan itself, see Metro Vancouver's [Draft Integrated Solid Waste and Resource Management Plan page](#)



He says the use of wood and other waste-based fuels to cut carbon emissions has taken off "without many people realizing it."

Plan allows 'refuse-derived fuel'

Public concern about Metro's draft waste management plan has focused on the preferred strategy to build a new waste-to-energy incinerator in the region to consume up to 500,000 tonnes of garbage.

But the plan also opens the door for ongoing use of the cement kilns and other burners because it defines waste-to-energy as not just a new incinerator, but also "industrial use of refuse-derived fuel."

What if in-region waste-to-energy is eliminated from the plan due to air quality concerns?

Carrusca wouldn't speculate on whether that could halt the flow of wood to other burners like Lafarge.

Randy Gue at Lafarge isn't worried about that scenario. His bigger fear is that Metro will build its own second incinerator that will "swallow everything" and reduce the cement plant's supply of alternative fuels.

Local competition for wood-based fuel is growing, even without a new incinerator.

The Kruger tissue paper mill in New Westminster recently converted from natural gas to urban wood waste fuel, burning more than 50,000 tonnes per year.

Nexterra Energy, the Vancouver company behind the technology Kruger uses, also plans to gasify 13,000 tonnes of wood waste per year at UBC to create heat and electricity for the university.

Both projects claim dramatic greenhouse gas reductions equivalent to taking thousands of cars off the road.

Several local greenhouses have also converted from natural gas to wood fuel in recent years.

B.C. Hydro's latest clean energy call also opens the door to more use of wood waste, also called biomass, to generate electricity.

The province defines uncontaminated wood as a clean or renewable energy source. Municipal garbage can also be deemed a clean and renewable fuel, but only with the approval of B.C.'s energy minister.

Since most wood-fired systems emit more local air pollutants than ones burning natural gas, the question arises:



The Lafarge cement plant (top) now burns 15 per cent process-engineered fuel, which consists mainly of wood waste ground up at Urban Woodwaste Recyclers (above).



Tires from across B.C. arrive for recycling at Western Rubber Group on Annacis Island. Not all are recycled, however. In 2008, 30 per cent were burned as industrial fuel.

File

will more burning of fuels deemed renewable, clean and green for the planet as a whole hurt air quality on a local level?

Metro Vancouver's air quality division considered the issue two years ago when it rewrote the rules for industrial boilers in the region.

Officials concluded some worsening of local air pollution from increased wood burning was justified to reduce carbon emissions and help achieve climate change goals.

Ben West of the Western Canada Wilderness Committee says that logic fails to take into account the "nasty toxins" emitted from burning wood that's treated, painted or mixed with other contaminants.

"We need to move away from burning stuff for power," West said. "It should be the last option in terms of where we get our energy from."

He says the push for bioenergy and biomass burning is more about finding a use for B.C.'s vast stands of beetle-killed pine forests to aid the logging industry.

Even if carbon reductions are the sole objective, he doesn't see wood fuel as the answer, because trees burn up far faster than replacement forests grow back.

"What I worry about is we get to the point somebody wants to expand their project in the tar sands and they have to go and buy carbon offsets," West said. "That money is given to Lafarge for burning wood chips. And I just don't see where we're reducing the amount of carbon anywhere in that."

NEXT IN THE SERIES – Zero waste: Fantasy or the future?



What goes into the waste stream is a major determinant of whether incineration or landfilling will release the fewest greenhouse gases in the future.

Carbon math: which disposal option is best for the climate?

Whether waste incinerators or landfills do best in minimizing greenhouse gas emissions from garbage depends heavily on who crunches the numbers and the creativity of their math.

Landfills have traditionally been considered heavy greenhouse gas emitters because the landfill gas that burps from their bowels contains methane, which is 21 times more potent at warming the planet than carbon dioxide.

Incinerators score carbon points because they convert garbage into energy, avoiding the need to pull new fossil fuels out of the ground to burn and send into the sky.

Much of the emissions from burning garbage therefore shouldn't be counted when adding up greenhouse gases, according to the UN's Intergovernmental Panel on Climate Change.

Metro also contends a new waste-to-energy plant can further offset carbon emissions by piping steam to nearby buildings, which then no longer burn their own fuel.

Incinerators also extract metals from the slag for recycling, which is counted as offsetting the energy and emissions otherwise spent mining virgin metals and smelting new steel in places like China or the U.S.

But hold on. Time may be on the side of the dumps.

Operators of the Cache Creek landfill say they now capture nearly 70 per cent of landfill gas and the technology is improving. Instead of just flaring the gas, they aim to generate electricity or turn it into vehicle fuel.

Also, Metro's aggressive plan to collect food waste should pull large amounts of organic material out of the waste stream.

That reduces the amount of wet garbage going to the landfill to rot – material responsible for the bulk of the methane created.

As the region gets better at composting and diverting organics, the logic goes, landfills become more climate-friendly because more of what's left are plastics and other inert materials.

That fossil carbon is then stored in the dump, rather than sending it to the sky, which some analysts say gives landfills the advantage.

"If you get all the organics out, the landfills would be virtually carbon-neutral," says Ben West of the Western Canada Wilderness Committee.

Metro officials counter that greenhouse gases are still released from composting organics, whether that happens in a landfill or at a compost facility.

Also sometimes left out is the fact methane captured from landfills turns into carbon dioxide when burned.

Which side is right?

Jordan Best, policy analyst for the Recycling Council of B.C., concluded in a 2009 report landfill and incinerator proponents have both made "extravagant claims" and the truth lies in between.

Incinerators may have the edge for now, he said, but as the waste stream changes, the two technologies may end up very close in terms of carbon output.

A third option – called mechanical biological treatment (MBT) – would process garbage before landfilling to minimize carbon emissions.

It's counted by Metro consultants as the best option of all based on climate alone, but has been excluded from the plan because the estimated costs are far higher than either incinerators or straight landfilling.

Wood waste by the numbers

- Now going to disposal: 240,000 tonnes per year
- Currently diverted: 118,000 tonnes (33 %)
- Target for diversion by 2015: 273,000 tonnes (76 %)

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