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Colliers
Project Leaders

Subject: Green Meadow Elementary School – HVAC System Selection Online Survey Results

As of 6/9/23: 115 responses

Survey Information:

The Green Meadow Elementary School Building Committee would like to hear the community's feedback regarding the HVAC system options that are being evaluated for the project. The Life Cycle Cost Analysis (LCCA) Cost Summary chart can be found here:

https://drive.google.com/drive/u/1/folders/1drHqBz0s8leseSusNXgyP5765AyxX225

Within the LCCA is where you'll find the estimated rebates/incentives per system, estimated annual energy costs per system, estimated annual maintenance costs per system, total annual operating costs per system, and total LCCA per system.

Below is the breakdown of how the project budget values change from the gas-fired system to the geothermal system. Because the Town's project budget borrowing strategy and schedule is not known currently, when rebate monies would actually be received, and how that would affect the borrowing strategy at that point, the below bond amounts are based on upfront bid costs, including the required soft costs associated with the total project budget. The local tax breakdown is based on a 30yr. project bond at 5% interest rate, and it utilizes a median property value of $465,144.

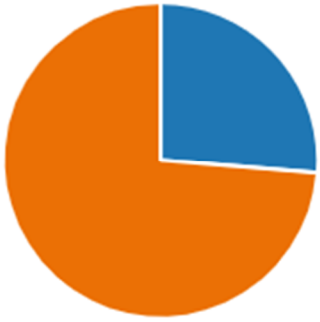
Gas-Fired HVAC System
Maynard Bond Amount = $49M
Average Increase per $100,000 Valuation = $163
Average Increase on Median Property = $758/yr or $63.17/mth

Geothermal HVAC System
Maynard Bond Amount = $54M
Average Increase per $100,000 Valuation = $176
Average Increase on Median Property = $818/yr or $68.17/mth

Survey Results Overview:

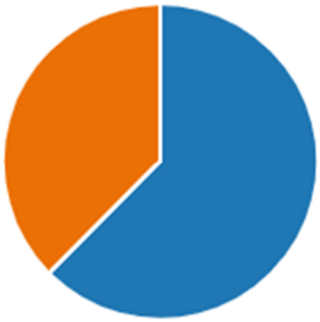
1. Based on the above information and the information within the LCCA cost summary chart, would you prefer to see the project have a geothermal HVAC system or a gas-fired HVAC system?

Gas-Fired HVAC System	30
Geothermal HVAC System	84



2. In the event the project chooses the HVAC system you're not in favor of, would you vote 'NO' for the project at the Fall Town Vote?

YES	70
NO	42



Survey Feedback:

1. Geothermal is NOT “green”. Your numbers are NOT accurate for geo Thermal as there can be so many unknowns that could make it WAY more expensive. There is no guarantee on getting the grant money. (Look at the high school solar panels for example) they don’t exist because the grant never came through. Geothermal uses a ton of electricity in this area because of our weather. Electricity prices have skyrocketed and proposed solar wouldn’t even cover running the geothermal and would contribute no discount for the schools electric bill. Natural gas is clean and cheaper. Please consult EXPERTS in this field. (There are 4 in maynard) citizens “want” green without understanding geothermal build...
2. My sister's home is heated by a geothermal system. It cools well in summer (most months when children would not be in school). It does not heat well enough in winter months and requires her to use supplemental heating, esp. when it is particularly cold and to keep pipes from freezing. Not as many companies service this type of system and it is very expensive to service and

maintain when it does require service. When I told my sister we were considering a geothermal system for our school, she expressed surprise. She spent years working in underground mining and knows that much of this area of the country is bedrock. She wondered whether there would be difficulties in even being able to install such a system.

3. As world approaches 1.5C climate threshold, we simply MUST reduce use of fossil fuels.
4. Your figures are wrong!
5. "Yes" or "no" should not be the only options here. My decision on how to vote at town meeting depends on a lot more information than just the choice of HVAC system.
6. Town meeting already answered this for you. Geothermal. Also, these numbers are inaccurate and make it look like you are pushing gas on the town. Shame on you.
7. With the 1.5C climate temperature rise in view, we can't use fossil fuels
8. Stop raising taxes!
9. Has anyone reached out to schools implementing ground source heat pumps to get feedback on their pros and cons?
10. Green energy is the future and needed to combat climate change. Let's not be part of the problem by relying on fossil fuels. Maynard is often penny-wise and pound-foolish. Let's not be that way with the new school.
11. Geothermal system will be more costly to maintain.
12. We have to think long range & consider the planet.
13. The building is already too expensive.
14. With the recent passing of the no fossil fuel article 33 at the town meeting, and the results of the green Maynard survey, I hope that the building committee listens to the community in good faith.
15. Fossil fuels are dirty and outdated. Renewables are the way forward, and show we care about the kids, community, and Earth.
16. Looking at the chart it is unclear if both systems including cooling. In addition there are three different systems on the chart and only two options on the form which does not make sense to me. I'd prefer a system that is sustainable and earth friiendly and this is why I am choosing geothermal. However I do not know enough about it to know how the cooling works. Cooling a building enough so that it can be rented in the summer to provide revenue for the town would be a huge bonus. Plus it would be one of the only three schools that offer this feature for the town, so it would be wise to have one school suited for this. Thank you for your work on this project.
17. I would like to see worst case scenario pricing of the geothermal first. The cost of gas fired systems are well known and predictable but geothermal systems can vary widely due to drilling costs. I wouldn't put a system in my house unless I was given an honest estimate of likely cost overruns.
18. No school build in 2023 should use fossil fuels
19. I do not understand why this questions is framed the way it is. Assuming no rebates for the geothermal system is a very flawed assumption, and one that biases outcomes. That said, yes, I would be willing to pay $5 more per month in property taxes to make sure that my children are not in a polluting school for the sake of their immediate health and the long-term sake of our climate.
20. The town should not cheap out on this. Go with the heat-pump it is the better investment.
21. Geothermal is the only responsible solution
22. Once again you are misrepresenting information.

23. Once again you are misrepresenting information.
24. I want to see evidence of having computed actual heating/cooling loads for the building and the cost basis per amount of heat generation. I'm all in favor of using "sustainable" energy, but I also don't want to pay more for not much actual benefit. The main consideration is having a tight, well-insulated building envelope. Whatever energy source is used for heating will be less when the building is more efficient. I would also like to see the performance of a similar-type geothermal HVAC system over 10+ years. Given the schools' inability to routinely properly maintain its equipment, it seems foolhardy to add in a new technology to maintain. The improved indoor air quality is also extremely important. IF the geothermal HVAC is chosen, I want to know that the town has also (finally!) put up solar panels that will defray some of the electricity cost. Electricity is not cheap, and it's not going to become less expensive when everything (heating, cooking, drying) is required to run on electricity. When the inevitable power outages come (as they will with an overloaded grid and not enough generation capacity), it's important to me to keep the schools warm enough to prevent pipes from freezing. And with natural gas on site, the natural gas could be used to fire up the generator so that kids can remain in school during power outages. Or the building used as a public shelter.
25. The geothermal system is an excellent opportunity to reduce the school's reliance on fossil fuels while providing a system with the lowest annual operating costs.
26. For less than the price increase of Netflix, this is no brainer. climate action is needed. Public funds need to address less use of fossil fuel
27. We have to take steps towards being more sustainable
28. Potential rebates make geothermal the least expensive, something that should have been shown in the numbers above, not just in the spreadsheet. Also, off-site cost of burning fossil fuels are not included in calculation.
29. I'm not sure how I would vote if the gas system is chosen. I am VERY aware how much we need a new school, but I don't want to be penny wise and pound foolish. We are building for the future. Should we really be using old technology?
30. I am ambivalent tho I did hear at town meeting that new state refs may mean we have to replace a gas-fueled system at some point?
31. Let's help push Maynard toward a more sustainable future. This small decision is a great first step.
32. I strongly feel we need a new, safe school in workable condition and based on what I have read, a no vote would forfeit significant state funding and essentially restart the project, delaying it by years. Given that, I would not vote no; however I think that if we're serious about environmentally friendly solutions we need to figure out how to make geothermal work. Have we done a similar analysis for the household cost of buying hybrid police cruisers and other choices already being made? This one seems more controversial because the $ impact seems high when looking at 30yr costs but when broken down annually/monthly, the increase is not what I would immediately consider cost prohibitive
33. Based on the numbers given above, Average Increase on Median Property should say: Gas : $63.18/mth Geothermal: $68.22/mth Where does the $5M difference in bond amounts come from? It does not match any of the columns of the GMES HVAC LCCA table. The LCCA column in the chart in the linked document looks incorrect, as the four options seem to be calculated over different time spans (ranging from 7.5 to 33 years). If you use a consistent 20 year time span for

all four options, then the LCCA of the ASHP is between the LCCA of the two GSHP options. I'm counting the small and large rebate scenarios as two different GSHP options. Why does this survey not allow me to vote for the Air Source Heat Pump system? It seems like a reasonable compromise between cost and sustainability.

34. There are many aspects more important and more impactful on cost than HVAC. Why has this red herring been fed so much? Costs are very preliminary at this point yet presented as if there is certitude. That's ludicrous.
35. Climate data is very clear, its going to keep getting hotter and fossil fuel will get More expensive. By investing in a renewable energy we stay current and lead by example for generations yet to come. I realize this feels like planting a tree yiu will never get to sit under. That's because its not for you, it's for the future.
36. Money is not the only factor. Longevity of the equipment and environmental impact (including compliance with future legal mandates) are more difficult to project, but both are important in my final determination.
37. We need to move this important educational project forward.
38. paulmfein@gmail.com
39. We need a sustainable geothermal HVAC system in the new school to provide both excellent heating and cooling to support our children's learning, and a sustainable choice for the environment and our children's future. They will be looking to us adults to be good role models for their future!
40. No school built in 2023 should be gas fired
41. We owe it to future generations to do everything in our power to stop extracting from our earth.
42. I just want to make sure the building has the ability to have AC and proper heating, ventalition
43. The project needs to move forward because we need a school. Please choose the best option that will build a school as soon as possible.
44. The town does not have the financial resources to appropriately fund the schools now. Any further burden on the tax payers would significantly reduce the amount of money to fund future projects. It is irresponsible to overspend on this elementary school.
45. The environment is important for the students future also.
46. I am firmly committed to helping meet the state's standards for lowering our carbon emissions. I will vote no for a gas-fired school if that is the choice. In my view, that is not doing our children a service. What your numbers don't say is "What will the cost be if, 10m years or less from now, the state mandates eliminating the use of gas-fired energy sources?" Then we will be forced to upgrade before the life of the boiler is done -which seems like a much more expensive option to me.
47. The precis above does not state whether the LCCA estimates are based on estimated IRA funding for GSHPs or the larger non-IRA estimate, and is therefore confusing/unhelpful without that clarity.
48. any option should include AC (not dehumidifier system). I would consider a "no" if without AC
49. Please consider more closely the coats of not having air conditioning. Or building will be increasingly unusable (unavailable for ESY and increasingly regular instruction hours) under a decade of being built according to Massachusetts projections of # days over 90 degrees. Gas fired (with the air circulation system) is incredibly short sighted. I would reluctantly vote for the new

school as is given how appalling it's current condition is. But current plan is highly unsatisfactory. unusable

50. The LCAA costs should take into account the longer lifespan of the geothermal system, and the future price of energy
51. Geothermal looks most appealing from that one slide but honestly - I don't care what system we get or what the cost is to the town. A school is needed right now. What I want is a school that we've put thought into making last for years to come and making smart choices for the design. I'd hate to see us lose money we've already spent in the planning so far and not be eligible for the grant if we delay it (if that still stands true). I also don't want to see this project delayed any further.
52. Given the comparative costs, I don't see a need to consider the gas-fired alternative. I see the HVAC system as one of many factors that I will consider for my vote, but for $60 a year difference on average, we should even be discussing this. (Although I know you have to)
53. electrify please, in 10 years we will not want gas, and we'll have to pay for the switchover
54. In this day and age, it is unconscionable to erect a large new building that would rely on fossil fuels.
55. Long term savings win out over short term savings. School should set an example for kids re: moving off fossil fuels as much and quickly as possible.
56. There's no excuse for moving forward with fossil fuels, when geothermal heating will be more cost effective and environmentally friendly.
57. MUST have air con
58. I thought it was cheaper for the geothermal in the long run. The engineers said in 16 or 17 years and it pays for itself. We can't afford gas fired systems.
59. No matter what system they choose I will accept it as we need a new elementary school and I trust the people who are on the committee to do the best they can.