

Energy from salt gradient solar pond: efficiency and cost effectiveness for Pakistan



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RESEARCH COMPLETION CERTIFICATE

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Dated: _____

(Muhammad Afzal Dogar)

DEDICATION

This article is dedicated to My Parents and Teachers.

First of all, I thank ALLAH for His Mercy and Grace that I can finish this task.

I wish to show feeling my deep and sincere thanks to my mentor prof. M.A.K Lodi, for his understanding, encouragement and personal support of his empathy during the work of this paper.

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Abstract:

Pakistan is deficient in power supply according to demand. However, there is an abundant source of energy available in this country. Solar energy is available almost throughout the year everywhere in Pakistan. The question is how to harness it within Pakistan, sustain and use it. Salt gradient solar pond (SGSP) is one of the viable sources to harness solar energy and store it as well. The materials for this technology are abundantly available in Pakistan. As a backyard experiment, a small and simple salt gradient solar pond (SGSP) is constructed. The cost analysis for making Salt Gradient Solar Pond (SGSP) in Pakistan is practically performed. This is something which may solve the energy problems in Pakistan, somewhat partially if not entirely. The use of SGSP is also a promising process to reduce the environmental pollution in Pakistan.

Keywords: solar ponds, solar energy collection, renewable energy. Efficiency and cost effectiveness for Pakistan

Chapter 1

1-Introduction:

Energy is an important factor in all around the world economic growth. The standard of living in a given country can be directly related to per capita energy consumption. Due to the rapid increases the demand of energy in the world. The supply of fossil fuel will fail to meet the increasing world demand. Hence an alternative energy source had to be chosen to meet the future energy demands of the world. Currently a number of alternative energy sources and the method of extracting energy had been discovered. Among the most widely distributed and renewable energy resources, the solar energy is one of the effective solutions. Solar energy is an abundant and renewable energy source.