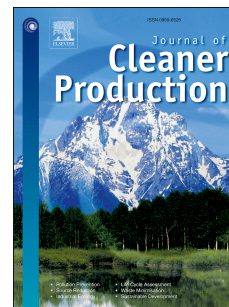


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Efficiency Enhancement of Solar Chimney Power Plant by Use of Waste Heat from Nuclear Power Plant

Nima Fathi^{a,*}, Patrick McDaniel^a, Seyed Sobhan Aleyasin^b, Matthew Robinson^a, Peter Vorobieff^a, Salvador Rodriguez^c, Cassiano de Oliveira^a

^a *University of New Mexico*

^b *University of Manitoba*

^c *Sandia National Laboratories*

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

*Corresponding author. Email: nfathi@unm.edu

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