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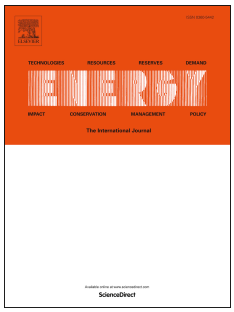

Thermo-economic analysis and optimization of a solar-driven ammonia-water regenerative Rankine cycle and LNG cold energy

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Highlights:

1-Solar-driven ammonia-water regenerative Rankine cycle is combined with LNG system.
2- Area calculation and an effective pinch analysis in heat exchangers are carried out.
3- Energy, exergy and exergoeconomic analysis and optimization have been implemented.
4- The natural gas system performs better than the ammonia-water cycle (exergoeconomic viewpoint).
5- Net output power and total cost rate of the system are 4190.2 kW and 1181 $/h at the optimal point.