

Master Thesis Brief Description

Thesis Title	Assessment of heritage buildings towards decarbonization of built environment
Programme of Studies	MSc in Sustainable Energy Systems
Course	MES 580 MSc Thesis
Area of Study	Computational Building Physics – Building Information Modelling – Life Cycle Assessment
Student's Name	Chyrstalla Menelaou
Students Reg. Number	20594
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Supervisory Committee	Dr Byron Ioannou, Assoc. Professor, Architectural Department Dr. Michalis Menicou, Assoc. Professor, Mechanical Engineering Department
Semester	Fall Semester 2022
Short Description	The study investigated the benefits of using the One-Click LCA software in conjunction with Building Information Modeling (BIM) techniques to assess the environmental impact of two residential buildings in Cyprus. The research aimed to understand the potential of this software in reducing the decarbonization of the built environment by comparing the two buildings. The analysis focused on materials and construction elements to ensure accurate results. Conducted in accordance with ISO 14040 and 14044 standards, the study examined environmental impacts throughout the materials' life cycle. Certain categories were discussed in detail in the following chapters, while others were not examined. The results will offer valuable insights into the effectiveness of One-Click LCA software and BIM techniques in promoting sustainable construction practices in Cyprus.