

Statement Submitted for the Record of the Hearing on Hearing on Certain Expiring Tax Provisions, April 26, 2012, by the Subcommittee on Select Revenue Measures of the Committee on Ways and Means

Statement submitted by and on behalf of Karl Gawell, Executive Director, Geothermal Energy Association, 209 Pennsylvania Ave SE, Washington, D.C. 20003, 202-454-5261, karl@geo-energy.org

Statement of the Geothermal Energy Association

Mr. Chairmen, Members of the Subcommittee, on behalf of the Geothermal Energy Association, which has over 100 US company members across the United States, I submit this statement for the record of your hearing. We thank the Subcommittee for considering our statement as part of its deliberations on Certain Expiring Tax Provisions.

While it is not always recognized in the debate, the effective date upon which a tax incentive expires is often determined by factors other than the specific month, day and year stipulated in a law. Such is the case for the renewable energy production tax credit as it applies to geothermal, and for that matter other base load renewable power technologies.

For biomass, hydropower, and geothermal energy the current law provides for a production tax credit for any facility placed in service by December, 31, 2013. While that is more than a year away, because of the long lead times required to permit and build a geothermal power plant, the industry is already facing its tax incentive cliff. In recent years, geothermal projects are taking 4 to 8 years from initial exploration to initial power production, perhaps half of which is due to governmental review and processing! We understand other base load power technologies have similar or even longer lead times.¹ So, with their tax deadline a little over a year away, it should not be surprising that leaders from these three industries point out a recent letter to congressional leaders that their tax credit "expiration in 2013 is already leading to a decline in new projects and construction."

The text of the joint letter from the Geothermal Energy Association, Biomass Power Association and the National Hydropower Association is appended at the end of this statement. All three of these technologies were added to the list of eligible technologies for the Section 45 Production Tax Credit by the Energy Policy Act of 2005. All three of these technologies can provide unique and important base load or flexible power to the grid and their development is critically important for future grid reliability.

GEA asks that the Subcommittee recognize the unique nature, and value, of base load renewable power resources as it deliberates whether and when to extend expiring tax provisions, in particular the placed in service date for these technologies under the Section 45 Production Tax Credit. Due to their long lead times, they are already facing the impacts of expiration, and

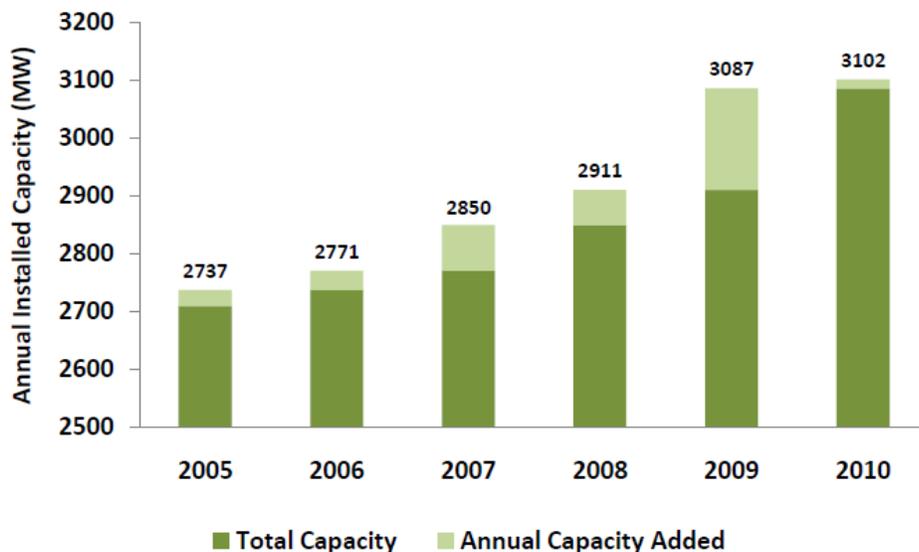
supporting their continued growth through an extension of their tax incentives brings important values to the nation and its power system.

Geothermal and the PTC

The extension of the renewable energy production tax credit (PTC) to geothermal energy in the Energy Policy Act of 2005 has been a principal factor in the recent growth of geothermal energy. Prior to this change the PTC was available only to wind and closed-loop biomass power projects and geothermal energy was disadvantaged in renewable power bidding opportunities. Since 2005, geothermal power has seen steady growth in the United States, as the figure below shows.

Growth in US Geothermal Capacity On-Lineⁱⁱ

Figure 8: Total Installed Capacity 2005-2010



Today, new geothermal power projects continue to be placed in service, and we expect that a significant number of new projects will be completed before the December 31, 2013 PTC deadline.

However this deadline presents a serious obstacle to geothermal energy growth. According to our analysis, geothermal power projects in the US typically require between four and eight years to complete. The time period from initial discovery and exploration to bringing power on-line therefore takes longer than the current tax window allows. Once projects now in later stages of development are completed, there are indications that we will see only limited if any new development as a result of the uncertainty surrounding geothermal tax incentives.ⁱⁱⁱ

We respectfully urge that geothermal tax credits be extended to provide continued support for new project development and the deployment of new geothermal energy technology. Our nation has among the world's most promising geothermal energy resources, but without the support of

long-term tax incentives, we will not see the investment necessary to develop this invaluable domestic source of base load renewable energy.

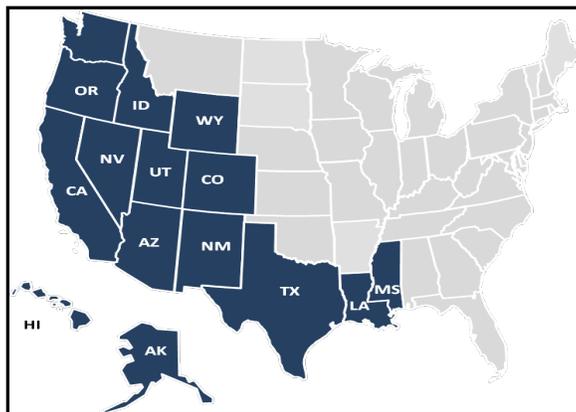
Geothermal's Future Potential is tied to a Growing Market

It is worth noting that the US Department of Energy has recently approved important research projects in geothermal energy, which are the first significant investments in new geothermal technology by DOE in decades.^{iv} A growing market for geothermal energy is important to realizing the full benefits of this investment and extension of the geothermal PTC is essential to growing the U.S. demand for geothermal energy.

The health of the US geothermal industry and its domestic market is also important to the role of US geothermal firms internationally. There is a strong and growing world market for geothermal energy, and US firms are among the leaders in these markets. According to the Department of Commerce, geothermal is one of only two renewable technology areas where US firms are exporting more than the US market is importing, and the benefits of sustaining that leadership are obvious.

Extending the deadlines under the current law would help provide the incentive needed by investors looking at new geothermal power projects. Today, there are projects under development in some 15 states, as shown below, and we hope that advances in technology will support expansion to many more states in the future.

States with Geothermal Projects Under Development in 2011^v



Benefits of Geothermal Market Growth

The investment of billions of dollars in new geothermal power projects will help the economy and create jobs. To give some perspective, let's look at one new project under development in California. CalEnergy, a subsidiary of Mid-American Energy, has three 65 megawatt geothermal projects permitted and under development in Southern California.^{vi} These three projects will represent about \$900 million in new investment in a county with one of the highest

unemployment rates in the state -- over 30%. During the roughly four years of construction, CalEnergy will employ a monthly average of 323 workers. When completed, the project will employ 57 full-time employees (operations, engineering, maintenance, administration). For comparison, MidAmerican notes that a 300MW natural gas plant in operation will employ about 18 people.

Tax incentives for new geothermal investment will not only mean economic stimulus and job creation, but will produce highly reliable base load power. Geothermal power plants operate 24 hours a day, 7 days a week, 365 days a year, regardless of whether the wind blows or the sun shines. They provide much needed reliability to the power grid, an attribute which utilities value and an important reason why they find geothermal power attractive when it is available.

With continued progress in exploration, technology development, and market growth there are substantial new geothermal resources which could be made available. Geothermal resources in the US remain largely untapped, because of the high risk of finding and proving geothermal resources. Recently a meeting of leading researchers and exploration experts called for a national exploration initiative by identifying specific prospects for an additional 50,000 MW of geothermal power, which could be tapped to establish a Strategic Geothermal Reserve.^{vii} With continued incentives for investment in new power projects we will capitalize on new technologies which could make significant new geothermal energy production a reality in the US and sustain US leadership in the world geothermal market.

Thank you for considering our views on energy tax policy.

Text of Letter Dated February 8, 2012^{viii}.

Dear Leader Reid, Leader McConnell, Speaker Boehner, Leader Pelosi, Chairman Baucus, Ranking Member Hatch, Chairman Camp, Ranking Member Levin, Congressman Reichert, and Congressman Blumenauer:

For most renewable electricity technologies in the United States, the tax incentives put in place over the last decade provided the first significant federal support in decades. By any measure, those policies have been tremendously successful in spurring construction of new projects and the deployment of new technologies, expanding the supply of affordable, clean electricity to the grid, supporting significant local economic opportunities, and creating tens of thousands of U.S. jobs in regions of the country not usually associated with renewable energy.

As the President rightly pointed out in his State of the Union address, clean energy tax incentives create jobs and a market for innovation. The production tax credit for hydropower, geothermal and biomass is no exception. Its looming expiration in 2013 is already leading to a decline in new projects and construction. Failing to extend these tax incentives will effectively bring these projects to a grinding halt and undermine the progress our industries have made in recent years.

Utility-scale hydropower, geothermal and biomass projects starting today would find it nearly impossible to be completed by the end of 2013. Recent examination of new geothermal projects finds lead times of four to eight years. Hydropower has a similar multi-year licensing schedule, followed by the construction timeline. For biomass, a recently completed 100 MW facility in Texas took more than five years before even breaking ground.

The tax incentives in place since the mid-2000s have helped usher in a renaissance in our industries. Like the federal tax incentives, the Department of Energy's investment in new technology represents the first significant federal support for new geothermal and hydropower technology in decades. We believe the investment will pay off, but sustaining the momentum to build new projects is critical.

As Congress considers extending certain key incentives this year, it will have a remarkable opportunity to protect recent growth in the geothermal, hydropower and biomass sectors as well as build upon the successes of those policies. That is why it is critical that Congress, at a minimum, extend the renewable energy production tax credits through 2016 for the full range of renewable energy technologies, including hydropower, geothermal, and biomass – all of which have much longer deployment lead times compared to other renewable energy technologies.

The benefits of our technologies are clear. All can provide high quality electric power with base load reliability as well as flexible output to complement other technologies. All have large untapped resource bases across the rural economies of the nation, and their continued growth could provide tens of thousands of affordable, clean megawatts to America's electric grid while creating domestic jobs and driving local economic activity.

Currently, the investment tax credit for solar is the only renewable electricity tax incentive effective through 2016. Congress extended this credit in explicit recognition of the importance of stable and predictable tax policies. The duration of this effective program should be a model for enhancing the effectiveness of the federal tax incentives for the rest of the renewable electricity technologies.

The policies signed into law over the last decade sought to expand federal support and incentives to a wide range of technologies, and to provide longer-term incentives that support industry growth and new technology deployment. And they have been successful in creating momentum for new construction, new capacity and new jobs in America's renewable energy industry. Those policies and the investments and jobs that they help create need to be kept in place so they can continue to work for America's economy.

Signed,

Linda Church Ciocci, Executive Director, National Hydropower Association
Bob Cleaves, President Biomass Power Association
Karl Gawell, Executive Director, Geothermal Energy Association

^{i i} Current geothermal project lead times based upon GEA review of projects coming on line since 2005. Lead times of other technologies based upon personal communications with their association leadership.

ⁱⁱ Annual U.S. Geothermal Power Production and Development Report

April 2011, Dan Jennejohn, Geothermal Energy Association, available at: <http://geo-energy.org/reports.aspx>

ⁱⁱⁱ GEA has underway research examining obstacles to power plant development, and an assessment of the current project lead-time. That project examined the time-frame for new projects coming on-line since 2005 and found that the range of lead times was four to eight years. Dan Jennejohn, Geothermal Energy Association research analyst.

^{iv} While Congress has recognized the need for research support in a range of geothermal technologies areas by passing the 2007 Enhanced Geothermal Energy Research and Development Act on a strong bi-partisan basis, until

recently the Department of Energy has provided scant funding for geothermal technology. Starting with ARRA 2009, DOE has announced just over \$360 million in competitively awarded research contracts for geothermal technology, which have also attracted an additional \$300 million in recipient cost-share, bringing the total investment to over \$660 million. This represents a more balanced investment in DOE's research priorities.

^v Annual U.S. Geothermal Power Production and Development Report

April 2011, Dan Jennejohn, Geothermal Energy Association, available at: <http://geo-energy.org/reports.aspx>

^{vi} From presentation of Jonathan Weisgall, Vice President, MidAmerican Energy, to Session C-4, RETECH 2011, September 22, 2011. To be available from <http://www.retech2011.com/>

^{vii} See Report of Workshop on Exploration and Assessment of Geothermal Resources, prepared by the University of Nevada Reno Great Basin Center for Geothermal Energy, available at: <http://geo-energy.org/reports.aspx>

^{viii} Text copied from letter distributed to House and Senate leadership as noted on February 8, 2012.