

Geothermal Exchange Organization

GEO Industry News



GEO Has Another Successful D.C. Fly-In

April 20 – The Geothermal Exchange Organization (GEO) continues its fight for reinstatement and extension of federal tax credits for geothermal heat pump (GHP) installations. On April 5, GEO staff, Directors of the Board and GEO members descended on Capitol Hill to meet with members of Congress. Accompanied by GEO lobbyists, three teams of three had a total of 32 meetings in support of H.R. 1090. “The reception the groups got this go round was by far the best we’ve had to date,” said GEO President and CEO Doug Dougherty.

Introduced on Feb. 16 by Rep. Tom Reed (R-NY), H.R. 1090 is a bipartisan bill that will fix the inequity created in December 2015 when Congress extended similar tax credits for residential and commercial solar energy installations through 2021, but neglected to include GHPs and other “orphaned” technologies, including fuel cells, microturbines, small wind and combined heat and power.

For residential applications that includes a retroactive Income Tax Credit (Sec. 25D) of 30% that phases out in steps before ending on Dec. 31, 2021. The commercial tax credit (Sec. 48) will remain at 10% through 2021. The bill also changes “placed in service” language in the tax code to “construction of which begins before Jan. 1, 2022” for commercial projects.

“Our pitch that Congress’ decision to pick winners and losers has caused a significant decline in geothermal heat pump sales and has had employers throughout our industry laying off people resonated in every meeting,” Dougherty said.

“We believe we will see at least eight more cosponsors of H.R. 1090 as a result of this trip,” Dougherty concluded. To date, H.R. 1090 has 59 cosponsors, including 14 members of the House Ways and Means Committee (8 Republicans and 6 Democrats).

House Ways & Means Committee Members Cosponsoring H.R. 1090

Carlos Curbelo (R-FL)
Rep. Mike Kelly (R-PA)
Pat Meehan (R-PA)
Rep. Kristi Noem (R-SD)
Tom Reed (R-NY)

Dave Reichert (R-WA)
James Renacci (R-OH)
Jackie Walorski (R-IN)
Earl Blumenauer (D-OR)
Ron Kind (D-WI)

John Larson (D-CT)
Mike Thompson (D-CA)
Rep. Suzan DelBene (D-WA)
Rep. Brian Higgins (D-NY)

CONTACT YOUR REPRESENTATIVE IN SUPPORT OF H.R. 1090

We need your help. You can quickly find contact information for your local representative by entering your Zip Code [here](#). To find out if your representative is already a cosponsor of the bill, click [here](#). If not, ask him or her to do so right away. Even better, extend an invitation to visit one of your geothermal job sites. GEO offers instructions and support materials for job site visits [here](#).

GEO Heat Pump Manufacturers News

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



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GEO Remains Hopeful for Reed Bill

April 3 – Writer Nick Kostora describes the geothermal heat pump (GHP) industry’s push for H.R. 1090 in an article for the [Air Conditioning, Heating & Refrigeration News](#) (ACHR – The News). The bill is an effort to rectify the loss of federal 30% residential and 10% commercial federal tax credits that expired on Dec. 31, 2016, while Congress extended similar credits for solar installations through 2021.

“Now, those geothermal credits are being reintroduced in the form of the Reed Bill, legislation introduced by Tom Reed, R-N.Y., Mike Thompson, D-Calif., and 18 additional cosponsors (12 Republicans and six Democrats). The bill will attempt to reinstitute and extend the credits through 2021 for geothermal heat pumps, fuel cells, microturbines, small wind, and combined heat and power equipment,” says the article.

“Doug Dougherty, president and CEO, Geothermal Exchange Organization (GEO), said the bill, which was introduced in the last congressional session, had four cosponsors. In a very short time, it has accrued more significant bipartisan support.

“Having someone on The Committee on Ways and Means, which is the chief tax-writing committee of the U.S. House of Representatives, as well as the overwhelming support that’s been pledged for this shows that Congress is aware that there was a mistake made in December of 2015 when wind and solar were extended for five years. This issue is not going away.”

“Neglecting to include language to extend tax credit provisions for geothermal heat pumps and other eligible renewable technologies has not stopped Dougherty and others from continuing to push for geothermal to get a seat at the table in Washington.

“Our goal is for this bill to gain 100 cosponsors — more Republicans than Democrats,” said Dougherty. “The benefits of that are twofold: It keeps the issue alive and shows we are not going away.” “Our coalition, which includes a number of organizations, is still working on this,” Dougherty continued.

“Also, we want to make sure we have a place at the tax reform table. When renewable energy is going to be discussed in terms of tax reform, we want to ensure we are not a technology that is left out or forgotten. We have been down that road before where we were flat left out. Back when solar and wind got their first tax subsidies, geothermal heat pumps were not included. We don’t ever want to be in that position again. By having this bill and being visible, we are reminding Congress that geothermal heat pumps are a viable, clean energy technology.”



GEO President Doug Dougherty

“Dougherty summed up the situation moving forward as such: “We are still making the pitch and pleading our own case, and we are not going away. Hopefully, at the end of the day, we right the wrong, and we get some form of parity. If not, then, at the very least, we want to ensure we have a seat at the table when we talk future tax reform.” Read the complete article, “Geothermal Industry Hopeful Reed Bill Revives Expired Tax Credits,” [here](#). In another article, author Kostora reports, “Geothermal Moves on Without Tax Credits,” posted [here](#). (*ACHR–The News*)



Trump Shuttters EPA Clean Power Plan

April 6 – President Donald Trump ran for office on a platform of slashing and derailing much of the energy and environment agenda of his predecessors. That included President Barack Obama’s many Executive Orders, the most recent international climate change agreement, and what the new administration considers overreach of the U.S. Environmental Protection Agency’s (EPA) regulatory regime over energy and the environment.

Following his inauguration on Jan. 20, the new president backed up his rhetoric with his successful nomination of Edward Scott Pruitt as the new head of the EPA. The conservative former Oklahoma Attorney General has a long history of suing the federal government over environmental rules, especially those dealing with the fossil fuel industry.

On March 28, Trump signed one of many new Executive Orders, including a retraction of the Obama administration’s signature climate policy, the EPA Clean Power Plan. Released in 2015, the plan mandates a 32% cut in carbon dioxide emissions by 2030 through stringent rules on power plant emissions.

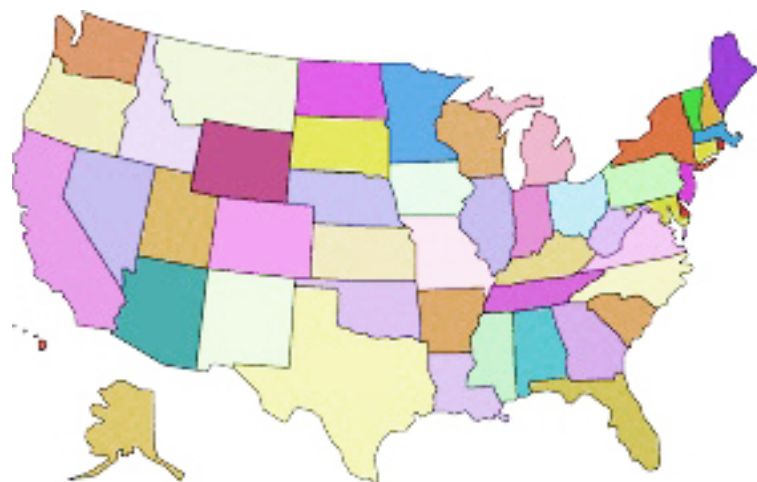
The geothermal heat pump (GHP) industry embraced the Clean Power Plan upon its introduction, providing input to the EPA on how utility promotion of its technology could offset power plant emissions while flattening and building transmission loads, saving consumers money in the long-term, and benefitting the environment.

The Trump executive order directs the EPA to initiate a review of the Clean Power Plan, governing existing plants, and accompanying regulations for carbon emissions from new sources. It also directs each federal executive department and agency to identify regulations, rules, policies, and guidance documents that slow or stop domestic energy production, and launches a 170-day process to develop plans from each agency going forward. Trump also ordered agencies to stop using Obama-era estimates of the social cost of carbon. Regulations affecting methane leaks at oil and gas production facilities and hydraulic fracturing will all be reviewed, and a moratorium on coal leases on federal lands will be eliminated.

The EPA immediately canceled proposed guidance to states and model emissions trading rules for implementing the Clean Power Plan and an accompanying proposal that would reward states for taking early steps to curb carbon dioxide emissions before the rule was to take effect. The agency asked that the lawsuits be halted while it reviews the Clean Power Plan as the D.C. Circuit canceled argument over comparable emissions limits for new and modified power plants while it evaluates an agency request to halt the litigation.

“We support the Clean Power Plan’s objectives and other important goals for the environment,” said Geothermal Exchange Organization (GEO) President Doug Dougherty. “And we laud the many progressive states, green groups and other allied organizations fighting to defend energy efficiency and pollution abatement despite the current administration no longer wanting them.” GEO promotes inclusion of GHPs under state renewable portfolio and energy efficiency standards, and regulatory structures that promote and incent wider installation of both residential and commercial GHPs. (GEO)

State Geothermal Heat Pump Incentives



April 11 – “One of our primary goals is to promote the use of geothermal heat pumps (GHPs) across the country,” says Geothermal Exchange Organization (GEO) Chief Operating Office Ryan Dougherty. “Along with several state geothermal energy associations, we urge changes to state laws and regulations that will initiate state incentive programs for GHP installations.” The following is GEO’s list of current state assistance for consumers interested in the technology.

Utility and electric coop incentives are not included in the listing. Check with your local power provider for information on assistance they might offer for GHP installations in your area.”

Connecticut The state provides sale tax exemptions for energy efficiency and renewable energy. CGS § 12-412k exempts residential energy efficiency products from the sales tax. Reference: <https://www.cga.ct.gov/2010/rpt/2010-R-0363.htm>

Iowa The expiration of the federal residential income tax credit for geothermal heat pump installations triggered an increase in the Iowa state tax credit to 10% of system cost, with no cap. The credit may be carried forward for ten years. Reference: <https://www.legis.iowa.gov/legislation/BillBook?ga=86&ba=hf2468>

Maine Efficiency Maine offers incentives up to \$3,000 through the Home Energy Savings Program for best in class geothermal systems that meet EPA Energy Star Tier 3 Criteria (also called ground source heat, ground source heat pumps, or geothermal heat pumps). Reference: <http://www efficiencymaine.com/renewable-energy/geothermal-heating-cooling-systems/>

Maryland The Maryland Energy Administration’s Clean Energy Grant Program provides up to \$3,000 for eligible residential installations and up to \$4,500 for eligible commercial installations. Unlike many other states that offer a tax credit for installations, Maryland’s incentive program is a grant and the state will issue a check directly to the building owner. References: <http://energy.maryland.gov/residential/Pages/incentives/CleanEnergyGrants.aspx>, and <http://energy.maryland.gov/business/Pages/Incentives/CleanEnergyGrants.aspx>

Massachusetts The Massachusetts Clean Energy Center offers GHP rebates up to \$12,500 with the rebate calculated based on system size. The program has minimum COP requirements and systems must be installed by approved contractors. Reference:

<http://www.masscec.com/get-clean-energy/residential/ground-source-heat-pumps>

Montana A taxpayer who installs a geothermal or geothermal heat-pump system in the taxpayer's principal dwelling, or the builder of a house, can claim a tax credit based on the installation costs of the system, not to exceed \$1,500. Reference:

<http://meic.org/issues/montana-clean-energy/montana-clean-energy-tax-credits/>

New Hampshire New Hampshire is the first state in the U.S. to adopt a Thermal Renewable Energy Certificate program. Participation in the T-REC market is available to any New Hampshire home or business owner with an on-site renewable thermal technology, including a geothermal heat pump system. The awarding of credits is based on on-site metering and per the state's Alternative Compliance Payment, T-RECs for geothermal systems are currently \$25. Reference:

<http://groundenergysupport.com/wp/nh-thermal-recs-need-know/>

New Mexico The New Mexico Geothermal Ground-Coupled Heat Pump Tax Credit will pay up to 30%, with a \$9,000 maximum, of your geothermal ground-coupled heat pump system that is operational subsequent to Jan. 1, 2010. This incentive is available for both personal and corporate income taxes for purchase and installation costs for these systems. Reference:

<http://www.emnrd.state.nm.us/ECMD/RenewableEnergy/geothermal.html>

New York In New York, the New York State Energy Research and Development Authority has announced \$15 million earmarked to provide rebates for residential installs. The program should provide \$6,000 for an average consumer. Reference:

<https://www.nyserda.ny.gov/About/Newsroom/2017-Announcements/2017-02-07-Governor-Cuomo-Announces-Proposal-for-Rebate-Program-for-RHC>

Oregon The Oregon Residential Energy Tax Credit program provides a personal income tax credit for a qualifying geothermal heating and cooling system, which uses an earth-coupled heat pump or closed-loop geothermal ("ground source") system. The tax credit is valued at up to \$900 or 50 percent of the cost of the device, whichever is less. The amount of tax credit depends on the size of the geothermal system. Reference: <http://www.oregon.gov/energy/At-Home/Pages/Geothermal-Heat-Pumps.aspx>

South Carolina A 25% South Carolina Income Tax Credit was signed into law by Gov. Nikki Haley on Feb. 16, 2016. The tax credit applies to residential geothermal installations from January 1, 2016 to Dec. 31, 2018. Installation must be in South Carolina and owned by the taxpayer claiming the credit. The credit cannot exceed \$3,500 for each residential property or 50% of the taxpayers total tax liability for any one tax year. If the credit exceeds \$3,500, the remaining amount can be carried over to the next tax year for up to 10 years. Reference: http://www.scstatehouse.gov/sess121_2015-2016/bills/3874.htm

Utah Pursuant to Utah's Renewable Energy Systems Tax Credit, eligible installations may receive up to 25% of system cost, capped at \$2,000. References: <http://energy.utah.gov/renewabletaxcredit/>, and <https://le.utah.gov/xcode/Title59/Chapter10/59-10-S1014.html>

CaliforniaGeo Promotes GHPs to Golden State Legislators

In March, California Geothermal Heat Pump Association (CaliforniaGeo) Executive Director Bill Martin sent a letter to 46 California state senators and 37 state assembly members who sit on several committees related to geothermal heat pumps (GHPs) and state policies for clean air and energy efficiency. Following is the text of that message:

“In the past five years, California has had two energy infrastructure failures, both paid for in part by utility ratepayers and in part by our environment. I’m talking about the required closure of SONGS (the San Onofre Nuclear Generating Station) and the months-long Aliso Canyon methane storage leak. Both were unexpected and both reflect inadequate attention to engineering and safety detail. We also experienced a simultaneous drought that left us scrambling for water.

“As a California legislator, you are obviously concerned when these disasters occur, and likely you are also concerned with advancing the state’s “green” agenda. Yet, we are overlooking one of the most efficient methods of improving our power grid’s green production capabilities, ground source heat pumps (GHPs). Let me explain.

“We know that transportation produced 37% of California’s greenhouse gas emissions (GHGs) in 2013. Another 12% is produced by commercial and residential buildings, and 70% of that is due to space and hot water heating, plus cooling. Geothermal energy is a replacement for this, but not the very localized hot rocks and steam kind. I’m talking about geothermal energy in the earth, everywhere under our feet between 45°F and 75°F (and even underwater).

“A [geothermal \(or ground source\) heat pump](#) uses the standard refrigerant compression cycle found in your refrigerator, your house, or your vehicle air conditioner to perform its magic. It [concentrates renewable thermal energy from the earth](#) into buildings and/or hot water, and it concentrates unwanted summer heat from inside living space, sending it underground.

Benefits to the Environment include:

- 5-to-1 leverage of electricity into heating/cooling/hot water production
- No on-site greenhouse gas by methane/propane leakage or combustion
- Pairs with solar PV and allows fewer panels to attain Zero Net Energy goals
- Longer service life than any other mechanical heating/cooling technology
- Limits or [eliminates potable water consumption](#) by cooling towers
- EPA says that Geo Heat Pumps are the most efficient equipment anywhere

“The goal of CaliforniaGeo is to see that more geothermal heat pumps (GHPs) are installed in California because we lag nearly [every other state](#) in deploying this efficient technology. This is ironic, given California’s intent to lead the nation in matters of energy conservation. GHPs will be powered by an increasingly green electric grid because California’s renewable contribution is mandated to hit 33% in 2020 and 50% in 2030. With greater renewable electricity, GHPs [can cut source energy costs](#) while reducing electric consumption on-site. That helps in the fight against climate change, a goal of both the state and our organization.

“Other states are definitely ahead of us. For example, Oklahoma’s Western Farmers Electrical Cooperative (WFEC) found it was easier to team with new subdivision developers and drill geo heat exchange boreholes in advance of construction than to plan for new coal-fired generation. The electrical load reduction from subdivisions’ GHPs that followed and the cash flow collected via customer thermal

leases, allowed WFEA to cancel that new plant that would have lasted a fraction of the 200+ year life of those [geothermal heat exchangers sunk into the earth](#). WFEA's net cost to supply summer grid load is now reduced, without new generation construction or buying peak-priced power elsewhere.

"CaliforniaGeo is the logical "go-to" organization for all GHP-related matters in the Golden State. Because you are a public official, [we invite you to JOIN](#) and participate with us to grow California GHP use. The air we all breathe and the stability of our climate depend on this effort. Thanks for your consideration of this very green and sustainable resource!" (CaliforniaGeo)



UMass Dedicates Net Zero Geothermal Building

March 22 - The University of Massachusetts dedicated Crotty Hall, a \$10 million, 16,800 sq.-ft. economics department building. It will produce as much energy on-site as it uses through many sustainable features, including photovoltaic panels on the roof, natural ventilation and lighting, heavy insulation and a geothermal heat pump system.

According to an article in the Daily Hampshire Gazette, "The building was designed by UMass professor of architecture Sigrid Miller-Pollin. The three-floor building contains 35 offices and four conference rooms, three of which can be converted into classrooms. The project was funded by an anonymous donation of \$10 million.

"Crotty Hall is one of 20 net-zero office buildings in the United States," says the article. "It is designed to use one-fifth of the energy used by the average office building.... Six geothermal [boreholes] rest 400 to 500 feet in the ground below the building. Water this deep underground is always at a constant temperature of about 50 degrees F.... Using a geothermal heat pump system is much more efficient than other methods." Read the article [here](#). (*Daily Hampshire Gazette*)



Call to Review

The IGSHPA research committee is seeking comments from industry professionals on the study done by University of Minnesota's Cold Climate housing Program on the performance, emissions and economics of residential ground source heat pump systems in cold climates. The study is available here:

[Residential Ground Source Heat Pump Study: A Comprehensive Assessment of Performance, Emissions, and Economics](#)

The research committee plans to use the comments as input to a rebuttal. For comments to be useful, it would be helpful to refer to specific pages where possible. If your comments are lengthy, please send them in a Word file to info@igshpa.org. Please review and submit your comments ASAP using the form at this [LINK](#).

Indian River High Plans Switch to GEO



March 25 – According to a pair of articles in the *Watertown (NY) Daily Times*, the Indian River Central School District in Philadelphia, NY is embracing clean energy with its planned installation of a geothermal heating system, and will remove the high school's oil tanks as soon as they are shut off. The district has had geothermal heating and cooling

at its intermediate school since its construction in 2002. The article says that the district anticipates that \$25,000 originally intended for fuel oil will cover any increased electricity costs.

"Noah A. Prior Jr., Facilities Director at Indian River, said that the high school is already partially [heated and cooled] by geothermal energy and the final 140 wells have been installed nearly 500 feet into the ground." The last step is to install the pipes and remove the conventional heating system.

The New York State Energy Research and Development Authority (NYSERDA) performed an energy analysis of the school's energy use. They determined that the geothermal system there was 99% percent more efficient than a conventional system. "The improvements at the Indian River High School are part of a Capital Project in partnership with NYSERDA," the article notes

Other buildings in the district use geothermal heat pumps. Theresa Primary School installed their system in 2002, and Calcium Primary in 2010. "The district hopes to continue its environmental stewardship by using renewable energies in its other buildings." Read the article [here](#). (*Watertown Daily Times*)

April 26-27, 2017 • Soaring Eagle Resort, Mt. Pleasant, MI

MGEA Annual Conference

MEGA's Dinner and Annual Meeting will convene on Wednesday evening, April 26. Cocktails start at 6:00 p.m. The Annual Meeting starts at 8:00 p.m. The Conference will convene on Wednesday morning, April 27, and run from 8:00 a.m. until 1:00 p.m. Breakfast and snacks are included. Keynote speaker will be Trevor Lauer- president of DTE Energy, who will address geothermal, renewable energy, and the role of DTE Energy in both. He will take questions, offering an opportunity to discuss issues with a senior executive at DTE Energy. Additional speakers include Art Thayer, MECA Energy Programs Manager, Todd O'Grady from Michigan Saves, Kyle Krueger from Restyle Marketing, and Jim Newman from Newman Consulting.

Annual Meeting cost is \$50. Cost with conference is \$100. Special hotel rate available if booked before April 15 by mentioning MGEA. For more information, call Larry Kauffman at (248) 396-8231, or email him at: energyczar@sbcglobal.net.



Only one week left to **Share Your Knowledge and Skills!** [Groundwater Week](#) • December 5-7, 2017 • Nashville, Tennessee

Your expertise and skills — instrumental to success — are needed to help those working in the industry move forward. Share your knowledge with fellow groundwater industry professionals at 2017 Groundwater Week by becoming a part of the educational lineup.

Submissions are being sought for all of the following types of educational opportunities and activities, and must be made [online via our content management system](#) by **April 28, 2017**.

Activity areas — located within the exhibit hall, presentations will be scheduled Wednesday and Thursday. Hands-on experiences should be designed for a 25- to 30-minute period.

Workshops — held on Tuesday, as well as limited times on Wednesday and Thursday, workshops are allotted 60 minutes inclusive of question-and-answer periods and should be designed with learning objectives in mind. Workshops must be noncommercial in nature and oriented toward technology transfer or skill enhancement.

Outdoor demonstrations — tentatively planned for Friday, demonstrations must portray skills and competencies appropriate for those working in the groundwater industry. (Note that it is up to the submitter to select an appropriate site in an area within a 20-minute or less drive from Music City Center.)

Short courses — these “stand-alone” noncommercial courses may be one or two days in duration and will be scheduled for Thursday and/or Friday. These courses must contain learning objectives that can be achieved in the allocated time.

Field trips — tentatively planned for Friday, these “free-standing” field trips should pertain to groundwater research or application, or water supply in some manner. Ideally the site should be within one-hour’s drive of Music City Center and the activity planned to last four to six hours.

Submissions due by April 28, 2017

Make your submission today



Certified Geothermal Inspector Workshops

The International Ground Source Heat Pump Association (IGSHPA) two-day, comprehensive Inspector Workshops are designed for Code Enforcing Inspectors for city, and state governments. The course is beneficial to geothermal heat pump installers, developers, architects, manufacturers, distributors, dealers, HVAC contractors, trenching/drilling contractors, and anyone who desires a working know-ledge of how to inspect the technology. After successful completion of the inspector's workshop, you will receive a one-year membership with IGSHPA. Upon passing the IGSHPA inspector's exam and certification approval, you will be classified as an IGSHPA Certified Inspector of GSHP systems. You will then receive an inspector's card and a certificate. Check with IGSHPA about eligibility.

May 22 and 23, 2017 • Stillwater, Oklahoma

Topics Covered

- Course Introduction and Overview-Inspectors Role in Protection of Public Health, Safety, Environment and Project Design
- Heat Pump Types and Operation-
- Outside Heat Exchanger Configurations, Earth Coupling Types
- Design Methods, Compliance with Codes, Standards, And Accepted Procedures
- Outside Heat Exchanger Materials and Components
- Outside Heat Exchanger Installation Techniques
- Indoor Piping and Circulation System Inspection
- Site Awareness and Records
- Permanent Loop Decommissioning
- Heat Fusion Overview
- Local Codes- Specific to Area Being Taught and Review of Appropriate Sections of IMC and IAPMO-USEHC in The Context of the Course.
- Geothermal Inspection Points- Based On a Case Study

[Click here](#) for more information about this class and a special one- day program for architects and inspectors.

Support the Industry's
National Voice



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.

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