



National Association of  
State Energy Officials

November 8, 2023

Kristina Costa

Deputy Assistant to the President for  
Clean Energy Innovation and Implementation  
The White House  
1600 Pennsylvania Avenue, NW  
Washington, DC 20006

Dear Ms. Costa,

On behalf of the National Association of State Energy Officials (NASEO) we respectfully request action on an urgent matter regarding geothermal heat pump tax credits under the *Inflation Reduction Act* (IRA). Geothermal heat pumps are the most efficient building heating and cooling technology available. They balance grid capacity, are resilient to extreme weather events, and reduce greenhouse gas emissions. Moreover, with innovative financing and IRA tax incentives, geothermal heat pumps will lower consumer utility bills. However, to deliver these benefits, it is essential that White House leadership work with the U.S. Treasury to do the following:

1. Issue a safe harbor for the third-party ownership of geothermal heating and cooling as rapidly as possible<sup>1</sup>; and
2. Provide market clarity for the methodology of determining net output of distributed geothermal heat pump systems at or above 1 megawatt (MW).

While the geothermal heat pump sector is primed for growth, the upfront costs are substantial. Third-party ownership and leasing models, similar to those in the solar industry, address upfront costs and allow long-term energy cost savings to accrue. The solar industry's growth in recent years is due, in part, to its safe harbor status for third-party ownership under its investment tax credit – something not explicitly provided for geothermal heat pumps by the U.S. Treasury.

Resolving the tax issues constraining third-party ownership of geothermal heat pump systems will help to unlock wide-scale deployment of the most climate friendly, lowest operating cost heating and cooling technology for retrofits and new construction of residential and commercial buildings. Third party

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<sup>1</sup> The tax issue is related to Section 48a commercial tax credit for geothermal heat pump systems.

ownership and leasing options will allow deployment to scale 40 percent faster, creating 90,000 good-paying jobs and avoiding a projected 64 million metric tons of emissions.<sup>2</sup> Low- to moderate-income and renter households will dramatically decrease heating and cooling bills, benefits they would be limited or unable to access through the nonrefundable residential 30 percent federal investment tax credit.

In addition, millions of Americans who face life-threatening heat waves can receive super-efficient geothermal cooling at lower cost and with less impact on the grid. In fact, a Western Farmers Electric Cooperative study found that for each ton of geothermal heat pump capacity installed, the grid realized a 0.55 kilowatt reduction in summer peak load. In other words, if 400 homes installed geothermal heat pumps,<sup>3</sup> the grid could see peak demand reduced by 1 megawatt.

This approach is also important to mitigating wintertime peak electric loads. In Colorado, for example, meeting greenhouse gas (GHG) reduction goals in the buildings sector will require widespread deployment of heat pumps, and the impacts on wintertime peak electric loads will be far smaller if a significant level of geothermal rather than only air source heat pumps can be delivered. For rural electric utilities, geothermal heat pumps mean avoiding growing capacity costs and reducing peak demand. To a utility, the cumulative benefits of geothermal heat pumps could be seen as a virtual thermal battery, with a constant heating or cooling capacity available regardless of outdoor temperatures, which is a vital consideration in states with frequent heat waves and extreme weather events.

Now is the time to establish market certainty. Geothermal installers across the country are in discussions with capital markets to finance third party ownership, but the lack of clarity from the U.S. Treasury will delay or terminate these opportunities. New developments, such as [Brown Ranch in Steamboat Springs](#), are seeing the savings potential for geothermal for the families living in the homes. The 1,200 home development projects upward of \$100 million of energy savings over 30 years by using geothermal heat pumps over other heat pump options. And the study did not incorporate savings from the IRA tax credit, which as an energy community may be as high as 50 percent. Geothermal heat pumps are also important to communities' just transition strategies, as they offer good employment opportunities for workers from many traditional energy sectors.

The IRA also contains provisions to build a skilled clean energy workforce. The law contains a requirement that commercial projects, in order to receive the maximum amount for the investment tax credit, utilize apprentices and pay prevailing wages on projects over 1MW net output. For electricity generating technologies, this is an easy calculation, but for larger, distributed geothermal heat pump systems, the calculation requires a more complex analysis. Industry experts have developed a method that determines the average net thermal energy in a variety of commercial building types in climate zones across the country. The proposed method was submitted to the U.S. Treasury, but no decision approving this approach has been made. In the absence of guidance on this issue there is uncertainty in the market, leaving project

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<sup>2</sup> This amount represents over 10% of the GHG emission reductions from the EPA Clean Power Plan rule [FS-OVERVIEW-GHG-for Power Plants FINAL CLEAN.pdf \(epa.gov\)](#)

<sup>3</sup> Average of 5-ton capacity

developers with little choice but to move forward with less efficient technologies. Thus, we urge White House leadership to work with the U.S. Treasury to provide market clarity on the methodology of determining net output of distributed geothermal heat pump systems at or above 1MW.

We greatly appreciate your efforts and success in advancing many areas of IRA implementation. We look forward to working with you to make progress on the U.S. Treasury issuing a safe harbor status for third-party ownership and offering clarity on the net output methodology for geothermal heat pump systems.

Best regards,



David Terry, President, NASEO

CC: State Energy Directors