

Event:

ENERGY in BUILDINGS – Northern Hellas 2025

Date:

Saturday February 22, 2025

Place:

Thessaloniki, Macedonia - Hellas



#	Chatzitheodorou Ismini Maria Student in Architecture, Aristotle University of Thessaloniki	
Title:	Presenter's affiliation Student, AUTH, Thessaloniki, Greece	
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Presentation title:	Reuse of Containers as a Building Medium, Aiming to Sustainability and Energy Efficiency	
<p>The crisis in the three pillars of sustainable development – environmental, social, and economic – highlights the imbalance between them. Climate change, inequalities, and resource overexploitation threaten sustainability. Architecture, as a multidimensional practice, can significantly contribute by creating spaces that are environmentally responsible, socially just, and economically sustainable.</p> <p>This paper explores the use of shipping containers as building materials and evaluates their contribution to sustainability. Initially, it examines the history, uses, and technologies of containers, particularly their evolution as tools for global goods transportation. Their durable construction materials, ability to reduce transport costs, and enhanced safety are analyzed. Additionally, the paper reviews the management and withdrawal costs of containers and introduces early examples of alternative uses from 1962 to 2001, including the first housing complex in London and the concept of "cargotecture."</p> <p>Subsequently, detailed studies of buildings made from recycled containers are presented, categorized by function: residential, educational, commercial, hospitality, emergency, social housing, cultural, and multi-purpose facilities. Each example is analyzed in terms of design, construction methods, materials, and unique systems, with the findings summarized in a comparative table. Key advantages, such as cost-efficiency, environmental value, and material adaptability, are highlighted across categories.</p> <p>The study concludes that containers have evolved from simple tools for transportation and storage to sustainable and multifunctional building materials. Their adaptability for structures like housing, schools, offices, and leisure facilities underscores their economic and environmental benefits. Containers support sustainability through their recyclability and energy efficiency. With proper treatment and design, they offer an ideal solution for developing cost-effective, energy-efficient structures that meet contemporary architectural demands</p>		
Short CV GREEK:		
Τελεióφοιτη φοιτήτρια του Τμήματος Αρχιτεκτόνων Μηχανικών του Αριστοτελείου Πανεπιστημίου Θεσσαλονίκης και ιδιωτική υπάλληλος σε τεχνική - κατασκευαστική εταιρεία.		

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Short CV EN:	
Undergraduate student of the Department of Architectural Engineering of the Aristotle University of Thessaloniki and private employee in a technical - construction company.	
CV:	
Ismini is an architecture student upon finishing her studies in Aristotle University of Thessaloniki. For the last six years she's been working in a construction company based in Thessaloniki. She has been involved in the design and supervision of energy saving projects, as well as in the construction of residential and high-rise buildings. She has also attended seminar and has received certification as a Renewable Energy Application Specialist for Energy Needs of Buildings. Her thesis is entitled ' "Containers as a means of construction :From history to modern applications Examples of Buildings and Uses", and her diploma project is about the design of a hospitality building for patient attendants made by shipping containers.	