

13:26:19 From Jon Legg to Everyone:

Q: From your experience and current projects, one can see how large a mandate you have, but how difficult it must be to not have unlimited resources to be involved in more major projects. Have you ever considered developing close links with Ottawa's community associations to tap into the potentially vast resources of these communities? (I used to chair the community association for Sandy Hill.)

13:28:35 From David Cardill to Everyone:

I am affiliated with CANGEA, IGSHPA and other renewable energy related groups and I specialized in ground source heating and cooling.

[CANADIAN GEOTHERMAL ENERGY ASSOCIATION - Home \(cangea.ca\)](http://cangea.ca)

[IGSHPA | International Ground Source Heat Pump Association](http://igshpa.org)

13:32:13 From Bob Jones to Everyone:

Q: Incineration of waste instead of landfill has been touted for Ottawa. Is this no longer an option and why?

13:35:45 From David Cardill to Everyone:

C: Also, I would be interested in the position you mentioned for the group, send me a private message with some details on how to proceed with that please.

13:50:33 From Peter Bulkowski to Everyone:

Q: Integrated model is great. How do you intend to compel everyone, everyone, to follow your plan?

13:52:41 From Raymond Leury to Everyone:

Q: On the demand side, do you include that heat pumps are 3x more efficient than natural gas and that about 25% of existing heating is conventional electric?

13:58:11 From Peter Bulkowski to Everyone:

Q: What is the technology for an R18 or R11 window? What is the lifetime for which that "high" R value will be maintained? There is "rumour" that many newer thermo-pane type windows fail in 10 years or less.

[That appears to pertain to recreational vehicles. Ed. <https://thecampingadvisor.com/what-are-thermopane-windows-worth-the-cost/>]

13:59:08 From Claude Buettner to Everyone:

C: Maybe an insulated face can be put on the outside of that building, turn the balconies into indoor space to at least prevent heat from escaping. Example: Retrofit insulation on outside of apartment building, Ullis suburb of Paris 2023.

14:06:11 From David Cardill to Everyone:

C: We definitely need geo district piping in every city. Also, the grants to do this are coming. The international banks and lawyers have been talking about setting aside \$25,000 per person on the planet to de-carbonize buildings.

14:11:59 From Peter Bulkowski to Everyone:

Q: What are your cost estimates for retrofitting residences that are already 20 to 50 years old? Specifically, single-family homes that are gas-heated, high-rises that are gas-heated, and high-rises that are electrically resistance heated?

14:12:17 From David Cardill to Everyone:

C: Projects similar to this are usually off the radar, the public radar, like installing underground natural gas lines through many cities around the world also had an initial cost to install, and while not often discussed they did spend about \$45,000 per person to install natural gas lines everywhere.

14:14:38 From David Cardill to Everyone:

C: Renewable gas still has the same operation as natural gas as it relies on rapid oxidization, or fire-based heating, and as such it is my belief that they will stop funding alternative gasses as viable options.

14:15:47 From Richard van der Jagt to Art Hunter(Direct Message):

Q: Enbridge is having a public meeting tonight about expanding its ability to transfer natural gas. Is that in keeping with Ottawa's plans for GHG reduction?

14:19:09 From Geoff Strong to Everyone:

Q: Are you aware that biogas (which this is) is not carbon neutral in the sense that it contributes carbon emissions similar to natural gas?

14:25:01 From Peter MacKinnon uOttawa Engineering to Everyone:

Q: Just wondering if Ottawa's Smart City plans incorporate addressing your challenge of reducing GHGs and other waste? If not, do you know why?

14:28:13 From David Cardill to Everyone:

C: I think we should adopt an alternative name for what we call fire-based systems, including the word incineration, and call them by the proper name which reflects why they are so problematic within the living biosphere of this planet and that would be to call them by the more scientific name which describes them and that is the term "rapid oxidization systems." Yes, they are based on burning things and yes, fire IS rapid oxidization of matter.

14:30:37 From David Cardill to Everyone:

C: I think we should just go ahead and install central water lines for geo-HVAC and offer them to each house or building the way natural gas was installed on every street and then offered.

14:34:03 From Claude Buettner to Everyone:

Replying to "I think we should ju..."

C: Scaling is an important issue as the smaller the line the more the heat loss no matter what level of insulation ones chooses. This may not be viable for single family homes, but might be the right choice for large apartment buildings.

14:36:25 From Richard van der Jagt to Everyone:

C: I live in Ottawa and had three companies give us quotes on installing a heat pump at our house and all told us it is not worth our while.

14:40:16 From David Cardill to Everyone:

Replying to "I think we should ju..."

Q: Do you remember when gas showed up on your street?

14:42:59 From Claude Buettner to Everyone:

Replying to "I think we should ju..."

C: My comment doesn't refer to cost of installing infrastructure; it refers to the waste energy coming off the hot water lines no matter how well insulated.

14:43:37 From David Cardill to Everyone:

C: No, I don't need to ask a question, it was answered already. There are plans in place to transition us already.

14:45:11 From David Cardill to Everyone:

Replying to "I think we should ju..."

C: Geo-systems draw heat from cold water.

14:47:04 From Raymond Leury to Everyone:

C: The city has approved a project for Lebreton Flats where they will be recovering sewage waste heat.