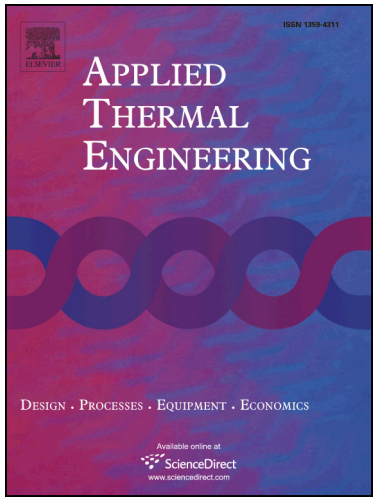

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A Comparative Analysis of the Effectiveness of Aquifer Thermal Energy Storage in Expeditionary Campaign Infrastructure

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Abbreviations.

ECI – Expeditionary Campaign Infrastructure
FBCF – Fully Burdened Cost of Fuel
MoD – Ministry of Defence
UTES - Underground Thermal Energy Storage
GSHP - Ground Source Heat Pump
TES – Thermal Energy Storage
ATES – Aquifer Thermal Energy Storage

1. Introduction.

The UK MoD has highlighted the need to reduce fossil fuel dependency, not only to meet its legal commitments but also to reduce the casualties and costs associated with fuel supply to remote and often hostile areas [1]. One area of high energy usage and thus high fuel usage is in the provision of accommodation for deployed personnel; this accommodation, both technical and domestic, is termed Expeditionary Campaign Infrastructure (ECI). This paper suggests that Aquifer thermal Energy Storage