PBS-SEPM APRIL LUNCHEON

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Wells Under (Hot) Water?
Geothermal Options for the Oilpatch

Dr. Joseph Batir – Geothermal Lead at Petrolern

ABSTRACT

The transition from a predominantly carbon to low carbon-based energy mix is often accompanied by concerns of grid reliability and resiliency and the future of the oil and gas workforce. Geothermal energy can be the baseload power that stabilizes a low carbon, decentralized electricity grid of the future, and provides a clear workforce redeployment path. How? Geothermal can be a direct energy producer through existing or new wells, be utilized as a thermal energy battery for intermittent renewable energy, or be the efficient, clean heating and cooling used to reduce electricity demand. In these ways, geothermal energy can enable a pathway for the oilfield to transition to a net zero energy production business while also utilizing existing infrastructure, existing skills, and existing workforce. In this talk, I provide a broad overview of geothermal energy with case studies on geothermal opportunities in the Texas oilpatch, hitting three key points. Geothermal energy has the capability to reuse existing energy infrastructure to continue producing power from legacy assets. Geothermal can reduce the need for power through heating and cooling and thermal energy storage. With additional geothermal utilization, a green drilling boom can occur, revitalizing the oil and gas workforce. While much of the examples focus on Texas, there is geothermal power everywhere and can be fully utilized through new technologies that are being developed as well as new utilization strategies of existing technologies. Geothermal is scalable, available anywhere, green baseload energy, through the use of these new technology developments.

BIOGRAPHY: *Dr. Joseph Batir is Geothermal Lead at Petrolern with more than 10 years of experience, currently guiding his team in thermal resource characterization, oilfield energy conversion, geothermal reservoir modeling, and new technologies and tool development. Dr. Batir's expertise is resource identification and quantification through surface and subsurface geospatial analysis, play fairway mapping, and numerical modeling, which has led to discoveries of unknown and underutilized energy resources through the application of innovative analysis methods to discover new geologic insights and identify additional energy opportunities. Dr. Batir earned his B.Sc. in Geology from Southern Illinois University, Carbondale, his M.Sc. in Geothermal Energy from the School for Renewable Energy Science, and his Ph.D. in Geophysics from Southern Methodist University.*