



ACADEMIC YEAR 2014 – 2015

TITLE OF DIPLOMA THESIS:

Environmental Assessment System LEED (Leadership in Energy and Environmental Design) in Construction Project Management

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ABSTRACT

In the context of the emergently needed environmental protection with the limitation of the human intervention impact on the environment, the concept of sustainable development and sustainability have begun to establish themselves and expand to all aspects of human activities, with a particular emphasis and implementation on the construction industry. Key ways of achieving sustainability in this sector, are the adoption of principles of bioclimatic design and continuous monitoring of performance in several categories of existing and new building projects, with desired goal of minimizing energy consumption and reducing costs throughout their life cycle. The term "green" for the description of projects and structures has been connected with sustainability and has become a basic requirement of modern and existing structures. The sector of construction project management, influenced by the international trend towards sustainable design, was led to the attempt to create models and configuration of specialized methods for managing these new type of construction projects, using corresponding tools and software as well as the Integrated Design principles in the management procedure and the recruitment of the project team. At the same time, the aim to ensure a well-established method for the collection, evaluation and organizing of all the necessary information for measuring the performance of the projects in order to correct decisions that lead to the desired results, led to the development of tools and environmental assessment standards and certification systems. The combination of managing a construction project requirements with the organizational planning and providing operational requirements in order to be a candidate for certification of an environmental evaluation program includes several parameters which must be considered when managing the respective projects, existing or new, with further shaping policies. Therefore, the theme of the present diploma thesis was chosen, taking into account the current situation and the sustainable development and design needs directly related to the modern built environment and is entitled as " ENVIRONMENTAL ASSESSMENT SYSTEM LEED (LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN) IN CONSTRUCTION PROJECT MANAGEMENT" . This thesis examines one of the most widespread assessment and certification system of sustainable buildings, LEED, and investigates the correlation and the possibilities for integrating it with the management of construction projects. Result of this investigation is the creation a compact guide with information about certifying LEED projects in connection taking into consideration both the planning process (for new projects) and their certification process according to relevant foreigners official bodies' Guides. Meanwhile, after a personal research on investigating the possibility of certifying an existing Greek building according



to LEED, a basic Roadmap was created about managing the certification process of existing buildings seeking certification. The goal was to facilitate this process and consolidate the present Roadmap for future use.

KEYWORDS

Sustainability, Bioclimatic Design, Construction Project Management, Environmental Assessment-Certification Systems, LEED