

## PRESS RELEASE

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### FOSS Research Centre, University of Cyprus, gets Journal paper included in Top 25 Hottest Articles



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The journal paper by Dr. Alexandros Arsalis (Postdoctoral Research Fellow) and Prof. Andreas N. Alexandrou entitled "[Thermoeconomic modeling and exergy analysis of a decentralized liquefied natural gas-fueled combined-cooling-heating-and-power plant](#)" published in the Journal of Natural Gas Science and Engineering (Volume 21, November 2014, Pages 209-220) was included in the Top 25 Hottest Articles in the period October to December 2014 in the category Earth and Planetary Sciences in ScienceDirect,

Elsevier (link: <http://top25.sciencedirect.com/subject/earth-and-planetary-sciences/9/journal/journal-of-natural-gas-science-and-engineering/18755100/archive/57/>).

In this paper the authors propose a small-scale combined-cooling–heating-and-power (CCHP) plant as a possible alternative to large-scale, centralized, electricity-only power plants. The study analyzes whether the proposed system could be an ideal candidate for distributed generation applications, especially in locations which are distant from centralized power plants. The system considers fueling with liquefied natural gas (LNG), which is a safe and transportable fuel option. The study includes a basic thermodynamic analysis, followed by an exergy analysis and a cost analysis. The simulation results signify a potential for further investigation of the proposed system,

since its performance results in significant thermodynamic and environmental improvements, when compared to an equivalent conventional system.

A main research area of Dr. Arsalis and Prof. Alexandrou, as members of the Research Centre for Sustainable Energy (FOSS), is the design, modeling and optimization of novel energy systems in distributed generation. Their research work targets the improvement of energy efficiency, reduction of operating costs and energy saving. In this context they consider conventional engines (e.g. turbomachinery, refrigeration cycles, etc.), alternative energy systems (e.g. fuel cells) and renewable energy sources (e.g. solar energy) in developing advanced multi-generation energy systems.

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