



Legislation Text

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Int. No. 51-A

By Council Members Perkins, Cornegy and Kallos

A Local Law to amend the administrative code of the city of New York, in relation to the creation of a demonstration program for geothermal exchange systems

Be it enacted by the Council as follows:

Section 1. Legislative findings and intent. The Council finds that the use of geothermal exchange systems in New York City would result in reduced air pollution and greenhouse gas emissions, lessen energy demand, and improve the health and well-being of New York City residents. A geothermal exchange system, as described in this local law, exchanges heat between the earth and two or more buildings for the purpose of providing heating, cooling and hot water. In 2019, the New York State Legislature enacted the Climate Leadership and Community Protection Act (CLCPA) Chapter 106 of the laws of 2019, finding that climate change was a matter of significant concern across the State, and setting benchmarks towards a goal of reducing greenhouse gas emissions across New York State from all anthropogenic sources 100% over 1990 levels by the year 2050. In New York City, Local Law 97 for the year 2019 provides that there shall be, at minimum, a 40 percent reduction in citywide emissions by 2030, and an 80 percent reduction in citywide emissions by 2050.

The Council finds that the use of geothermal exchange systems in New York City would further the goals of the CLCPA and Local Law 97. The use of geothermal exchange systems would help combat global warming by reducing greenhouse gas emissions. To the extent that reliance on energy from greenhouse gases is lessened, the use of geothermal exchange systems can contribute to fewer air emissions and air quality related respiratory diseases. Geothermal exchange systems will similarly help mitigate against the effects of climate

change that have already begun to affect the City, as evidenced by the increased frequency of life- and property-threatening weather events. Therefore, the Council finds that it is in the best interests of the health and well-being of New York City residents to authorize the creation of a demonstration program for geothermal exchange systems.

§ 2. Subchapter 2 of chapter 1 of title 3 of the administrative code of the city of New York is amended by adding a new section 3-125.1 to read as follows:

§ 3-125.1 Geothermal exchange system demonstration program. a. Definitions. For purposes of this section, the following terms have the following meanings:

Administering agency. The term “administering agency” means the office or agency designated by the mayor, pursuant to subdivision c of this section, to implement and administer the provisions of this section.

Building. The term “building” has the same meaning as provided in section 28-101.5.

Director. The term “director” means the director of the mayor’s office of long-term planning and sustainability.

Environmental justice. The term “environmental justice” has the same meaning as provided in section 3-1001.

Geothermal exchange service. The term “geothermal exchange service” means the provision of thermal energy from, or rejection of thermal energy to, a geothermal exchange system.

Geothermal exchange system. The term “geothermal exchange system” means a system owned by the city that is used to exchange heat between the earth and two or more buildings for the purpose of providing heating, cooling or hot water to two or more buildings. The term “geothermal exchange system” may also include a waste heat system.

Government building. The term “government building” means a building at which the benefits of a geothermal exchange system created pursuant to this section would accrue to the city of New York; or to the

state of New York, a public authority, a public benefit corporation, or the federal government, provided that such entity has entered into an agreement or contract for the provision of geothermal energy service at such building pursuant to section 20-e of the general city law, section 99-r of the general municipal law or any other applicable law, through which such agreement or contract is hereby authorized.

Government site. The term “government site” means a site owned or controlled by the city of New York, the state of New York, the federal government, a public authority or a public benefit corporation.

Waste heat system. The term “waste heat system” means a system owned by the city that captures or rejects, and reuses, heat produced from sources including, but not limited to commercial or industrial processes, including transportation systems, data centers and wastewater treatment systems.

b. Identification and selection of sites for geothermal exchange systems.

1. The director shall undertake a study of government sites for the potential development of geothermal exchange systems to serve government buildings. Such study shall include identification and evaluation of potential government sites for development of a geothermal exchange system as part of a demonstration program. In evaluating each such potential site, the director shall consider, without limitation:

(a) The heating and cooling systems of government buildings at and near to the potential site;

(b) The site’s geologic and hydrologic profile;

(c) The availability, suitability and accessibility of land at or within a suitable distance of the potential site for construction of any wells necessary to exchange geothermal energy;

(d) Whether the city has the right to develop a geothermal exchange system at the potential site, and if not, the cost of obtaining such right;

(e) The feasibility of government buildings at or near to the potential site participating in the demonstration program and receiving geothermal exchange service from a geothermal exchange system created pursuant to this section;

(f) The heating and cooling energy load profiles, over the course of a year, of the government buildings at or near the potential site;

(g) The size of the potential site and the potential capacity of a geothermal exchange system created pursuant to this section at such site, as related to the estimated demand for geothermal exchange service from the government buildings potentially receiving such service from such system;

(h) The projected utility cost savings for government buildings that receive geothermal exchange service from a geothermal exchange system created pursuant to this section;

(i) The capacity of the potential site to accommodate expansion of a geothermal exchange system created pursuant to this section to serve additional buildings;

(j) The extent to which a geothermal exchange system developed pursuant to this section at the potential site would reduce the demand for natural gas and natural gas infrastructure;

(k) The projected greenhouse gas emissions savings and reductions in other harmful air emissions;

(l) Considerations to advance environmental justice;

(m) The projected costs to build, operate and maintain a geothermal exchange system created pursuant to this section at the potential site;

(n) Whether a geothermal exchange system developed pursuant to this section at the potential site would disrupt existing subterranean systems; and

(o) Other possible costs or benefits of selecting the potential site for development of a geothermal exchange system pursuant to this section.

2. The director, in consultation with the head of the administering agency, and in compliance with sections 197-c and 197-d of the charter, if applicable, shall select a maximum of 10 sites evaluated in the study conducted pursuant to paragraph 1 of this subdivision that are indicated for the development of one or more geothermal exchange systems for a demonstration program. The selection shall be based on the study's

determination of the site or sites, if any, presenting the greatest potential benefits. If a selected site proves unsuitable for the demonstration program, the director, in consultation with the head of the administering agency, may select in its place an alternative site in the manner described in this paragraph.

c. During or after the study undertaken pursuant to subdivision b of this section, the mayor shall designate an office or agency to implement and administer the demonstration program and other provisions of this section, in consultation with the director. Such designation shall be made in writing and shall be posted on the administering agency's website.

d. Reporting. On or before March 1, 2023, and on or before March 1 every two years thereafter until March 1, 2033, the director, in consultation with the head of the administering agency, shall provide to the mayor and speaker of the council a detailed report containing an assessment of the demonstration program, discussion of performance and impacts of any geothermal exchange system created pursuant to this section and information on feedback regarding the provision of geothermal exchange service pursuant to this section. Such assessment shall include, but need not be limited to:

1. Recommendations for improving the demonstration program, including the identification of any beneficial new technology for geothermal exchange systems;

2. Recommendations regarding whether to maintain, expand or discontinue the demonstration program;

3. The costs incurred, and savings realized, in the prior two fiscal years by the city in implementing geothermal exchange systems pursuant to this section, and the costs and savings anticipated to be incurred or realized by the city in the subsequent two fiscal years;

4. The greenhouse gas emissions reductions and impacts on energy usage in the prior two fiscal years related to the operation of geothermal exchange systems pursuant to this section, and the expected emissions reductions and impacts on energy usage in the subsequent two fiscal years;

5. Recommendations regarding whether the demonstration program should continue to be administered

by the administering agency or be administered by another agency; and

6. Recommendations regarding whether the demonstration program should be made permanent, and if so, a detailed proposal for doing so, including recommendations for any legislation required to implement such proposal.

e. Potential expansion to private customers. If the director, in consultation with the administering agency, determines that expanding the demonstration program described in this section to serve private customers is feasible and practicable, the director shall provide to the mayor and speaker of the council a detailed proposal for doing so, including recommendations for any legislation required to implement such proposal.

§ 3. This local law takes effect 180 days after it becomes law.

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