GEO Call for Projects
Examples of Successful Geothermal Installations Will Help Win Extensions of Residential and Commercial Tax Credits

Dec. 15 – The Geothermal Exchange Organization (GEO) is working hard in Washington, DC and across the country, advocating public policies to help grow the residential and commercial markets for geothermal heat pumps (GHPs).

GEO’s #1 Priority during 2016 will be convincing our nation’s leaders to extend the income tax credits for residential (IRS Sec. 25D) and commercial (IRS Sec. 48[a]) GHPs that are set to expire at the end of the year. “Since the tax credits were instituted in 2008, they really haven’t had a proper chance to achieve their goal of expanding the market for GHPs. The credits were in full swing right when the Great Recession took the steam out of our economy and sent new home and commercial builders into a tailspin,” explains GEO President Doug Dougherty. “With our economy on the mend, an extension will give the tax credits a chance to do the job they were intended to do.”

“As the GEO Board and staff work the halls of Washington with their DC-based advocacy team, it is important to convey the energy efficiency and economy of GHPs to members of the Senate Finance and House Ways & Means committees,” says GEO Chairman Steve Smith (Enertech Global LLC – Greenville, IL). “One of the best ways to impress the value of our technology is by showing them descriptions, articles and case studies of a variety of GHP projects from every state.”

GEO asks everyone in the industry to send us information about your best geothermal installations of all types. Your input will make our state GHP project files as impressive as possible to our nation’s legislators. Please send project information to GEO HERE.

As 2016 unfolds, GEO will also turn to the grassroots geothermal community for its support of our efforts in Washington on behalf of the entire industry. “Expect to hear from GEO during the year as we close in on a legislative vehicle to extend the tax credits,” says Dougherty.

“We will be broadcasting timely and vital information to all of you in the months ahead, asking your help in strategically contacting your local senators and representatives in support of specific legislation to extend the tax credits.” At the same time, he says, “GEO encourages you to support our advocacy by securing your place on our membership rolls.” For information on GEO membership and how to apply, please visit our website here. (GEO)
GEO Work in Washington, DC

GEO Advocacy “Fly-Ins”  In late-March and again in late-September, the Geothermal Exchange Organization (GEO) Board of Directors and staff staged Fly-Ins to Washington, DC for political briefings and visits to key lawmakers on Capitol Hill. Issues included the industry’s need for tax extenders, tax credits and a legislated definition of clean and renewable energy that includes geothermal heat pumps (GHPs). During both visits to the nation’s capital, the GEO team met with leadership and staff of key Senate and House committees. In October, GEO President Doug Dougherty and Board Member-at-Large Dan Ellis also met with officials at the U.S. Energy Information Administration, U.S. Department of Energy Geothermal Technologies Office, and the Federal Energy Management Program.

Tax Extenders Bill Signed into Law  On December 18, the U.S. House of Representatives and U.S. Senate passed a $1.1 trillion Omnibus spending bill to fund the government, and a companion bill to provide $650 billion in tax relief over 10 years. According to GEO President Doug Dougherty, “We scored a big win with the tax bill, which includes four ‘tax extenders’ particularly beneficial to the GHP industry.”

- Expensing under Section 179, modified and made permanent, making small business eligible for a 100% deduction for investments up to $500,000 in geothermal system equipment during the first year after installation,
- Bonus Depreciation, modified and extended for 5 years,
- Tax credit for energy efficient new homes, extended to Dec. 31, 2016, and
- Deduction for energy efficient commercial buildings, extended to Dec. 31, 2016.

“Having worked hard for these extenders over the past couple of years, GEO is very happy about their passage,” said Dougherty. “But we were extremely disappointed that despite our best efforts, GHPs were passed over for extensions of installation tax credits that were given to wind and solar technologies in the Omnibus bill.”

Tax Credits for Geothermal Installations  The Omnibus spending bill passed by Congress on Dec. 18 extends for five years the Wind Production Tax Credit (PTC), the 30% solar Investment Tax Credit for commercial installations (ITC - including 5-year depreciation), and the 30% solar income tax credit for residential applications. Though GEO was assured that GHPs would be included in the bill, they were left out during last-minute, closed-door negotiations over lifting the U.S. ban on crude oil exports. The wind PTC and solar tax credits were hurriedly inserted into the final Omnibus bill, but GHPs, fuel cells, small wind, microturbines, and combined heat and power were left out of the measure.” Just like those industries, GHP advocates were blindsided by the 11th-hour deal,” said Dougherty.

Immediate backlash whipped up by the GHP and other industries left out of the tax credit extensions made key congressional staff well aware of the problem. House Ways & Means Chairman Kevin Brady (R-Texas) publicly acknowledged concern that the ITC and income tax credit extensions for solar did not include other eligible technologies, as did Senate Minority Leader Harry Reid (D-NV). House Minority Leader Nancy Pelosi (D-CA) said she has been promised action in early 2016.

GEO believes that the situation has created an easier path to get commercial and residential tax credits for GHPs extended through 2021. During the first quarter of 2016, GEO will work to include GHPs in an amendment that will provide parity with the solar industry tax credit extensions.
The message? Congress should not be in the business of picking winners and losers among renewable energy options. It must remain technology neutral and market sensitive. This is especially important as the nation reaches for lofty environmental and economic goals.

**Executive Order Included GHPs** On March 19, the administration officially recognized the efficiency and renewability of GHPs with its Executive Order (EO), “Planning for Federal Sustainability in the Next Decade.” With that, the federal government now defines thermal energy for buildings produced by GHPs as renewable, right alongside electricity generated from naturally occurring geothermal steam. GHP inclusion in the EO is the direct result of two GEO meetings with the White House Council on Environmental Quality and the Office of Management & Budget. “Having GHPs officially recognized as a source of clean energy in the Executive Order is a homerun for the industry,” said Dougherty. “GHPs are easily applicable to many sections of the EO as an efficiency tool and renewable thermal energy source for saving energy, reducing costs and curbing emissions from federal buildings across the country.” The EO is available here.

**GEO Presses for GHP Renewable Definition** Even though the Executive Order described above designates GHPs as a clean and sustainable option for U.S. government energy purchases and consumption, GEO wants to codify the technology into the Federal Renewable Energy Purchase Requirement in the 2005 Energy Policy Act. “We are still seeking a vehicle to amend the law, to set an example for the states,” said Dougherty. The following is GEO’s suggested definition for renewable energy in federal law:

*The term ‘renewable energy’ means electric energy, or thermal energy if resulting from a thermal energy project placed in service after December 31, 2014, generated from, or avoided by, solar, wind, biomass, landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, municipal solid waste (other than commonly recycled paper that is segregated from solid waste), qualified waste heat resource, or new hydroelectric generation capacity achieved from increased efficiency or additions of new capacity at an existing hydroelectric project.”*

A potential vehicle for GEO’s amendment in 2016 is a comprehensive energy bill crafted by Senate Energy and Natural Resources Committee Chairwoman Lisa Murkowski (R-AK) and her supporters.

**EPA Won’t Increase GHP Efficiency Standards** In October, GEO learned that the U.S. Environmental Protection Agency (EPA) will not be increasing the efficiency standards for GHPs listed in the Energy Star Program. Prior to the decision, Dougherty participated in several discussions with EPA staff regarding their triennial review of Energy Star products. “I stuck to the point that GHPs are the most efficient way to satisfy the thermal loads of homes and we are the most expensive," he said. "We still have less than 2% of residential market share, and our biggest barrier to adoption is high upfront cost. EPA shouldn’t raise this barrier for only incremental gains in efficiency when we already significantly outperform our nearest competition." EPA agreed, and will reach out to GEO in about 30 months to revisit the issue.
GEO Industry News Page 4

GHPs Can Help States Meet Clean Air Rules  Last August, EPA released its 1,530-page Clean Power Plan, which sets state-specific targets for carbon dioxide emissions from coal-fired power plants. A major compliance option was originally to encourage energy efficiency by the states. GEO submitted comments to EPA’s Proposed Rulemaking in June 2104, asking that thermal energy produced onsite by GHPs be recognized as a compliance option for the states. Unfortunately, GHPs are not specified as a compliance option in the final Clean Power Plan released last year. Even so, states can still get credit for energy efficiency programs implemented before 2022. GEO is working with its allies at the International Ground Source Heat Pump Association (IGSHPA), the National Ground Water Association (NGWA) and the Geothermal Energy Association (GEA) to alert state environmental agencies about how GHPs can contribute to power plant emission reductions by cutting peak power demand and fossil-fuel use onsite.

GEO Helping DOE Find Its “Geothermal Vision”  The U.S. Department of Energy (DOE) Geothermal Technologies Office (GTO) is conducting a “vision” study to analyze geothermal growth scenarios for 2020, 2030 and 2050 across multiple market sectors, including geothermal power, direct use and GHP applications. The purpose of the study is to identify the potential for geothermal energy to serve as a key part of the nation’s energy and climate-change priorities, and to articulate a clear GTO investment strategy to achieve that outcome. GEO President Doug Dougherty was appointed to the Visionary Team to provide recommendations and review the process and strategic vision of the project. A forum at the IGSHPA 2015 Conference & Expo in October for involved stakeholders included industry representatives from GEO, IGSHPA and NGWA, as well as GHP team lead Dr. Xiaobing Liu (Oak Ridge National Laboratory) and Arlene Anderson (DOE/GTO program manager).

GEO Support of State Initiatives  GEO continues its priority of backing efforts by stakeholders in the states to encourage public policies that are favorable to GHPs as a renewable source of energy and the most efficient way to satisfy thermal loads of buildings. "GEO devoting its resources at the state level across the country to help gain recognition of the economic and environmental benefits of GHPs," said Dougherty. "Working with our allies on a broad range of issues, legislative solutions, and regulatory battles is challenging, but we are seeing success as state associations and other stakeholders forge ahead with important and valuable initiatives.” Following are highlights of advocacy for the GHP industry in the states during 2015.

California  Advocates Working to Reform Title 24  Last April, GEO commented to a California Energy Commission (CEC) Workshop Docket, addressing problems with the Title 24 energy code for building permits that limits GHP installations in the state. The current Title 24 permitting process requires using laborious “work around” approaches to get GHPs approved through the state’s energy compliance software. The CEC is close to adopting its 2016 Building (energy) Code, which as currently written would exclude GHP heating and cooling technologies in California in favor of polluting natural gas heating and water heating in all new construction. With GEO support, the California Geothermal Heat Pump Association is working in good faith with the CEC on ways to develop compliance software that will reduce these barriers.

Illinois  GEO-GAOI Efforts Pay Off with Expected ComEd Program  Commonwealth Edison plans a residential GHP financial incentive program for Illinois. GEO and the Geothermal Alliance of Illinois (GAOI) partnered in the highly technical and sometimes tense legislative and regulatory work that paved the way to ComEd’s GHP program. Following their success in advocating legislative recognition of GHPs into Illinois
renewable and energy efficiency laws, GEO and GAOI were directly involved in revising the state’s Technical Resource Manual to ensure GHP access to state incentives. GEO gained every concession it proposed, including allowance of fuel switching and recognition of GHP efficiencies. GEO believes the changes to Illinois law and ComEd’s GHP program can serve as a template for states with similar regulatory impediments. GEO and GAOI brought together a focus group of GHP installers and ComEd officials last March to foster positive additional feedback and cooperation for the utility’s GHP program.

**Michigan**

**Geothermal Included in Michigan Energy Bill**  
Michigan State Rep. Aric Nesbit (R-District 66) introduced **HB 4297** last March, to amend the Clean Renewable and Energy Efficiency Act (2008 - Public Act 295). Among other things, the proposal would specify that thermal energy from GHPs is clean and renewable, and therefore eligible for Renewable Energy Credits (RECs). The Michigan Electric Cooperative Association (MECA) and Michigan Geothermal Energy Association (MGEA) are taking the lead to pass this important legislation. GEO helped amend the bill with a Btu conversion formula to help assign RECs to GHPs. The bill passed the Energy Policy Committee in December, but with complications posed by wholesale power provisions, the measure didn’t come to a floor vote. At the same time, the Michigan Senate was tardy in voting their own energy bills out of committee. GEO will work with MECA and MGEA in pursuit of the legislation in 2016.
New Hampshire
GEO, NEGPA Team Up to Change NH Cost Calculator  In November, Emeritus Chairman of the New England Geothermal Professionals Association, Martin Orio (Water Energy Distributors, Inc. – Hamptead, NH) found an online heating and cooling cost calculator used by New Hampshire Climate Audit (NHCA). The calculator posted an unrealistically low Coefficient of Performance (COP) for GHPs of 2.75. NHCA officials referenced a paper produced by the Jordan Institute, a renewable energy promotion group in Concord, NH. Orio shared his discovery with GEO. “I immediately contacted Jordan Institute Executive Director Laura Richardson to question the validity of the referenced paper,” he said. “She admitted that the technical paper was dated (2006) and should no longer be used, and asked for current GHP ratings, which we provided. Richardson also agreed to accept additional documentation from Orio, which she will provide to NHCA organization with a request to update their cost calculator.

New Mexico
Thermal Energy Bill Including GHPs Signed into Law  On April 7, New Mexico Gov. Susana Martinez (R) signed HB 263 into law, allowing Renewable Energy Certificates (RECs) to be issued to utilities for the use of thermal energy produced by geothermal energy sources. The law also sets standards for measurement of thermal energy and GHPs, and defines “useful thermal energy.” GEO Member Western Farmers Electric Cooperative (WFEC) led efforts to pass the legislation, which cleared the state Senate on March 18. “We now have a law that give RECs to electric cooperatives for the thermal energy they produce from the ground with GHPs,” said WFEC’s Eric Austin. More information about New Mexico’ Thermal Energy law is available [here](#).

New York
Geothermal Tax Credit and Exemption Bills Won and Lost  Last summer, New York lawmakers passed two bills to benefit the GHP industry. On June 1, the State Assembly unanimously passed S2905/A2177a, to provide a 25% tax credit for residential GHP installations up to $5,000. And on June 9, the Assembly unanimously passed S4297/A5508, to exempt GHPs from the state sales tax. Despite a concerted advocacy effort by the New York Geothermal Energy Organization (NY-GEO)—which was joined and pushed by GEO—Gov. Andrew Cuomo (D) vetoed the bills on Nov. 20. Cuomo said the bills would have “significant revenue impact,” but promised to work with their sponsors “to best encourage the growth and use of geothermal energy throughout the State.” NY-GEO Executive Director Bill Nowak promised a best effort by the geothermal association to include both measures in the New York 2016-17 budget, scheduled for passage by April 1.

REGISTER NOW!
NY-GEO-2016
BREAKING NEW GROUND in
RENEWABLE HEATING & COOLING
Radisson Hotel • Albany • April 19-20
CLICK HERE for details and Early Bird Registration until
Vermont

Renewable Energy Standard Bill Signed into Law  On June 11, Vermont Gov. Peter Shumlin (D) signed H. 40 into law, a Renewable Energy Standard that will “retool Vermont’s renewable energy programs and spur utilities to help customers cut costs and carbon emissions in heating their homes.” Among many other provisions, the legislation calls for an “Energy Transformation” program, which will allow Vermont utilities to provide leasing or on-bill financing to help customers make energy improvements to their homes, such as installing high-efficiency GHPs. Jim Ashley (now President of the New England Geothermal Professional Association) discovered that only air-source heat pumps were included in a weatherization incentive program in previous legislation, while GHPs were omitted. Through his effort with assistance from GEO, the error was corrected in H. 40, which included geothermal heating and cooling technologies in its first draft.

GEO Refreshes IGSHPA Alliance

IGSHPA 2015 Conference & Expo  GEO Chairman Steve Smith (Enertech Global LLC – Greenville, IL) offered a passionate keynote address on Oct. 7 at the Opening Session of the International Ground Source Heat Pump Association (IGSHPA) 2015 Conference & Expo in Kansas City, MO. “What I bring to you today is a message of strength and unity,” he said, as he pressed the need for working together to ensure that Congress extends the federal tax credits that are set to expire at the end of 2016 for residential and commercial GHP installations. “All of you are our voice—it can’t just be the voice of GEO members. To succeed, we need to include all the members of IGSHPA and NGWA. It has to be all of you.

Stop Wasteful Potable Water Use by Cooling Towers with Geothermal Heat Exchange!

Find Out How in THREE CASE STUDIES Presented by a Webinar from CaliforniaGEO on Thursday, February 4 at 11:30-12:45 PST

“Water Reduction in Large Buildings by Geothermal Closed Loop Designs”

CaliforniaGEO Experts Cary Smith (Sound Geothermal), Jay Egg (Egg Geothermal Consulting) and Alan Watts (AWEB Supply) will discuss:
- Large-scale cooling with wells and reinjection in Florida
- Underwater heat exchange for cooling in Tennessee
- Multi-building, common-looped geothermal in Colorado

Webinar Cost is Only $25 for CaliforniaGEO Members, $50 for Non-Members

CLICK HERE for More Information about Registration and Membership
None of us can afford to wait for somebody else to move our goals forward. We all have to work together to be heard.” Along with Smith’s keynote address, more than a third of technical and other presentations at the IGHSPA 2015 Conference & Expo were provided by GEO members.

Joint Meeting Finds Common Ground  As the IGSHPA 2015 Conference & Expo came to a close on Oct. 8, a quorum of Board Members from GEO and IGSHPA convened a joint meeting to discuss improving relations between the groups. In his introduction for the meeting, Smith said, “Both organizations are after the same thing: growth and success of the GHP industry. There is no winner and loser. We all win or we all lose.” Smith emphasized overcoming the breakdown in communication that has occurred between GEO and IGSHPA. “We have shared priorities and goals we should work on,” Smith said. He proposed that discussion must start with regular contact between the staff of the two organizations. IGSHPA Board Chairman John Turley agreed: “Including NGWA, we all have different priorities, but we are all in this together,” he said. “The consensus here today is that IGSHPA and GEO want day-to-day interaction of our staffs.” GEO Chief Operating Officer Ryan Dougherty was designated as contact person and coordinator of state associations for the group. The meeting ended with agreement to:

- Craft an MOU to pursue issues of common interest for the benefit of the GHP industry.
- Involve NGWA and other groups in the new coalition formed by GEO and IGSHPA.
- Form a joint working group/task force to address issues facing the GHP industry.
- Coordinate and fund a joint research project and paper study by Dr. Liu to independently verify GHP reductions of GHGs on a state-by-state basis. (GEO)

GEO Signs MOU with IGSHPA  In November, GEO and IGSHPA signed a Memorandum of Understanding (MOU) to strengthen and expand the complementary relationship that currently exists between the two associations. GEO President and CEO Doug Dougherty and IGSHPA Executive Director Bob Ingersoll signed the MOU, recognizing the two organizations share a common interest in advancing the geothermal/ground-source heat pump industry. IGSHPA and GEO will establish a joint task force to coordinate the efforts of the organizations as related to advocacy, research and promotion of the industry; organizational committees will exchange information on technical and scientific public policy matters; and staff of both organizations will be in frequent communication about items of mutual interest.

GEO Webinar Draws a Crowd  Geothermal vs. Variable Refrigerant Flow  In late-2014, GEO released scientific research that shows a GHP system offers 44% more efficiency in a large commercial building than a variable refrigerant flow (VRF) system. With financial and technical assistance from The Southern Company, GEO contracted a research team from Oklahoma State University and Oak Ridge National Laboratory to evaluate the performance of GHP vs. VRF heating and cooling systems installed at the American Society of Heating Refrigeration and Air-conditioning Engineers (ASHRAE) International Headquarters Building in Atlanta, GA. The team’s Final Report, Performance of the HVAC Systems at the ASHRAE Headquarters Building was presented during a 2-hour webinar on Feb. 4 that drew more than a thousand participants from across the country and around the world. The report is available at the GEO website, here. Two peer-reviewed articles by Dr. Jeffrey Spitler et al. in the ASHRAE Journal describing the project are available here, and here. You can view the webinar here.
GEO Launches New Website

In August, GEO announced its all-new website at www.geoexchange.org. The site is a robust Internet portal to the world of geothermal heating and cooling. It has been completely redesigned, with more intuitive access to content that offers information about geothermal technologies to potential consumers, plus valuable technical and policy information to industry professionals and decision makers. With regular industry news features and links throughout the industry, the GEO website is tuned to draw maximum traffic. At current rates, the GEO website attracts an outstanding million+ hits per year by over 300,000 unique visitors.

A popular feature is the Find-a-Pro Directory, which drives inquiries across the United States to GEO member companies. The GEO website also provides important updates about current GEO advocacy to promote the industry, including legislation under consideration by Congress and our interaction with state geothermal associations to help them institute laws and regulations that will bolster the industry. In addition, the GeoExchange® Forum provides a convenient way for potential customers to interact with geothermal heat pump experts and find answers to their questions. The Forum regularly features topics such as determining what type of system will best meet consumer heating and cooling needs; operating assistance; and environmental benefits of GHP systems.

GEO 2015 Administrative Highlights

GEO Board Expanded  During its meeting on Oct. 1 in Washington, DC, the GEO Board of Directors confirmed by unanimous vote that new ClimateMaster President and CEO Richard Aldridge will replace Dan Ellis on the Board. The Board then unanimously voted to expand the Board from 7 to 9 members, including Mr. Ellis (Comfortworks) as a Director-at-Large. During a teleconference meeting on Dec. 11, the Board accepted Chris Mays’ (Emerson Climate Technologies) resignation, and his company’s later designation of David Hules as a new Board Member. The GEO Board now (Jan. 2016) includes:

- Chairman        Steve Smith (Enertech Global LLC – Greenville, IL)
- Vice Chairman     Keith Swilley (Gulf Power / Southern Company – Pensacola, FL)
- Secy./Treasurer   Phil Schoen (Geo Enterprises – Catoosa, OK)
- Member           Richard Aldridge (ClimateMaster, Inc. – Oklahoma City, OK)
- Member           Tom Huntington (WaterFurnace Renewable Energy – Fort Wayne, IN)
- Member           Joe Parsons (Earthlinked Technologies – Lakeland, FL)
- Member           David Hules (Emerson Climate Technologies – Sidney, OH)
- Member           Dan Ellis (Comfortworks – Goldsby, OK)
- Member           Open Seat

GEO Utility Membership Dues Slashed  In other action, the GEO Board of Directors unanimously voted to lower association membership dues for utilities from 5 cents per meter with a $25,000 cap to a stratified dues structure depending on business model. The new dues are $2,500 per year for Investor-Owned Utilities, $1,000 per year for Generation and Trans-mission Cooperatives, $500 per year for Municipal Electric Utilities, and $500 per year for Electric Distribution Cooperatives. The change is meant to foster greater participation with GEO among all types of utility service providers. (GEO)

When you Think “GEOTHERMAL” – Think “GEO” at www.GeoExchange.org
GEO Comments on EPA Clean Energy Incentive Program
Dec. 15 - The Geothermal Exchange Organization (GEO) formally commented on the U.S. Environmental Protection Agency’s (EPA) Clean Energy Incentive Program and its demand-side energy efficiency component for low-income communities. “We believe the most important tool for reductions in carbon emissions is energy efficiency,” said GEO President Doug Dougherty. “Given the high proportion of energy and electricity used by buildings in the United States, geothermal heat pumps (GHPs) offer a unique and efficient renewable energy technology for heating and cooling that provides both renewable energy and efficiency offsets that can help EPA and the states attain their carbon emission reduction targets.” In conclusion, he said:

“GEO asks that like the Administration, EPA recognize the role that renewable thermal energy can play in providing efficient avoidance of power production—Negawatts—thus offsetting their carbon and other polluting emissions. We believe that EPA will reach its goals more quickly if it includes a broad view of the role that thermal energy savings can play in achieving compliance with their Clean Power Rulemaking (111d)—and in that context under the agency’s Clean Energy Incentive Program.

“Energy efficiency considerations should specifically include the benefits of renewable thermal energy technologies like GHPs as a way to avoid power generation and therefore cut carbon emissions. And it should be recognized that GHPs replace heating and cooling systems that rely on polluting natural gas, propane and fuel oil. Elimination of such onsite fossil fuel use can be an important offset to carbon emissions by power plants.

“We believe that thermal energy—not just generated electricity—must be part of any equation seeking answers to the total contributions of clean energy options in the United States. EPA should consider both the renewable thermal energy (BTUs) that GHPs can provide in lieu of electricity generation and the elimination of fossil-fuel burning for heating and cooling of buildings.

“GHPs should be specified among the most efficient renewable thermal energy technologies. Encouragement of GHP technology is one of the few policy initiatives that can simultaneously and cost-effectively help states and EPA advance clean, renewable energy as well as energy efficiency and reduction in demand. Promotion of GHPs through the Clean Energy Incentive Program will also:

• Jumpstart job creation from manufacturing through sales and installation of the technology.
• Provide near- and long-term health benefits not only from reductions in sulfur dioxide, particulates, and nitrogen oxides from power plants, but also improve the indoor air quality for thousands of people with the elimination of fossil-fuel combustion in buildings.
• Bring more GHP heating and cooling to low-income neighborhoods by helping to eliminate the barrier of upfront costs by increasing economies of scale.
• Provide quantifiable electricity savings and carbon reduction measures.

“For all of these reasons, GEO asks that renewable thermal energy technologies—including GHPs—be flexibly incorporated into the EPA Clean Energy Incentive Program as an integral part of achieving energy efficiency for not just low-income communities, but for all communities across the Nation. Further, GEO hopes EPA will strongly consider making GHPs part of a broader program that promotes state and utility sponsored efforts to help homeowners and businesses install the technology to help offset power plant emissions of greenhouse gases.” Complete comments here. (GEO)
Mayor Signs Geo Legislation for NYC
Jan. 5 – New York City Mayor Bill de Blasio (D) signed legislation that makes it easier for homeowners and businesses to determine whether geothermal energy is cost-effective. Intro. 609-A requires the city to develop, and make publicly available, a tool that helps building owners understand how cost-effective a geothermal system would be for a particular building. The bill also encourages the installation of geothermal in newly constructed or retrofitted city-owned buildings, and requires developing standards for installing and maintaining geothermal systems. The legislation will help ensure that the city can meet its goal of reducing greenhouse emissions 80% by 2050.

Nilda Mesa, Director of the Mayor's Office of Sustainability, said, “We are eager to make the promise of geothermal systems a reality. With this bill, building owners will be able to use a city tool to determine whether their buildings are good candidates for this technology – and the city will ensure geothermal is a key piece of our own energy planning toolkit.”

“The Department of Design and Construction (DDC) is committed to developing high performance buildings that emphasize energy-saving technologies. Our completed DDC Projects demonstrate the success of using geothermal within the city. By requiring the development of an online screening tool, this legislation will provide more accessibility to the public, allowing anyone to look up the geological feasibility of installing a geothermal system at any building in New York City,” said DDC Commissioner Feniosky Peña-Mora.

“Intro. 609-A is a strong step forward for a more sustainable and greener city,” said the bill’s sponsor, Councilman Costa Constantinides (D-Dist. 22). “For the first time in city history, the social cost of carbon will be considered as part of implementing an environmental policy. Using geothermal technology in city-owned buildings saves money and reduces emissions. The online screening tool will also provide an opportunity for informed private geothermal installations, making the installations more simple and safe for people to install in their homes and commercial buildings.” (City of New York)

Certified GeoExchange® Designer Course
At the NY-GEO 2016 Geothermal Conference
Wolf Road Radisson Hotel in Albany, NY on April 19-20

Eight weekly online, interactive webinars will be presented starting Tuesday, Feb. 23 at 7:00 p.m. Eastern. The final two sessions will be presented at the NY-GEO Conference, where students will enjoy interaction with Instructor Ed Lohrenz (BES, CGD), plus access to the conference agenda and networking with industry leaders!

For more information about eligibility, course agenda and materials, click here. For cost and registration, click here.
GEO Welcomes New Board Members

During its meeting on Oct. 1, the Geothermal Exchange Organization (GEO) Board of Directors unanimously confirmed new members Richard Aldridge (President and CEO, ClimateMaster) and David Hules (Marketing Director, Air Conditioning Business, Emerson Climate Technologies). Aldridge replaces Dan Ellis, who left ClimateMaster last summer, but retains his seat on the Board as a Member-at-Large. Hules replaces Chris Mays, who recently left Emerson.

Richard Aldridge – President, ClimateMaster

Rick Aldridge serves as President at ClimateMaster, Inc. (Oklahoma City, OK). He offers nearly 30 years of broad experience in engineering, manufacturing, OpEx, quality, global sourcing, pricing strategy and tactics, general management and executive leadership, specializing in the HVAC and Appliance industries. Aldridge drives Operational Excellence principles, resulting in business improvements by evaluating the entire enterprise value stream and implementing business process improvements. He has been focused on developing new strategies, assessing and developing resources, and improving operational efficiency to reinforce the Climate Control Groups brand equity within the HVACR industry.

Before joining LSB Industries, Inc., Aldridge built his capabilities in senior leadership and general management positions in companies, such as Trane, American Standard, General Electric and Ingersoll-Rand where he led significant business process improvements in all areas of the business; sales, marketing, engineering, operations and quality. He has led multiple businesses and organizational transformations throughout his career, and at General Electric achieved certification as a 6 sigma master black belt and reliability practitioner.

Aldridge earned Bachelor’s and Masters of Science degrees in Electrical Engineering at Purdue University. He has attended numerous executive development programs at Trane, GE and Ingersoll-Rand and has had extensive training and development in 6 sigma, Lean, Pricing strategy and tactics.

David Hules – Director of Commercial Marketing, Air Conditioning Business, Emerson Climate Technologies

David Hules recently moved into his current position as Director of Commercial Marketing, Air Conditioning Business for Emerson Climate Technologies (Sidney, OH). He has been with the company for nearly 9 years, holding positions of increasing responsibility during that time.

From 2007 to 2010 at Emerson, Hules served as a Product Planner for Air Conditioning, where he was responsible for strategic and tactical decisions for a $90M product platform. He also managed new platform development from concept to production and provided guidance to management while leading cross functional teams.

From 2010 to 2013 at Emerson, Hules served as Manager – Strategic Planning and Development, where he performed analysis for business planning, including strategy, finance and communications. During that time he assessed and developed near-term and long-range strategic plans to drive growth, exchanged best practices, and explored global opportunities.
And from 2013 to 2015 at Emerson, Hules served as Director – Marketing and Business Development, Variable Speed. In that position, he led customer engagements for growth while developing future product roadmaps. He completed due diligence, developed integration plans and provided support for an international joint venture. In addition, he coached and provided direction for market communication and promotion of a $10M variable-speed platform.

Prior to his experience at Emerson, Hules served as a product management intern at Carrier (Indianapolis, IN) in 2006 and as a consultant with Accenture (Cleveland, OH) from 2001 to 2005. Hules earned a Master of Business Administration from Purdue University’s Krannert School of Management and a Bachelor of Science in Mechanical Engineering from Case Western Reserve University.

Virginia Geo Tax Credit Bill

On Jan. 13, Delegate Richard C. “Rip” Sullivan, Jr. introduced HB 480 in the Virginia General Assembly. The measure would establish a tax credit for renewable energy property placed in service, starting in 2016. Renewable energy property includes “biomass, combined heat and power systems using waste heat to produce electricity or thermal or mechanical energy, geothermal equipment, hydroelectric generators at existing dams or in free-flowing waterways, solar, and wind equipment for power generation or mechanical power.” Geothermal equipment is defined as:

“...(i) a heat pump that uses the ground or groundwater as a thermal energy source to heat a structure or as a thermal energy sink to cool a structure or (ii) uses the internal heat of the earth as a substitute for traditional energy for water heating or active space heating or cooling.

The credit would equal 35% of installed cost, not to exceed the lesser of (i) 50% of the amount of the state corporate income tax, license tax on certain public utility companies, or license tax on insurance companies imposed upon the person for the year or (ii) $15,000.

Only the ultimate consumer or user of the renewable energy property would be allowed to claim the credit, in five equal annual installments beginning with the taxable year in which the property was placed in service. The Department of Taxation would be authorized to issue $5 million in tax credits each fiscal year, with any unused credit carried forward for five taxable years. The credit would sunset in 2021. More information is available here.

Illinois Geothermal Conference

March 9-11, 2016 • Doubletree Hotel & Conference Center • Bloomington
- Two Days of Seminars and Training
- Breakout Session with More Than 30 Speakers
- Sponsored Hospitality Receptions – Games and Fun!

For Sponsor, Booth and Attendee Registration, click here.
Sandhills Cyber Center Includes Geo
Dec. 15 - Sandhills Publishing will soon break ground on another new building on its 68-acre global headquarters campus in northwest Lincoln, NE. The new 42,000 square-foot building, called the Cyber Center, will house 240 employee workstations, a reception area and cafe space, as well as classrooms and other training facilities. The new addition is part of a larger trend of company-wide growth for Sandhills that has led to a need for new facilities for its nearly 650 employees in Lincoln.

Like other new buildings on Sandhills' campus, the Cyber Center will be constructed largely of recycled materials, and it will be gold-certified by the U.S. Green Building Council's Leadership in Energy and Environmental Design program. The design incorporates state-of-the-art technologies that increase water and energy efficiencies through the use of solar panels, light harvesting sensors and motion sensors that control plumbing and electricity.

The building also will feature one of the most advanced heating and cooling system designs in the world: a closed-loop, geothermal well field confirmed by the U.S. Environmental Protection Agency to operate at greater efficiency than oil furnaces, gas furnaces and air source heat pumps. “It is important to Sandhills to continue to practice environmental stewardship,” said Sandhills’ Chief Administration Officer Nancy Paasch. “Being efficient with the resources we use supports a better environment for the community today, as well as in the future.” Read the article here. (Lincoln Journal Star)

ZNE Homes to Reach 27,000 in 2025
Dec. 17 - As residential building codes call for greater energy efficiency, the market for zero net energy (ZNE) homes is emerging. ZNE homes are also increasingly accepted as builders offer enhanced efficiency options to satisfy energy-conscious consumers. According to a new report, "Market Data: Zero Net Energy Homes," total ZNE homes in North America are expected to grow from 750 in 2015 to nearly 27,000 in 2025. California leads the way worldwide, while other states and other countries are beginning to follow suit. The ZNE market is gaining momentum in Asia Pacific and Europe as well. Read the article here. (Navigant Research)

Indiana Jail to Benefit from Geo
Dec. 26 - A geothermal heating and cooling system that is expected to significantly reduce utility costs at the Boone County Jail in Lebanon, IN is nearing completion. The $1.6 million project, which was overseen by Energy Systems Group, included the drilling of dozens of wells, each 290 feet deep, around the jail. The system is expected to last for 50 years and save an estimated $84,000 in utility costs. The installation should pay for itself in about 15 years. In addition, solar panels were installed on the jail’s roof to supplement water heating, and exterior lighting has been upgraded to LEDs. Read the article here. (Lebanon Reporter)
South Bend Airport Geo Project

Dec. 18 – South Bend International Airport has been recognized for its effort to reduce its carbon footprint through the installation of a geothermal heating and air conditioning system for the terminal. Its new system replaced a traditional boiler system that was nearly 20 years old. A vertical-bore geothermal heat pump system was used for the project. All told, 276 boreholes were drilled at the southern end of airport property, each extending 350 feet below grade. The system’s fluid mixture of half water and half propylene glycol travels a one mile loop from the field to the terminal and back.

"Projects like this are important to the greater community," said Mike Daigle, SBN’s executive director. “Over $6.6 million in federal funds were used to create local jobs by utilizing a local contractor while reducing the carbon footprint of the airport.” The new system will reduce natural gas emissions by 3.8 million cubic feet per year. The airport was recognized with an “Airports Going Green Award” honorable mention for the geothermal conversion project by the City of Chicago Department of Aviation at a conference in October. Read the article [here](#).

New York State RFP for Renewable Heating and Cooling Technical Assistance

The New York State Energy Research and Development Authority (NYSERDA) seeks proposals from firms qualified to provide technical information, economic and technical modeling, and policy and economic analysis in the area of renewable heating and cooling. Through this solicitation, NYSERDA anticipates selecting one or more contractors to provide as-needed consulting services in the following support areas:

- Economic and Technical Analytical Tools for Renewable Heating and Cooling Technologies
- Analysis of Value Opportunities in the Renewable Heating and Cooling Sector
- Financing Solutions for the Renewable Heating and Cooling Sector

Firms can submit a proposal to provide support in one, all, or any of the above support areas. NYSERDA anticipates entering into task order agreements, from time to time, (as defined in Section VI) with successful proposers for them to provide services within one or more of the broad categories above.

Click to [Submit Proposal Online](#)

Associated Documents

- RFP 3202 - Summary [PDF]
- RFP 3202 - All Documents [PDF]
- RFP 3202 Attachment A - Proposal Checklist [PDF]
- RFP 3202 Attachment B - Disclosure of Prior Findings of Non-responsibility [PDF]
- RFP 3202 Attachment C - Project Personnel and Rates [PDF]
- RFP 3202 Attachment D - Sample Task Order Agreement [PDF]
- RFP 3202 Attachment E - Instructions for Electronic Submission [PDF]
Strong Outlook for Green Homes

Nov. 18 – A new study by Dodge Data & Analytics and the National Association of Home Builders finds that despite growing concerns about the cost, a high percentage of home builders and remodelers are already building green and expect to do so in the future. “Green and Healthier Homes: Engaging Consumers of All Ages in Sustainable Living” surveyed 232 builders and remodelers across the country, finding that:

- Over half (54%) of home builders are currently constructing at least 16% of their new homes green, and 39% of remodelers report that at least 16% of their remodeling projects are green.
- By 2020, nearly all (81%) home builders will be constructing that level of green, with over half (51%) building at least 60% of their new homes green.
- By 2020, remodelers report similar growth, with nearly three quarters (74%) making at least 16% of their projects green, and over one third (36%) completing over 60% of their projects green.

By 2018, nearly half of home builders and remodelers expect to be using solar photovoltaic (48%) and ground source heat pump (52%) technologies. Zero net energy homes are also emerging as an important trend, with nearly one quarter (21%) of home builders having built a net zero home in the last two years. Download the study here. (Dodge Data & Analytics)

IGSHPA Certified GeoExchange® Designer Course
Certification for HVAC Engineers, Architects and Designers

This course offers training toward certification as a Certified GeoExchange Designer (CGD). From an introduction to the technology to a complete review of a commercial design process, participants learn the keys to success in designing economically feasible systems. The CGD Plus course is taught by an Instructor with over 30 years’ experience engineering and designing geothermal heat pump systems.

March 16-18, in Stillwater, OK. For more Information about Registration, Click HERE. To Register Online, Click HERE.


Support the Industry's National Voice

Join GEO

GEO Industry News is a publication of GEO, the Geothermal Exchange Organization, a non-profit trade association that advocates the environmental, energy efficiency and economic benefits of geothermal heat pump systems for heating and cooling of residential, commercial, and institutional buildings. For more information, visit our website: www.GeoExchange.org.

In production of content for GEO Industry News, the Geothermal Exchange Organization (GEO) intends no copyright infringement, citing the Copyright Disclaimer under Section 107 of the Copyright Act 1976, in which allowance is made for “fair use” of various content for purposes such as criticism, comment, news reporting, teaching, scholarship and research.