

Ground Swell for Ground Source: Results of Summer and Winter Metering Efforts at Ground Source Heat Pumps at Ameren Illinois

Robert Huang, The Cadmus Group, Inc., Watertown, MA
Dave Korn, The Cadmus Group, Inc., Watertown, MA
Sandra Brown, The Cadmus Group, Inc., Watertown, MA
Karen Kansfield, Ameren Illinois, Springfield, IL
Nicholas Lovier, Ameren Illinois, Springfield, IL
Larry Brown, Conservation Services Group, Springfield, IL

Used since the 1940s, very efficient, and quiet, ground source heat pumps (GSHPs) have been included in the Ameren Illinois HVAC program that completed its inaugural year on May 31, 2010. Ameren Illinois offers \$600 incentive for the installation of GSHPs. Exceeding expectations, 400 GSHPs were installed in Illinois during the first year of the HVAC program. As part of the program evaluation, Ameren Illinois and The Cadmus Group, Inc. (its evaluation contractor) and Conservation Services Group (its implementation contractor) decided to examine the savings from the GSHP installations through in-situ metering for a limited number of sites. At 10 sites, power meters were placed on the GSHP units to establish their electricity usage in both the summer of 2010 and winter months in late 2010 and early 2011.

This poster presents the results of a year-long metering study of 10 GSHP sites. We used seasonal metering data and extrapolation algorithms to establish annual energy use. We examined the savings, return on investment, and paybacks from these units:

- In the summer compared to a typical air source heat pump and a central air conditioning unit.
- In the winter compared to typical electric resistance heat, air source heat pumps or gas furnace units.

Results will be presented during the poster session.