

When must a geothermal project begin in order to be eligible for a federal incentive through the Inflation Reduction Act?

Geothermal projects must begin construction prior to December 31, 2032 in order to be eligible for federal incentives of 30% (or 30% + additional incentives depending on meeting particular requirements – see below) of the project cost through the Inflation Reduction Act. Beginning construction is defined as having completed work of a significant nature (the “Physical Work Test”) or paying/incurred 5% of the total cost of the project (the “Five Percent Safe Harbor”).

What is the incentive level available to the City?

The City’s application is based on a 40% federal incentive, consisting of the 30% incentive mentioned above and a 10% incentive adder. In order to be eligible for the 30% incentive, project must pay prevailing wages and provide 15% of all construction work hours to apprentices in government-registered apprenticeship programs.

The New Haven Metropolitan Statistical Area is designated based on its unemployment rate as an Energy Community, entitling the City to an increased federal incentive of 10%. Should the unemployment rate drop in future years and the City were to lose its Energy Community designation, the City could achieve an additional 10% incentive by meeting domestic content requirements for the materials used in the project, with little increase in the project cost, as the geothermal borehole network easily satisfies the domestic content requirement and many geothermal heat pumps are manufactured domestically.

How is the incentive claimed?

Municipalities are now eligible for direct payments from the IRS (Treasury) on clean energy projects and electric vehicle purchases. The incentive is claimed in the tax filing following the tax year in which the project goes into service. Going into service means the thermal energy network system is delivering clean energy to connected buildings. If the project were to go into service before July 1, 2028, the City must submit a tax filing in Fall 2028 (prior to November 15) in order to claim the federal direct payment. The IRS website states that entities that file by the due date and appropriately complete the incentive process can anticipate payment in 45 days – geothermal practitioners estimate that it may take 30-90 days for the IRS to complete payments.

What are the forecast operations and maintenance costs?

As a rule of thumb, the Office of Climate and Sustainability extrapolated and adjusted operations and maintenance costs of \$200,000 annually based on the operations maintenance costs for an established system of a similar typology in West Union, Iowa. This figure would include all of the operations and maintenance costs, such as electricity to run the system’s pumps, insurance, service, administration, monitoring software and internet access, equipment repair, labor and materials. It is also important to build up a small operating reserve in order to accommodate the cost of repairs in the unlikely event of a system component failure. These operating, contingency

and reserve costs would be passed onto users of the system through a monthly fee. The fee would either be a fixed fee or fee that is levied in proportion to the amount of energy the user consumes.

What entity would be responsible for operating and maintaining the geothermal thermal energy network system?

Operations, maintenance, and billing can be conducted entirely through a third-party contractor. It is anticipated that a third-party would be responsible for these activities, and not City staff should the City choose to issue an RFP for these services and not create this capacity in-house.

How would the City manage the operations and ongoing operating cost recovery of the geothermal thermal energy network system?

The simplest approach to managing ongoing operating costs would be to authorize the City Engineer through ordinance to contract with firms to maintain the system and recover operating costs from users through ongoing billing. With approval from the Board of Alders, the City may also seek to create a geothermal thermal energy enterprise fund, authority, or commission to oversee the operations, growth and development of the geothermal thermal energy network. The state's Public Utilities Regulatory Authority does not regulate municipal geothermal systems and does not determine how the system is managed or governed or how costs are recovered.

What are examples of existing facilities and how they are managed in other communities?

The most similar existing facility is in West Union, Iowa. There are some helpful background resources on how the system is set up and how it is managed at this [link](#). In West Union, thermal energy network users manage the thermal energy network through an LLC where each user has vote on the board. The system is maintained by a third party contractor. There are many other examples abroad and within the United States.

Please provide some background information on Yale's planned geothermal system and the system that Eversource is building in Framingham, Massachusetts.

Please find a link to the Framingham, Massachusetts project summary [here](#).

Please find a link to a YaleNews article describing how the university's networked geothermal system, which is under construction, will provide clean heating and cooling to the Malone Engineering Center [here](#).