

Thesis Brief Description

Thesis Title	Energy Redevelopment of a Building
Programme of Studies	BSc in Mechanical Engineering, Frederick University
Course	ME 400 Senior Project
Area of Study	Computational Building Physics – Buildings Assessment
Student's Name	Averkios Konstantinou
Students Reg. Number	8454
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Supervisory Committee	Dr Michalis Menicou, Assoc. Professor, Mechanical Engineering Department Dr. George Karagiorgis, Professor, Mechanical Engineering Department
Semester	Spring Semester 2020
Short Description	This thesis delves into the concept of revitalizing and optimizing the energy performance of existing buildings, focusing on energy redevelopment. The study delves into the multifaceted aspects of improving energy efficiency, sustainability, and overall performance through retrofitting and innovative technologies. Through comprehensive analysis and case studies, the research evaluates the potential benefits and challenges of energy redevelopment, considering factors such as building envelope upgrades, renewable energy integration, smart systems implementation, and occupant comfort enhancement. By examining various strategies and solutions, the study aims to provide a holistic understanding of how energy redevelopment can contribute to reducing energy consumption, lowering carbon emissions, and improving the overall environmental impact of buildings. The findings of this research can guide policymakers, architects, engineers, and stakeholders in making informed decisions to transform existing buildings into energy-efficient and environmentally responsible assets.