

Dear Mayor and council,

I watched with interest the presentation to the November 2 council meeting about the heat pump project. I write to pass along some thoughts from our research and experience on the topic and leave you with some suggestions.

We had a recent preliminary estimate from Western Technical. It came in at about 35 thousand dollars for a heat pump system to power our boiler system. These "air to water" pumps are more expensive than forced air systems we were told. There are incentives but it is still a large investment. We are financially comfortable but this is not a project we feel able to proceed with at this time. Nor do we think it is an effective way to reduce the GHG emissions of the community. We will continue to support the Fortis renewable natural gas program with our 100% RNG account. Both space heating and hot water are heated with our current system. The premium on our RNG account costs us about \$600 per year. We are told this reduces the GHG emissions from our house to near zero.

In the November 2 council presentation it was suggested that replacing the heating system in a home would save 8.8 tCO₂e/year. This is more than double our consumption in a pretty big house all be it fairly new. I wonder how this figure was determined. Our consumption is about 92 gigajoules a year which in my reading is about normal. That is about 4 tonnes CO₂ per year. A home emitting almost 9 tonnes a year must be a very inefficient building indeed which might require significant renovation. I would be interested to know the consumption that resulted in almost 9 tonnes as this figure may result in exaggerated savings data.

The presentation indicated that space heating alone would be replaced with the heat pump which as was noted by councillors would possibly leave gas hot water heating in place. The portion of an average home space heating and consumption used for hot water heating according to NRCAN it is about 20%. This would reduce GHG savings benefits.

Even with new heat pump technology we were told that in Whistler a supplemental heat source needs to be available for extreme cold when the heat pump can not meet heating demand. In our case it was suggested the existing gas boiler would be used. Many systems will have a high wattage electric heat source which as mentioned by a council member may mean a costly upgrade to the power service to the home. Even the heat pump system itself may require more electrical capacity that an old house can supply without upgrades. Gas consumption may be reduced dramatically but not completely. This also would need to be in the GHG savings calculation. There would not be a complete saving of the current gas usage as gas would still be used to heat hot water and perhaps be used as supplemental heat source. So I am questioning the very high figure quoted that the PUSH program would save.

The presentation projected a forecast for meeting a reduction goal which seems to assume no growth of gas installations in new or renovated homes. I was not aware of such a moratorium. Perhaps this should be part of the discussion as to spend significant money and resources removing old gas heating systems in one house just to approve and have gas heating installed in others seems counter productive.

I suggest using incentive funding to make installation of a heat pump either essential or make it so financially tempting that new homes will choose the heat pump option with electric back up. No GHG emissions from day one from this home.

For older homes that may have only a decade of use left in them I would suggest the much less expensive option of replacing an aging gas furnace, with perhaps 50 or 60 percent efficiency, with a new high efficiency furnace achieving efficiency of about 97 percent. I see this available at retail \$3500. This relatively simple renovation with a generous subsidy would be much more popular than the major renovation and expense of installing a heat pump in an older home which would cost three or four times that. More subsidy moneys could then be used to upgrade insulation and windows and extend offer to replace the old gas water heater with a new high efficiency model to achieve a very large reduction in the GHG emissions of the home. The home owner could use the significant savings on their gas bill to pay off the interest free loan offered. If the home was like the one described as having nearly 9 Tonnes CO emissions then for an example less than 10 thousand dollars it would be saving more GHG emission (4.5 tonnes) than we would have achieved spending 35 thousand (plus) at our house (4 tonnes). I think more effective use of subsidy moneys with a much higher GHG reduction.

With new homes, starting say next year,(?) being built with heat pump systems that uses no gas, plus multiple renovations of older homes to use less than half of the original high GHG emissions there may actually be some progress made on community emissions.

This would be a Big Move. It is evident to me that this council gets the climate crisis but I do not see the urgency that we are told is needed to achieve goals to avoid temperature rising past 1.5C. Some changes may impact individuals or businesses in our community negatively and we as a community need to offer assistance but this can not prevent the changes from going forward. Many current goals do not take affect until 2030. Many are achievable now and will be no easier to achieve in 2030 than they are today. Let get on with what can be done sooner than later. With the news today that there is interest in hosting another Olympic games here I feel that if there is funding and resources available for a games there should be no lack of funding for programs and changes that work towards reducing GHG emissions.

Thank you for your service to our community particularly though the challenges you have had during this term.

Yours truly,

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