

A pen-and-paper game to study uses of geothermal energy

Keiko Mizugaki^{1*}, Mayumi Yoshioka¹, Norio Yanagisawa¹, Youhei Uchida¹, YASUKAWA, Kasumi¹, Keiichi Sakaguchi¹, SAWAKI, Takayuki¹, FURUSAWA, Midori¹

¹Institute for Geo-Resources and Environment, AIST

A simple pen-and-paper game was developed to study various uses of geothermal energy. It was planned to be good for schoolchildren.

In this game, players act as the president of a geothermal development company. The game procedure is as follows:

1. First, the player draws a folded card from a box. A temperature value between 15 and 300 degree centigrade is printed on the card and this means his/her company drilled out geothermal fluids of this temperature.

2. Then the player receives the game sheet on which various geothermal uses, such as power generation, green house, house-heating etc., are printed. He/she should choose and mark suitable use(s) for the hot water of his/her company under guidance of the staffs. The player can choose multiple uses including cascade use, and can add the player's own ideas of utilization of the hot water.

3. The game is finished by stamping a mark "Excellent / Good / Nice effort" on the game sheet. The player can bring the game sheet home, and look at it again. A simplified illustration of geothermal system is also printed on the game sheet to help understanding of geothermal utilization.

Keywords: outreach, pen-and-peper game, geothermal energy