

**From:** Louis Bertrand

**Sent:** May 13, 2025 9:37 AM

**To:** Clerks

**Subject:** Comments on Report #2025-COW-19 - Courtice Transit-Oriented Community District Heating

Hello,

Please add the following comments on Report #2025-COW-19 - Courtice Transit-Oriented Community District Heating to the agenda for the Committee of the Whole meeting for Wednesday, May 14, 2025.

Thank you

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## **Introduction**

District heating from the DYEC seems to be an attempt to justify the continued operation of an incinerator that should never have been built. If the plan is to build high density office and living spaces in Courtice, then focus on that. If instead the plan is to promote the incinerator, then the development will probably suffer. However, it seems that this debate has already happened and council is going ahead with a plan to burn garbage into the mid-century. I will focus my submission on the serious red flags in attachment #2 of the Reshape Strategies report.

A project like this only makes sense if you ignore some important considerations. "Scoping out" is consultant-speak for "let's just pretend it doesn't exist". But just because they say it's so, doesn't make it so.

## **Is this what we really want?**

In trying to mitigate global warming and adapt to its consequences, Durham Region is building a system where a heat source is 5 km away from the point of delivery. If the heat source was fossil gas, the thought of piping hot water for that distance (under a busy highway, no less) would be laughable. Yet here we are, but not even with fossil gas (which is touted as somehow "clean"). It's actually worse: the heat source would be garbage including plastics, wood and other recyclables.

## **Electrified heating is not defined**

Nowhere in the report is "electrified heating" defined. In your house, there are two ways of using electric heating": direct conversion of electricity to heat -- think baseboard heaters -- or a heat pump (air source or geothermal). In the business case report, if they mean direct conversion, then that's the most inefficient way and arbitrarily makes the business case look more attractive.

Heat pumps deliver three to four times the amount of heating or cooling for the electricity used because they transfer the heat instead of generating it. If you don't know how a heat pump works, think of a refrigerator. It makes the inside cold by transferring heat from inside to the coils on the back of the fridge. The coils get warm while the inside gets cooled. Air source heat pumps have a typical coefficient of performance of three to four, and geothermal sources are even better.

Is this a case of fudging the data to make the business-as-usual scenario look worse?

## **What about cooling those buildings?**

In daytime, most of the heating, ventilation and cooling (HVAC) load for a large building comes from cooling to manage heat from sunlight, equipment, cooking, and general occupancy. To manage this heat, buildings need chillers or heat exchangers. The report takes a narrow look at only the cost of heating. But from the point of view of the tenants, it's the combined cost of heating and cooling that matters when they pay the rent.

Heating at night is still required, but may not be a major load because of internally generated heat and better insulation as building standards are improved.

## **Global warming is real**

Look outside, we're in mid-May and daytime temperatures are already in the mid-20s. Shirt sleeves season now extends from early May well into October. Climate change is real and disproportionally affects northern latitudes. Sadly, we can expect the trend to continue or worsen. Ignoring the escalating cost of cooling would lead to an unpleasant surprise for the long term business plan.

Nonetheless, despite the stated intent, "decarbonizing" or reducing GHG emissions, the main effect of this entire initiative is actually to keep operating a large source of GHGs. Contrary to the fairy tales that were circulated when the incinerator was built and continue to be promoted, burning garbage cannot be considered sustainable by any conceivable measure.

Durham Region is acknowledging global warming by taking measures to address it, yet the actions are making it worse. It's like lighting a cigarette to help you quit smoking.

### **Comparing heat pumps to separate heating and cooling**

Heat pumps can deliver heating and cooling with the same equipment, and this equipment can replace the cooling-only equipment that would still be needed in the district heating scenario. Granted, the capital cost of heat pumps is higher than chillers or heat exchangers of the same capacity, but the capital cost of heat pumps needs to be compared against the additional cost of the district heating system. In other words, do heat pumps come out ahead of a major capital project and chillers? The business case report is so narrowly focused on district heating that an obvious alternative is not even considered.

### **Heat pumps offer flexibility**

Heat pumps can be built out as needed with new construction. Unlike a mega-projects, they do not required phased implementation. With that flexibility, the planning process is simplified.

### **How reliable is the DYEC incinerator?**

The DYEC incinerator has been shut down for extended periods (days, weeks). How will heating be supplied? This implies a construction of back-up heating equipment. The incinerator cannot be counted on to keep operating with fossil gas if the failure is due to the boilers and heat exchangers. Has the capital cost of backup heating been factored in?

### **Legislating your way out bad economics?**

Forcing builders to use district heating with a zoning by-law does not consider the builders' own business model. If the cost of construction and maintaining that building doesn't make sense to the tenants compared to office space or residences elsewhere, the builders will indeed look elsewhere. Subsidies don't make the project any more attractive.

### **Conclusion**

Council should not adopt this business case report as-is. Instead, council should send it back to correct the mistaken or rosy glasses assumptions. In particular, the "electrified heating" scenario needs to be clarified and the entire project reevaluated against heat pumps.

The risk to taxpayers is very real. The DYEC garbage incinerator is already a ruinously expensive way to treat the region's waste. Trying to justify its continued operation with district heating would be another boondoggle. The two blunders don't cancel each other out -- they add up.

Thank you for your consideration.