

Good day. My name is John Ciovacco. I'm:

- A mechanical engineer, Certified GeoExchange Designer (CGD) and IGSHPA Accredited Installer
- President/CEO of Aztech Geo a geothermal design, installation and consulting company headquartered in Ballston Spa, NY
- Aztech has been in business for 12 years and employs 12 people and has master services agreements with 12 geothermal drilling subcontractors and 15 mechanical contractors.
- We have installed over 500 ground source heat pump systems in both residential and commercial buildings. A mix of new construction and existing buildings. We also install air-source heat pumps systems.
- I am currently a consultant on 15 large networked geothermal heating and cooling pilot programs, many involving major utilities in NY and MA.
 - Some of these have been filed with the PSC in response to the Utility Thermal Energy Network and Jobs Act (UTENJA).
- I served as an on the DPS Strategic Advisory Committee for Building Electrification and Energy Efficiency appointed by John B. Rhodes, then Chair of the PSC.
- And I'm a founding member, immediate past president, current board member and statewide conference director for the New York Geothermal Energy Organization (NY-GEO)

Ground source heat pump technology uses electric pumps to transfer the ground's unending supply of thermal energy and storage capacity to heat and cool buildings 4 times more efficiently than traditional systems.

I'm here today to endorse pending legislation that I feel will help NYS reach its energy and climate goals set out in the CLCPA. I have personal experience to back up my comments and hope you will ask questions if clarification is needed. These legislative items are:

1) The All Electric Building Act (S562A Kavanaugh/A920 Gallagher) which focuses only on NEW construction. As I said, I work on both large and small buildings, including networked geothermal / district heating projects. This is a terrific opportunity to shift our HVAC installer workforce to installing electric heat pumps, which effectively all mechanical contractors have the skillsets to perform. There is a ready made workforce that requires minimal extra training to install heat pump equipment. Heat pumps are the same technology as air conditioning and used the same basic principles, tools, and refrigerants.

2) Passage of the NY-HEAT act (S2016 Krueger & May/A??Fahy) would eliminate billions in subsidies for new gas hookups, enable neighborhood scale building decarbonization and ensure energy affordability for low- and moderate-income taxpayers. The most substantial and immediate aspect I see is this bill amends public service law that currently has a 100-foot rule which is basically a ratepayer subsidy for expansion of long lasting fossil fuel infrastructure. Elimination of this 100 foot rule levels the playing field for other heating and cooling technologies like geothermal. If you need a number, the ratepayer savings is estimated at \$200 million per year. The focus should be in shifting the workforce to installing clean thermal

networks with use the same piping material and joining techniques. We should subsidize the expansion of a system which is inconsistent with the CLCPA.

3) Thanks to you for last sessions passage of the geothermal tax credit which brought geothermal heat pumps into parity with solar photovoltaics in that regard. This year you have the opportunity to expand these benefits by passing a geothermal sales tax exemption bill (A01575 Rivera) which will get more heat pumps in buildings, especially larger buildings. This tax exemption has been in place for solar for many years and would be another expression of parity between these complementary renewable energy technologies. The tax credit is great for the building owner, but the sales tax exemption will lower the expenses of the contractor when purchasing equipment and materials. Lower costs can be passed on to lower prices to building owners.

Thank you for your time and attention. I will be available for questions.