



**The American Institute of Architects New York Chapter**  
**Testimony before the New York City Council Committee on Environmental Protection on**  
**Intro. 609**  
**September 22, 2015**

The American Institute of Architects New York Chapter (AIANY) represents over 5,200 registered architects and associated design and construction professionals. The AIANY Committee on the Environment (COTE) aims to lead, inspire, and educate our members on design and sustainability. AIANY COTE organizes engaging programs and events that focus on outstanding green buildings, current technologies and product research, and sustainable design practices by leading architects. Our efforts are based on the belief that sustainability should be an essential part of the design process and be fully integrated with all aspects of a building, including form, function, site, structure, systems, and construction.

AIANY is partaking in a sustained push for systems that reduce carbon emissions in the built environment and create healthy spaces for New Yorkers to live and work. In order to achieve the Mayor's 80x50 goals, both public and private sectors must undergo large-scale changes. AIANY supports Intro. 609 in its effort to encourage the use of ground source heat pumps, a readily available and realistic option, by seeking to determine how NYC can better utilize this technology to help reach sustainability objectives. We applaud the bill for its understanding of the unavoidable complexities related to the context, design, and construction of ground source heat pumps, and the provision for an essential professional approval process. A series of NYC-specific requirements for those who design or install systems and a corresponding registration database will help to ensure that ground source heat pumps are used properly and efficiently, while protecting the health, safety, and welfare of all New Yorkers.

Intro. 609 successfully emphasizes the urgency of reducing carbon emissions in NYC's building stock and a solution. Ground source heat pump technology, however, is only one carbon reduction intervention that architects currently employ. Instead of favoring a particular technology, AIANY urges the city to set goals and allow the industry to determine the best processes and strategies for achieving those goals. In an effort to make this legislation as widely applicable as possible, we have the following suggestions:

- Replace "geothermal" with "ground source heat pump," a term that more accurately represents the technology for use in NYC.
- The City should encourage extensive deep energy retrofits in existing buildings before enacting policy partial to new technologies. Ground source heat pumps are most viable when combined with other sustained efforts to significantly reduce energy loads. Without validated high performance building envelopes, capital and operational energy costs as well as the desired carbon reductions cannot be optimally met.
- Establish performance expectations. A ground source heat pump system will inevitably experience a performance inefficiency curve if annual heating and cooling loads are not balanced.
- Legislation regarding ground source heat pumps should also consider intended scales. Physical specifications differ depending on whether pumps serve individual homes or entire communities, and regulation should properly reflect that.
- As it stands, Intro. 609 does not distinguish between open and closed loop systems. Open loop systems present a number of challenges in NYC, including requiring quality source of groundwater, and are not suitable in every case.

- Much of the research and resources outlined in the bill have already been accomplished by other City bodies. In an effort to prevent duplication, the legislation can consider the Mayor's Office of Sustainability's 2015 *Geothermal Systems and their Application in New York City* and the NYC Department of Design and Construction's *Geothermal Heat Pump Manual* and related 2012 update. Applicable research on the financing and science of this technology as it pertains to NYC's landscape can be found in these thorough documents. They also include case studies and definitions.

AIANY is a proponent of ground source heat pumps, and supports the progressive work of this Committee. We installed a pump at the Center for Architecture in 2003 and continue to reap the rewards. With entities such as ConEd and other large stakeholders experimenting with a wide range of energy saving solutions, the time is ripe to think holistically about our next steps. We look forward to working with you on this.

*Submitted on behalf of the AIANY Committee on the Environment*



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