

May 5, 2025

To: Members of the House Energy Committee

Re: Advanced Geothermal Development in Pennsylvania

Dear Representatives:

The Pennsylvania Environmental Council (PEC) respectfully submits the following comments on advanced geothermal development in Pennsylvania. We would like to thank the House Energy Committee for holding an informational hearing on this opportunity.

As highlighted in the recent Penn State Center for Energy Law and Policy report – The Future of Geothermal Energy in Pennsylvania¹ – we believe there are significant environmental, economic, and energy reliability benefits associated with this emerging technology. Advanced geothermal can provide zero-emitting, distributed, and even site-adjacent power for a number of uses including heating and cooling buildings, industrial processes, and power generation to some degree.

This can lead to better grid diversification and resiliency, and help offset the need to build larger and higher-emitting sources of power generation which in turn would also necessitate larger-scale transmission buildout.

Advanced geothermal also provides skilled workforce opportunities, including the potential conversion of waning natural gas wells. The same technology and skills required to reach deep gas reserves can be utilized to tap geothermal heat, meaning that Pennsylvania is well positioned to adapt and benefit from this new energy opportunity.

All that said, we would encourage the Committee to consider the following when contemplating how Pennsylvania should manage this activity.

One option is for the Department of Environmental Protection (Department) to apply for “primacy” (i.e. primary responsibility) from the U.S. Environmental Protection Agency (EPA) for permitting and oversight of advanced geothermal wells in the state. This would require a thorough process of establishing statutory authority, developing and finalizing regulations, and review and approval of the state’s program from the EPA. That review will involve confirming that the Department has sufficient legal authority and agency capacity to properly manage its program.

¹ <https://celp.psu.edu/projects/pa-geothermal/>

To get this right and meet federal requirements, we recommend the following in any legislation directing the Department to pursue primacy. Many of these recommendations are informed by legislation² passed in the prior session (Act 87 of 2024) that directed the Department to secure primacy for permitting and oversight of carbon dioxide geologic sequestration wells. PEC supported that legislation as it contained strong directives for the promulgation of regulations necessary to protect the public and the environment, and granted the Department discretion to set management fees and financial assurance measures at levels sufficient to maintain an efficient and robust oversight program. We believe those same principles should be included in any legislation for advanced geothermal.

This is particularly important given that, unlike carbon sequestration wells, the EPA regulatory category of wells that includes advanced geothermal (generally referred to as “Class V”)³ is extraordinarily broad and will present a significant management obligation on the Department. It will also require flexibility in regulatory development given that different types of wells under Class V may require distinctive controls.

Recommendations

1. Grant the Department sufficient authority to establish a comprehensive regulatory program. Act 87 of 2024 set a broad directive to the Environmental Quality Board (EQB) to promulgate regulations and permitting criteria “necessary to protect the Commonwealth’s natural resources and public health, safety, and welfare.”⁴ In addition, the statute directs the Department to consider cumulative and community impacts in permitting decisions, as well as requiring enhanced public notice, comment opportunity, and site assessment in identified environmental justice communities.⁵ We believe all of these requirements are appropriate for advanced geothermal well permitting. While we respect the need for efficiency and certainty in permitting, we believe a broader (and thus more flexible) grant of authority will enable the Department to tailor its program as appropriate and allow proper accommodation to the regulated community where warranted: for example, creating a dedicated process for permitting well conversions from oil and gas to geothermal. It will also allow the Department to more easily adapt those regulations in the years

² Senate Bill 831 (P.N. 1793) <https://www.palegis.us/legislation/bills/2023/sb831>

³ <https://www.epa.gov/uic/class-v-wells-injection-non-hazardous-fluids-or-above-underground-sources-drinking-water>. Wells for geological sequestration of carbon dioxide are in “Class VI.”

⁴ Section 6(b)(1)(I) of Act 87 (2024).

⁵ Ibid.

to come.

2. Grant the Department sufficient authority to set permit or management fees necessary to support its program. Act 87 of 2024 also provided the EQB with discretion for setting permitting and/or management fees for geologic sequestration wells “sufficient to maintain [Department] oversight and enforcement”⁶ As we have seen with the oil and gas program, limiting the agency’s support to permit fees creates a situation where the Department is unable to sustain its long-term management responsibilities. We believe the ability to shift to periodic management fees is more appropriate and can help keep initial permit fees reasonable, thus encouraging project development. In addition, given the broad scope of Class V well types, an adaptive fee program can help the Department adjust its fees as appropriate depending on the type of well activity proposed. A stronger management program and staff compliment will also assist in more timely permit reviews.
3. Grant the Department sufficient authority to set appropriate financial assurance and well closure requirements. Akin to the prior recommendation, providing the Department with the flexibility to set adequate bonding or other financial assurance requirements for advanced geothermal wells will be important. Although regulations help guard against long-term issues, the costs of safely plugging wells when they reach end of life should never fall to the public. We have learned a hard lesson from Pennsylvania’s orphaned and abandoned well legacy to know that the accumulation of sites and costs can escalate quickly, and that regulations cannot prevent misconduct by operators. While the well assurance and closure requirements⁷ set forth in Act 87 of 2024 are not directly transferable to advanced geothermal (since Act 87 deals with permanent underground storage), it sets the right intention that: (1) the Department should have the flexibility to set and promptly adjust financial assurance amounts as necessary; and (2) criteria must be established and required for well project closure before project operators are legally released from obligation.

PEC is excited about the benefits and opportunities presented by advanced geothermal. The recommendations above are meant to frame the steps to help ensure its long-term success for Pennsylvania.

⁶ Section 6(b)(1)(III) of Act 87 (2024).

⁷ Please see Sections 10 and 11 of Act 87 (2024).

We also wish to express our support for the Governor's Lightning Plan package and accompanying legislation, which includes measures to support advanced geothermal – most notably House Bill 501 (P.N. 1478). Other legislation in that package, including House Bill 504 (P.N. 1481), could be amended to add advanced geothermal as well.

Again, we thank you for holding this hearing and for considering our comments.

Sincerely,

John Walliser
Senior Vice President, Legal & Government Affairs
Pennsylvania Environmental Council