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PII: S0959-6526(18)30154-9

DOI: [10.1016/j.jclepro.2018.01.132](https://doi.org/10.1016/j.jclepro.2018.01.132)

Reference: JCLP 11812

To appear in: *Journal of Cleaner Production*

Received Date: 18 December 2016

Revised Date: 26 November 2017

Accepted Date: 17 January 2018

Please cite this article as: Fathi N, McDaniel P, Aleyasin SS, Robinson M, Vorobieff P, Rodriguez S, Oliveira Cd, Efficiency enhancement of solar chimney power plant by use of waste heat from nuclear power plant, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.01.132.

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# Efficiency Enhancement of Solar Chimney Power Plant by Use of Waste Heat from Nuclear Power Plant

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## Abstract

A solar chimney power plant (SCPP) offers an efficient method of converting solar irradiation to electrical power. It can be combined with a nuclear power plant to improve its efficiency and minimize its environmental impact. Rather than dumping the waste heat rejected by a nuclear power plant to a wet cooling tower, a better solution may be to connect it to an SCPP. This is particularly true in arid regions. The SCPP can serve the function of a dry cooling tower and produce additional electrical power. In a solar chimney power plant, the energy of buoyant hot air is converted to electrical energy. SCPP includes a collector at ground level covered with a transparent roof. The sun heats the air inside the collector and the ground underneath. A tall chimney is placed at the center of the collector, with a turbine located

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