"Are Geothermal Energy Returns On Investment High Enough?"
Proceedings Thirty-Sixth Workshop on Geothermal Reservoir Engineering, Stanford University, SGP-TR-191, 2011.

1) "If the overall EROI were to double at no change in energy cost, approximately one third of discretionary spending would have to be reallocated." should read "If switching primary energy sources from cheap, high EROI fossil fuels to more expensive, lower EROI alternatives were to require a significant increase of upstream energy investment to deliver the same energy to the consumer, a large portion of discretionary spending would have to be reallocated. "

2) "In this case the benefit or Joules of heat removed would be 48 Joules for each Joule of fossil fuel invested for a geothermal heat pump with an Energy Efficiency Ratio (EER) of 16." had a unit conversion error and should read "In this case the benefit for a geothermal heat pump with an Energy Efficiency Ratio (EER – btu/kWh) of 16[1] would be greater than 3_{min} * 93%[2] *16*0.29 or >13 Joules for each Joule of fossil fuel invested."

3) "For traditional power generation and heat pump the benefit is 0.31 * 12 = 3.72 Joules." had a unit conversion error and should read "For traditional power generation and heat pump the benefit is 0.31[3] * 12[4] *0.29 = 1 Joules or less than 8% that of geothermal."

4) Calculations of the km per liter for an electric plug-in vehicle overlooked the losses associated with charging and storing energy in the vehicle battery which have been reported to be 14% by Helms et al. (2010).[5] The table below gives updated km per liter estimates:

Ways of using diesel	*Km/l*	*% current usage*
Internal combustion engine	15	100%
Diesel synthesis of hydrogen for fuel cell vehicle	13	90%
Plug-in electric vehicle powered by central power plant	16	103%
Plug-in electric vehicle powered by investing in geothermal @ an EROI of 3	146	1,064%

5) There is a typographical error in the table of the appendix. The embodied energy of copper should be 0.095 TJ not 0.01 TJ.

[1] Direct Geoexchange (DGX), Energy Star tier 3 Geothermal Heat Pumps Key Product Criteria, http://www.energystar.gov/index.cfm?c=geo_heat.pr_crit_geo_heat_pumps.
[2] According to EIA data electricity transmission losses are ~7% http://tonto.eia.doe.gov/ask/electricity_faqs.asp#electric_rates2.
[3] http://www.eia.gov/cneaf/electricity/page/co2_report/co2report.html.
[4] http://www.energystar.gov/index.cfm?c=airsrc_heat.pr_crit_as_heat_pumps.
[5] Helms, H., M. Pehnt, U. Lambrecht and A. Liebich, 2010, "Electric vehicle and plug-in hybrid energy efficiency and life cycle emissions," *18th International Symposium Transport and Air Pollution*, Session 3: Electro and Hybrid Vehicles, Dübendorf, Switzerland, p113-124.

“Engineered Geothermal Systems Energy Return On Energy Investment”
Geothermal Resources Council *Transactions*, 2012

1) Calculations of the km per liter for an electric plug-in vehicle overlooked the losses associated with charging and storing energy in the vehicle battery (see #4) above.

2) References to Hall and Murphy should be Hall et al.

3) “If switching from cheap, high EROI fossil fuels to more expensive, lower EROI alternatives were to require a doubling of upstream energy extraction to deliver the same energy to the consumer, a significant portion of discretionary spending would have to be reallocated.” should read “If switching primary energy sources from cheap, high EROI fossil fuels to more expensive, lower EROI alternatives were to require a significant increase of upstream energy investment to deliver the same energy to the consumer, a large portion of discretionary spending would have to be reallocated.”