Economic and environmental modeling of Deep Geothermal Energy for District space heating in five Chinese cities and districts.

Abstract

In this study, a model is developed to evaluate the potential for EGS district heating in five cities and districts (Haerbin, DaQing, ChangChun, QiQiHaer, XiongAn) in China. By simulating an EGS district heating network in each city with technical and economic models, it provides the levelized cost of heat (LCOH) of each city and estimates the emission reduction compared with emission of traditional coal burning method. As an important environmental-friendly technology, this evaluation can provide valuable information about the validity of the utilization of geothermal energy in district heating system of China.