

**Green Spark Center GSC**  
(Renewable Energy Research Center RERC)

**By**  
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**Abstract**

Palestine is considered one of the countries that face major challenges in the field of energy due to its external dependence and the high cost of importing it. Amid these challenges, there is an urgent need to find alternative and sustainable solutions. Renewable energy is the best option to achieve self-sufficiency in energy and reduce the negative effects on the environment.

Hence, the spark for establishing a renewable energy research center as the (Green Spark Center), where the center seeks to be a scientific platform specialized in the field of renewable energy and to innovate solutions to meet local challenges, in addition to spreading awareness of the importance of renewable energy and its role in building a sustainable future.

The first chapter focuses on providing a historical and cognitive background to the project. It first reviews the relationship between population growth and the increase in demand for energy. It then explains the concept of energy, its types and history. Also, it discusses the concept of the research center and its importance and reviews its historical development.

The chapter analyzes the current status of renewable energy in Palestine and its limited resources, and presents the results of a survey about renewable energy. The chapter highlights the importance of the project and the urgent need for it, and describes in a simplified manner the main functions of the project.

Chapter Two presents a case study similar to the project, explained in full detail. Chapter Three presents a complete analysis of the land selected in Nablus to build the project on.

Chapter Four explains the functional program of the project in detail. The building was divided into three zones based on the users and the functions, these zones are the core operation zone which is just for researchers and employees, the interactive zone where visitors and researchers meet in a collaborative, sociable way, and the public zone where the entrance and exhibition exists. Each zone was explained and all the functions in each zone were clarified, clarifying the relationships between them, and the design criteria for each function with approximate areas for each one.