عنوان مقاله:

Parametric Assessment of a Novel Geothermal Multi-Generation Equipped with Dual-Organic Rankine Liquefied Natural Gas Regasification Cycle Using Advanced Exergy and Exergoeconomic-Based Analyses

محل انتشار:

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خلاصه مقاله:

This research is concerned with the design and analysis of a geothermal based multi-generation system by applying both conventional and advanced exergy and exergoeconomic concepts. The proposed energy system consists of a dual-organic Rankine cycle (ORC) to vaporize liquefied natural gas (LNG) and produce electricity. A proton exchange membrane(PEM) electrolyzer is employed to produce hydrogen by receiving the power and coolant heat waste of dual ORC. Moreover, cooling effect is produced during LNG regasification by utilizing the cryogenic energy of LNG. Parametric studies are conducted to assess the effects of substantial input parameters, namely turbine 1 inlet pressure, mass rate of upper cycle, geothermal mass flow rate, on the various parts of exergy destruction and cost .rates within the major components

کلمات کلیدی:

Geothermal Energy, dual-ORC, Hydrogen production, advanced exergy, advanced exergoeconomic