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## Review of Leadership in Energy and Environmental Design

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### ABSTRACT

Leadership in Energy and Environmental Design (LEED) is one of the most popular green building certification programs used worldwide. Developed by the non-profit U.S. Green Building Council (USGBC) it includes a set of rating systems for the design, construction, operation, and maintenance of green buildings, homes, and neighborhoods that aims to help building owners and operators be environmentally responsible and use resources efficiently.

LEED certified buildings are commanding higher rental rates and great occupancy than the non-green buildings. This trend cannot help but impact the Investment community. The supply while gradually increasing is not keeping up with the demand for green buildings. LEED New Construction buildings are awarded points for sustainability for things like energy-efficient lighting, low-flow plumbing fixtures and collection of water to name a few.

Recycled construction materials and energy efficient appliances also impact the point rating system. In the political climate of today's world, as the earth's natural resources are being depleted at an alarming rate the construction industry is being compelled to look at alternatives to traditional construction materials and styles.

In this paper, after introducing LEED ,History, Rating systems including certification level, LEED Energy Modelling & LEED for Homes Rating System , meanwhile LEED Performance, benefits and disadvantages are explained and finally Notable LEED buildings are mentioned as conclusions.

**Keywords:** Energy, Building, Environment

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### 1. INTRODUCTION

We've all seen the signs indicating a new construction project is underway [1]. In this day and age more and more are becoming environmentally conscientious. What does that mean for those who are in the Construction field? It means they need to be on the cutting edge of green technology.

What is LEED? Leadership in Energy and Environmental Design (LEED) is basically a third-party certification program. It is a nationally accepted organization for design, operation and construction of high performance green buildings. This ensures the buildings are environmentally compatible, provide a healthy work environment and are profitable [2].

More and more legislation is being passed that impacts not only zoning but environmental impact for new construction. LEED New Construction certification and Energy Star ratings seem to be the future of construction projects. It's important to not only build beautiful buildings but buildings that are energy efficient, healthy for their occupants to exist within and that they not harm the environment.

Those of us who populate those buildings can feel good about the part we are doing to help the environment and preserve what is left of the environment after years and years of taking natural resources for granted. Green technology as it continues to catch on will generate additional jobs and challenge conventional wisdoms. Look what happened in the auto industry with the electric cars. It didn't really catch on despite the fact that many who had the opportunity to test drive them wanted to keep them. Instead they were basically scrapped because of big business. Now we have hybrids and more and more companies are looking for ways to create cars that are more environmentally friendly.

Interest in green technology will stimulate job-market growth, and open up new business venues as it continues to catch on. Just like any other market, competition is healthy and a monopoly is not. Increasing public awareness is