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Geothermal Exchange Organization
GEO Industry News

Forging Ahead

GEO Works Hard to Advocate the Benefits of Geothermal Heat Pumps in Our Capital and Across the Nation

It's a hectic time for the Geothermal Exchange Organization (GEO), the primary national advocacy group for the geothermal heat pump (GHP) industry. From demanding equal treatment at the federal level with other renewable energy industries, to providing assistance on various tax, renewable and energy efficiency issues being pursued by several state geothermal associations, GEO President and CEO Doug Dougherty has his hands full.

"Our mission lies in five areas," he said, "including advocacy, partnerships, standards, research, and outreach." With a staff of two under his direction—and at the behest of an active Board of Directors—Dougherty works to meet all of these objectives, but especially to enhance the legislative and regulatory climate for GHPs across the country. That, he says, "will ultimately increase sales and deployment of our technologies for GEO Members."

GEO's Primary Directive

Advocacy is Job #1 for GEO, and Dougherty is up to the task with some 40 years of experience in public policy—including a 7-year stint of commercial marketing for the GHP industry. "With less than a year before they expire, extensions of federal tax credits for both residential and commercial GHP installations are GEO's first priority," he said. Little wonder his consternation when GHPs weren't part of 5-year tax credit extensions Congress granted the solar industry in the Omnibus spending bill last December.

"Despite our best efforts, we were left out of last-minute, closed door negotiations that failed to include not just GHPs, but several other renewable energy industries, like fuel cells, small wind, and combined heat and power," Dougherty explained. Since then, he's been to Washington several times to participate in high-level meetings with key leadership and staff in the House of Representatives and the Senate. All agree that the error must be corrected.

"Congress should not be picking winners and losers in renewable energy markets," Dougherty stressed. "There is only one statement of fact: The GHP industry expects the same tax credit extensions for residential and commercial installations that the solar industry got—nothing more, nothing less."

Dougherty said the "fix" will be legislative, and he won't rest until GEO succeeds. "Right now, we're finalizing language for an amendment that will simply change existing law to include commercial and residential GHPs for the same 5-year tax credit extension and other favorable treatment that solar installations now enjoy. We expect to establish sponsors and the right bill to carry our amendment before June 30." When that happens, he said, GEO will be calling "All hands on deck!" to everyone in the geothermal industry to voice their full support.

"The GHP industry expects the same tax credit extensions that the solar industry got—nothing more, nothing less."

Doug Dougherty, GEO President

In the storm over tax credit extensions, GEO's work with business interests nationwide to extend several tax incentives important to the GHP industry has largely been overlooked. At the same time Congress passed the Omnibus bill in late last year, it also approved a $650 billion tax package that included permanent bonus depreciation, plus extensions for business expensing and tax breaks offered for energy efficient homes and buildings.

Finally, GEO has successfully amended a comprehensive energy bill recently voted to the Senate floor with a new definition of clean, renewable energy that includes the thermal output of GHPs for federal energy purchases. "When passed, it will be an important step for the industry," said Dougherty, "providing an example to state governments that they should consider GHPs in their energy planning."

There's been a flurry of activity at the state level with legislation promoted by local advocates—often with GEO assistance. In the past few years, Maryland, Massachusetts, New Hampshire and New Mexico amended their Renewable Portfolio Standards (RPS) to include thermal energy from GHPs. Vermont established an RPS last year making GHPs eligible for renewable energy credits. And with the Geothermal Alliance of Illinois, GEO amended the state's renewable and energy efficiency laws. "The result was rebates for GHPs from Commonwealth Edison Illinois and electric cooperatives like Cornbelt Energy," said Dougherty. Advocates in Michigan and Minnesota are seeking similar treatment for GHPs.

"On the tax front, Iowa has instituted its own incentives for GHPs, and only last month, South Carolina OK'd tax credits for GHP installations," Dougherty continued. "And the New York Geothermal Energy Organization is working hard to put fresh tax credit and sales tax relief legislation in front of Gov. Cuomo this spring for his signature into law."

Nurturing the Industry

GEO takes its partnerships seriously, evidenced by a new Memorandum of Understanding (MOU) with the International Ground Source Heat Pump Association (IGSHPA). "With coordinated efforts for research and training," Dougherty said, "our reborn cooperation with IGSHPA will certainly be fruitful for the industry." GEO has a similar MOU with the National Ground Water Association (NGWA).

Dougherty attended the NGWA Fly-in to Washington, DC on Feb. 22-23. "The event attracts scores of members for well-organized and targeted visits to key legislators," he said. Additional GEO allies include the American Ground Water Trust, the American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) and the Air Conditioning, Heating and Refrigeration Institute.

Standards for the GHP industry have always been important to GEO. "Former GEO Chief Operating Officer John Kelly led a study completed for the U.S. Department of Energy in 2012 that set stan-

dards for the wide variety of jobs within our industry," Dougherty noted. GEO is now promoting a new Bi-national geothermal standard for the design and installation of GHP systems (article, pg. 9). "C448 is important because local governments typically want standards for equipment and ground heat exchangers" said Dougherty. "The industry wants these standards too, because they hold everyone involved in GHP installations to a high level of quality and integrity."

When it promises far-reaching impact, research is another important GEO activity. A 2013-14 study cosponsored by Utility Member Gulf Power/Southern Co. compared the efficiency of variable refrigerant flow (VRF) and GHP equipment installed at the ASHRAE International Headquarters Building in Atlanta, GA. "The result? GHPs outperform VRF systems by more than 40%," said Dougherty.

To spread the good word about GHPs, the association maintains an aggressive public relations and outreach program, which has made GEO the voice of the industry. "Whenever you pick up a copy of *Air Conditioning, Heating and Refrigeration News*, *Contractor*, *National Driller* and other magazines, you typically see articles about GHPs and GEO activities, quoting our members and staff." Dougherty said.

In addition, GEO staff and Board Members travel far and wide to spread the good word about GHPs and association activities. They've appeared at several geothermal and energy efficiency industry conferences so far this year, and will continue their efforts through 2016 and beyond (article, pg. 5).

Bigger Means Stronger

Strength in numbers carries a lot of weight in Washington, DC and in state capitals across the country. "GEO's success—not just in extending the federal tax credits for GHPs, but on other legislative and regulatory issues at the federal and state levels—can only come from unity," Dougherty emphasized.

To win positive results, GEO needs the support of everyone involved in the industry. "I urge everyone who is not a member to reflect on their commitment to the success of GHPs as an alternative to conventional heating and air conditioning. For all companies that benefit from our efforts for the industry, we ask you to make the decision now to become a GEO Member," Dougherty concluded. Readers can access membership information and sign up online by clicking on "Become a Member" at the GEO website, here. (TJC/GEO)

GEO Responds to 17-State Governors' Clean Energy Accord

March 3 – The Geothermal Exchange Organization (GEO) responded to a bipartisan group of governors from 17 states who pledged on Feb. 16 to accelerate efforts to boost renewable energy, build better electricity grids, and cut emissions after the U.S. Supreme Court stayed implementation of the U.S. Environmental Protection Agency's (EPA) Clean Power Plan.

The "Governors' Accord for a New Energy Future" sets commitments to expand renewable energy and energy efficiency, and integrate solar and wind generation into electricity grids. New standards and benchmarks for energy efficiency and renewables will also be set. GEO sent letters to governors and their energy advisors in California, Connecticut, Delaware, Hawaii, Iowa, Massachusetts, Michigan, Minnesota, New Hampshire, Nevada, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia and Washington.

"As you work together on planning and policies to develop clean energy alternatives to create a better environment and a greener economy, GEO urges you to consider programs to promote geothermal heat pumps (GHPs)," said GEO President Doug Dougherty.

GEO Heat Pump Manufacturers News

Click below to access the latest news from GEO Heat Pump Manufacturer Members

ClimateMaster	WaterFurnace	ENERTECH	EARTHLINKED TECHNOLOGIES
Click Here	Click Here	Click Here	Click Here

"Tapping the earth's energy, GHPs reduce power consumption and eliminate fossil fuels onsite. GHPs cut pollution while helping to level utility demand loads. Best of all, this easily scalable technology is widely available and proven efficient in all states.

"GHPs are recognized by both the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) as the single most efficient heating and cooling technologies for buildings of all sizes and purposes. They offer a unique combination of both renewable energy and efficiency offsets that can help your state and the coalition achieve their emission reduction targets.

"According to DOE, buildings are the largest single sector of energy consumption, accounting for over 40% of national primary energy use in 2010. And 60% of the energy used in buildings is for "thermal loads," including space heating, cooling and water heating. A third of that load—3.2 quadrillion BTUs—is satisfied with electricity.

"EPA says that GHPs can reduce energy consumption—and corresponding emissions—up to 44% compared with conventional air-source heat pumps, and 72% compared with electric resistance heating with standard air-conditioning equipment. Recent advancements in GHP efficiencies only enhance the numbers noted by EPA.

"More importantly, says DOE, "The biggest benefit of GHPs is that they use 25% to 50% less electricity than conventional electric heating or cooling systems. This translates into a GHP using one unit of electricity to move three units of heat from the earth."

"GEO believes that the lowest cost—and least polluting—unit of energy is one that is not used. A typical 3-ton residential GHP can reduce summer peak electricity demand by ~ 2 kilowatts. Take that times 500 homes equipped with GHPs, and you have a peak power demand reduction of a megawatt.

"For electric utilities and the transmission grid, GHPs reduce summer peak demand and actually build load (and power sales) during the winter. In doing so, GHPs smooth out the power demand curve, saving utilities and ratepayers money while stabilizing the electrical system. Not only 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 offer an important offset to power plant emissions.

"Thermal energy—not just generated electricity—must be part of any equation seeking answers to the total contributions of clean energy options. GEO asks that your state think beyond electricity production to the role that thermal energy savings can play in avoided energy use. That includes renewable thermal energy technologies like GHPs as a way to avoid power generation and therefore cut pollution."

In conclusion, Dougherty said, "GEO hopes your state will strongly consider promoting new and/or expanded state and utility sponsored efforts to help homeowners and businesses install geothermal heating and cooling systems to reducing power plant emissions." (GEO)

GEO Board Welcomes Michael Albertson

March 4 – By unanimous vote during a teleconference meeting, the Geothermal Exchange Organization (GEO) confirmed replacement of Board Member Tom Huntington (WaterFurnace International, Inc.) by Michael Albertson. Huntington passed away on Feb. 12, after a heroic battle with cancer. The Board also confirmed David Hules (Emerson Climate Technologies) as a replacement for Chris Mays, who left Emerson in late-2015. Hules' profile was presented in the January edition of *GEO Industry News*.

Albertson is currently Senior Vice President for Sales & Marketing at WaterFurnace International, Inc. (Fort Wayne, IN). He joined the company in 2007 as Vice President of Commercial Sales and Marketing. He oversees sales and marketing, product planning, tech service, customer service, training, OEM/branding management and business development. He earned a Bachelor of Science degree in Business Management from Oklahoma State University.

Prior to WaterFurnace, Albertson served 11 years as Director of Commercial Geothermal Sales and National Accounts Manager for a major manufacturer of water source and geothermal heat pumps. He also owned and operated a commercial HVAC, controls and mechanical equipment/contracting company for more than 10 years. He installed his first geothermal system over 30 years ago and has since sold, designed and installed thousands of geothermal systems nationwide and abroad.

Albertson serves on the Board of Directors of the International Ground Source Heat Pump Association (IGSHPA), has served numerous terms on the IGSHPA Advisory Council, and holds several IGSHPA certifications. He is a member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, a company member of the Air Conditioning and Refrigeration Institute, the Association of Energy Engineers, American Military Engineers, American Society of Mechanical Engineers, Air Conditioning Contractors of America, and the National Ground Water Association.

GEO Spreads the Word

Geothermal Exchange Organization (GEO) Board Members and staff continually work to communicate the benefits of geothermal heat pumps and association activities. They make appearances at several renewable energy and energy efficiency conferences throughout the year, like those listed below since the beginning of 2016:

Feb. 24 Keynote address by GEO Chairman Steve Smith at the Wisconsin Geothermal Association Annual Conference in Stevens Point, Feb. 24-25.

Feb. 24-25 GEO and several cosponsors exhibited at the Midwest Energy Efficiency Conference in Chicago. They included the Geothermal Alliance of Illinois, the Iowa Geothermal Association, and the Michigan Geothermal Energy Association (MGEA).

March 5 Keynote address by GEO President Doug Dougherty at the Iowa Geothermal Association Annual Conference in Altoona, March 5-6.

March 7 Keynote address by GEO President Doug Dougherty at the Geothermal Alliance of Illinois Annual Conference in Bloomington, March 7-8.

March 16 Keynote address by GEO Chairman Steve Smith at the Minnesota Geothermal Heat Pump Association Annual Conference in Hinkley, March 16-17.

IGSHPA Board of Directors Election Results

March 10 – The International Ground Source Heat Pump Association (IGSHPA) announced its new Board of Directors. Under new bylaws implemented in at the association's 2015 Annual Technical Conference and Expo in Kansas City, all members were given the opportunity to vote for the next IGSHPA Board of Directors. Electronic voting was conducted in February. Members voted for the four sectors with open seats. The new board then met via teleconference to slate the two at-large directors. Following are IGSHPA's newly elected board members:

Board Member At Large	Kerry Rowland, Public Service Company of Oklahoma
Board Member At Large	Chris Smith
Floating	Don Penn, Don Penn Consulting Engineer/IEG Ltd.
General Membership	Jack DiEnna, Geothermal National & International Initiative
Product Distributor	Cary Smith, Sound Geothermal
Utilities	Mark Faulkenberry, Western Farmers Electric Cooperative

They join the following initial board members to create the 2016 IGSHPA Board of Directors:

Architects/Engineers/Designers	Garen Ewbank, Ewbank Geo Testing, LLC
Dealers/Contractors	John Turley, Middleton Geothermal Services
GHEX	John Henrich, Bergerson-Caswell, Inc.
Manufacturers	Michael Albertson, WaterFurnace International, Inc.
OSU Appointee	Dr. Dan Fisher, CEAT-OSU
Ex-Officio	Bob Ingersoll, IGSHPA Director

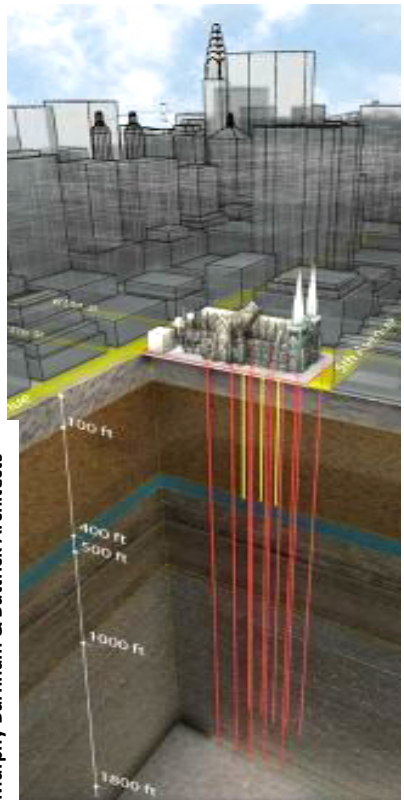
Affordable Geothermal Finance Options

March 10 - *Builder* magazine writer Mark Stimson describes three partnerships that offer options for financing and installing geothermal heating and cooling technologies. "So if builders recognize that geothermal heat pump systems can be integral parts of a green home, why aren't more using them? Most say that is comes down to the upfront costs. Installing it can represent as much as 60% of the total cost of the system, making it a difficult check to write. To eliminate this barrier, three new kinds of partnerships have emerged that give builders more options for installing geothermal:

Third-Party-Owned Geothermal Loops. A third party enters into a 20- to 25-year contract to own and operate the geothermal system. The third-party provider owns the energy-producing asset and essentially becomes a mini-utility for a community that sells to the end user at a specific rate. Homeowners incur no upfront costs, enjoy an extended warranty and no maintenance costs for the first three years.

Utility-Owned Geothermal Loops. A third-party utility installs the loop system and leases it back to the end user. The geothermal contract with the eco-friendly utility remains tied to the property, which is billed as a line item on the end user's monthly bill, just as if the utility provider were billing the property for traditional heating resources.

Third-Party-Owned Loops with Utility Participation. This hybrid partnership is similar to both the utility and third-party-owned models, but in this instance, the utility collects the energy payment rather than the third party. The utility takes a small percentage of the profits from the third party and gives the end user some added security." Read the complete article here. (*Builder*)



Murphy Burnham & Buttrick Architects

New York City Needs Geo

Jan. 14 - According to an editorial by Fordham Law School associate law professor Zephyr Teachout in the *Commercial Observer*, "New York City has nearly 1 million buildings and nearly all of them (~900,000) could be heated and cooled by the earth without burning any fossil fuels." He said New York City is the most wasteful megacity in the world, with its buildings consuming 2/3 of energy used. "Over half of that energy is for space heating alone," he said. "Fossil fuels burnt for that purpose cause nearly 40% of carbon dioxide emissions in America."

Teachout said the leading technology for heating and cooling buildings is ground source, or geothermal, heat pumps, which use energy from the sun's heat trapped just below the earth's surface. "Currently, they have high upfront costs due to drilling and installation," he continued. But they quickly pay an impressive return-on-investment, "breaking even within three to 12 years depending on what kind of system they replace."

"You might assume that such projects of this scope are unworkable in a dense city like New York, but there is massive, glorious proof of the possible in the very center of the city. St. Patrick's Cathedral recently drilled and installed a new geothermal heating and cooling system [left].

"The state can lower the barriers to acceptance of the technology by offering subsidies to homeowners and landlords. But the biggest motivation will come from high heating and cooling costs, as well as the unbearable cost to the city from climate change.

"It is not for every part of the city and will be easiest to incorporate in the outer boroughs and more residential areas without existing underground infrastructures. An estimate by John Rhyner—a licensed professional geologist—showed that almost all of Staten Island, 70% of Queens, and half of Brooklyn residential footage could be heated with this technology."

New York Geothermal Energy Organization (NY-GEO) Executive Director Bill Nowak said lack of governmental support has slowed progress for the technology. "Last year, Gov. Andrew Cuomo vetoed two bills that would have done the most toward jump-starting the geoexchange revolution. His support for the ground source heat pump future will be critical." Read the article here. (*Commercial Observer*)

It's Time to Step Up!

To succeed, GEO needs direct involvement and full support by all of the players in our industry. For all companies that benefit from GEO's advocacy efforts, it's time to step up and join GEO! You can find information about the benefits of GEO membership and sign up online by clicking "Become a Member" at our website, here.

Green Mountain Power Funds Innovative Geo Drilling Project

Feb. 12 – Green Mountain Geothermal, LLC (West Danville, VT) was awarded a $70,000 grant with Vermont Public Service Board approval of Green Mountain Power Corp.'s $3.2 million 2016 Community Energy & Efficiency Development Fund. According to Green Mountain Geothermal President Jim Ashley, the project seeks to provide an alternative, as needed, to standing column geo-thermal supply wells when any of the following conditions occur:

- Low static – pumping penalty.
- Low yield – insufficient yield for a bleed.
- Poor quality ground water – which may cause deposits on heat exchanger – and acidity or salt water which may shorten pump life.
- Contaminate ground water – may not return water to the well. UIC rule.
- Sediment – may plug heat exchanger or cause excessive wear.
- Bleed water – no place to recycle or dispose of bleed water.

The Green Mountain Geothermal project entails drilling ten 5-ton standing column wells in an effort to perfect drilling methods that result in sealed, no-bleed systems. Ashley believes such systems could ultimately prove to be more efficient than standard standing column wells.

"This project represents a major accomplishment that will be felt nationally, as geothermal heat pumps are once again proven as the most efficient way to satisfy the thermal loads of buildings," said Geothermal Exchange Organization (GEO) President Doug Dougherty. "It also adds to our argument that fuel switching is an arcane term that needs to be replaced with the term technological transformation."

Green Mountain Geothermal has crafted a detailed solicitation for assistance to complete its project. For more information, contact Jim Ashley, Green Mountain Geothermal, via email here, or by phone at: (802) 684-3491. (Green Mountain Geothermal/GEO)

Variable-Speed Enhances Geo Heat Pump Performance

Feb. 15 – "Geothermal heat pumps (GHPs) have been around for a long time, but recent technological advances have propelled these systems into a new sphere of efficiency and comfort, said Doug Dougherty, president and CEO of the Geothermal Exchange Organization (GEO). 'If you look back 10 or 15 years, COPs [coefficients of performance] of 3 or 3.3 were considered cutting-edge for geother-mal systems; now, they're 5 and above on many units.'

"As for comfort, variable-speed technology has been a game changer. Just about every moving part within a GHP now has variable-speed capabilities, noted Dougherty. 'The variability of the machine allows it to ramp up to a point where it can satisfy heating or cooling demand and then ramp down for shoulder months, which improves comfort and makes the equipment even more efficient.'"

The article in *Air Conditioning, Heating and Refrigeration News* highlights the benefits of vari-able speed technologies in GHPs, featuring equipment and quotes from all GEO Manufacturing Mem-bers, including ClimateMaster, WaterFurnace International, Enertech Global, and Earthlinked Technol-ogies. Read the complete story here. (*ACHR The News*)

ASHRAE Funds Undergraduate Student Geothermal Projects

March 9 – The American Society of Heating, Refrigeration and Air-conditioning Engineers (ASHRAE) awarded grants totaling ~$110,000 to colleges and universities worldwide to promote the study and teaching of heating, ventilation, air-conditioning and refrigeration, encouraging undergraduate students to pursue related careers. This year's grants promoted innovative project design and construction, including four that involved geothermal heat pumps. They were:

- The University of Texas at Tyler, *Phase II – TxAIRE House 2 Ground Source Heat Pump*.
- Capital University of Science and Technology Islamabad, Islamabad, Pakistan, *Design and Fabrication of a Heat Pump*.
- Mapúa Institute of Technology, Manila, Philippines, *Development of a Laboratory Set-Up of a Geothermal Air-Conditioning System*.
- Sinclair Community College, Dayton, OH, *Development of a Ground Source Heat Pump Simulator*.

Click here for more information about the program. ASHRAE will accept applications for its 2016-17 program starting in August, with a December 2016 deadline. (ASHRAE)

C448 Bi-national Geothermal Standard Now Available

There are a lot of geothermal heat pump (GHP) standards, guidelines and best practices out there, but stakeholders in the Bi-national Standardization process identified a need for a common, neutral, third-party accredited process for the design and installation of GHP systems. CSA is pleased to announce that after years of effort, the C448 Bi-national Standard has been published.

The Standard was developed by subject-matter experts across North America with a vision to harmonize differences between existing resources, simplify referencing in regulations and contracts, incorporate the latest advancements, clarify compliance using standards language, and provide credibility through development of accredited neutral standards.

The Bi-national Committee included leaders from industry associations, utilities, drillers, installers, manufacturers, regulators, designers, engineers and researchers/academia. With a performance-based approach, best practices and requirements from equipment and material selection to commissioning and decommissioning are now included under one cover. Through a license agreement, the International Ground Source Heat Pump Association will use C448 as a training benchmark.

If you are involved in the GHP industry or want to know more about this ultra-efficient heating and cooling technology, the CSA–C448 Bi-national Standard is a "must-have" resource. Please direct any questions you may have to Muktha Tumkur via email. To learn more and to purchase a copy, please visit the CSA website here. Price is $155 CAD. (CSA)

$3.5M for Renewable Heating and Cooling Projects

The New York State Energy Research and Development Authority (NYSERDA) seeks to accelerate market adoption of commercially available, but underused, technologies and proven building strategies for the residential building sector. Multi-site demonstration projects proposed under this solicitation will validate the use of high efficiency heating, ventilating, and air-conditioning (HVAC) equipment in existing residential building retrofits, through a comprehensive planning, design, installation, commissioning, and measurement and verification process.

NYSERDA's Program Opportunity Notice (PON) addresses barriers to widespread adoption of heat pumps, including cold-climate split-system air-source heat pumps and **ground-source heat pumps**, and low-capacity (maximum input rating of less than 45,000 Btu/hour) natural gas furnaces, by demonstrating and validating the energy savings, cost-effectiveness and other performance indicators of these systems. Up to $3.5 million is available under this PON to fund multiple demonstration projects with broad geographic distribution across the state.

NYSERDA intends to fund multiple proposals, but will not cap the value of any one proposal. Proposals that are funded must include a detailed plan for accelerating market growth for the eligible HVAC system types through technology transfer and outreach activities. See the complete NYSERDA announcement here.

Associated Documents (click on titles to access online)

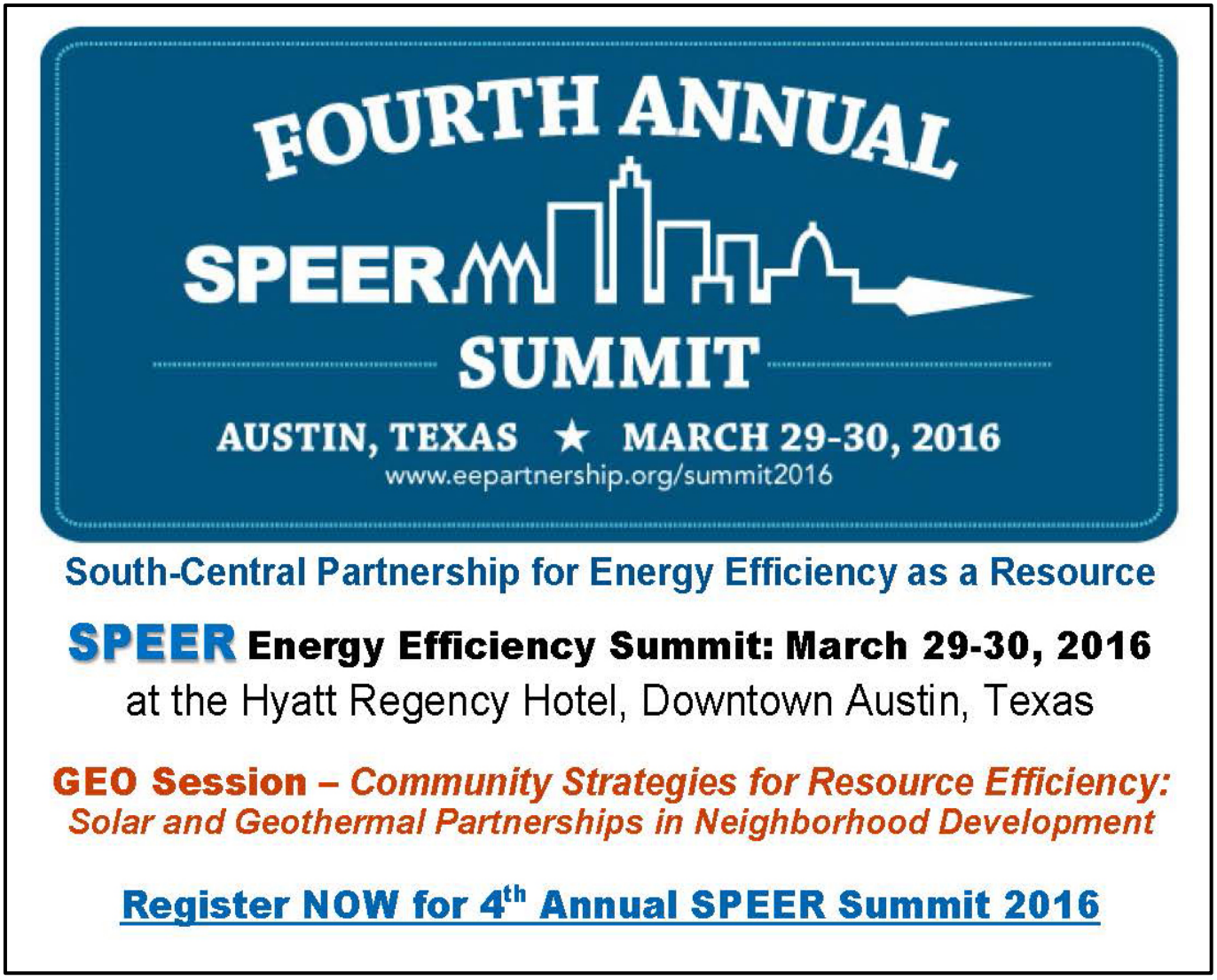
- PON 3127 Emerging Technology Demonstration Projects- Residential HVAC [PDF]
- PON 3127 Emerging Technology Demonstration Projects- Residential HVAC - Summary [PDF]
- PON 3127 Attachment A - Proposal Checklist [PDF]
- PON 3127 Attachment B - Disclosure Prior Findings Non-Responsibility [PDF]
- PON 3127 Attachment C - Instructions to CPPF Form [PDF]
- PON 3127 Attachment C - CPPF Excel File [XLS]
- PON 3127 Attachment D - Contract Pricing Proposals Form [PDF]
- PON 3127 Attachment E - Retail Event Guidelines and Application [PDF]
- PON 3127 Attachment F - Instructions for Electronics Submission [PDF]
- PON 3127 Attachment G - Sample Agreement [PDF]

Michigan Geothermal Annual Conference—Save the Date

The Michigan Geothermal Energy Association (MGEA) Conference will be held on **April 26-27**, at the Soaring Eagle Resort in Mt. Pleasant, MI. The event begins at 6:00 .m. Tuesday, with a reception, dinner and the association's Annual Meeting. **Keynote Speaker will be Geothermal Exchange Organization (GEO) Chief Operating Officer and Vice President for Government Affairs Ryan Dougherty.** He has extensive experience in public policy and governance and most recently served as Deputy Director of the Illinois Health-care and Human Services Framework, a multi-agency state technology initiative. MGEA Awards will follow Dougherty's address. The MGEA Conference convenes on Wednesday from 8:00 a.m. to 1:00 pm. Conference speakers include:

- Bob Chapman, who served 20 years as Executive Director of Warm Training (now Ecoworks) and is currently the Executive Director of Michigan Interfaith Power & Light. Bob has a wealth of knowledge on the energy efficiency and renewable energy field.
- Doug Jester, Principal of 5 Lakes Energy. One of the people really "in the know" about current legislative policy.
- Marty Kushler, Senior Analyst for the American Council for an Energy Efficient Economy (ACEEE). Marty is working on a pilot program in Minnesota to get energy efficiency credits for air source heat pumps. He will share details.
- Art Thayer, MGEA President and marketing guru for the Michigan Electric Cooperative Association (MECA).

If you are in the geothermal and/or renewable energy business, be sure to mark your calendar for this year's MGEA Conference, which is shaping up to be the best ever. For more information and to register, contact MGEA Executive Director Larry Kaufman via email here, or by phone at: (248) 396-8231. MGEA looks forward to seeing you at the Soaring Eagle on April 26-27! (MGEA)



California Geothermal Heat Pump Workshop

With sponsorship by the Geothermal Exchange Organization (GEO), and In cooperation with the California Groundwater Association, the Southern California Chapter of ASHRAE, and the International Ground Source Heat Pump Association, the American Groundwater Trust will convene a one-day workshop from 8:00 a.m. to 4:30 p.m. at the Crowne Plaza Los Angeles-Commerce Casino, 6121 Telegraph Rd, Commerce, CA, on **March 31**.

What It's About. Geothermal is the technology of choice among energy conscious home buyers and commercial property owners considering "green energy" options for comercial or residential installations. This workshop brings together top geothermal experts in manufacture, design and installation to focus on the geothermal market potential. Take the time to attend this state-of-the-art update and learn about the economics and benefits of installing geothermal heat pumps in your home, building, or campus facility as a retrofit or new installation.

Who Should Attend. The workshop is geared to potential end-users and to professionals who design, install, inspect, maintain, approve, recommend or regulate geothermal systems. Architects, HVAC professionals, energy experts, clean tech entrepreneurs, utility managers, building owners and managers, developers, homebuilders, and representatives of state and federal agencies are all welcome to attend.

For information about the program agenda and to register, click here for workshop announcement at the AGWT website. (GEO)

Connecticut Geo Spring Workshop

The Connecticut Geothermal Association will convene its Spring Workshop on **Saturday, April 2, from 7:30 a.m. to 2:30 p.m.** at The Gallery Restaurant, 141 New London Turnpike, Glastonbury, CT. The event will feature vendor exhibits and a full buffet luncheon. The day's speakers include:

- Dave Ragaini, Blake Equipment Co., "…will certify and recertify your HDPE fusion."
- Matt Davis, Ground Energy Support, GSHP performance monitoring and renewable energy credits.
- Hubert Nolte, Stiebel Eltron USA, Heat pump water heaters. Madeline Priest, Green Bank, Grow your business with the Smart-E Loan.
- Luncheon speakers will discuss the State of Geothermal Heat Pumps in Connecticut

Members Pre-Registration is $25. Non Members Pre-Registration is $50. Registration at the door is $30 for Members, or $55 for non-Members. Vendor Booth is $250 for Members, or $300 for non-Members (includes two meal tickets). For more information and to register, visit the CGA website, or call Carla at: (845) 278-1892.

When you Think "GEOTHERMAL" – Think "GEO" at www.GeoExchange.org

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At the NY-GEO–2016 Geothermal Conference
Wolf Road Radisson Hotel, Albany, NY on April 19-20

With the cooperation of the Geothermal Exchange Organization (GEO), the CGD® Training Course is presented by the International Ground Source Heat Pump Association (IGSHPA). Certification is awarded by the Association of Energy Engineers (AEE). The CGD® Course covers the gamut of professional geothermal heat pump system applications, from an introduction to the technology to a complete review of commercial design processes.

Eight weekly online webinars will start on Tuesday, Feb. 23 at 7:00 p.m. Eastern. The final two sessions will convene at the NY-GEO Conference.

CGD Students have full access to the NY-GEO–2016 Conference

Click for AEE info. Click to Register for the New York CGD course

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.**