Special Issue

Thermally Affected Assessment in Groundwater Heat Pump Systems

Message from the Guest Editor

A large number of low-enthalpy geothermal energy systems have been proposed for the heating and cooling needs of buildings, due to their advantages in energy efficiency and environmental benefits. Open-loop groundwater heat pumps (GWHPs) currently represent one of the major technologies. Among the aspects that have to be considered to minimize the subsurface impact, attention must be posed to the long-term sustainability of the groundwater abstraction and the thermally affected zone (TAZ) development around the re-injection wells. Analytical solutions and numerical models have been widely applied to examine subsurface heat transport mechanisms, allowing to consider the site-specific geological conditions and the transient heat and groundwater flow regimes. The Special Issue of Energies with the title “Thermally Affected Assessment in Groundwater Heat Pump Systems” aims to give a comprehensive overview of the state-of-art of research in the GWHPs field, collecting contributions that can encourage the discussion about the benefits and limits in open-loop systems diffusion at different scales.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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