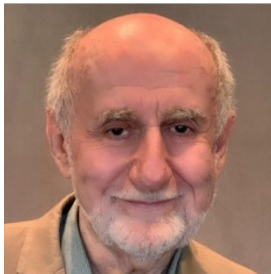


# DGS High-Capacity, Single Well, Full Hydraulic Circuit Technology Refinements for EGS

**William K. (Bill) Ott, P.E.**  
DTS Technologies, LLC

**Thursday December 1, 2022, 10 a.m. Central Time**



William K. (Bill) Ott, P.E. is the Technical Principal of DTS Technologies, LLC in Houston, Texas, and the founder of Well Completion Technology, also in Houston. His presentation will be at 10:00 a.m. Central Time on Thursday, December 1, 2022. The topic is “*DGS High-Capacity, Single Well, Full Hydraulic Circuit Technology Refinements for EGS.*”

## **Abstract**

An innovative method that extracts global scale energy from HDR while eliminating fundamental problems of geothermal obsolesces current EGS approaches. Called “DGS,” the single vertical well format features complete control over reservoir hydraulics and heat recovery and can produce 50 MW from the top 1/5th thermal gradient rock anywhere in the world. Based on downhole materials and procedures known to the developers for decades, DGS works by installing flow diverters in engineered reservoirs that cause heat-carrying fluid to travel across 60+M sq. ft. (630 hectares) of subsurface rockfaces. The diverters are installed, affecting hydraulic channel definition in the reservoir, where sweep efficiency is controllable, enabling more than 90% heat recovery. Set in deeper, hotter strata, generally 2X that of traditional EGS, high rock closure pressure mitigates natural fracture presence and connectivity, eliminating ever-present water loss problems and seismicity potential. DGS Technology developers also present the system’s high-temperature proppant carrying fluid, specific means of reservoir diverter construction, novel multi-set thermally compliant packer assemblies, and methods of heat transfer optimization.

## **Biography**

William K. (Bill) Ott, P.E. is the Technical Principal of DTS Technologies, LLC in Houston, Texas, and the founder of Well Completion Technology, also in Houston. Mr. Ott holds a B.S. Degree in Chemical Engineering from the University of Missouri, is a registered Professional Engineer in Texas, is a 50-year member of SPE, and is an SPE distinguished lecturer. His five-decades-long career in energy production-related fields began in 1972 with Halliburton working as a Field Engineer in the U.S.

Midcontinent areas. After that, he worked with Haliburton at their research center in Duncan, Oklahoma as a research field coordinator and then became Regional Engineer of Halliburton's Far East Operations in Singapore. Upon leaving Halliburton in 1983, he moved to Houston and formed Well Completion Technology, a consultancy and training coordination firm. He has expertise in fracturing, sand and water control, cementing, and all types of well remediation. He advised clients on every phase of well completion and workover and authored or coauthored nearly 30 technical papers, books, and patents. He recently co-developed a new approach to geothermal energy production that applies traditional energy methods in novel ways. This new technology can create vast amounts of clean energy from all but unutilized thermal resources.