



Frequently Asked Questions (FAQ)

Program Overview

What is the Geothermal Clean Energy Challenge?

The New York Power Authority (NYPA) and the New York State Energy Research and Development Authority (NYSERDA) developed the Geothermal Clean Energy Challenge to stimulate and finance the installation of best-in-class, large-scale geothermal systems, also known as ground-source heat pump (GSHP) systems. These systems reduce energy costs and greenhouse gas emissions. Increasing the use of these systems will play a major role in achieving Gov. Andrew M. Cuomo's goal to reduce New York State's greenhouse gas emissions 40 percent by 2030.

The Geothermal Clean Energy Challenge will provide free technical support, financial assistance and implementation services. Specific support includes site screening analysis summary reports (Stage 1), refined economic analysis advanced reports (Stage 2), audit-grade detailed design study and business planning reports (Stage 3), and project design engineering, procurement and construction and performance monitoring (Stage 4). Applications will be judged against program requirements at each stage.

What is a GSHP system?

GSHP systems use consistent underground temperatures to efficiently heat and cool buildings. GSHPs combine an underground (or underwater) heat exchanger (ground loop) system with a pump system.

When operating in heating mode, ground heat is captured by the ground loop and circulated and distributed into the building. When operating in cooling mode, heat from the building is captured and transferred into the ground.

How would my organization benefit from a GSHP system?

A GSHP system offers unique and powerful benefits, including:

- Cost savings
- System longevity
- Reliable and low maintenance
- Reduced greenhouse gas emissions

What are the components and costs of the Geothermal Clean Energy Challenge?

There are four stages of the program. An eligible organization must have site(s) (location of a potential GSHP system) and successfully apply to Stage 1. It then must meet other program requirements to advance to successive stages.

- **Stage 1: Technical and economic Summary reports** for the first 75 GSHP sites that successfully apply (no cost to participants)
- **Stage 2: Advanced reports**, consisting of refined analysis and building energy models, will be provided for the top-ranked sites from the 75 accepted Stage 1 sites (no cost to participants)
- **Stage 3: Detailed design studies**, including American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 targeted audits, site geotechnical testing and analyses, and schematic GSHP system design (cost to participants: eligible for payments of up to \$125,000 per site from NYSERDA on a cost-share basis if the participant pays the Systems Benefits Charge (SBC) and eligible for NYPA financing regardless of SBC status)
- **Stage 4: Project implementation assistance with financing, construction and rebates** for deployment of best-in-class GSHP systems (cost to participants: GSHP system installation cost,

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with eligibility for NYPA financing; NYPA engineering, procurement and construction assistance; and NYSERDA GSHP rebates to help defray cost).

Application Process

Where can I apply?

The application is available at nypa.gov/geothermalchallenge.

What types of organizations can participate in the Geothermal Clean Energy Challenge?

The program is designed and targeted specifically for:

- Colleges/universities
- K-12 schools
- State and local government entities
- Healthcare organizations

What types of potential GSHP sites are eligible to apply?

The site must:

- Be located in New York State
- Have heating or cooling loads of at least 100 tons (100 tons will typically correspond to approximately 40,000 square feet of conditioned space for one or more buildings combined)
- Have no active commitments for studies of the potential GSHP system(s) from NYSERDA, NYPA or their local electric utility
- Provide all information requested by program administrators

The potential GSHP system(s) can be associated with new construction or existing buildings and can offset heating and cooling uses that would otherwise be provided by any energy source. Any typical GSHP configuration is eligible: closed-loop horizontal, vertical and direct exchange systems, open loop systems, and groundwater or surface water systems.

How large is a 100-ton GSHP system?

One hundred tons corresponds to the peak cooling or heating loads to be served by the potential GSHP system(s). A 100-ton system in New York State corresponds to about 40,000 square feet of conditioned space in one or more buildings connected to the same GSHP system.

How many sites may be included on an application?

Up to five sites may be listed on an application. A site is defined as a single GSHP system that is connected to one or more buildings. To improve economic and environmental outcomes, NYSERDA and NYPA encourage applicants to prioritize potential GSHP systems that are connected to multiple buildings.

Can an organization submit more than one application?

Yes. There is not a limit on the number of applications as long as all sites are eligible. However, duplicate applications for the same site will be rejected and may delay consideration of other sites proposed by the same organization.

What is expected of applicants for the initial GSHP summary reports?

Interested parties must complete the application and respond to any follow-up questions. While there is no application fee, applicants are responsible for the costs of preparing their own applications and providing requested information to NYPA, NYSERDA and their representatives.

The online application preparer may want to have ready energy bills for heating, light and power for buildings to be included in applicant's proposed GSHP systems and their maximum loads for heating, in Btu per hour and for cooling in tons.

Applicants in the pool of 75 accepted Stage 1 sites must provide requested physical site, building energy use and rates, capital planning and other data to allow for the creation of a thorough report. Applicants that monitor their building energy use with NYPA's New York Energy Manager (NYEM) service or a building management system will be better prepared to provide the requested data. For information on how to participate in the NYEM service, please [click here](#).

How will applications for the GSHP summary reports be evaluated?

Ranking in the pool of 75 accepted sites for Stage 1 reports will be determined on a first-come, first-served basis. An application will be deemed complete once any questions for completing an analysis have been resolved, and NYPA and NYSERDA have issued to the applicant an acknowledgement of successful enrollment in the program. NYPA and NYSERDA reserve the right to allocate up to five potential GSHP sites per application.

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How long will you accept applications?

Applications will be accepted on a first-come, first-served basis until 75 sites are successfully enrolled in the program or April 30, 2018, whichever occurs first.

Can applicants leave the Geothermal Clean Energy Challenge after they apply?

Yes. Applicants may leave the Geothermal Clean Energy Challenge at the completion of any stage. However, applicants leaving the program cannot re-enter at a later stage. Separation from the program is dependent on participant agreements in place at the time.

Stage 1: Summary Reports

How will site information be obtained for the summary reports?

Data will be collected from:

- Geothermal Clean Energy Challenge application
- Applicant-specific inquiries from Geothermal Clean Energy Challenge program staff
- Energy-use data for applicants that are customers of NYPA's New York Energy Manager service

What will be included in the summary reports?

Stage 1 summary reports will include:

- Quantitative analysis of the technical and economic viability of the potential GSHP system(s) and of system size(s)
- Review of important qualitative implementation factors for the potential site(s)

How will summary reports be distributed?

Each accepted applicant will receive summary report results specific to its site(s).

NYPA and NYSERDA will aggregate data from summary reports to identify and replicate best practices for further development of GSHPs. NYPA and NYSERDA will publicly identify the names and locations of participating sites, but will not publish any site data.

Stage 2: Advanced Reports

What supplemental information will each top-ranked site receive in its advanced report?

- Building energy model (BEM)
- Refined economic analysis incorporating BEM data for the potential GSHP system(s)
- Brief review of environmental impacts and regulatory requirements relevant to the GSHP system(s)

How will the top-ranked sites that receive advanced reports be selected from the 75 accepted sites for Stage 1?

NYPA and NYSERDA will form a committee to rank the sites receiving Stage 1 summary reports. The following factors will play a role in the Stage 2 selection process:

- Technical viability
- Economic benefits
- Greenhouse gas reductions
- Readiness to implement
- Accessibility of detailed data for screening analysis
- Curriculum framework, professional development laboratory or other sustainable program commitment to a GSHP system
- Geographic and sectoral diversity

Will participants need to reapply for Stage 2?

No. The ranking process described above will be performed for all Stage 1 sites. However, after applicants are selected for Stage 2, they may be asked for additional site information.

Is selection to the advanced report stage required to be eligible for Stage 3 detailed design study matching funds?

Yes. Organizations must successfully apply for Stage 1 summary reports, be selected for Stage 2 advanced reports and provide the information necessary for Stage 2 reports to be eligible for Stage 3 and any later studies, financial support or implementation services.

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Stage 3: Detailed Design Studies

What are the cost-share eligibility requirements for the detailed design studies?

Applicants that advance through Stage 2, sign the required contract paperwork and pay the SBC will be eligible to apply for an incentive payment from NYSERDA, up to 50 percent of the total cost of the detailed design study, or \$125,000 (whichever is less), per site. Participants will be required to match the NYSERDA investment in these studies.

In all cases, NYPA can provide services to develop and finance the detailed design studies. Participants can use NYPA sources to finance the study or source their own funding.

How can my organization apply for matching grants or NYPA financing for the detailed design studies?

Application instructions for detailed design studies will be posted on the NYPA and NYSERDA websites by April 2018.

How will eligible applications be evaluated for NYSERDA co-funding and NYPA financing of the detailed design studies?

Sites scoring highest in the Stage 2 ranking process will receive preference. NYPA and NYSERDA may consider other sites as funding allows.

What content is included in the detailed design studies?

The Stage 3 detailed design studies are required for and will enable completion of Stage 4 funding assistance applications. The studies include:

- ASHRAE Level 2 targeted audit
- Site geotechnical testing and analysis
- Schematic GSHP system design

Stage 4: Project Implementation Assistance

How will the Geothermal Clean Energy Challenge assist with GSHP system implementation and financing?

Following completion of the Stage 3 studies, NYPA and NYSERDA will assist program participants to proceed to Stage 4—implementation of 100-ton or larger GSHP system(s). In addition to eligible candidates receiving NYSERDA's GSHP rebate, NYPA may provide engineering, procurement and construction services, and project financing.

Is the Geothermal Clean Energy Challenge part of NYSERDA's GSHP rebate initiative?

No. The two programs are separate but complement each other.

Applications to the [NYSERDA Ground-Source Heat Pump Rebate](#) initiative are being accepted on a first-come, first-served basis through June 30, 2019, or until all rebate funds are committed. Participants in the Geothermal Clean Energy Challenge will have GSHP system sizes of 100 tons or more and would be eligible for the large system (greater than 10 tons) NYSERDA rebate.

Application to the Geothermal Clean Energy Challenge does not affect NYSERDA rebate eligibility and vice versa. However, summary reports, advanced reports and detailed design studies from the Geothermal Clean Energy Challenge will help organizations focus on their best potential GSHP site(s) and system configuration(s) to prepare them to apply for rebates.

For questions or more information, contact:

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