Research and find an article/post/paper interesting to you on "Ground Source" Geothermal Heat Pump Systems (GSHPs). Answer the following questions:  
  
•    Where did your current event come from?  Cite the article/post/paper in the APA Style bibliographic format (see near the end of the syllabus).  
•    What is your event about?  Provide a brief summation of the event and discuss the primary takeaways/conclusions to you.  
•    Does your article comment on the outlook for GSHPs to be a significant contributor to our future energy needs? If so, why?  
•    Find "current" events published/posted/etc. within the past month if possible, or past 3 months at the oldest.  
•     
Be careful not to confuse ground source geothermal with hot rock geothermal.  
  
Description of Topic:  
"Ground source" geothermal heat pumps, or "GSHPs," are in the news as much, if not more, as "hot rock" geothermal. Through the readings you should understand the distinction now between hot rock and GSHPs.  Drilling for GSHPs doesn't go nearly as deep as hot rock, so the transition of drilling companies out of the oil and gas industry won't help expand the GSHP market except perhaps freeing up some drillers and helpers (not rigs).  GSHPs are one of the only electric options to heat buildings and water without using fossil fuels.  Thus, a major driving force is the momentum to "wean" the country off fossil fuels.  
Like hot rock geothermal, GSHPs in the past were considered a "niche" market.  The two main reasons have been: 1) the higher up-front capital cost to install the systems compared to conventional HVAC systems (the drilling costs are the "premium"), and 2) lack of awareness and education on GSHP technology by the public, government officials, engineers, and architects (that design buildings).  The industry is making some progress in both areas